Reconstructing word order in Proto-Germanic: A comparative Branching Direction Theory (BDT) analysis of Old Saxon

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LABURPENA

Tesi honen ikerketaren helburua germaniar hizkuntza guztiek amankomunean daukaten arbasoaren hitz-ordena berreraikitzea da. Horretarako orain arte egin diren saiakerekin zerikusia duen eta aldi berean berritzailea den hurbilpena egiten du autoreak: Adarkatze Norabide Teorian (Branching Direction Theory) (Dryer, 1992) oinarritutako ikerketa da. Teoria hau hitz-ordenaren unibertsal tipologikoen inguruan egindako ikerketaren ondorioa da. Gainera, erabiltzen diren datuetatik asko oso gutxi aztertutako germaniar hizkuntza batetik atereak dira, sajoiera zaharretik, hain zuzen ere. Emaitzek orain arteko ikerketaren aurkikuntzak hobetzen dituzte.

Hitz gakoak: aitzingermanikoa, sajoiera zaharra, Adarkatze Norabide Teoria, unibertsal tipologikoak, hitz-ordena

1. Sarrera eta ikerketaren motibazioa

Matthew Dryer amerikar hizkuntzalariak 1992an frogatu zuen hamarkada batzuk lehenago Joseph Greenberg lankideak proposatutako hitz-ordenaren unibertsal tipologikoak (Greenberg, 1963) bazirela, lehen aldiz test estatistikoak erabiliaz. Unibertsal tipologikoen existentzia frogatu izanak bi bide garrantzitsu ireki zituen: (a) unibertsal hauetan oinarritutako teoria, Adarkatze Norabide Teoria[1] (ANT) delakoa sortzea ahalbidetu zuen, eta (b) hizkuntza aldaketa unibertsal hauen arabera gertatzen dela iradoki zuen. Aurkikuntza honek, hartara, hizkuntzalaritzarentzat eta harekin lotutako hainbat alderdirentzat ondorioak izan ditzake: hizkuntzalaritza historikorako, hizkuntza prozesamendurako, itzulpengintzarako, hizkuntza jabekuntzarako eta abarretarako. ANTk, gainera, zuzenean inoiz lekukotu ez diren hizkuntzen berreraikuntza ahalbidetzen du. Errealitate hau gutxi aztertutako hizkuntza batekin lotuz gero, ikerketan aurrerapauso garrantzitsua egiteko aukera dago, eta horixe da, izan ere, tesi honen helburu nagusia.

[1] Adarkatze Norabide Teoriak munduko hizkuntzak bi tipoetako batean banatzen direla proposatzen du, ezker-adarkarietan eta eskuin-adarkarietan. Ikus beherago kontzeptu hauen definizioak.

2. Arloaren egoera eta ikerketaren helburuak

Sajoiera zaharra, oro har, oso gutxi ikertuta dagoen hizkuntza da, batez ere garai berean (c. 800-1000 K. o.) lekukotutako germaniar hizkuntzekin alderatuta:

> It is surprising that, in comparison to the vast amount of work dealing with the syntax of Old English, that of Old Saxon has rarely been given any serious attention, a lack noted elsewhere in the literature [...] it is clear that the language is in need of further theoretically informed empirical work (Walkden, 2014: 15).

Ikerketa falta honen zergatia ez dago garbi. Hizkuntza jakin baten sintaxi historikoa ikertzeko corpus handiak behar dira, baina sajoiera zaharrak horrelako arazorik ez dauka, 80.000 hitz inguruko eta hainbat testutako corpusa baitu[2] (Sanders, 1985: 1105). Egoera honen oinarrian dagoen arrazoia segur aski hurrengoa izango da: ingeles zaharra, goi aleman zaharra eta norvegiera zaharra bezalako hizkuntzek gaur egun jende askok erabiltzen dituen ondorengoak utzi dizkigute, baina sajoiera zaharrak, berriz, lausoki "behe alemana" deitzen zaion eta galbidean dagoen dialekto multzoa baizik ez digu utzi. Hartara, ulertzekoa da hizkuntza hau jende gutxiagok ezagutzea eta ikertu nahi izatea.

Nolanahi ere den, sajoiera zaharraren aitzinakotasunak germaniar hizkuntzek amankomunean daukaten arbasoa berreraikitzea ahalbidetzen digu. Modu honetan, gaur egun gori-gori dauden hainbat eztabaida konpon eta argi litezke: aitzingermanikoa hizkuntza ezker-adarkaria zen (Lehmann, 1974, Ramat, 1998) edo ez (Friedrich, 1975, Eyþórsson, 2011), hizkuntzak unibertsal tipologikoengatik aldatzen diren (Hawkins, 1983, Harris, 2000) edo beste arrazoi batzuengatik (Lightfoot, 1979, 2002), eta abar. Azken bi hauek dira, batez ere, ikerketa honen helburu nagusiak.

3. Ikerketaren muina

Dryerrek (1992: 83-100) hurrengo hitz-ordena bikoteak proposatzen ditu adarkatze norabidearen adierazletzat. Proposamen honen arabera, ezker-adarkariak diren bikoteen kasuan ezkerreko kidea adarkaria da; hau da, sintagma da, azpimailatan bereiz daiteke (adibidez, aditz sintagma (VP) izen sintagmak (NP) eta aditzak (V) osatua izan daiteke,

[2] Ikerketa honek aintzat hartzen dituen testuen artean *Heliand* dago, hainbat eskuizkribu eta zati desberdin dauzkan bederatzigarren mendeko harmonia ebangelikoa, eta baita mende bereko genesiaren itzulpen bat ere.

non izen sintagma adarkaria den, bera ere izenaren (N) eta beste kide baten (XP) artean zati daitekeelako; ikus beheko (1a-b) eta (2a-b) adibideak). Eskuin-adarkariak diren bikoteen kasuan eskuineko kidea da adarkaria. Hortik dator teoriaren izena:

1. irudia. Adarkatze norabidearen adierazleak

Ezker-adarkaritasuna	**Eskuin-adarkaritasuna**
Izenlaguna-Izena	Izena-Izenlaguna
Genitiboa-Izena	Izena-Genitiboa
Izena-Adposizioa	Adposizioa-Izena
Erlatibozko perpausa-Izena	Izena-Erlatibozko perpausa
Zenbatzailea-Izena	Izena-Zenbatzailea
Izenordain posesiboa-Izena	Izena-Izenordain posesiboa
Erakuslea-Izena	Izena-Erakuslea
Izena-Artikulua	Artikulua-Izena
Alderatzailea-Alderatua	Alderatua-Alderatzailea
Aditza-Laguntzailea	Laguntzailea-Aditza
Subjektua-Aditza	Aditza-Subjektua
Osagarria-Aditza	Aditza-Osagarria
Predikatua-Kopula	Kopula-Predikatua
Moduzko aditzondoa-Aditza	Aditza-Moduzko aditzondoa
Adposizio sintagma-Aditza	Aditza-Adposizio sintagma
Alderatzailea-Aditza	Aditza-Alderatzailea
Perpausa-Menderagailua	Menderagailua-Perpausa
Perpausa-Galdetzailea	Galdetzailea-Perpausa

Goian aipatutako hainbat autoreren iritziari jarraikiz, jakintzat hartzen bada hizkuntzak ezker-adarkaritasunetik eskuin-adarkaritasunera aldatzen direla eta alderantziz, pentsatzekoa da sajoiera zaharraren sintaxiak aurreko hizkuntza fasearen, hots, aitzingermanikoaren hitz-ordena berreraikitzen lagun diezagukeela[3]. Beraz, hurrengo

[3] Helburua hizkuntzaren fase zaharragoak berreraikitzea denez gero, hizkuntzaren aldaketan alderdirik kontserbadoreenak hartu behar dira aintzat. Zentzu honetan, ezaguna da hainbat arrazoirengatik mendeko perpausak perpaus nagusiak baino gordetzaileagoak direla (Bybee, 2002). Beraz, ahal izan den neurrian mendeko perpausetako datuak hartu dira kontuan.

egin beharreko pausua sajoiera zaharrean lekukotuta dauden adarkatze norabidearen adierazleak aztertzea da[4]. Ikerketa honek ondoko emaitzak ditu, besteak beste:

1. taula. Izenaren eta izenordain posesiboaren arteko ordena erlatiboa sajoiera zaharrean

Testua	Iz. pos.-Izena	Izena-Iz. pos.	N
V-P-L-S (840-850)	66 (% 92)	6 (% 8)	72
Genesia (850)	78 (% 89)	10 (% 11)	88
Konfesioa (850)	26 (% 100)	0 (% 0)	26
Munich (850)	705 (% 89)	85 (% 11)	790
Psalmo K. (900)	25 (% 93)	2 (% 7)	27
Cotton (950)	1.164 (% 92)	97 (% 8)	1.261
Homilia (975)	3 (% 100)	0 (% 0)	3
Besteak (850-1050)	52 (% 90)	6 (% 10)	58
Guztira	2.119 (% 91)	206 (% 9)	2.325

2. taula. Aditzaren eta adposizio sintagmaren arteko ordena erlatiboa sajoiera zaharrean

Testua	Perpausa	AdpS-Ad.	Ad.-AdpS	Guztira AdpS-Ad.	Guztira Ad.-AdpS
V-P-L-S (840-850)	Nagusia	12	39	33 (% 37)	56 (% 63)
	Mendekoa	21	17		
Genesia (850)	Nagusia	10	26	30 (% 47)	34 (% 53)
	Mendekoa	20	8		
Konfesioa (850)	Nagusia	1	0	13 (% 100)	0 (% 0)
	Mendekoa	12	0		
Munich (850)	Nagusia	196	475	408 (% 38)	664 (% 62)
	Mendekoa	212	189		
Psalmo K. (900)	Nagusia	1	9	3 (% 14)	19 (% 86)
	Mendekoa	2	10		
Cotton (950)	Nagusia	250	585	507 (% 38)	814 (% 62)
	Mendekoa	257	229		
Homilia (975)	Nagusia	0	0	1 (% 100)	0 (% 0)
	Mendekoa	1	0		
Besteak (850-	Nagusia	8	26	18 (% 40)	27 (% 60)
	Mendekoa	10	1		

[4] Sajoiera zaharrez ezin dira, halaber, adierazle guzti hauek aztertu. Horren arrazoia sinplea da: aitzin germanierak eta haren ondorengoek ez zeukaten artikulurik, aditz laguntzailerik, ez eta galdetzailerik ere (Lehmann, 1974, Ramat, 1998).

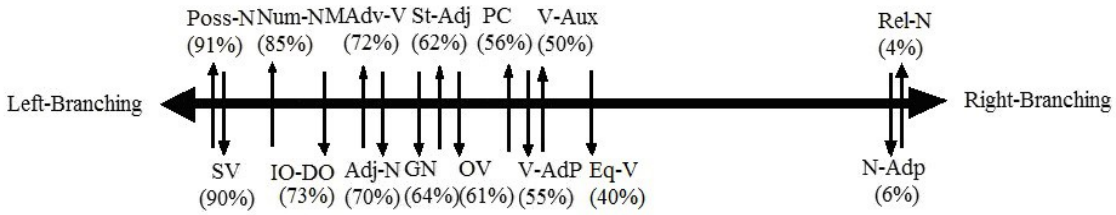
1050)					
Guztira	**Perpaus nagusia**			478 (% 29)	1.160 (% 71)
	Mendeko perpausa			535 (% 55)	444 (% 45)

3. taula. Predikatuaren eta kopularen arteko ordena erlatiboa sajoiera zaharrean

Testua	**Perpausa**	**Pred.-Kp.**	**Kp.-Pred.**	**Guztira Pred.-Kp.**	**Guztira Kp.-Pred.**
V-P-L-S (840-850)	Nagusia	6	27	19 (% 34)	37 (% 66)
	Mendekoa	13	10		
Genesia (850)	Nagusia	3	21	13 (% 32)	28 (% 68)
	Mendekoa	10	7		
Konfesioa (850)	Nagusia	1	0	10 (% 100)	(% 0)
	Mendekoa	9	0		
Munich (850)	Nagusia	71	413	212 (% 29)	526 (% 71)
	Mendekoa	141	113		
Psalmo K. (900)	Nagusia	4	13	9 (% 38)	15 (% 62)
	Mendekoa	5	2		
Cotton (950)	Nagusia	89	514	256 (% 28)	656 (% 72)
	Mendekoa	167	142		
Homilia (975)	Nagusia	0	1	2 (% 66)	1 (% 33)
	Mendekoa	2	0		
Besteak (850-1050)	Nagusia	11	36	20 (% 34)	39 (% 66)
	Mendekoa	9	3		
Guztira	**Perpaus nagusia**			185 (% 15)	1.025 (% 85)
	Mendeko perpausa			356 (% 56)	277 (% 44)

Emaitza orokorrak modu eskematikoan honela adieraz daitezke:

2. irudia. sajoiera zaharraren adarkatze norabidearen adierazleak[5]



[5] Hemen eta beherago erabilitako laburpenek ondorengo esannahia daukate: Poss = izenordain posesiboa; N = izena; S = subjektua; MAdv = moduzko aditzondoa; Num = zenbatzailea; St = alderatzailea; Adj = izenlaguna edo alderatua; P = predikatua; C = kopula; V = aditza; Aux = aditz laguntzailea; G = genitiboa; IO = zehar osagarria; DO = osagarri zuzena; AdP = adposizio sintagma; Adp = adposizioa; Rel = erlatibozko perpausa; Eq = egitura ekuatiboa (alderatzailearen azpitaldea); NP = izen sintagma; VP = aditz sintagma eta AdjP = izenlagun sintagma.

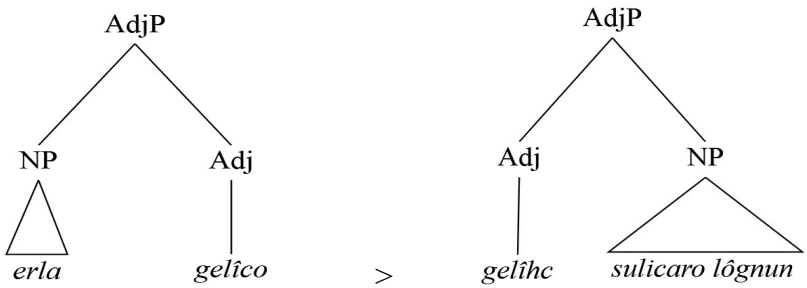
4. Ondorioak

Aurreko puntuko emaitzek zalantzarik gabe erakusten dute sajoiera zaharra (eta batez ere kontserbatzaileago diren mendeko perpausen datuak) kontuan hartuz gero aitzingermanikoaren hitz-ordena ezker-adarkaria berreraiki beharra dagoela. Hau da ikerketa honen emaitza nagusietako bat. Hala, bigarren puntuko lehen ikerketa galderari erantzuna eman diogu. Bigarren galderari dagokionez, sajoiera zaharra gehienbat ezker-adarkaria eta gaur egungo germaniar hizkuntzak batez ere eskuin-adarkariak direla kontutan izanik, proposa daiteke oro har hizkuntzak ezker-adarkariak izatetik eskuin adarkariak izatera igarotzen direla. Aldaketa hau munduko hizkuntza familia batean baino gehiagoan gertatu izana proposatzen da, tartean Cariben (Derbyshire 1981), Niger-Congon (Hyman 1975) eta Sino-Tibeteran (LaPolla 2015), eta dagoeneko sajoiera zaharrean ikus daiteke:

(1) a. *erla gelîco* “gizakien modukoa” (*Heliand*, *Munich* 1817b) (alderatzailea-alderatua)

b. *gelîhc sulicaro lôgnun* “halako sugarren modukoa” (*Genesis*, 560a) (alderatua-alderatzailea)

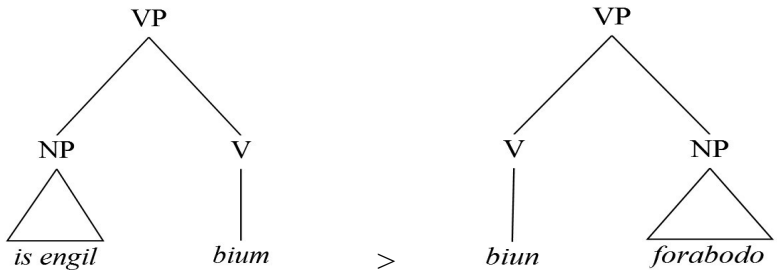
3. irudia. Adarkatze norabidearen aldaketa sajoiera zaharrean (1)



(2) a. *ic is engil bium* “ni haren aingerua naiz” (*Heliand*, *Munich* 119b) (predikatua-kopula)

b. *ik biun forabodo* “ni mezularia naiz” (*Heliand*, *Cotton* 931a) (kopula-predikatua)

4. irudia. Adarkatze norabidearen aldaketa sajoiera zaharrean (2)



5. Etorkizuneko ikerketa

Etorkizuneko ikerketak ondorengo helburua izan beharko luke: hemen sajoiera zaharrean oinarrituta lortu diren bezalako emaitzak familia bereko beste hizkuntzetan bilatzea, aitzingermanikoaren hitz-ordena datu gehiago oinarri hartuta hobeki berreraikitzeko.

Reconstructing word order in Proto-Germanic: A comparative Branching Direction Theory (BDT) analysis of Old Saxon

Abstract. This dissertation aims to reconstruct the word order of Proto-Germanic by using the tools provided by the Branching Direction Theory (BDT) (Dryer 1989a, 1992). With this aim in mind, an analysis is carried out of the word order of Old Saxon, a comparatively underinvestigated Old Germanic language, as well as of other early Germanic and Indo-European languages. The Old Saxon data are relevant, since they support the view put forward by W. P. Lehmann (1972), Hopper (1975) and Ramat (1987, 1998) that Proto-Germanic should be reconstructed as a language with flexible word order, whose (a) dominant word order can be reconstructed as near-consistently left-branching, and (b) whose marked orders should be reconstructed as the product of discourse-pragmatic operations. These discourse-pragmatic operations, such as extraposition, are argued to be largely responsible for word order change (Hinterhölzl 2009). On the basis of these findings it is proposed that early Germanic undergoes a typological shift in word order from a left-branching to a more right-branching type, something well observed for other branches of Indo-European such as Romance (Bauer 1995) or Greek (Fraser 1999).

Key words: Proto-Germanic, Old Saxon, word order, reconstruction, typology, branching direction

Contents

Part I: Introduction

This dissertation aims to reconstruct the word order of Proto-Germanic by using the tools provided by the Branching Direction Theory (BDT) (Dryer 1989a, 1992). With this aim in mind, an analysis is carried out of the word order of Old Saxon, a comparatively underinvestigated Old Germanic language, as well as of other early Germanic and Indo-European languages. The Old Saxon data are relevant, since they support the view put forward by W. P. Lehmann (1972), Hopper (1975) and Ramat (1987, 1998) that Proto-Germanic should be reconstructed as a language with flexible word order, whose (a) dominant word order can be reconstructed as near-consistently left-branching, and (b) whose marked orders should be reconstructed as the product of discourse-pragmatic operations. These discourse-pragmatic operations, such as extraposition, are argued to be largely responsible for word order change (Hinterhölzl 2009). On the basis of these findings it is proposed that early Germanic undergoes a typological shift in word order from a left-branching to a more right-branching type, something well observed for other branches of Indo-European such as Romance (Bauer 1995) or Greek (Fraser 1999). The first part of this dissertation provides a brief discussion on the legitimacy of word order reconstruction, together with an overview of the methodology, the most relevant theoretical concepts and issues as well as claims made by previous literature on the word order of Proto-Germanic. In Part II this dissertation goes on to perform an analysis of the Old Saxon word order data based on empirical observation.

In Part III the word order of Old Saxon, based on the data analyzed in Part II, is compared to languages that are both unrelated and related, both closely so and more distantly so. Inter- as well as intralinguistic comparisons are established between different word order patterns from a typological and diachronic perspective. The criterion used to select the compared Indo-European languages is based on genetic relation (in the case of the Germanic languages) in addition to their presumed contemporary nature to the time of existence of Proto-Germanic (in the case of other Indo-European languages). Some of the discussed non-Indo-European varieties are single languages, some are whole families. In all compared cases a similar evolution of word order has been proposed to occur (i.e. either from left-branching to right-branching or vice versa; see van Gelderen (2011: 356-360) for an overview). The comparison is meant to provide insights into the reconstruction of Proto-Germanic word

order. Part IV discusses the conclusions that can be drawn from the facts laid out in Parts II and III.

CHAPTER 1. INTRODUCTION: RECONSTRUCTING WORD ORDER

1.1. Word order reconstruction: the comparative method

Linguistic reconstruction based on comparison between related languages has a long history that goes back to the early 19th century. In spite of this fact, syntactic reconstruction and more specifically word order reconstruction were banned from historical linguistics since the mid-1970s (see Barðdal & Eyþórsson 2012 for an overview), since the publication of Watkins' influential work (1964, 1976) on the difficulties of reconstructing the word order of Proto-Indo-European and since W. P. Lehmann's (1974) and Friedrich's (1975) widely divergent reconstructions of Proto-Indo-European word order. One of the main arguments used to justify the ostracism of word order reconstruction is that it is fundamentally different from phonological and morphological reconstruction (Jeffers 1976: 5, Lightfoot 1979: 9, 2002, Winter 1984: 616 among others). More specifically, this difference lies on the apparent impossibility of establishing interlinguistic correspondences in syntax[6], which forms the basis of the comparative method. The reason adduced by these scholars to justify the existence of such a difference is that syntactic change is not subject to a principle analogous to the regularity of, for example, phonological changes[7] (Harris & Campbell 1995: 346). According to these scholars, this lack of equivalence is due to the fact that sentences are not simple form-meaning correspondences like words, but complex combinations of the meanings of the sentence parts, a view held already by the Neogrammarians (Barðdal 2015: 344). Thus, the comparative method could not be applied to word order reconstruction, which justifies the failure of the time to develop a methodology for syntactic reconstruction.

That is why a generalized view in historical linguistics is that word order is a difficult area to reconstruct, more so within the Indo-European family due to the various changes

[6] Watkins (1963: 2) states the argument for the lack of correspondences in syntax, as opposed to phonology or morphology, in the following manner: "When one turns from phonology and morphology to syntax, what is conspicuously lacking in any of the manuals are syntactic equations between cognate languages".

[7] Note that one may find irregularity in morphological change as well (Sturtevant 1947: 109), for example in analogical changes that do not apply across the board. This does not prevent historical linguists from reconstructing morphological items.

taking place in the individual daughter families (Harris 2008: 90-91). A considerable degree of scepticism with regard to reconstructing older Indo-European word order patterns moreover comes from the overgeneralizations based on typology and which were applied to the reconstruction of Proto-Indo-European in the early 1970s (W. P. Lehmann 1974a). This scepticism has lasted until the present (see, e.g., Walkden 2014a: 10, 41). However, a key difference of the present time with respect to the past is that, thanks to the effort of documentation and linguistic description made by many linguists, much more is now known than a few decades ago about the languages of the world, including their diachrony. This means that a still fragmentary, yet much better understanding of how language evolves across time exists now than before. Such a better understanding should be an advantage, not a disadvantage, when reconstructing word order.

Indeed, partly due to this better understanding recent years have seen an uprise in the efforts and legitimacy of word order reconstruction. Word order change has been shown to be regular, in the sense that it is rule-governed, and not random (Harris & Campbell 1995: 347), and thus equitable to other forms of linguistic change, such as phonological or morphological change (Fischer 2010: 19). In fact, it has been shown how in different areas of syntax correspondences can be set between related languages, including languages within the Indo-European family (see, for example, the reconstruction by Barðal & Eyþórsson (2012) of oblique subjects in Proto-Germanic and by Barðdal & Smitherman (2013) in Proto-Indo-European). This means that the mechanisms that govern morphological or phonological change, such as borrowing, reanalysis or extension, can equally be claimed to govern and be observable in word order change (Hopper & Traugott 1993: 24, Claudi 1994: 193, Harris & Campbell 1995: 347, Campbell 1998, Fischer 2010: 19, Walkden 2014a: 61 among others). In view of this, the comparative method can be applied to word order reconstruction in the same way it is applied to morphological and phonological reconstruction. Comparative syntactic reconstruction in general and word order reconstruction in particular can thus be assumed to be completely legitimate, which is a conclusion that has been applied to the reconstruction of Proto-Germanic syntax in recent work (Walkden 2014a: 227). It is then within such a context that the comparative method is used in this dissertation to reconstruct Proto-Germanic word order. The comparative method provides the historical linguist with the following devices for reconstructing word order (Harris 2008: 74-80, 84-85):

(i) Establishment of word order correspondences: OV, N-Poss, Stand-Comp, etc.
(ii) Observing data from dialects: the differences and similarities concerning the correspondences.

To these two further devices, based on interpretation rather than comparison, may be added (Harris 2008: 81-84):

(iii) Identification of relics: considering idiomatic expressions and certain types of terms as archaic forms.
(iv) Identification of environments where diachronically relevant changes take place: clause type, pragmatic operations, etc.

Applying the comparative method to the study of Indo-European word order has led to important achievements in the field. Among the most important accomplishments the reconstruction of second-position clitics (Wackernagel 1892 and subsequent work) and of the tendency of the old Indo-European languages to place the verb in the final position of the clause (Ries 1880, Delbrück 1911, W. P. Lehmann 1974a among others, see below for a discussion) may be mentioned. These achievements speak for the reliability of the comparative method. In complementation to the comparative method, typological comparison can be of special value when determining the plausibility of a specific predicted or reconstructed linguistic change. The comparative method, however, is not without flaws. Linguistic changes that have left no trace are impossible to reconstruct, and reconstruction necessarily assumes an ideal, uniform proto-stage (Campbell 1998: 147-148). These are nevertheless no crucial handicaps for the reconstruction of Proto-Germanic word order, as will be shown below.

1.2. Word order reconstruction: typology

The comparative method is not the only resource that can be used to reconstruct word order: human beings do not resort to an unlimited number of solutions in order to tackle the issue of encoding language, but rather use a limited number of common strategies. This makes it possible to observe and delimit the variation occurring in the languages of the world. One of the main goals of typology is to "map out the variation space filled by

the languages of the world, to find regular patterns and limits of variation" (Haspelmath 2001a: v). Mapping out the limits of variation among languages can be an important tool for reconstructing unattested or prehistoric stages of languages and the phenomena occurring within such stages. This aim can only be achieved, however, on a key assumption: that certain basic linguistic entities are recognizable and comparable across languages[8]. Such an assumption is common in typological work (Hawkins 1983: 12), and it will likewise be made in this dissertation. This should be done with care, however, in order to avoid the above-mentioned overgeneralizations made by the early literature based on typology (W. P. Lehmann 1974a) and the resulting scepticism in a considerable part of the literature. On the other hand, the fact that the aim here is to reconstruct the common language of closely related languages implies that the compared linguistic entities are similar to each other, i.e. that otherwise problematic concepts such as "subject" can be assumed to exist in all Germanic languages.

One of the most efficient ways to approach the question of reconstruction, then, is by observing and comparing the basic linguistic entities of human languages, in order to establish correlations or implications that may exist between such entities. Correlations between linguistic entities have indeed been found to exist[9], and they function in a way that the existence of a specific characteristic restricts the existence of other features to a considerable degree (Haspelmath 2001a: v). The existence of correlations between linguistic entities, which have statistically been proven to exist (see Dryer 1992 and later work regarding word order), neutralizes an important criticism that has been made of the typological approach to linguistic reconstruction, namely that such an approach makes assumptions based on inaccurately established linguistic generalizations (Wichmann 2008). The typological criterion is and cannot be conceived here, however, as a replacement of the comparative method, but rather as its complementation, which is a common practice in the literature on syntactic reconstruction (Walkden 2014a: 61). An important, though not exclusive, way to express the above-mentioned correlations is

[8] Not all linguistic entities assumed in this dissertation to be recognizable and comparable across languages are, however, unproblematic. The most notorious case would be adjectives, which in many languages have been claimed not to exist, corresponding instead to nominal or verbal modifiers (see Haspelmath 2012: 109-130 for an overview).

[9] See, however, Dunn et al. (2011), who argue that neither claims made within the functional-typological approach nor those made within the generative one with regard to word order correlations are supported by quantification. Rather, they argue that "cultural evolution is the primary factor that determines linguistic structure" (2011: 79), and that word order evolution is "lineage-specific". Such a claim, however, would not invalidate the purpose of this dissertation, since its aim at word order reconstruction is "lineage-specific" to Germanic and most of the data are drawn from Germanic languages. See Dryer (2011) for an answer within Branching Direction Theory to Dunn et al.'s claims.

by means of implicational hierarchies, which in relation to word order have often been referred to as "word order harmonies" (Hawkins 1979, Harris 2000, Kroch 2001, Primus 2001, among others). These word order harmonies seem to have a cognitive motivation, since they arise in human cognition with the aim that the processing of syntactic structures can be rapid and efficient in language use (Hawkins 1994: i). Word order harmonies also function on a diachronic level (Hawkins 1983, von Mengden 2008: 104-105). Thus if a structural property *A can be reconstructed for a proto-language A, this means that a number of other properties (say, for example, properties *B, *C and *D) that have been observed to correlate in a typologically consistent manner with property *A are likely to also have existed in proto-language A. This is represented schematically in (1):

(1) Iff A < *A, then A < *A, *B, *C, *D

As an example of implicational hierarchy, the languages of the world can be subdivided into three big subtypes according to their word order: (a) head-initial languages, where the head of any phrase precedes all its complements, (b) head-final languages, where the head of any phrase follows all its complements, and (c) mixed word order languages, which allow for both types (see section (3c) for a definition of "mixed" word order, which is rather difficult to specify due to its relativeness). This is, of course, if the so-called "free word order" languages, which characteristically show no preference for one specific word order (Mithun 1992), are left aside. The whole body of word order universals is not falsified by the existence of free word order languages: rather, word order specification is irrelevant for them (Comrie 1981: 33, Hawkins 1983: 14). Moreover, free word order languages are the exception rather than the rule: about 14% of the world's languages (i.e. 189 out of a sample of 1377) fall into this category (Dryer & Haspelmath 2013). Within the generative approach the typological division between head-initial and head-final has come to be identified by a well-known parameter: the Head-Directionality Parameter in (2) (Jackendoff 1977, Chomsky 1981, 1986: 146, 1988: 70, Radford 1990: 60-61, 1997: 19-22, Pinker 1994: 234, 238, Baker 2001: 68, 2003: 350 among others), whereas in the typological literature the same division has come to be known as the Consistent Head Serialization in (3) (Primus 2001: 855):

(2) Head-Directionality Parameter:

a. Heads follow phrases in forming larger phrases.

b. Heads precede phrases in forming larger phrases. (Baker 2001: 68)

(3) Consistent Head Serialization (CHS):

For all phrasal categories X, the head of X either precedes or follows all dependents. (Primus 2001: 855)

The Head-Directionality Parameter and the Consistent Head Serialization should not be considered to be opposites. Rather, they are mentioned together here precisely because of their similarities. Because of these similarities, it is considered here (for purely operational purposes) that (2) and (3) refer to the same principle. In fact, the theory discussed in this dissertation, the Branching Direction Theory, is one of the few attempts in the literature to consider and, when possible, combine two different approaches like the HDT and the CHS when dealing with word order universals[10]. Applying the HDT/CHS to (1), then, the following picture emerges:

(4) a. Iff *A = head-final, then *A = *Postpositions, *Noun-Adjective, *OV, etc.

b. Iff *A = head-initial, then *A = *Prepositions, *Adjective-Noun, *VO, etc.

This picture of harmonic head-initial versus head-final syntax is, however, not true to the reality of all languages. Indeed, the fact that many languages do not ascribe to a consistently head-initial or head-final pattern has led a number of scholars (Fox 1995, LaPolla 2002: 223) to reject altogether the use of typological universals in syntactic reconstruction. Nevertheless, if it is shown on the basis of empirical evidence that linguistic change takes place following word order universals, much of the scepticism regarding the typological approach towards reconstruction can be rendered mute. That linguistic change obeys typological universals is one of the main ideas defended by Hawkins (1979) and one of the aims to be demonstrated in this dissertation. For the time being, the Head-Directionality Parameter is considered here (in complementation with the Comparative Method, as argued in (1.1)) to be a legitimate tool for reconstruction.

Typology, then, is heavily drawn upon for reconstruction. It should be stressed at this point, however, that typology is not a theory of grammar. Typology has the goal of

[10] Other combinatorial approaches to syntactic phenomena include, for example, Nordström (2010: 10-11).

identifying cross-linguistic patterns and correlations between these patterns[11], which is why it can rather be regarded as an approach to the study of language (Croft 2003: 280). It is in this sense that the methodology and results of typological linguistics are comparable to any grammatical theory (Whaley 1997: 7). Typology lies on the basis a number of theories of grammar, one of which will be discussed below and adopted in this dissertation. By means of working within one of such grammatical theories, this dissertation aims to provide an answer to the two following questions:

(a) What evidence do the early Germanic languages provide with respect to the reconstruction of Proto-Germanic syntax?
(b) Do the early Germanic languages present evidence for a typological shift taking place in syntax?

The answers to these questions depend considerably on the conception of syntax i.e. syntactic representation, as well as on the conception of "Proto-Germanic". That is why before going on with a discussion around questions (a) and (b) a clarification will be made of both terms. These explanations will be provided in (1.3) and (1.4), respectively.

1.3. Syntax and syntactic change: two different approaches

As far as syntax is concerned, there are two main ways[12] of describing the structure of clauses. Each one has its advantages and disadvantages, the point being here that selecting one of the two has far-reaching theoretical implications, for the conception of synchronic syntax as well as for the conception of syntactic change. On the one hand there is the functional-typological approach, which assumes that language structure and language change are determined by the regularities of language use (Haspelmath 2008: 75). This is the approach adopted in this dissertation and the one the Branching Direction Theory could be claimed to stand closest to. The functional-typological

[11] The method of combining intragenetic and intergenetic comparison of linguistic processes with the aim of inferring universal patterns of change, which is adopted in this dissertation, is usually referred to as "dynamic comparison" and is part of the inductive method (Greenberg 1969: 147-156). When applied to linguistics, the inductive method implies that a large number of languages are investigated in order to arrive at cross-linguistic generalizations. This procedure contrasts with that of other approaches to linguistics, which use the deductive method, i.e. where conclusions are drawn from the analysis of a small number of languages and then generalized to the rest.
[12] These two are not, of course, the only approaches to syntax; they are simply the two most influential ones. There are other theories that could be claimed to stand halfway between the generative and functional-typological approaches, like Optimality Theory (see Haspelmath 2008 for a comparison).

approach generally assumes a linear view of clause structure: for example, Noun-Adposition order is simply a noun followed by an adposition, with no assumption being made of elements moving underlyingly in the minds of speakers.

On the other hand there is the approach based on Transformational Grammar, which was developed by Noam Chomsky in the late 1950s, the 1960s and 1970s. In early versions of the theory a basic premise was established: that clause structure can be divided into two different levels. The first of these levels is the categorial component, where phrasal categories (preposition phrase, noun phrase etc.) are projected directly from the lexicon as properties of lexical entries. At this level word order is "largely idiosyncratic to different languages" (Sharp 1985: 5-6), and rules of movement that affect the ordering of phrases do not apply. That is why sentences generated at the categorial component are called "deep structures" (D-structures) or "base structures" that are accordingly "base-generated". These base-generated D-structures are then sent by the human parser, a kind of innate human ability to analyze strings of symbols (such as clauses), to the transformational component. Here rules of movement generate "surface structures" (S-structures), which are visible to the naked eye. S-structures "obey the principles of well-formed surface representation" (ibid.), i.e. the syntactic rules individual to each language. According to this view, Noun-Adposition order may either be the result of both the base-generated rule particular to a given language (i.e. the outcome of D-structure) and the result of movement rules (i.e. the outcome of S-structure), or it may be base-generated as *Adposition-Noun and then have a language-specific rule that states that Adposition-Noun is ungrammatical and that the noun needs to move to first position, resulting in surface Noun-Adposition. This may be the case of some postpositional languages.

These two different views of syntax have implications for how syntactic change is described: as opposed to the view proposed in this dissertation of a word order shift taking place in early Germanic, there is the belief (based on the two-level approach) that the Germanic languages underlyingly remain verb-final. For example, Bies (1996: 3) claims High German to have been and remained underlyingly verb-final all the way to modern German. In other works cited in this dissertation, some authors (such as Kiparsky 1995, 1996, as well as Erickson 1997 and Linde 2009, among others) moreover refer to "OV order" as the base-generated order which may (frequently) still be modified by movement operations, i.e. they adopt the generative view of syntax. On the other hand, other authors cited here (such as Greenberg, Dryer, W. P. Lehmann and

others) refer to "OV order" as a linear pattern, i.e. they adopt the functional-typological view[13]. Assuming two levels of representation in syntax has a whole array of theoretical implications which are considered in this dissertation to be incompatible with the Branching Direction Theory approach. Therefore, when speaking henceforth of "word order shift" or "OV order", not a "deep structure" is meant where syntactic rules are yet to be applied, but rather all those cases in which object-verb order is visible to the naked eye. Nonetheless, an effort has been made to harmonize the "two levels of representation" (generative, transformational) approach to the "linear pattern" (functional-typological) one, bearing in mind that most work on Old Saxon syntax has been carried out from a generative point of view.

1.4. The label "Proto-Germanic" and other terminological problems

Another problem one is faced with when reconstructing Proto-Germanic is the important question of what exactly is meant by "Proto-Germanic". Prehistoric Germanic is traditionally divided into two stages:

(1) Pre-Proto-Germanic: This label refers to the stage of the language in which a number of unique changes with respect to Proto-Indo-European have started but in which the crucial changes that characterize Germanic, such as completion of Grimm's Law or fixation of the accent in word-initial position, have not yet fully developed. This stage has been placed sometime between the division of Proto-Indo-European into dialects around ca. 3,500 BCE and the culmination of Grimm's Law around ca. 500 BCE (Chamonikolasová 2014: 18). The label Pre-Proto-Germanic is used by a considerable number of authors (van Coetsem 1970: 12, Ramat 1984, 1998).
(2) Proto-Germanic or Common Germanic: This label refers to the stage in which the above-mentioned changes have already taken place but dialect division within Proto-Germanic has yet to happen. Ringe (2006: 67) places the existence of such a stage between ca. 500 BCE-200 CE. The existence of a uniform proto-stage is, in any case,

[13] The typological universals approach towards word order has frequently been criticized by a number of authors working within the generative framework. For example, a recurrent criticism is that verbal order (Verb-Object, Auxiliary-Verb etc.) is intra- and cross-linguistically compared without distinguishing between finite and infinite forms. Since for the generativist view infinite forms are symptomatic of underlying (i.e. D-structure) word order but finite forms are the result of movement rules (i.e. S-structure), the entities that are compared within the functional-typological view cannot be compared at all, i.e. a comparison is made between "apples and oranges" (Bies 1996: 9).

not at all granted (Marchand 1973: 66), whereas others do observe a single unitary stage (W. P. Lehmann 2007: 1). Proto-Germanic is often referred to as "(Late) Common Germanic" (Smith 1971, Hawkins 1979: 637, Ramat 1987: 26, 1998: 499).

As has been mentioned above, using the comparative method to reconstruct a proto-stage of the Germanic languages inherently assumes that no dialect variation occurs at this stage, which is something that is never the case of languages. This means that the reconstructed word order is necessarily an idealized view of what actually must have been the case (Mitxelena 1986: 42, Campbell 1998: 146). However this idealized and uniform view of the proto-stage is not necessarily a handicap for reconstruction, especially in the case of Germanic: the fact that linguistic changes such as Grimm's Law are equally present in all dialects suggests that Proto-Germanic must have been spoken by a relatively small and homogeneous speech community, with little promptness to variation (W. P. Lehmann 2007: 8). Therefore, it seems completely legitimate to assume the existence of one and only one proto-stage as a single, diatopically and diachronically uniform language.

Another terminological problem concerns the historical periods of Germanic. Whereas "Proto-Germanic" refers to the reconstructed, prehistoric stage of the language, the label "Ancient Germanic" is understood here as the first (partially) attested stage of the language, which spans approximately from the 2nd to the 7th centuries CE and covers two main languages: Gothic and the Early Runic, Proto-Nordic or Ancient Nordic language attested in the runic inscriptions. The language of the runic inscriptions has received a wide array of denominations. The following are just a few examples: Nielsen (2000, 2006) refers to this language stage as "Early Runic", but only up to 500 CE after which he labels it "North Sea Germanic". Eyþórsson also uses more than one label, referring to the language of the runic inscriptions either as "Early Runic" (2001) or as "the (language of the) Older Runic inscriptions" (1995, 2011). Whereas Antonsen (1975) uses the latter denomination himself, Krause uses "the runic inscriptions (written) in the older *Futhark*" (*Die Runeninschriften im älteren* Futhark) to refer to the oldest inscriptions (Krause 1966) and "the language of the Proto-Norse runic inscriptions" (*Die Sprache der urnordischen Runeninschriften*) to refer to the entire body of runes (1971). Walkden (2014a: 106) refers to the inscriptions as "Northwest Germanic runic inscriptions".

Outside of Germanic and Indo-European linguistics, Aikio (2012: 76) for example uses the term "Proto-Scandinavian" to refer to those loanwords adopted by Proto-Sami from Germanic during the runic period. As a complementary note, in this dissertation whenever an opposition needs to be made, and only then, between runic inscriptions that are clearly North Germanic and those that are clearly West Germanic, the former will be referred to as "early Norse inscriptions" and the latter as "West Germanic runic inscriptions". In order to avoid confusion, however, the whole language will henceforth be referred to with the circumvention "(the language of) the runic inscriptions". The language of the runic inscriptions is immediately derived from the late prehistoric period, i.e. from Proto-Germanic. The label "Old Germanic", on the other hand, refers to the stage ranging from the 7th to the 11th centuries CE, in which the first written documents from the individual North and West Germanic languages come to light. These labels have been taken from the periodization made by Faarlund (2001: 1706).

CHAPTER 2. SOURCES, METHODOLOGY AND LITERATURE REVIEW

2.1. Sources

As stated above, the two main research questions that constitute the object of study of this dissertation will be answered drawing mostly on Old Saxon word order data. Before going on to the analysis of these data, however, a short introduction to the Old Saxon corpus is necessary. The earliest and largest text written in Old Saxon is the *Heliand* "the Savior", a literary recounting of Christ's life as it is reported in the New Testament in the form of alliterative epic poetry. The original text, which survives in a number of manuscripts and fragments, was written ca. 830 CE (Rauch (2006: 1), see Price (2010) for more on the discussion about the dating of the different *Heliand* fragments). The text survives in two main manuscripts: the Munich (M) manuscript, consisting of 4880 lines with various intermediate *lagunae*, and the Cotton (C) manuscript, which consists of 5669 lines and is the most complete preserved version of the text. The former is believed to have been produced around the mid-ninth century CE, whereas the second is believed to be approximately a hundred years more recent (Versloot & Adamczyk 2016: 5). There exist as well four fragments of the same text: the Vatican (V) fragment which contains lines 1279-1358, the Prague (P) fragment which contains lines 958-1006, the Straubing (S) fragment which contains lines 350-401, 491-582 and 671-722 and the

Leipzig (L) fragment which contains lines 5823-5870. Because the four smaller fragments seem to have been written more or less at the same time around the mid-ninth century CE (Price 2010: 11), they are analyzed here under the label "V-P-L-S" as a unitary text that is separate from the two aforementioned manuscripts. In general terms, the *Heliand* makes up about 80% of the whole Old Saxon corpus (Sanders 1985: 1104), which consists of ca. 80,000 words and over 6,000 clauses.

The second major attested work is a fragmentary translation of the *Genesis*, which is 334 lines long and is written as an alliterative epic poem, just like the *Heliand*. This text is believed to have originally been written in the first half of the ninth century CE (Macleod 2011: 74), although the manuscript itself seems to date from the second half of the ninth century (Versloot & Adamczyk 2016: 5), which is why a halfway date of 850 CE has been arbitrarily assigned to it here. Other, later works include a reduced number of religious prose texts such as a fragmentary translation of Bede's *Homily*, a renunciation of the devil, a confession or a psalm commentary. These texts are all a few tens of lines long and were written during the 9th-10th centuries CE (Sanders 1985: 1105-1108). The rest of texts, such as glosses, blessings or lists, contain little syntactic material to be of use to reconstruction, which is why such texts are more likely to yield statistically insignificant results (see 2.2 below). Nonetheless, for the sake of completeness and exhaustiveness all these minor texts are quantitatively analyzed as a single, unitary group labelled "rest".

It needs to be stressed at this point that both the *Heliand* and the *Genesis* are poetic texts. This means that, altogether, around 95% of the Old Saxon corpus consists of poetry, which is a methodological problem: Germanic epic poetry is usually written (the Old Saxon texts being no exception) following the so-called Germanic long line[14], which presents prosodic and literary characteristics that can crucially condition word order. Indeed, the word order of poetic texts has been found to be influenced by various extragrammatical factors in other studies on Old Germanic syntax (Gerritsen 1984: 110,

[14] The so-called Germanic long line consists of a line which is divided into two half-lines by a *caesura* or line break (/). This kind of line has four stressed alliterating positions, two per half-line, which in Old Saxon can be optionally filled, i.e. in practice there can be anywhere between none and four alliterating positions per line (Rauch 1992). The following are two examples of Germanic long line in Old Saxon, where (5a) presents two alliterating words, and (5b) four:

(5) a. *Nu cumis thu te mînero dopi / drohtin fro min*
"Now you come to my baptism, my lord" (*Prague* 971a-b)
b. *thie hêrosto thes hîuuiskes / quat that hie im ni habdi gihêtan than mêr*
"The head of the family said that he had not promised them anymore (payment)" (*Cotton* 3441a-b)

Axel 2007: 70). As will be shown below, the poetic nature of the main texts in which Old Saxon is attested leads to think that metrical factors such as rhyme, alliteration or the "line-break restriction"[15] play a role in conditioning the occurrence of, among other word order traits, prepositions vs. postpositions (Axel 2007: 92-94). This is the case of Old Norse and Old English, where postpositions as well as other conservative left-branching traits are almost exclusively attested in poetic texts (see 5.2.1 and 5.2.2 below for a discussion). It is, however, precisely the occurrence of conservative traits in Old Germanic poetry that makes this kind of texts interesting for reconstruction. Many scholars have indeed pointed out the fact that using verse as a source for word order reconstruction can even be advantageous in some respects, since this type of text is likely to be conservative and in addition intonational information may be helpful in determining syntactic structures (Dewey 2006: 17-21, Ratkus 2010: 211, f. 110, Walkden 2014a: 11). Overall, then, the Old Saxon texts encompass a period of the language spoken between approximately the early ninth and the late eleventh centuries CE, i.e. between the emergence of the first written texts and the time in which Old Saxon evolves into Middle Low German (Hartig 1985: 1072). Old Saxon is, together with Gothic, Old English and Old High German, one of the four Germanic languages to have been extensively written during the first millennium CE[16] (Walkden 2014a: 15).

2.2. Methodology

[15] The term "line-break restriction" refers to a restriction that affects words standing immediately before the end of the Germanic long line. This restriction states that an alliterating word can never stand immediately before the line break (Axel 2007: 92-94). Therefore, if for example Old Saxon grammar requires an object to follow a verb, but this object is an alliterating word that immediately precedes the line break, the object may be artificially preposed to the verb in order to avoid violating the restriction, thus creating a doubtfully grammatical OV-pattern. Sentences (59a-b) below are proposed here to be Old Saxon examples of word order altered by the line break restriction. See Dittmer & Dittmer (1998) and Axel (2007) for examples from Old High German.

[16] The lack of written attestations (with the exception of a few runic inscriptions) before the 13th century CE (Bremmer 2009: 6-7), as well as the limited size of the corpus, are two of the reasons why another historical Germanic language, Old Frisian, has not been taken into account in this dissertation. Something similar occurs in the case of other dialects of Old Germanic, such as Old Dutch or Old Frankish.

The syntactic analysis carried out in this dissertation is based on an analysis[17] of the word order patterns that can be observed in the Old Saxon corpus. This means that frequencies and percentages will be drawn from these word order patterns. Correlations between specific word order patterns and other grammatical factors will then be tested on statistical terms, in order to gain new insights into the word order of Old Saxon. An example of a tested correlation (see 4.1.2 below) is the following: Harris & Campbell (1995: 329) claim that nouns denoting kinship or sacredness are more resilient to word order change than other nouns. Therefore, if a change Noun-Adjective > Adjective-Noun is posited for Old Saxon (or some other early Germanic language), then one would expect to find more instances of Noun-Adjective order with sacred and kinship nouns than with other nouns. In order to determine whether a correlation exists between these two entities (Noun-Adjective order and sacred and kinship terms), a statistical relevance test will be used. Statistical relevance is a way to determine whether a given pattern is frequent enough so that its presence, absence or relative frequency is not due to chance (Fisher 1922, Agresti 1992). If such a pattern (i.e. Noun-Adjective) co-occurs frequently enough with one specific noun type (sacred and kinship terms), then this suggests that there may exist a correlation between the pattern and the kind of noun, which may be interpreted in the sense that the former tendentially expresses the latter.

A relatively well-known test for statistical relevance is Fisher's Exact Test, which is named after its creator Ronald Fisher (Fisher 1922). This is a specific kind of test also called a Contingency Table or 2x2 Test because it is based on two sets of double values set on a table and because its aim is to establish a level of contingency. Fisher's Exact

[17] The corpus analysis has been carried out in terms of frequencies. The frequencies have been extracted from the Old Saxon corpus using the *AntConc* (Anthony 2014) corpus analysis program. The *AntConc* is just one more of a large number of free software for corpus analysis widely available on-line. The corpus analysis carried out by the program proceeds as follows:
i) After a key word has been introduced to search in the (in this case manually) annotated corpus, the program produces a list of *key word in context concordances* (KWICs), i.e. a list of all occurrences of a given item, with or without inflectional or derivational endings. The KWICs provide all occurrences of the searched token together with a particular number of words to the left and the right of the item.
ii) The program produces a list of collocates of the searched token, i.e. words that tend, more frequently than other words, to occur in a certain position relative to the searched item.
iii) The program produces a frequency list, i.e. a list of all word forms in a corpus listed in the order of their frequency of occurrence.
The following is a frequency list of the search token *sâlig* "holy" in the *Cotton* manuscript:

> *fibi uuarun agangan: scolda thuo that sehsta* [salig]*lico cuman thuru craft godes endi Cristas Zacharias uuas hie hetan. That uuas so* [salig] *man, huand hie simblon gerno gode theonoda, uundrodun alla, bihuui he thar so lango, lof*[salig] *man, man, suuido frod gumo fraon sinun thionon is Krist geboran an thesero selbun naht,* [salig] *barn godes, an thera Dauides burg, drohtin mid hluttru hugi habda im helagna gest,* [salig]*lican sebon, Simeon uuas he hetan. Im habdun*

Any inconsistencies in the use of this program are responsibility of the author alone.

Test has been widely used in historical linguistics, including in works concerning Old English and Old Saxon (see for example Walkden 2014a, who uses such tests to determine the existence of null subjects in Old Germanic). This test is inappropriate for large corpora, but actually quite appropriate for the analysis of small- and medium-sized samples, which makes it an ideal test for a medium-sized corpus like that of Old Saxon. Fisher's Exact does the following: first of all, two sets of numbers are introduced into the contingency table. Then the numbers are processed by a differential equation. After a level of statistical relevance (p) has been established, the test determines whether there exists a correlation between the two sets of numbers by calculating how far the results deviate from the established level of statistical relevance. For example, if the level of statistical relevance is established in 0.001, then $p > 0.001$ would be statistically irrelevant, whereas $p < 0.001$ would be statistically relevant. If, on the other hand, the level of statistical relevance results in zero ($p = 0$), this means that there is not only a statistically relevant, but a 100% correlation between two given linguistic patterns. A 100% correlation between two patterns implies that it is impossible for their co-occurrence to be due to chance. It is a common practice to establish the level of statistical relevance at $p = 0.10$, 0.05 or 0.01, ranging from less to more precise. In order to achieve a balance between precision and neutrality towards the test, a medium point of statistical relevance of $p = 0.05$ will be established in this dissertation[18]. This measure is, in addition, the most frequently used in the literature (Bies 1996: 22, f. 14). Fisher's Exact Test has been found, however, to be too conservative in the sense that it "gives fewer significant results than are justified by the evidence provided by the data" (Yates 1984: 426). With the aim of avoiding miscalculations, then, a correction of Fisher's Exact Test, named Yates' Chi-Squared Test after its proponent Frank Yates, will be used (expressed as χ^2)[19].

The quantification of statistically relevant patterns in Old Saxon will then be compared to related Germanic as well as to Indo-European languages in order to determine whether the attested patterns can be reconstructed for Proto-Germanic. Such patterns will subsequently be viewed in a typological perspective, where a number of unrelated and typologically varied languages will serve as a "control group" for the proposed reconstruction. It must be pointed out, however, that because Fisher's Exact

[18] Fisher's Exact Test calculators are widely available for use on-line in a very simple and accessible manner. The interested reader should follow, for example, the following link: [http://www.socscistatistics.com/tests/fisher/default2.aspx]

[19] Yates' Chi-Square Test is also available on-line at http://vassarstats.net/tab2x2.html.

Test is a tool used to find correlations, those areas of syntax in which no correlation can be established cannot be tested for statistical relevance. As will be shown below, verbal word order can be correlated with clause type. Nominal word order, on the other hand, does not seem to correlate with clause type. Therefore, this test is only valid for verbal word order traits. Exceptions to quantification, then, are nominal traits such as Adjective-Noun vs. Noun-Adjective, Genitive-Noun vs. Noun-Genitive, Numeral-Noun vs. Noun-Numeral and Possessive pronoun-Noun vs. Noun-Possessive pronoun, which may at least in part be lexically determined. Applying Fisher's Exact Test to Old Saxon verbal word order traits will thus allow to determine whether a statistically significant correlation exists between verb position and clause type. The data used across this work, unless otherwise mentioned, have been extracted from Siever's (1878) and Behaghel & Taeger's (1996) editions of the Munich (M) and Cotton (C) manuscripts of the *Heliand* and the *Genesis*. The rest of texts have been taken from Wadstein's (1899) edition of the minor Old Saxon texts as well as the online corpus of Old Saxon texts *Thesaurus indogermanischer Text- und Sprachmaterialien* (TITUS) (Gippert et al. 2010) by the Johann Wolfgang von Goethe Universität in Frankfurt am Main, Germany. The glosses for the Old Saxon examples have been copied from the original sources. Individual words have been translated with the help of Tiefenbach's (2010) comprehensive *Concise Old Saxon Dictionary*.

2.3. Literature review

Proto-Germanic. A number of works dealing with the reconstruction of Proto-Germanic (as is the case of other reconstructed languages) have sometimes leaned toward not dealing with word order at all (see, for example, Ringe 2006). Others have tended to describe attested word order changes rather than reconstructing unattested ones (Gerritsen 1984: 107). This may be related to the above-mentioned reluctance to reconstruct syntax (see the discussion in chapter 1), coupled with the somewhat fragmentary picture that the Old Germanic languages provide and the above-mentioned view that syntactic reconstruction is a difficult area (Gerritsen 1984: 107). The reconstruction of the word order of Proto-Germanic has nonetheless seen a good number of attempts, based mostly on a typological approach, beginning in the 1970s (Smith 1971, W. P. Lehmann 1971, 1972, 1974a-b, Vennemann 1975, Ebert 1978, Hawkins 1979) and continued later (Braunmüller 1982, Bean 1983, Gerritsen 1984,

Ramat 1998, W. P. Lehmann 2007). The following are proposals that have been made regarding the reconstruction of the basic word order of Proto-Germanic, which roughly fall into three main groups:

(a) Free or flexible word order: Braune (1894: 50), Meillet (1917: 187), Kuhn (1933), Faarlund (1990: 131, 2010: 203).
(b) Verb-medial: Tomanetz (1879: 275), Erdmann (1886: 193), Braunmüller (1982: 144).
(c) Verb-final: Ries (1880), Delbrück (1911), Wunderlich & Reis (1924), Smith (1971: 291), Hopper (1975: 82), Hawkins (1979: 638), W. P. Lehmann (1974a, 2007: 71), Bean (1983), Ramat (1998: 525), Kiparsky (1995: 152), Ringe (2006: 295), Nübling et al. (2013: 104) among others.

A number of authors use the OV > VO shift that takes place in the history of Germanic (see below for a discussion) to draw a line between Pre-Proto-Germanic and Common Germanic. For example, Braunmüller (1982: 144) reaches the conclusion that Proto-Germanic presents unmarked (S)VO order and that OV order must have been present only in pre-Proto-Germanic, the shift OV > VO being one of the characteristics of Proto-Germanic. This author, however, does not take Old Germanic poetry into account, where considerably more OV-related traits are attested than in the runic corpus, when reaching such a conclusion, nor does he observe language change as a gradual process. That is why such works, which dismiss an important part of the available evidence, must be regarded rather as a divergent minority. The more or less general agreement, based on a complete observation of the facts, is that the prehistoric stage of a common Germanic language presents unmarked (S)OV and thus verb-final order. On the other hand, the word order of nominal elements and the relative order of nominal and verbal elements cannot be ascertained with equal clarity, either in Proto-Germanic or in previous stages of the language (Comrie 1998: 89). These are some of the questions this dissertation attempts to give an answer to.

Old Saxon. In comparative terms very little has been said about the word order of Old Saxon and its implications for earlier stages of the language. Ries (1880) analyzes the *Heliand* (but not the minor Old Saxon texts) and determines that Proto-Germanic must have been a verb-final language (1880: 87). He also observes that in Old Saxon Subject-Verb order seems to be the unmarked word order in declarative clauses, since Verb-

Subject order is more frequent in non-declarative constructions (Ries 1880: 5-11). Ries does not, however, consider nominal word order or data from other Old Saxon texts to support his findings. In a later paper, McKnight draws on Ries' statistics to set the word order of Old Saxon in a comparative Germanic setting with the aim of reconstructing Proto-Germanic word order (McKnight 1897: 175-178). Beyond this comparative practice, however, McKnight's work would have been a contribution to the study of Old Saxon word order had he delivered some statistics of his own or made interpretations of Ries' statistics, which he fails to provide.

In what concerns work published after the turn of the century, Holthausen (1921: 192-200) briefly discusses Old Saxon clause types with reference to conjunctions and morphological case, although he does not mention word order. On the other hand, whereas Old Saxon grammars such as those by Cordes & Holthausen (1973) and Gallée & Tiefenbach (1993) hardly consider word order at all, more recent works such as Erickson (1997), Linde (2009) or Walkden (2014a-b) take a generative approach to explain the word order patterns attested in the *Heliand* and the possible syntactic operations underlying these. Erickson (1997: 95-105) and Linde (2009: 369) come to the conclusion that SOV is the "base-generated" (i.e. see the explanation in 1.3 above) order in subordinate clauses, whereas the unmarked order of main clauses has the finite verb in second position. Rauch (1985: 1092-1093, 1992: 24) takes a theory-neutral view and makes claims about markedness, but she does not support her conclusions with statistical data. Cathey (2000: 56-64) briefly mentions Old Saxon syntax, but his claims are essentially the same made by Rauch (1992). Only Walkden (2014a) takes a wide-scale approach towards word order in Old Saxon based on frequencies and with an eye toward reconstructing Proto-Germanic syntax. Be that as it may, it is clear that in comparative terms the syntax of Old Saxon has been largely ignored:

> It is surprising that, in comparison to the vast amount of work dealing with the syntax of Old English, that of Old Saxon has rarely been given any serious attention, a lack noted elsewhere in the literature [...] it is clear that the language is in need of further theoretically informed empirical work (Walkden 2014a: 15).

In order to delve deeper into word order in early Germanic, it is considered in this dissertation whether Old Saxon shows evidence for a typological shift in word order from a general head-final to a more head-initial or mixed word order type. The findings

made here can thus be applied not only to Old Saxon, but to all other Old Germanic languages. This dissertation can moreover be viewed as a contribution to earlier comparative studies on word order, since in such studies some Old Saxon typological traits are wrongly annotated; for example, Hawkins (1979: 639) (whose work has been very influential in word order studies) lists Old Saxon and Old English as having exclusively prepositions, which as will be shown below is simply not true, and does not even take Old Norse into account when reconstructing Proto-Germanic word order. On the other hand, Smith's (1971) discussion of word order in early West Germanic considers only the word order of the *Heliand*, without considering the insights that the rest of texts may provide. This is especially relevant, bearing in mind that the *Heliand* is the earliest text written in Old Saxon and that the rest of texts are more recent. Therefore, considering the word order of the minor texts may provide some insights into the evolution of the typological traits in this language. These facts show that analyzing word order in Old Saxon is relevant to investigating the evolution of word order in Germanic, as well as that a more far-reaching investigation is necessary than has been carried out so far.

Syntactic typology. Regarding the literature on typological word order universals, first and foremost Greenberg (1963) and his language universals must be mentioned, in addition to some major works that have continued this line, including Vennemann (1975), Hawkins (1979, 1983, 1994 and subsequent work), Dryer (1992, 2005, 2011 and subsequent work), Harris & Campbell (1995), Harris (2000) and Haspelmath (2008, 2014). Regarding other forms of syntactic typology, these can and have been used to reconstruct languages beyond the already mentioned word order harmonies approach. One such form is based on morphosyntax; i.e. the case system and type of the language is reconstructed drawing from what is known about the morphosyntactic structures of the world's languages. For example, Proto-Indo-European has been claimed to present many characteristics of active languages (Meillet 1937: 339-340, W. P. Lehmann 1993, 2007 among others). Alternatively, languages have been reconstructed as either head- or dependent-marking, on the basis of this well-known typological distinction (Nichols 1986: 56, Fox 1995: 266-267).

Note, however, that the concept “head” used by this kind of typological classification of languages is not the same as the concept of “head” used in the word order harmonies approach. Additionally, and even though linguistic reconstruction based on

morphosyntax and on head-marking is equally valid and necessary to the reconstruction of languages as the one based on word order universals, it must be stressed that the two former approaches (i.e. morphosyntactic and head-marking) have little if anything to do with the approach made in this dissertation, which is based on the Branching Direction Theory (Dyer 1992). In order to support and contrast the claims made in this work syntactic universals are extracted from various sources, which include the Universals Archive by the University of Konstanz (Germany) as well as secondary sources. Also, claims made on the individual languages are contrasted to generally assumed facts about such languages, which are gathered by the *World atlas of language structures* (WALS, cf. Dryer & Haspelmath 2013). For creole languages, the *Atlas of pidgin and creole language structures online* (APiCS, cf. Michaelis et al. 2013) is used as a reference.

CHAPTER 3. THEORETICAL CONCEPTS

(a) Branching and headedness. Any attempt at reconstructing word order assumes some kind of theoretic model of the sentence structure regarding the concept "position". In this sense two possibilities exist: first, to assume a purely linear or sequential representation of positions, i.e. a serial topological model; second, to assume a model which considers positions to be projections of structural, hierarchically organized configurations, i.e. a complex topological model[20] (Sornicola 2006: 366). In the sense that the theoretical framework assumed in this dissertation, the Branching Direction Theory (BDT), crucially distinguishes between phrasal and non-phrasal categories (see below) and thus between structural and non-structural configurations, such a framework can be claimed to represent a complex topological model of word order[21]. Therefore, the concept "branching" assumes that word order categories such as "noun phrase" or "relative clause" are projections of structural configurations that are hierarchically organized. That is why within the "noun phrase" category as defined by the BDT the mother of the phrasal element, namely N, is viewed as the projection of the phrasal category NP (Dryer 1992: 89).

[20] Note that the distinction between serial and complex topological models has nothing to do with the distinction (discussed in 1.3 above) between one- and two-level clause structures. The difference lies in the fact that the first distinction applies to the phrasal level of syntactic representation, whereas the second applies to the clausal level of syntactic representation.

[21] The first use of the term "branching" to refer to phrasal categories in syntax is attributed by Bauer (1995: 24) to Chomsky (1965: 13). However, the latter author apparently uses the term without giving a precise definition (Bauer 1995: 23-24). The first to use of the concept of branching in diachronic syntax is attributed to Bichakjian (1987).

On the other hand, another theoretical concept crucial to word order analysis, namely "head", has received various definitions, depending mostly on the theoretical framework. This variety of definitions has been no obstacle to the notion of "head" being largely used to do linguistic typology, which shows that at least an intuitive definition of headedness is widely used among linguists. In the literature the term "head" was first developed in the generative tradition with the development of the theoretical approach of X-Bar Theory in the 1970s and 80s (Jackendoff 1977, Chomsky 1981) as well as in other approaches, such as categorial grammar (Vennemann & Harlow 1977, Hoeksma 1985, cf. Hoeksma 1992: 121). However, intuitions regarding the existence of "chief words" in sentence structure can be traced back to the early 20th century (Jespersen 1924, cf. Zwicky 1985: 2). In these approaches the notion "head" was incorporated into a theory, also used in typological studies, that divided the constituents of the clause into "heads" and their modifiers or "dependents". This theory was meant to explain word order variation in the world's languages and it would result in the Head Directionality Parameter given in (2) above:

(6) **The Head-Dependent Theory** (HDT): Verb patterners[22] are heads and object patterners are dependents. That is, a pair of elements X and Y will employ the order XY significantly more often among VO languages than among OV languages if and only if X is a head and Y is a dependent (Dryer 1992: 87).

Headedness can, however, be determined by different diagnostics that concern many areas of grammar, i.e. there are semantic, distributional, morphosyntactic etc. diagnostics for headedness (see Zwicky 1985). Due to the lack of a unitary definition of the concept "head" that would allow for a falsifiable diagnosis of the direction of headedness of the languages under study in this work, however, the theoretical notion of "head(edness)" needs to be abandoned in favor of the notion of "branching direction". In line with the Consistent Head Serialization laid out in (3) above, the latest literature on typological universals (Haspelmath 2008, Biberauer et al. 2009: 88, Dryer 2011 among others) has shown how the Greenbergian word order correlations can be

[22] The term "verb patterner" refers to those word order pairs whose position is assumed in typological studies to correlate with the position of verbs. For example, according to the BDT prepositions tend to occur more often in VO languages, postpositions in OV languages (Dryer 2011: 337). "Object patterners" correlate with the position of objects. Thus in the case of the Adp-N and N-Adp word order pairs the noun correlates with the position of the object with respect to the verb (i.e. N-Adp + OV vs. Adp-n + VO) and is thus an object patterner (Dryer 1992: 83).

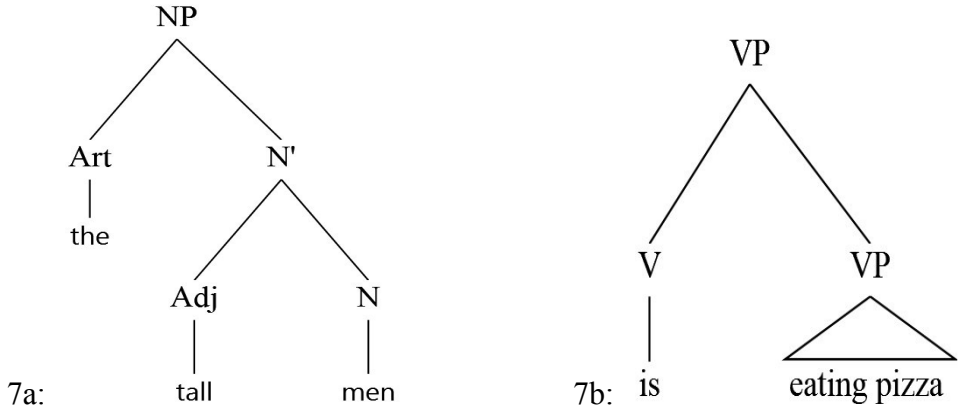
explained not in terms of the opposition between head and dependent, but in terms of branching direction (Haspelmath 2008: 83). Consequently, the diagnostics used to reconstruct Proto-Germanic word order and to determine the shift in type undergone by Ancient Germanic will be based on the following theory proposed by Dryer (1992):

(7) **The Branching Direction Theory** (BDT): Verb patterners are non-phrasal[23] (nonbranching, lexical) categories and object patterners are phrasal (branching) categories. That is, a pair of elements X and Y will employ the order XY significantly more often among VO languages than among OV languages if and only if X is a nonphrasal category and Y is a phrasal category (Dryer 1992: 89, 2009: 185).

Even though the Head-Dependent Theory (6) and the Branching Direction Theory (7) are not exactly equivalent, the prediction is that head-final languages will usually be left-branching and head-initial languages will be right-branching, with a number of differences (Dryer 1992: 89). The reason for Dryer to develop the BDT is, in any case, that it encompasses only those typological traits that statistically correlate with word order in the world's languages, while it leaves out those that do not. This means that the BDT captures the reality of the world's languages better and makes more correct predictions about them than the Head-Dependent Theory (HDT). That is why the BDT is a better tool to use in reconstruction than the HDT would be. Accordingly, the problematic term "head(-initial/final)" will not be used anymore throughout this work, replacing it instead with the left/right-branching terminology. However the BDT does not imply a mere change in terminology or a better understanding of the facts with respect to the head-dependent dichotomy. The BDT moreover predicts that all those branching constituents that correlate with the word order of direct objects should be analyzed as phrases. The following are two examples of typological traits in English that the BDT predicts should be analyzed as phrases (Dryer 2009: 186-187), where the object patterners [*tall men*] and [*eating pizza*], which stand to the right of the verb patterners [*the*] and [*is*], respectively, should be analyzed as structural projections of the noun *men* and the verb *eating*, respectively:

[23] Phrasal elements are assumed to be projections of smaller elements and can thus be divided into subparts; for example, according to the BDT a noun phrase can be subdivided into a noun and a genitive phrase (NP = N + Gen/Gen + N) or a relative clause (NP = N + Rel/Rel + N). Non-phrasal elements, on the other hand, are not projections of smaller elements and they cannot be subdivided (for example a noun (N) or a verb (V)) (Dryer 1992: 89-90, see (8a-b) for examples).

(8) a. [*the*] + [*tall men*] b. [*is*] + [*eating pizza*]

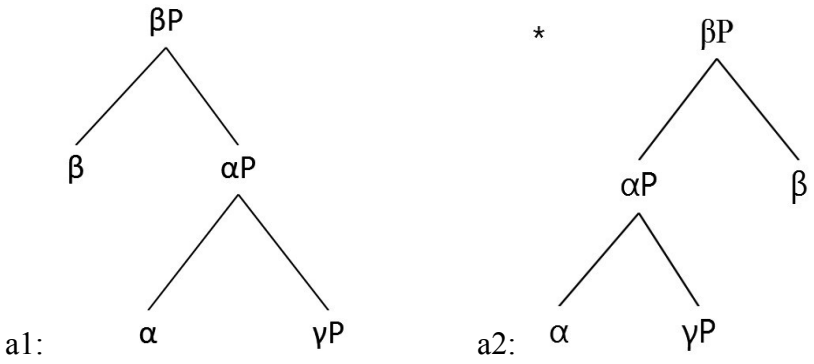


Thus at the time of determining the branching direction of a given phrase in a given language, the branching/phrasal constituent of any typological trait given in Figure #2 below will be taken into account. The BDT is not, however, without constraints. In fact, the most recent literature has shown that an interesting and wide-reaching restriction can be found regarding branching direction in the world's languages. This restriction implies that, whereas a left-branching constituent or typological trait can be headed[24] by both a left- or a right-branching constituent, a right-branching constituent can only be headed by a right-branching constituent, never by a left branching one (Biberauer et al. 2009: 88). This constraint is called the Final-Over-Final Constraint (FOFC) and it can be seen schematically as follows (ibid.):

(9) **The Final-Over-Final Constraint** (FOFC)

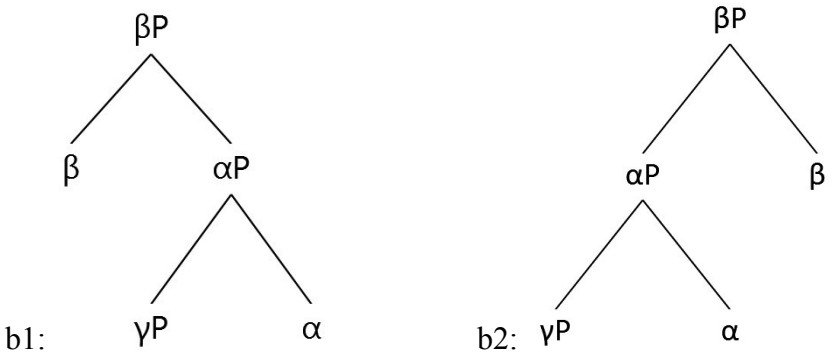
a. A right-branching constituent can be headed by a right-branching one (a1) but it can never be headed by a left-branching one (a2):

[24] Notice that Biberauer et al. (2009), in contrast to Dryer (1992), have no problem in using the term "head".



where αP is the complement of β and γP is the complement of α.

b. A left-branching constituent can be headed by either a right-branching (b1) or a left-branching (b2) constituent:



where αP is the complement of β and γP is the complement of α.

This constraint has the advantage that, combined with the Branching Direction Theory, it accounts for a number of the word order harmonies cited below. The FOFC also excludes a number of theoretically possible word orders. See Figure #3 and examples (23a-c) in section (g) of this chapter as well as the end of section 4.5 for instances of theoretically possible word orders excluded by the FOFC.

(b) Consistency of branching direction. Dryer's Branching Direction Theory is in principle formulated to explain ideally right- or left-branching languages. However, it has been shown in subsequent literature that a considerable number of languages, both synchronically and diachronically, do not represent ideal branching states (Primus 2001: 860), and thus constitute exceptions to Dryer's theory. Many of the exceptional languages show a state of affairs that is close, but not identical, to one of the two branching direction ideals. Most often, the cases of close-but-not-identical branching

direction are SVO languages (see (76) below for an exact number), which share a great deal of features with ideally right-branching languages, yet do not place the verb in clause-initial position as predicted by the BDT (Dryer 1992: 87). Such an asymmetry is explained by Keenan's "Subject Front Principle" (SFP), which states that languages tend to place subjects clause-initially, regardless of cross-linguistic tendencies, due probably to their topicality (Keenan 1979, also Hawkins 1983: 156, Song 2001: 85 *inter alia*). In the same way as pragmatic operations such as extraposition can alter or distort cross-linguistic generalizations, the SFP shows how grammatical principles can interact with cross-linguistic generalizations. Languages that do not conform to any of the ideals of the BDT are therefore to be expected. In other words, the BDT predicts a *tendency*, not an *obligation* toward cross-categorial harmony. Non-conforming languages have been referred to as "inconsistently right/left-branching", whereas those that do conform to ideals have been referred to as "consistently right/left-branching" (Dryer 1992: 87-88, Hawkins 1983: 98-122, Song 2001: 96). Languages that show little or no preference for any branching direction are referred to here as "mixed" word order type languages (see below). In spite of the considerable body of exceptions to the BDT, subsequent work by Dryer based on larger language samples has only confirmed the early findings[25]:

> While my current database is considerably larger than it was at the time I wrote Dryer (1992) [i.e. 625 languages], now containing at least partial data for 1500 languages, the additional languages do not change the evidence presented in Dryer (1992) as to which pairs of elements correlate with the order of object and verb (Dryer 2009: 185).

The enlargement of the language sample upon which Dyer bases his work has not changed the results of his research. This suggests that there is in fact a tendency for languages to conform to either of the branching directions. In addition, two main sources for inconsistency have been identified in the literature in order to justify why considerably few languages conform to both ends of the branching continuum (i.e. consistently left- or right-branching): (a) contact (Nichols 2003: 304) and (b) a diachronic shift from one point of the continuum towards the other (von Mengden 2008: 105, i.e. what Vennemann (1973: 25) refers to as *disambiguation*). The following is an illustration of how contact can cause typological inconsistency: Turkish, which is a

[25] In this sense, see also Yamamoto (1999: 64) who, on a linguistic database of 2,800 languages (the largest considered to date as far as is known to the author), claims that "I believe that the idea of word order consistency which early typologists conceived remains basically correct".

consistently left-branching language with SOV order, postpositions, Genitive-Noun etcetera, presents right-branching Noun-Relative order due to its having borrowed the relative particle *ki* "that, which" from Old Persian. Not only has the particle been borrowed, however, but also the order that comes with it, namely *ki*-relative clause, leading to Noun-Relative order and thus a trait inconsistent with the branching direction of the language (W. P. Lehmann 1978: 400-401). Accordingly, then, there are two main sources for inconsistency of branching direction:

(10) a. Inconsistency due to borrowing or contact
b. Inconsistency due to internal diachronic change

Not only because of their explanatory power with respect to inconsistency are (10a-b) relevant. Contact (10a) has also been argued to be the main reason why languages shift in leftward direction (VO > OV), whereas change in rightward direction (10b) (OV > VO) has been attributed to more "natural" or "independent" causes (van Gelderen 2011: 356-360). It is therefore due to these two sources of inconsistency that many languages do not fall clearly into any of the ideals (Hawkins 1983). This means that the division made by the Branching Direction Theory into left- and right-branching languages is more of a continuum than a polar axis.

(c) "Mixed" word order. Languages falling into neither of the ideals of the BDT are referred to as "mixed type" and can be mixed due to various reasons. For example, mixed type languages can have varying word order depending on specific grammatical environments, such as clause type or the existence of an auxiliary verb. Examples of such languages are all West Germanic languages except English and Yiddish (i.e. Dutch, German, Frisian, Afrikaans) (Hawkins 1979, Dryer 1992, Harris 2000, Haider 2014, among others), as well as other languages of the Niger-Congo macrofamily, such as the Kru languages or the Gbe languages (i.e. Ajagbe, Gungbe, Fongbe, Gengbe and Ewegbe) (Aboh 2004: 52-65). Mixed word order languages can also allow for different word orders without each specific pattern being relegated to a specific grammatical environment, as can be the case of Samoan, which allows for VSO and VOS order or Noun-Relative and Relative-Noun order, without there being a clear dominance relationship (Mosel & Hovdhaugen 1992: 448). Attempts have been made to explain the existence of mixed type languages, as well as why they are less frequent than

consistently left- or right-branching languages (Koopman 1984, Travis 1984), which however does not seem to have been a successful undertaking (Dryer 1992: 88). The existence of such "mixed" type languages seems, at first sight, to falsify the usefulness of the above-mentioned trigger-chain models of language change and of typology as a valuable tool in reconstruction (Fox 1995: 269). One of the most controversial questions in the literature on the use of syntactic universals to explain language change, however, is what exactly it means to be a "mixed-type" language. Does the change of word order of only one of the typological traits from left-branching to right-branching in an otherwise dominantly left-branching language involve the creation of a "mixed-type" language? Or is a larger number of word order changes necessary? In such a case, how many and why? A typological analysis of word order needs to provide an answer to these questions, clearly stating how mixed a syntactic type must be in order to be considered as a "mixed-type" syntax.

In principle, "mixed" involves at least one typological trait of those considered below (see Harris (2000: 133)) moving away from the ideal left-branching or right-branching pattern. In purely quantitative terms a mixed-type language would ideally present six right-branching and six left-branching traits of those presented in Figure #2 below, with everything falling in between this and the ideal extremes being referable to as "more" or "less" mixed. For example, Modern Georgian, which allows for both Genitive-Noun and Noun-Genitive order (the latter only in a few frozen expressions), should be considered more mixed than Old Georgian, which allows only for the right-branching Noun-Genitive pattern. In any case, because Modern Georgian presents, at least in principle, only a few right-branching traits, it is still far away from being a "completely" mixed-type language. The situation found in early Old Saxon involves the left column of patterns in Figure #2 being quite rare, i.e. strongly marked, and the right column of patterns being the generalized, unmarked pattern. Therefore, from a synchronic point of view the Old Saxon attested in the *Heliand* could be assumed to be mixed to a certain degree, since many typological traits are attested as both left- and right-branching, as will be shown below. From a diachronic point of view, however, this language will be shown to provide evidence for the more general change of ancient Germanic from a left-branching to a more right-branching or at least mixed type.

(d) Information-structural factors and freedom of word order. One of the aims of this dissertation is to show how even in so-called "free" word order languages word

order is never random, that is, beyond the notions of markedness, dominance or branching direction. Information-structural factors such as the interplay between new and old information, topic or focus are also shown to condition word order in such languages. As has been pointed out, even if word order is not constrained by syntactic rules, it can well be determined by discourse (Faarlund 2010: 203). In this line of thought, Osa (1990: 109-110) observes that the world's languages can be divided roughly into two groups: those which favor fluency of communication over the observance of grammatical rules and those which favor the observance of grammatical rules over fluency of communication. Mithun (1992) refers to such languages as "pragmatically based type" and "syntactically based type" languages, respectively, and such a distinction is made by other authors as well (Thompson 1978, Dryer 1989a, Hale 1992). This classification overlaps to a considerable extent with the classification that divides languages into those with fixed word order and very little freedom of movement, such as English, French, Irish or Arabic, and those with a dominant word order coupled with a considerable freedom of movement, such as Spanish, Basque, Georgian or Berber. Within the generative tradition, such a classification has been referred to in terms of "configurationality": non-configurational languages allow for considerable freedom of word order, whereas configurational languages do not (Chomsky 1981: 127-135). In a similar line, later authors working within the generative framework refer to such languages as "discourse-configurational" (Kiss 2001).

There are various reasons to reconstruct Proto-Germanic as belonging to the latter i.e. "pragmatically based type" or "discourse/non-configurational" language group. The diagnostics that have traditionally been used to establish whether a language is non-configurational draw upon properties that are typical of Old Germanic and to a large extent also of the classical Indo-European languages: (1) (relative) freedom of word order; (2) discontinuous noun phrases (Ramat 1998); (3) (at least partial) pro-drop[26] (Walkden 2013b); (4) rich case-marking and (5) rich agreement (Speas 1990: 143). Accordingly, languages that do not fulfill these criteria are referred to as

[26] The label "partial pro-drop" (from "pronoun-drop") or "partial null argument" refers to those languages which allow at least for a minimal degree of elision of anaphoric subject and/or object pronouns in those environments in which the referent is known to the listener (Holmberg 2010, cf. Walkden 2013b). Languages that fall into this type are Russian, Icelandic, Brazilian Portuguese, Finnish, Hebrew, Marāthī and the Old Germanic languages, among others (ibid.). These are often, though not always, included in the larger "pro-drop" or "null argument" type (where languages always allow for elision of pronouns when the referent is known) next to Italian, Japanese or Korean (Simpson 2005). One reason for including both types under the same label is that "partial pro-drop" languages tend to originate in "pro-drop" languages (Walkden 2013b).

"configurational". Although these diagnostics are relative, when applied to the Old Germanic languages they support the view that Proto-Germanic should be reconstructed as at least partially non-configurational, as will be shown below. One important reason to work with this concept is that configurationality is a relevant concept that must be taken into account when reconstructing word order with the aid of typological universals and implicational universals. See, for example, Dryer (1992: 117-118) for a brief discussion of this term and its implications for the Branching Direction Theory. Another of the most important reasons is that flexibility in word order is almost certainly an inherited pattern from Proto-Indo-European:

> While Proto-Indo-European was probably basically SOV, it, also, on the basis of the attested early IE languages, allowed considerable freedom of constituent order, for instance with constituents being preposed for purposes of pragmatic highlighting (Comrie 1998: 90).

The most important reason to reconstruct Proto-Germanic as a language with a specific dominant order of constituents that allows for a relative freedom of word order depending on pragmatic or information-structural conditions (i.e. as a non-configurational language) is that this freedom of word order is attested in the Ancient and Old Germanic languages (see below). The language that constitutes the source of data on which such conclusions are drawn, Old Saxon, is no exception in that it itself shows an undeniable interplay between word order and information structure. According to Linde (2009: 375), word order in Old Saxon is largely conditioned by pragmatic rules, which can be described in terms of information structure. In this sense, three classifications or distinctions are usually made in the literature regarding information structure (Schallert 2007: 29):

(11) a. Information status of the discourse referents: "*old*" vs. "*new*" *information*
b. Predication: *topic* vs. *comment*
c. Information relevance: *focus* vs. *background*

These conceptual pairs should not be regarded as complementary, since they function at different levels: "topic" and "comment" are discourse notions, whereas "focus" and

"background" are propositional notions, and "old" and "new" information merely refer to whether or not some referent has been previously mentioned in discourse or can be inferred from context (Neeleman et al. 2009: 17). However, as will be shown below all these information-structural factors affect word order in Old Saxon. Therefore, reconstructing exactly which pragmatic or information-structural conditions trigger marked word order in Proto-Germanic requires the definition of these concepts:

(1) "Old" information vs. "new" information. In languages belonging to the Old Germanic family information status or value is a factor that crucially determines word order. Contributions such as Hróarsdóttir (2009: 78), which deals with Old Norse-Icelandic, Linde (2009: 380) (Old Saxon), Petrova (2009: 263) (Old High German) or Wallenberg (2009) (Old English) clearly make this point. Information status is usually divided into two types: new information and old information, where in very general terms the former notion refers to information that has not been mentioned in previous discourse, and the latter refers to information that has been mentioned in previous discourse (Chafe 1987, Du Bois 1987: 816, Givón 1999, Walkden 2014b among others). In discourse the length limit between a previously mentioned entity and the present has been proposed to fall somewhere between twenty lines[27] (Givón 1983: 13, 1999: 95) and thirty lines (Walkden 2014b: 320). Here the maximum length limit that makes an entity mentioned in previous discourse accessible in the memory of a speaker, i.e. which makes it "old" information, will be considered to lie around thirty lines. In addition to memory, old information can be inferred by the hearer from context, experience or world knowledge (ibid.). Further distinctions can be made within new and old information, but this is considered here not to be necessary with respect to the reconstruction of word order. Because for verbs to encode new information is the norm, whereas this is not necessarily the case of noun phrases (Du Bois 1987: 817), the correlation between the position of NPs, rather than that of verbs, and their information status will be one of the major objects of quantification in this dissertation.

(2) Topic vs. comment. "Topic" is a slippery notion of pragmatics that has historically resisted a clear and unitary definition. Kiss attempts to define topic by explaining that sentences can typically be divided into two main parts: the first one foregrounds an

[27] The measure that is used to distinguish between old and new information is sometimes referred to as "intonational units" (Du Bois 1987: 816). The author is not aware, however, of there being any practical difference between referring to this measure as "line" or "intonational unit". Thus, both will henceforth be referred to as "lines".

entity, i.e. that which the sentence will be about, whereas the second one predicates something about this entity (Kiss 2001: 1442). The entity that is going to be predicated about is the topic, which is usually, but not necessarily, the subject of the clause (Lambrecht 1994: 118, Kiss 2001: 1442). Topics go together with a comment about the topic, which are the two parts that an utterance can be divided into (Linde 2009: 375). Topics usually either refer to an entity which is given or presupposed in the particular context or encode contrastive information (ibid.). In this sense, a distinction can be made between aboutness topics (12a) and contrastive topics (12b) (Lambrecht 1994: 120, 291):

(12) a. *The children went to school*

b. *I saw Mary and John yesterday. She says hello, but he's still angry at you*

The following example (13) is an instance of non-contrastive topic in Old Saxon, where the underlined part constitutes the topic and the rest a comment about the topic. The latter comment is often referred to as the "rheme" in the literature (Allerton 1978: 133-136, Dik 1978: 126-156), as opposed to the "theme", which tends to come first in a clause (Tomlin 1986: 37) as is also here the case:

(13) *thea liudi stuodun umbi that helaga hus*
the people stood around the holy house
"The people stood around the temple" (*Munich* 101a-b) (Linde 2009: 372)

As will be shown below, languages employ different methods to mark the topic of an utterance. Whereas some languages, such as Imbabura Quechua, Korean, Tagalog (Li & Thompson 1976) or Japanese (Kuno 1972: 287), morphologically mark the topic, other languages, such as Basque or Georgian, use word order, prosody or both. The means to mark the topic seems to correlate to a certain extent with the above-mentioned opposition between flexible vs. fixed word order languages. Consequently, those languages with fixed word order seldom use word order to mark the topic, and must thus resort to morphological or prosodic means to do so[28]. Languages with flexible word order can use word order to mark topics, although many times, like in Basque, this is

[28] An exception are verb-initial languages, such as Irish or Arabic. In many dialects of Arabic (as well as in many other verb-initial languages), basic word order is VSO, but pragmatically marked topics are placed before the verb (Owen et al. 2009: 14).

accompanied by prosodic marking as well (see below). If Proto-Germanic allows for flexible word order, then, it follows that marked word order patterns should be a means in this language to encode not only topic but also focus, new information, etc.

(3) Focus vs. background. Focus conveys the constituent, reference or idea that the speaker considers to be more important in his or her utterance and that, for some reason (normally, because the speaker thinks this is not clear for the addressee) must be emphasized as important. For that purpose, the speaker makes use of various formal devices to make clear this informational relevance of the constituent at stake. The focused constituent, reference or idea stands in contrast to the rest of the utterance, which is referred to as the background. Focalization strategies vary from language to language. The following (14a-b) are two sentences in Old Saxon, where constituents *all* and *mahtig barn godes* are focused[29] (Linde 2009: 379):

(14) a. *All haƀas thu sô giuuerekot quað he sô ti thînaro uueroldi mag uuesan thîn hugi hriuuig*
completely have you thus earned said he that in your world may be your heart rueful
""You have *completely* earned", said he, "that your heart be rueful in your world"" (*Genesis* 632a-633a)

b. *endi thar an them uuiha afstod mahtig barn godes*
and there at the temple stayed mighty son of-god
"And *the mighty son of God* stayed there in the temple"
(*Munich* 797b-798a)

Sentence (14a) is part of a conversation in the *Genesis* between God and Cain just after the latter has murdered Abel. Here, the constituent *all* "completely" occupies the preverbal position. This cannot be ascribed to the fact that this constituent belongs to new information, since it is already known to the reader-listener at this point that Cain deserves to suffer for having killed his innocent brother. God is merely stating a verdict that is to be expected from context, and emphasizing that Cain has no chance of being saved. In addition, in the unmarked word order (be this verb-initial (Rauch 1992: 24) or

[29] Examples (14a-b) are instances of narrow focus. Other kinds of focus can be established as well (Lambrecht 1994), but since the scope of this dissertation is on the relationship between focused NPs and postposition of NPs, henceforth "focus" will refer to "narrow focus".

subject-initial (Linde 2009: 371)) an adverb like *all* would not be expected to occupy initial position. Therefore, *all* must be regarded as a focused constituent. In the case of (14b), the sentence is extracted from a part of the story where Mary and her now twelve-year-old son Jesus, who are living in Nazareth, travel to Jerusalem in order to attend a religious ceremony in a temple. When the ceremony comes to an end, Mary leaves the temple together with the rest of attendants, but Jesus stays, something that goes unnoticed for Mary. In this context the constituent *mahtig barn godes* "the mighty son of God", which refers to Jesus, is already known to the reader-listener; it has been mentioned merely three lines before as *godes êgan barn* "God's own son" (*Munich* 794a). The narrator is emphasizing here that Jesus stays in the temple instead of going out as should be expected, whereas Mary and the rest of attendants do go out. In the unmarked word order the subject should not be expected to stand in final position of the clause. Therefore, the constituent *mahtig barn godes* should be regarded as focused. As can be seen by these two examples, then, focus can be either clause-initial or clause-final in Old Saxon (Linde 2009: 372, 379)[30], which leads to the observation that it is the finite verb that divides the utterance into the background and the focus[31] (ibid.). Thus focus-initial clauses can be said to follow the structure in (15a) and focus-final ones the structure in (16b):

(15) a. Focus — Finite verb — Background
b. Background — Finite verb — Focus

(4) Narrative inversion. Verb-initial order is frequent in Old Saxon, especially in poetry. Verb-initial order is described in the literature as a "device of concatenation or continuation in a narrative sequence" (Rauch 1992: 30) that serves the purpose of encoding a dramatic, lively and continuous narrative (van Kemenade 1987: 44-45,

[30] Linde (2009: 372) claims an example of preverbal focus in Old Saxon to be the following:

(16) *Gabriel* *bium* *ic* *hetan*
Gabriel am I called
"I am called Gabriel" (*Munich*, 120b)

However, the constituent *Gabriel* in (16) could just as well be a presentative constituent: this name is mentioned for the very first time in the *Heliand* in line 120b, and it could have been presented to the to-be-Christianized Saxons, who had probably never heard the story of the Annunciation made by the archangel Gabriel, as a new actor in the story. Therefore in the present view examples like (16) are not regarded as examples of focalization.

[31] This observation is made bearing in mind that, when working with written texts, in some cases it is difficult (if not impossible) to determine where the focus is (Bies 1996: 30).

Kiparsky 1995: 163, Cichosz 2010: 78, Walkden 2014a: 94 among others). The fact that verb-initial order serves one specific pragmatic strategy suggests that it is not the unmarked order, but rather a derived and thus marked order, at least in main clauses. The view that verb-initial order is marked is supported by the fact that the strategy of fronting the verb, sometimes also called "narrative inversion" (Barðdal & Eyþórsson 2012) or "stylistic fronting" (Faarlund 2004: 236-238) in the literature, is used for the same purpose in the sister languages, such as in Old Norse-Icelandic (Barðdal & Eyþórsson 2012: 379). The following are examples of narrative inversion in Old Saxon (17a), Old Norse (17b), Old High German (17c) and Old English (17d):

(17) a. *forun the bodan ouer all*
went the messengers over all
"The messengers went to all places" (*Straubing* 350b)

b. *fóru síðan hvárir-tveggju leiðar sinnar*
went since each-two ways theirs
"Then both of them went their own way" (*Heimskringla* II.270.9)
(Faarlund 2004: 231)

c. *verit denne stuatago in land*
moves then battle-day into the-land
"Then the day of battle moves into the land" (*Muspilli* 55)
(Hopper 1975: 90)

d. *gewiton him ða wigend wica neosian*
went they then warriors lair seek-out
"The warriors went to seek out their dwellings" (*Beowulf* 1125)
(Hopper 1975: 88)

Narrative-inverted verb-first order is present in very similar proportions in all Old Germanic languages. Walkden (2014a: 92) finds that 1,225/6,890 (18%) clauses in Ælfric's *Lives of Saints* (ca. 1000 CE) and Bede's *Historia ecclesiastica gentis Anglorum* (ca. 750 CE) are verb-initial. He also finds that 481/2,348 (20%) clauses in the *Heliand* (ca. 830 CE) are verb-initial (ibid.), as well as that 1,002/5,002 (20%) clauses are verb-initial in an Old Norse corpus consisting of the *Fyrsta Málfræðiritgerðin*, the *Íslensk hómilíubók*, the *Jarteinabók*, a number of sagas (*Þorláks saga helga*, *Íslendinga saga*, *Egils saga*, *Jómsvíkinga saga*), the *Grágás* and the

Morkinskinna, all written before 1300 CE (Walkden 2014a: 74). These results are replicated by (Cichosz 2010: 72-76), who finds out that 106/556 (19%) clauses are verb-initial in an Old High German corpus that comprises poetry, prose and translated prose. This means that 2,814/14,796 (19%) of clauses are verb initial in Old Germanic texts written between ca. 750 and 1300 CE. Such an order is also a possibility in Gothic (Eyþórsson 1995: 88, Axel 2007: 199) and in the runic inscriptions (Eyþórsson 1995: 182-184, 2011: 35). In addition to being a considerably common word order pattern in Ancient and Old Germanic, verb-initial order is also common in Indo-European languages related and contemporary to Proto-Germanic, such as Latin (Bauer 2006), Ancient Greek (Fraser 1999) or Old Indic (Speijer 1988), as well as in earlier Indo-European languages such as Hittite (Luraghi 1995:358-361, Hoffner & Melchert 2008: 407). It is therefore safe to reconstruct verb-initial order as a marked, narrative-inverted variant for Proto-Germanic (Dressler 1969: 1-25, Hopper 1975: 88, 1987: 472-476, Luraghi 1995: 361-363).

(5) Extraposition. Extraposition can be defined as a syntactic process by which an element is moved to the right of its canonical position (Baltin 2005: 237). Elements that can be extraposed vary from language to language, although the most common are relative clauses, adpositional phrases and coordinating constructions (Haspelmath 2004a: 7). This phenomenon is very widespread, although the focus here is on extraposition of constituents to postverbal position in left-branching languages that follow dominant Object-Verb order[32]. Such languages are sometimes referred to as "leaking" OV languages (Faarlund 2010: 205). This term is, however, misleading, since it is not only OV languages that allow for extraposition; see, for example the pair (18a-b) (Hawkins 1983: 91):

(18) a. *Joe gave a book that was about the skinning of cats in Alberta between 1898 and 1901 to Berta*

b. *Joe gave Berta a book that was about the skinning of cats in Alberta between 1898 and 1901*

[32] An operation whereby in a verb-final language a constituent ends up in final position and the verb in medial position can actually be explained by another operation as well, namely "verb (projection) raising" (Skopeteas & Fanselow 2010: 1370-1382, see also Bies 1996: 41-44 for an explanation of this term and a review of the relevant literature). This is, however, an explanation made by linguists working within the two-level approach to syntactic representation (i.e. 1.3 above). Thus and for the sake of clarity, movement to postverbal position will be assumed in this dissertation to be exclusively triggered by extraposition.

Sentence (18b) is an example of so-called "double object" construction, i.e. a sentence in which the indirect object (in this case *Berta*) precedes the direct object (*a book*) and is not introduced by a preposition. Sentence (18a) is equivalent to (18b), except for the fact that it is not a double object construction, since the indirect object follows the direct (*a book*) and is introduced by a preposition (*to Berta*). In the literature sentences like (18a) have been considered to be derived from double object constructions, for various reasons that will not be pursued here[33]. The point here is that, according to Hawkins (1983: 91), sentences like (18a) are cross-linguistically dispreferred because the relative clause that modifies the direct object (*that was about the skinning of cats in Alberta between 1898 and 1901*) is too long, complex and heavy to stand in non-final position, which is occupied by the indirect object *to Berta*. In view of this, speakers would rather utter a sentence like (18b), where the relative clause has been extraposed to clause-final position.

Two key characteristics of extraposition are: (a) that it is a clause-bound syntactic operation, i.e. that it can only occur within one and the same clause, and not surpass the clause boundary (Baltin 2005: 241), and (b) that more than one factor can cause the constituent to be extraposed, some of which are the prosodic length or "weight" of the constituent or the use of marked order for pragmatic reasons (see Hawkins 1983: 89-97 for an overview). In other words, it is relevant that a syntactic operation like extraposition is conditioned by extrasyntactic factors like prosody or pragmatics. This operation has received many different labels in the literature. One of the first scholars to deal with this topic can be said to be Otto Behaghel, whose Law of Increasing Constituents states that, when given two or more phrases, the longer tends to come last (Behaghel 1909: 110-142, 1932). Other labels for the same phenomenon include exbraciation (Stockwell 1977, Burridge 1993), the Heaviness Serialization Principle (Hawkins 1983: 90), the Principle of Communicative Dynamism (Haiman 1985: 237-238), expressive extraposition (Faarlund 1985, 2010), postposition (Bies 1996) or Heavy Noun Phrase Shift (Ross 1967, Haugan 2000, Wallenberg 2009, Walkden 2014b).

Another important factor that causes constituents to appear postverbally is their information status: new or emphasized phrases tend to appear postverbally, whereas given or non-emphasized phrases tend to appear preverbally. This is what Behaghel's

[33] For an explanation why indirect object constructions like (18a) are considered to be derived from double object constructions like (18b), see Larson (1988: 335-391).

Second Law of word order states (Behaghel 1909: 110). Ross (1967) then reformulated this law and put it under the cover-term Heavy Noun Phrase Shift, which actually comprises also the Law of Increasing Constituents. One final motivation for extraposition that has been considered in the literature is "right-dislocation" or "afterthought"[34], i.e. an addition of explanatory details to an apparently finished sentence (Hyman 1975: 120, Andersen 1983: 88). Lambrecht (1994: 202-203) refers to afterthought as an "anti-topic", "in which a lexical topic NP is positioned AT THE END of the clause containing the information about the topic referent". The point here is that the effects on word order of the weight of a specific phrase, together with the information value of the resulting pattern, are considered key factors in language classification and language change (Hawkins 1983: 90). In short, then, extraposition has two main causes[35]:

(19) a. Extraposition motivated by prosody-phonology
("Heaviness" of the extraposed constituent)
b. Extraposition motivated by information structure
("Status" of the extraposed constituent)

It must be pointed out that these two causes for extraposition do not exclude each other: an extraposed constituent can be heavy and relevant at the same time. In order to avoid confusion due to the different causes and names of the phenomenon, it will henceforth be referred to by the cover-term "extraposition". A generalization that Wallenberg (2015: 338) draws from the occurrence of extraposition, and a reason why this operation is relevant to the present discussion, is that it is common to Germanic, in both synchronic and diachronic terms. Another reason why extraposition is relevant here is that it has been considered a source of word order change (Hyman 1975, Derbyshire

[34] This is not to say that extraposition and afterthought are the same phenomenon. Based on Baltin's (2005: 237) definition of extraposition, the main difference between the two is that afterthought is the addition of elements on the right of and *outside* the clause, whereas extraposition is the movement of constituents to postverbal position *inside* the clause. If one is only concerned with verb-final languages and no distinction is made between two levels of syntactic representation (as is the case in this dissertation), however, the result of extraposition and afterthought is exactly the same: one ultimately ends up having a postverbal constituent and marked order. Therefore, while admitting that extraposition and afterthought are different phenomena, they will henceforth be treated together and referred to as "extraposition".

[35] This is not to say that phonological weight and informational salience are the only causes of extraposition. Hawkins (1983: 90), for example, identifies syntactic depth or complexity, which is measured in number of nodes or levels of hierarchy, as an important reason for constituents to be extraposed. As much as this would be an interesting topic to the present discussion, it has been left out due to limitations of space and time.

1981). The following are, according to Walkden (2014b: 329), examples of extraposition in Old Saxon (20a) and Old English (20b):

(20) a. *that thea gesehan mugin alla gelico*
that they see can all alike
"That they all can see that alike" (*Munich* 1407b-1408a)

b. *þe God gegearwod hæfð eallum þæm, þe hine andrædað*
that God prepared has all those who him fear
"That God has prepared for all those that fear him"

According to this view, in (20a) part of the subject *thea* "they", *alla gelico* "all alike", has been either extraposed to postverbal position or added as an afterthought[36], where the postverbal constituent would rather be expected preverbally in unmarked word order[37] (Walkden 2014b: 329). Much the same can be claimed about the relative clause in (20b) (ibid.). Both cases of extraposition have apparently occurred because the extraposed constituents carry focus (Walkden 2014b: 328). Thus in this case one would be dealing with extraposition motivated by information structure, and the result would be two sentences with postverbal focus, in the same way as (14b) above. The point here is that information status and prosody condition to a large extent the word order of the constituents of the clause: because many constituents that would otherwise be left-branching, such as Standard-Adjective, Verb-Adposition Phrase or Object-Verb, as a result of extraposition appear as right-branching constituents, namely Adjective-

[36] There is at least one alternative account for the postverbal position of *alla gelîco* "all alike" in (20a). According to (Himmelmann & Schultze-Berndt 2005: 1-68), who argue that adverbs and depictives cover a common semantic space, i.e. that semantically they are part of the same category, adverbial constructions such as *alla gelîco* can be considered to be analogous to depictives. Depictives are secondary predicates that syntactically behave like adjuncts. Examples such as *George bought the carrots fresh*, where the adjective *fresh* follows rather than precedes the noun *carrots* and modifies the action denoted by the verb *bought* rather than the noun *carrots* illustrate the definition of depictives. Depictives are shown in Himmelmann & Schultze-Berndt (2005: 22-23) to cross-linguistically possess syntactic and semantic characteristics different to other parts of speech. Therefore, according to this view the adverbial construction *alla gelîco* follows the verb in (20a) rather than preceding it because it is a depictive instead of an adverb in "regular" use. Acceptable as this explanation may be, it does not explain why equative constructions sometimes precede, sometimes follow the verb in Old Germanic. A closer inspection reveals that equatives tend indeed to follow the verb when focused and/or phonologically heavy, and to precede it when given and/or phonologically light, as argued in 4.3.2 below.

[37] Notice that, unless *alla gelîco* is assumed to be an adverbial/depictive construction, then *alla* "all" should be regarded as being part, together with the pronoun *thea* "they", of the same discontinuous subject NP: *thea ... alla* "they all".

Standard, Adposition Phrase-Verb or Verb-Object, information-structural factors can be said to be responsible for producing marked orders in the Old Germanic languages. This has consequences for the diachrony of the language: if marked right-branching patterns become sufficiently common, they may be reanalyzed as the dominant pattern (Lightfoot 1979: 393, Sigurðsson 1988: 21, Faarlund 2010: 205-206, though see Haugan 2000: 39 against this view, see also Yang 2004, 2009: 2-11, 2010: 1167-1171 for a quantitatively based model of language acquisition and change), causing left-branching traits to gradually disappear (Hinterhölzl 2009, Hróarsdóttir 2009: 79). This reanalysis can be portrayed as follows (Derbyshire 1981: 216, Haugan 2000: 43):

(21) a. Stage 1: Unmarked left-branching word order.

Example: *unuuîson* *erla* *gelîco*
unwise men alike
"Like unwise men" (*Munich* 1817b)

b. Stage 2: Left-branching constituents can be extraposed, giving rise to marked, right-branching patterns.

Example: *gelîhc* *sulicaro* *lôgnun*
alike such flames
"Like such flames" (*Genesis* 560a)

c. Stage 3: Right-branching patterns occur so frequently that they are reanalyzed as the unmarked order. Left-branching patterns coexist for some time, until they gradually disappear (except in a number of fossilized expressions).

In synchronic terms the existence of extraposition is also relevant. From the information-structural and prosodic factors that have been laid out, which are intrinsically related to freedom of word order in Old Germanic, the following word order rules can be inferred for Old Saxon:

(a) In those sentences which follow the topic-comment dichotomy, word order is usually SV(O/X), regardless of whether the major constituents of the clause are nominal or pronominal (Linde 2009: 377-378).

(b) Topicalization and focus/focalization are responsible, among others, for object-initial order in Old Germanic, including Old Saxon (Linde 2009: 378), and thus produce OVS and OSV order. Focus can also occur postverbally at the right periphery of the clause in Old Saxon (Linde 2009: 379).

(c) Narrative inversion is responsible for verb-initial order in Old Germanic, including Old Saxon (Rauch 1992: 30), and thus produces VSO and VOS order. Narrative-inverted clauses are related to focus as well, since verb-initial order apparently always places the attention on the entire utterance (Linde 2009: 383).
(d) Extraposition is, to a large extent, responsible for postverbal constituents in Old Germanic (Walkden 2014b), including the direct object, and thus produces marked SV(O/X), Adjective-Standard and Verb-Adposition Phrase order both in main and subordinate clauses.
(e) Clause-initial adverbs of place, manner and time, such as *sô*, *thô*, *thar* or *nu*, which place the utterance within background information (Linde 2009: 379), are frequently responsible for verb-late order in main clauses (Rauch 1992: 24, Walkden 2013a: 466).
(f) In addition to these information-structural and prosodic factors, a syntactic rule needs to be mentioned that conditions word order in Old Germanic, namely the Verb Second Rule (V2). According to this rule, the finite verb of any declarative main clause must stand in second leftmost position, preceded at the most by one phrase. The Verb Second Rule is likely to be responsible for all verb-second orders (i.e. XVS, XVO, OVS, OVX, SVX etc.) in Old Saxon declarative clauses. This rule does not always apply, however, since it comes into a clash with the information-structural factors laid above (Linde 2009) and with the Proto-Germanic-inherited Subject-Object-Verb pattern. An illustration of this clash are verb-first declaratives, which are a very frequent clause type in Old Germanic, though not the only one, that is information-structurally conditioned (Rauch 1992) and which violates the Verb Second Rule in Old Germanic (Axel 2007). In other words, this rule is not fully extended in Old Saxon. This is because the V2 rule is probably an innovation of Ancient Germanic whose first traces may be found in the runic inscriptions (Eyþórsson 2011, see section 9.2 below for a discussion). Therefore, the Verb Second Rule is not relevant to the discussion on the reconstruction of word order in Proto-Germanic, but it may be relevant to the proposed shift in branching direction in Ancient Germanic.

Verb-second order is not typologically rare: it is found outside Germanic in a number of languages, such as Kashmiri and Himachali (two adjacent Indo-Aryan languages, Masica (1993: 334-337)), Cornish and Breton (Celtic, Bury (2005: 142)), some dialects of Rhaeto-Romance (Romance, Joitteau (2009)), Sorbian (Slavic, ibid.), Estonian (Uralic, Ehala (2006)), Ingush (Northeast Caucasian, Nichols 2011) and Karitiana (a Tupí-Arikém language of Brazil, Storto (2003)). Some authors (Bare 2015: 1) have

claimed that O'odham (Pimic group of Uto-Aztecan family) follows this rule as well. The same rule is found as well in specific diachronic stages of French (Roberts 1993), Spanish (Fontana 1993), Italian (Vanelli et al. 1985) or Welsh (Willis 1998).

This state of affairs, since it is observable in sister Old Germanic languages, must have consequences for the reconstruction of word order in Proto-Germanic. That is why it is important to underline the importance of discourse-pragmatic factors that condition word order in Old Saxon.

(6) Discontinuity. A final note on freedom of word order in Old Saxon concerns discontinuous noun phrases. These may have many different definitions, each of which has its own implications. Discontinuous NPs are understood here as phrases whose constituents have been separated by an intervening phrase (Quirk et al. 1985). Discontinuity seems to correlate with rich agreement and with flexible word order (Hale 1983) and may thus be used as a diagnostic for flexible word order (see chapter 8 for a discussion). That is why the existence of discontinuous noun phrases can be relevant for the reconstruction and typological classification of Proto-Germanic. Discontinuous noun phrases are not at all rare in the world's languages, as they are a possibility in languages such as Georgian (Southwest Caucasian, Fanselow & Féry 2006: 49), many Australian languages such as Warlpiri, Diyari and Jiwarli (Pama-Nyungan) or Jaminjung (Mirndi, cf. Hale (1983) and subsequent work) as well as most native North American languages (Mithun 1985, 1992). Discontinuous noun phrases are also common in languages belonging to various stages of the Indo-European family, such as Old Indic (Kiparsky 2010: 309), Latin (Baldi 2009) or Ancient and Old Germanic (König & van der Auwera 1994: 126, Faarlund 2001: 1713). As can be seen in examples (22a-c), discontinuous noun phrases can involve both adjectives and genitives in Old Saxon (22a) as well as in other Ancient and Old Germanic languages, such as Gothic (22b) or Old Norse (22c). This suggests that discontinuous noun phrases should be reconstructed for Proto-Germanic as characteristic of a language that allows for flexible word order[38]:

(22)	a.	*thoh*	*ic*	*undar*	*geuueldi*	*sî*	*aðalcuninges*
		although	I	under	command	am	of-the-noble-king

[38] Notice that the discontinuous NPs in (22a-c) may serve to focus (or at least emphasize) the first part of the NP, something observed for early Germanic by Dubenion-Smith (2010), among others. Laughren (1984: 5) observes the same strategy in Warlpiri, a well-known language with discontinuous phrases. Since NP-discontinuity does not seem to be the main focusing strategy in Old Saxon, however, this observation has no further consequences for the present discussion.

"Although I am under the command of the noble king"
(*Munich* 2113b-2114a)

b. *dauns* *sijum* *woþi*
odor we-are sweet
"We are a sweet savour" (*Codex Ambrosianus A*, *Corinthians* II, 2:15)
(Behaghel 1932: 241)

c. *góðan eigum vér konung*
good have we king
"We have a good king" (*Heimskringla* II, 133) (Faarlund 1994: 56)

(e) Markedness. A large part of the world's languages do not have one single "dominant" or "unmarked" word order pattern, but they allow for different orders, both synchronically and diachronically. Some languages have consequently more than one "dominant" or "unmarked" pattern, for example those languages in which word order is conditioned by clause type (see below for further discussion). That is why the coexistence of marked and unmarked patterns must be taken into account when describing word order change and reconstructing word order (Hawkins 1983: 11-12). Before going on to reconstruct, however, the concept of word order dominance or markedness requires a careful interpretation because it is ambiguous and has various different definitions (Haspelmath 2006). Markedness, in any case, is generally considered to be a very helpful concept in explaining language change (Hawkins 1983: 11), and so a clear definition of the term is necessary:

> It seems that the "intuitive" shared sense of "marked/unmarked" is not distinguishable from the sense of everyday words like *uncommon/common, abnormal/normal, unusual/usual, unexpected/expected*. Apart from the larger class of markedness as abnormality, we also find markedness as complexity and as difficulty, but since complexity and difficulty typically lead to lower frequency, abnormality is in effect what all markedness senses share (Haspelmath 2006: 63).

In Haspelmath's words, then, markedness is used as a combination of (grammatical) complexity, difficulty and abnormality, expressed quantitatively in terms of frequency vs. rarity. In other words, this term combines frequency of use and ease of cognitive processing. The concept of markedness is closely related to and can be of help in

defining the notion of "dominant" (Dryer 2005: 330) word order, which is also referred to as "basic" (Greenberg 1963: 73, Hawkins 1979: 620), "canonical" (Hawkins 1983: 98) or "unmarked" (Harris 2000: 134). Due to this variety of names that are apparently used to refer to the same phenomenon, the terms "basic", "neutral", "dominant", "canonical" and "unmarked" will henceforth be used synonymously.

Defining the notion of dominance of word order is, however, not easy for all languages. Indeed, whereas some languages such as Turkish, Hindi, Japanese or Classical Arabic hardly ever present any other than the one unmarked order, in other languages such as Basque or Georgian many different orders are attested and one is slightly more frequent, in addition to having a "neutral" i.e. non-derived value to speakers. In such languages establishing a basic order may sometimes be controversial, yet doing so generally leads to agreement among experts. Finally, in many Australian or native North American languages determining word order dominance is very problematic, since usually no one specific order correlates with the various diagnostics that have been proposed to establish dominance. Such diagnostics include, as mentioned, the following:

(i) Dominance as lack of complexity or abnormality (Haspelmath 2006: 63)
(ii) Dominance as high frequency (Hawkins 1983: 13, Dryer 1995, 2005, Rauch 1992)
(iii) Dominance as simplicity of syntactic description (McCawley 1970)
(iv) Dominance as low degree of morphological marking (Hawkins 1983: 13)
(v) Dominance as neutral discourse-informational value (Linde 2009)
(vi) Dominance as low degree of semantic ambiguity and grammatical complexity (Chomsky 1957: 107, Greenberg 1963: 74)
(vii) Dominance as pragmatic neutrality (Mithun 1992: 15, Dryer 1995).

As a means of simplification, this wide array of diagnostics for dominance or markedness can be classified into three major groups: diagnostics (iii), (iv) and (vi) fall into *structural markedness*, i.e. markedness has to do with phonological, morphological and grammatical quantity and complexity; diagnostics (i), (v) and (vii) fall into *behavioral markedness*, i.e. markedness has to do with value; and diagnostic (ii) falls into *textual markedness*, i.e. markedness has to do with frequency (Croft 1991: 51-92).

In view of this, it remains to be decided which criteria should be used to determine word order dominance. In this respect, it must be stressed that word order cross-

linguistically (except in those languages in which word order is free) encodes grammatical relations, such as subject, direct object, etc. However, word order hardly ever encodes conceptual categories, such as singular/plural, masculine/feminine or present/past, which are cross-linguistically encoded by phonological, morphological or lexical means. In other words, word order is a formal structure and not a conceptual category. Now, because structural markedness measures the complexity of the means used to encode conceptual categories (such as plural suffixes, suppletivism used to encode grammatical gender, or a shift in the position of the accent to distinguish between present and past), this kind of markedness cannot be used to measure word order dominance. That is why only behavioral and textual markedness are inherent to word order (Croft 2003: 117). Consequently, of the diagnostics for markedness (i-vii) given above, only value and frequency can play a role in measuring the markedness of word order. That is why these will be the main criteria used to measure markedness throughout this dissertation.

(f) The relationship between clause type and basic word order. In relation to the concept of "markedness", there is the issue of those languages that allow for more than one order depending on clause type, such as German, Dutch or Gbe, among others. Which order should then be considered dominant and why? Authors such as Frisk (1932: 38-39) or Kiparsky (1995: 162) consider that the order of subordinate clauses should be considered basic because subordinate clauses are least affected by syntactic operations. Note, however, that it has been pointed out in the literature that subordinate clauses are more conservative with respect to word order than main clauses (Givón 1979a: 259-261, Tomlin 1985: 85, Hock 1986: 332, Bybee et al. 1994: 230-236, Matsuda 1998, Bybee 2002 among others). In fact, it has been claimed that "word-order change tends to start at the simple, main clause-level" (Givón 1984: 220). Therefore, subordinate clauses do not reflect a synchronic dominant word order, but rather tend to mirror the dominant word order of earlier stages of the language. A logical inference is that subordinate clauses can be used as a tool for word order reconstruction, but not to determine synchronic word order dominance[39]. This has consequences for the synchronic description of languages such as Old Saxon: if subordinate clauses cannot be

[39] Alternatively, one may wonder when dealing with a language like German, where word order is determined by clause type, whether it is meaningful at all to talk about word order dominance. The answer provided by Dryer & Haspelmath (2013) is no, since such languages are listed as "languages with no dominant order".

used to determine synchronic word order, then the claim that Old Saxon is a "base-generated" OV-language, a claim that is made by most of the authors working within the two-level approach (Erickson 1997, Linde 2009, Walkden 2014b) cannot be upheld.

Another point concerns the reasons for the existence of a difference in the value of word order change between main and subordinate clauses. A number of reasons have been adduced for the presumed conservatism of subordinate clauses. One of the main reasons is that main clauses are more prone than subordinate clauses to pragmatic operations[40] (Bybee 2002: 1-2). That is why pragmatically marked word order is more likely to occur in main clauses. If such marked orders become frequent enough, they can be "re-evaluated" as the unmarked or dominant order (Givón 1978: 83), leading to a change that takes place in main clauses and may or may not be extended later to subordinate clauses. Another reason that has been adduced for the resistance of subordinate clauses to change is processing ease. Bybee (2002: 2) argues that subordinate clauses, unlike main clauses, are processed as "chunks", i.e. as inseparable unities. This makes subordinate clauses easier to process, on the one hand, and less independent and less likely to change on the other. Finally, one further reason proposed for the conservatism of subordinate clauses is related to speech style: embedded clauses are more likely to be used in careful speech. Since speakers tend to use more conservative forms in careful speech than in more casual registers, subordinate clauses are less likely to be modified and more likely to co-occur with conservative speech forms (Matsuda 1998: 7-8).

It is precisely because of the conservatism of subordinate clauses, i.e. because they reflect the basic order not of the synchronic stage, but of earlier stages of any given language, that the word order of main clauses should be considered the reference for word order dominance, in line with a considerable part of the literature (Denniston 1952: 43, Fraser 1999: 46, and much of typological literature), and unlike the assumption generally made within the two-level approach that the word order of subordinate clauses should be considered as basic for a language (as is done, for example, by Kiparsky (1996)). Now that the matter of defining dominance has been

[40] In addition to the reasons related to poetic diction that justify the much lesser degree of word order variation observable in subordinate than in main clauses, one may also mention that subordinate clauses have no illocutionary force (Van Valin 2005: 9). This prevents subordinate clauses from undergoing subject-verb inversion in Germanic. Moreover, subordinate clauses may not go topicalization either, since they have no possibility of having a topic constituent. In fact, there is a whole range of syntactic operations that subordinate clauses may not undergo, which results in subordinate clauses showing a much lower degree of word order variation than in main clauses (Green 1976: 382-383)

cleared, and in view of the variety of criteria to determine word order dominance, the following figure from Hammarström (2015) is used in this dissertation as a guideline:

► A language has basic word order *if*:
  → Only one order is grammatically possible, *or*
  → Several orders are possible, *and*
    → There is a difference in meaning *and*
      one of the orders can be considered neutral
    → There is no difference in meaning *but*
      one order is much more frequent than the others
► A language has no basic word order *if*:
  → Several orders are possible *and*
    common or neutral
  → Several orders occur, not freely, *but*
    conditioned by morphosyntax

Figure #1: *Criterion used to establish word order dominance*.

As will be shown below, in Old Saxon as in most of the ancient and Old Germanic languages more than one order is possible. This language is, however, a good example that frequency is not always valid as a diagnostic for reconstruction[41]. If one tends toward using a falsifiable diagnosis like frequency, in Old Saxon (X)VSO has been claimed to be most frequent (Rauch 1992: 24-32) as well as SVO (Erickson 1997, Linde 2009). Thus Old Saxon should be assumed to have a basic word order of VO, although OV order is also attested to a lesser extent as will be shown below. It will be shown below that regarding Old Saxon as a VSO language is not necessarily valid. As opposed to this, an older Germanic language like Gothic has been claimed to have basic OV order (see the above-mentioned literature on the word order of Gothic) and the Runic inscriptions have been claimed to present evidence for both VO and OV order (Eyþórsson 2011). In a diachronic perspective, these facts suggest an evolution from OV to VO order. On the other hand, dominance of word order seems to come into a clash sometimes with branching direction. Even though both principles of branching direction and dominance of word order usually coincide, there are a few cases in which they do not. Such is the case of the ordering of a left branching trait like OV order with

[41] In this sense, see Dryer (1995: 107-129), who on the basis of four languages argues that the most frequent word order need not always bee the "dominant" or "basic" word order.

Noun-Relative order, a right branching trait, almost as frequently as with Relative-Noun order, a left-branching trait (Dryer 2011: 341-342; see below for the effects of this clash in Old Saxon and Proto-Germanic)[42]. Dryer does not explicitly mention the reason for this clash, but in his citing Hawkins (1994), he implicitly claims that dominance of word order and branching direction are two different principles that are both related to reasons of ease and speed of processing (Dryer 2011: 341, footnote 4). This is a clear reason why both principles should be distinguished from each other.

(g) Word order shift. Another matter that needs to be carefully defined is what exactly a shift in word order from left-branching to right-branching involves. Following Hawkins (1979: 638, 1983), Dryer (1992: 83-100, 2011), Harris (2000: 133) and Primus (2001: 856), among others, in observing the relevant syntactic patterns that correlate with word order[43], then, the following is an overview of the syntactic shift that ancient Germanic is suggested here to undergo based on the above authors' proposals, as well as of a number of languages approaching each ideal:

Left-branching order		**Right-branching order**
Adjective-Noun	>	Noun-Adjective
Genitive-Noun	>	Noun-Genitive
Noun-Adposition	>	Adposition-Noun
Relative clause-Noun	>	Noun-Relative clause
Standard-Adjective	>	Adjective-Standard
Verb-Auxiliary	>	Auxiliary-Verb
Subject-Verb	>	Verb-Subject
Object-Verb	>	Verb-Object
Predicate-Copula	>	Copula-Predicate
Manner adverb-Verb	>	Verb-Manner adverb
Adposition phrase-Verb	>	Verb-Adposition phrase
Equative construction-Verb	>	Verb-Equative construction
Amharic, Basque, Berber, Burmese,		Classical Arabic, Biblical Hebrew,

[42] The same is valid for the correlation between Adjective-Noun and Relative clause-Noun/Noun-Relative clause, where dominance of word order causes Adj-N to correlate as often with Rel-N as with N-Rel (Dryer 2011: 343-344).

[43] In line with the observance that typological traits correlate with word order, Dryer refers to them as *correlation pairs* (see Dryer 2009: 185).

Burushaski, Hindi, Japanese, Khoekhoe,	Hawaiian, Chinook, Irish,
Kuna, Laz, Lakhota, Turkish	Maori, Maasai, Zapotec
Finnish, Georgian, Guarani	Edo, English, Romanian, Thai

Figure #2: *Commonly recognized word order correlations and a number of languages that follow them or are close to them*.

The point here, which is one of the most important contributions of the Branching Direction Theory to historical linguistics, is that the BDT predicts word order change to be bidirectional (Bauer 2006: 245) and in no case unidirectional, a fact noticed elsewhere (Hopper & Traugott 1993: 24, 60). This means that word order change can develop in either one of two directions: from left to right or from right to left. Therefore the scope of logically possible reconstructions is reduced to a minimum, which almost ensures the accuracy of the reconstructed word order. This scope of logically possible reconstructions is further reduced by the aforementioned Final-Over-Final Constraint (FOFC) (Biberauer et al. 2009: 5). This rule excludes the following theoretically possible word order combinations, where right-branching traits would be headed by left-branching traits:

Noun-Adjective-Adposition
Noun-Genitive-Adposition
Noun-Relative clause-Adposition
Verb-Object-Auxiliary

Figure #3: *Word order combinations excluded by the FOFC*.

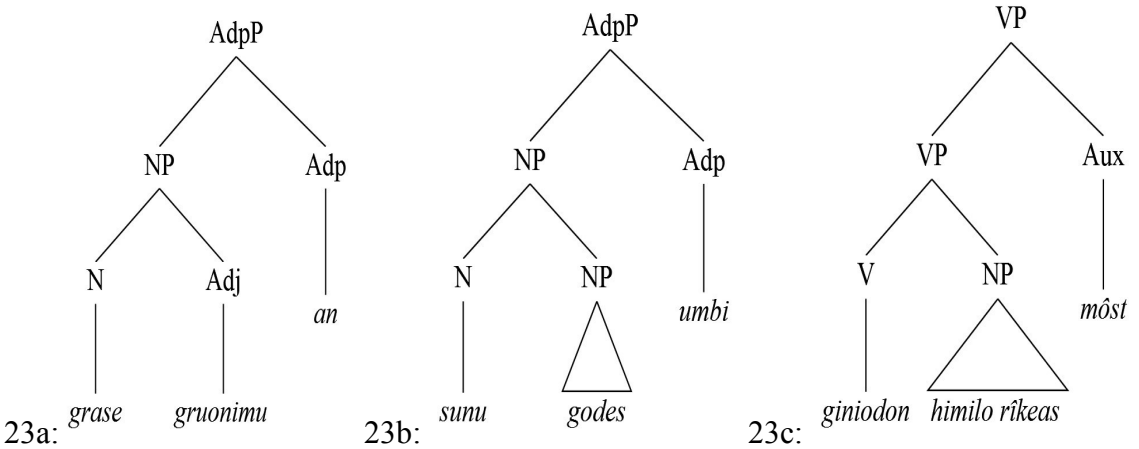
The following (23a-c) are hypothetical Old Saxon examples of word orders excluded by the FOFC:

(23) a. **grase gruonimu an*
grass green on
"On green grass" (Noun-Adjective-Adposition)

b. **sunu godes umbi*
son God's around
"Around the son of God" (Noun-Genitive-Adposition)

c. **than thu giniodon himilo rîkeas môst*
then you enjoy heavenly kingdom may

"Then you may enjoy the heavenly kingdom" (Verb-Object-Auxiliary)



In (23a), the right-branching noun phrase *grase gruonimu* "green grass" is headed by a left-branching adposition phrase, *an* "on". In (23b), the right-branching noun phrase *sunu godes* "son of God" is headed by the left-branching adposition phrase *umbi* "around". Finally, In (23c), the right-branching verb phrase *giniodon* "enjoy" is headed by a left-branching verb phrase *môst* "may". If the predictions made by the FOFC are correct, one should expect not to find any instances of word order like (23a-c) in Old Saxon (or in any other language). Therefore, the number of possible word orders to be reconstructed for Proto-Germanic would be reduced.

The two mentioned available tools (i.e. the BDT and the FOFC), which can be used to reach accuracy in reconstruction, are, however, far from flawless. More specifically, there exists a great deal of controversy regarding which typological traits should be indicative of branching direction. In this sense it should be noted that Figure #2 includes some typological traits that have been considered by an important part of the literature (see below) not to correlate with word order: the most controversial could be said to be the position of adjectives with respect to the noun. The position of adjectives is argued by Dryer (1992: 91-92) and Rijkhoff (2004: 304) not to correlate with branching direction. The issue must also be taken into account that, for many languages, there is no category that could be labelled under "adjective"[44], at least not as a cross-linguistically comparable category (Haspelmath 2012:114-115). However, in later work Dryer (1998: 293-294, 2011: 343) argues that the position of adjectives correlates with word order in the European linguistic area, which is relevant to the present discussion

[44] The question of what exactly an adjective is will not be pursued further here due to limitations of space. The interested reader is, however, referred to Ratkus (2010: 5-16) for a discussion.

since this area includes Ancient and Old Germanic, as well as related Indo-European languages. In addition, data from scholars working from different typological angles show that Dryer's refusal of observing adjectives as indicative of word order is not fully justified (Hengeveld et al. 2004: 560). In general, it is believed (Greenberg 1963, W. P. Lehmann 1973, Vennemann 1974, Chomsky 1986, Harris 2000: 133, Primus 2001: 856) that adjectives are good typological traits at the time of determining branching direction, which is why they are taken into account in Figure #2.

As opposed to this, pairs of elements such as the relative order of the negative particle and the verb (i.e. Neg-V or V-Neg) or the complementizer and the subordinate clause (i.e. Comp-S or S-Comp) are not considered. Negation is ruled out from this list for the following reasons: evidence that negation does not correlate with word order, in addition to Dryer's (1992: 97-98) findings, may be considered to stem from the evolution of the position of the negative particle relative to the verb in Old Saxon and other early Germanic languages. More specifically, support for a lack of connection between negation and word order change may come from the fact that the Old Germanic languages undergo Jespersen's Cycle: the negative particle in Old Germanic changes from preverbal to postverbal position. This is apparently a change that seems to occur in connection not with other word order traits, but with a change in the phonology of these languages (Szczepaniak 2007, 2010, 2012). As a result, the position of the negative particle moves in a rightward direction. This leaves what in view of the BDT would be the verb-patterner, which in this case is the verb itself, to the left of the negative particle.

Therefore, a change in the position of the verb-patterner occurs from the Proto-Indo-European-inherited right (Neg-V) to innovative left (V-Neg), whereas the more general word order change occurring in Old Germanic is rather to the contrary. In view of this, it is proposed here that Jespersen's Cycle in Old Germanic should be observed as a separate phenomenon from the more general word order shift. Additional evidence for the lack of correlation between the position of the negative particle relative to the verb and branching direction comes from the different timing of Jespersen's Cycle in the Germanic languages and the more general word order shift. Whereas with a number of exceptions the shift in negation develops roughly in the early historical period (ca. 800-1200 CE), the more general shift in word order doubtlessly begins several centuries earlier, in the prehistoric period. The observation that negation and branching direction do not correlate diachronically or synchronically is not new. This is reflected in the

typological literature: among others, Greenberg (1963: 76-88), Dryer (1992: 83-100), Harris (2000: 133) or Haspelmath (2014: 498) do not consider negation to be a crucial syntactic factor when classifying languages according to the typology of word order. Indeed, there exist consistently left-branching languages, such as Basque, Burmese or Georgian, whose negation does not conform to a specific word order pattern (Greenberg 1963: 111). The Old Germanic shift in negation thus poses no counterevidence to the existence of a more general word order shift that begins in prehistoric Germanic because negation is an independent phenomenon.

In the case of complementizers, Dryer (1992: 101) lists them under "controversial pairs". Greenberg (1963) and Harris (2000: 133) do not consider complementizers to correlate with other word order traits, whereas Hawkins (1994: 67) does. There is, in addition, the matter that Proto-Germanic is likely not to have had any complementizers and for them to have emerged only in Old Germanic (Axel 2007: 14, Linde 2009: 372). In fact, complementizers are likely to have developed independently and individually in the Old Germanic languages as well as in other Indo-European families (Kiparsky 1995, Biberauer et al. 2009:715), which relates to Ramat's claim (1998), see below, that Proto-Indo-European and the subsequent early families favor parataxis over hypotaxis[45]. This has important consequences for the present discussion, since it makes consideration of complementizers not only irrelevant, but also impossible. Much the same can be held of the definite article in Germanic. Ramat claims that in Proto-Germanic the semantic feature [± definite] is expressed not by means of articles, but by other grammatical features such as case, demonstrative pronouns, personal pronouns or marked word orders (Ramat 1984: 406, see also Ratkus 2010: 246 for more on the discussion around the expression of definiteness in Proto-Germanic). Definite articles are thus to grammaticalize from demonstratives only later (Eyþórsson 2011: 44). Moreover, even though Harris (2000: 133) considers demonstrative pronouns to be relevant typological

[45] The parataxis-hypotaxis opposition refers to the formal means used by languages to link clauses. Parataxis is defined as a situation in which "there is no hierarchical relation between [...] two clauses forming [a] complex sentence" (C. Lehmann 1988: 184), or, in other words, as "the absence of syntactic, semantic or prosodic dependency between the clauses, i.e. a sentence can (i) stand by itself, (ii) be interpreted independently [...] and (iii) form an intonational phrase of its own" (Gast & Diessel 2012: 4-5). Within parataxis, a further distinction can be made between syndetic and asyndetic parataxis; asyndetic parataxis is characterized by "show[ing] no signs of reduction" (C. Lehmann 1988: 210), i.e. by showing no linking words between two clauses, whereas syndetic parataxis implies the use of linking words, cf. English *and*, *or*, *but*. The most common kind of parataxis is coordination or juxtaposition (Gast & Diessel 2012: 4). Hypotaxis, on the other hand, implies a hierarchical relationship between two clauses, in the sense that one is subordinate to the other (C. Lehmann 1988: 182). The most common kind of hypotaxis is subordination. The use of the terms *parataxis* and *hypotaxis* is motivated by the fact that more strategies of juncture or clause linkage exist, such as para-hypotaxis or the use of complex sentences (cf. Bertinetto & Ciucci 2012: 89-111).

traits that correlate with general word order, Greenberg (1963: 82) and Dryer (1992: 96) do not. It is rather problematic to establish whether numerals constitute correlation pairs (Dryer 2009: 186), as their status as branching entities can change diachronically (Dryer 1992: 118-120, Primus 2001: 864), and so it is considered here to be safer to leave them out of the discussion on typological traits. Still, and for the sake of exhaustiveness, numerals will be quantitatively analyzed together with possessive pronouns with the aim of bringing into light any possible syntactic correlations that may condition their occurrences.

The relative order of direct and indirect object has been considered to correlate with branching direction in Proto-Germanic (Ramat 1998: 525), but none of the other major works cited here do so. In addition, factors such as phonological weight (i.e. Wackernagel's Law) or pragmatic marking are known to interfere with this typological trait, rendering it suspicious. Question particles are labelled under the group "controversial pairs" by Dryer (1992: 102), since their position relative to the clause varies cross-linguistically. In addition, Old Saxon only occasionally uses the question particle *hueðer* "whether" to encode yes-no questions, for which subject-verb inversion is more common (Ries 1880), thus rendering question particles invalid as a means to reconstructing branching direction in Proto-Germanic. Many kinds of adverbs, such as time adverbs, quite often depart from word order traits (Dryer 1992: 122-123, Primus 2001: 856). Dryer (1992: 97), however, shows that manner adverbs do correlate with word order, whereby he lists this kind of adverb under "correlation pairs". Therefore, manner adverbs should be the only kinds of adverbs to be reliable in the quantification and determination of branching direction of any given language.

The position of coordinating conjunctions has also been claimed to correlate with branching direction, whereby coordinating conjunctions would follow the whole clause in left-branching languages and stand between the conjoined phrases in right-branching ones (Givón 2001: 15, Biberauer et al. 2009: 90). Such a claim is not, however, supported by the data: typological studies show how coordinating conjunctions can occupy practically any position of the clause (Haspelmath 2004a: 6), except initial position (Zwart 2009: 1594). Moreover, languages such as Latin or Basque seem to refute the claim that coordinating conjunctions correlate with word order: whereas Latin loses the possibility of clause-final conjunctions relatively early, i.e. around the 4th century CE (Herman 1997: 87), late Latin and the early Romance languages preserve a great deal of left-branching traits, including Object-Verb order, which can be found, for

example, in the Old Spanish *Cantar del mío Cid* in the 13th century (see below). In the case of Basque, whereas the language of the 16th and 17th centuries as well as some archaic 20th century-constructions show clause-final coordinating conjunctions (Lakarra 2008: 83), this is no longer a possibility in present-day Basque, an otherwise consistently left-branching language (Trask 1998: 320). In addition, many languages do not even have conjunctions, but rather coordinate by other means, for example juxtaposition (Iatmul, Amharic, Parengi) (Mithun 1988: 334, Metzing & Teserra 2009: 283-300). This means that determining the position of coordinating conjunctions is impossible for many languages. All these facts suggest that the position of coordinating conjunctions is irrelevant or does not correlate with branching direction, and accordingly Dryer (1992 and subsequent work) does not consider them within the Branching Direction Theory.

In the case of the position of equative constructions with respect to the verb, even though the Branching Direction Theory does not consider them to be relevant correlative typological traits, it does not consider them to be irrelevant either, since they are simply not accounted for by the BDT (Dryer 1992, 2009, 2011). Such constructions do seem to correlate with the position of other constituents with respect to the verb, such as adposition phrases, and in fact their analysis can be revealing with respect to syntactic operations, such as extraposition (Walkden 2014b). That is why the position of equative constructions with respect to the verb is considered in this dissertation to be a relevant typological trait. Regarding the relationship between morphology and word order, the order of morphemes has traditionally been considered to be an indicator of earlier word order (Harris & Campbell 1995: 203). However, a general preference for suffixation over prefixation has been observed cross-linguistically (Bybee et al. 1994: 4), rendering the order of morphemes quite unreliable as a typological trait.

Finally, regarding the relationship between the lexicon and word order, although compounds, appositions and titles (*king*, *princess*, *empress*, etc.) have traditionally been analyzed as tools for word order reconstruction (Paul 1920: 5-6, Nielsen 2006: 266), comparative data have shown that this is not necessarily the case (Harris & Campbell 1995: 355). Therefore, compounds cannot be relied upon in reconstruction. Complementizers, demonstrative pronouns, definite articles, adverbs of any kind, morphemes and compounds are thus ruled out as traits that correlate with word order. The rejection of these typological traits as relevant to the determination of the word order of a specific language, and consequently to its usefulness for reconstruction, is

grounded by Dryer (1992: 107-108) based on the above-mentioned prediction that those typological traits that correlate with branching direction are phrasal, whereas those that do not are nonphrasal:

> The contrast between adjectives and relative clauses is instructive. Both are adjunct dependents of the noun. But relative clauses are object patterners, while adjectives are not. The same is true for intensifiers and standards of comparison. Both are adjuncts of the adjective, but only standards of comparison are object patterners. And while negative particles are like preposition phrases in being adjuncts of verbs, only preposition phrases are object patterners. What distinguishes each of these contrasting pairs is that the elements which are object patterners are PHRASAL, while the dependents which are not are NONPHRASAL. This leads us to an alternative to the Head Dependent Theory (and the Head Complement Theory) which is based, not on the distinction between heads and dependents (or some subclass of dependents), but on the distinction between phrasal and nonphrasal elements (Dryer 1992: 107-108).

In light of those typological traits or "dyads" (Harris 2000: 134) whose object patterners are phrasal, correlate with word order and are valuable to reconstruction, then, changes such as Adjective-Noun to Noun-Adjective, Genitive-Noun to Noun-Genitive or Noun-Postposition to Preposition-Noun are all triggered by an original change Object-Verb to Verb-Object (Hawkins 1979: 619-620). This "trigger-chain" model of word order correlations or "patterners" used to explain language change would thus cause a shifting language to ultimately develop consistently or near-consistently left- or right-branching word order. Such a model of word order correlations is, however, not without fault. For example, it has been observed in the literature that in Verb-Object languages the subject is a bad patterner because it often precedes the verb, resulting in Subject-Verb, which is common in Object-Verb languages as well. On the other hand, relative clauses are bad patterners in Object-Verb languages, but good patterners in Verb-Object languages (Primus 2001: 856). Note as well that some of the typological traits given above are not universally accepted: on the basis of a large typological sample, Dryer (1992: 95-96) argues that the relative order of noun and adjective and that of noun and demonstrative do not correlate with other typological word order traits. Therefore, the use of implicational universals and of "trigger-chain" models of change in word order must be used with a considerable degree of caution. Even though such observations will be taken

into account in the discussion of the object of study, their implications for the literature are out of the scope of this work and will thus not be discussed further.

Part II: Word order in Old Saxon

CHAPTER 4. TYPOLOGICAL TRAITS IN OLD SAXON: NOMINAL AND VERBAL WORD ORDER

4.1. Nominal word order

4.1.1. Adjective-Noun vs. Noun-Adjective

In Old Saxon some adjectives follow the noun they modify (24a), whereas the more frequent pattern is that of adjectives preceding the noun they modify (24b):

(24) a. *habda giuuitt mikil*
had wisdom great
"He had great wisdom" (*Genesis* 719b)

b. *thiu mikila maht metođes*
the great power destiny
"The great power of destiny" (*Cotton* 511a-b)

In order to observe whether the synchronic co-occurrence of both Adjective-Noun and Noun-Adjective order in Old Saxon is an indicator of diachronic change from one pattern to the other, the distribution of both patterns across the different Old Saxon texts needs to be observed. Even though early work by Dryer (1992: 95-96) argues that the relative order of adjectives and nouns is not a good correlation pair to determine branching direction, later work (Dryer 2009) argues that the nature of correlation pairs may be semantic, thus opening the possibility for adjectives to be verb patterners. In addition, the relative order of adjectives and nouns has been considered as a major trait in many important works dealing with word order; see Greenberg (1963), Vennemann (1974), Hawkins (1979) or Harris (2000). It is for these reasons that this typological trait should be considered useful for word order reconstruction. The following is a table which shows ten of the most frequent adjectives in the Old Saxon corpus according to Köbler's *Altsächsisches Wörterbuch* (2014), which are ***hêlag*** (307 occurrences) "holy, sacred", ***mikil*** (208) "much, great, big", ***manag*** (174) "much, many, long", ***uualdand*** (143) "ruler, ruling", ***gôd*** (132) "good, kind", (***alo***)***mahtig*** (129) "mighty, powerful",

filu (102) “much, many”, ***uurêth*** (72) “angry, furious, evil”, ***rîki*** (36) “rich, powerful” and ***sâlig*** (28) “pious, devout” respectively, and their order relative to the noun they modify:

Text	Term	Adj-N	N-Adj	Total Adj-N	Total N-Adj
V-P-L-S (840-850)	Uualdand	2	0	25 (58%)	18 (42%)
	Gôd	2	2		
	Manag	3	3		
	Mikil	1	9		
	Filu	0	3		
	Hêlag	12	0		
	(Alo)mahtig	2	1		
	Uurêth	1	0		
	Sâlig	1	0		
	Rîki	1	0		
Genesis (850)	Uualdand	2	0	20 (57%)	15 (43%)
	Gôd	3	2		
	Manag	0	0		
	Mikil	5	8		
	Filu	6	3		
	Hêlag	0	0		
	(Alo)mahtig	4	2		
	Uurêth	0	0		
	Sâlig	0	0		
	Rîki	0	0		
Confession (850)	Uualdand	0	0	5 (83%)	1 (17%)
	Gôd	0	0		
	Manag	0	0		
	Mikil	0	0		
	Filu	0	0		
	Hêlag	3	0		
	(Alo)mahtig	2	1		
	Uurêth	0	0		
	Sâlig	0	0		
	Rîki	0	0		
	Uualdand	63	0		
	Gôd	52	7		
	Manag	34	38		
	Mikil	12	77		

Munich (850)	Filu	10	26	389 (70%)	166 (30%)
	Hêlag	120	6		
	(Alo)mahtig	42	11		
	Uurêth	28	0		
	Sâlig	11	1		
	Rîki	17	0		
Psalm Commentary (900)	Uualdand	0	0	6 (100%)	0 (0%)
	Gôd	0	0		
	Manag	1	0		
	Mikil	0	0		
	Filu	0	0		
	Hêlag	5	0		
	(Alo)mahtig	0	0		
	Uurêth	0	0		
	Sâlig	0	0		
	Rîki	0	0		
Cotton (950)	Uualdand	76	0	479 (71%)	195 (29%)
	Gôd	54	10		
	Manag	39	55		
	Mikil	14	81		
	Filu	20	28		
	Hêlag	151	8		
	(Alo)mahtig	50	12		
	Uurêth	43	0		
	Sâlig	14	1		
	Rîki	18	0		
Homily (975)	Uualdand	0	0	0 (0%)	0 (0%)
	Gôd	0	0		
	Manag	0	0		
	Mikil	0	0		
	Filu	0	0		
	Hêlag	0	0		
	(Alo)mahtig	0	0		

	Uurêth	0	0		
	Sâlig	0	0		
	Rîki	0	0		
Rest (850-1050)	Uualdand	0	0	11 (92%)	1 (8%)
	Gôd	0	0		
	Manag	1	0		
	Mikil	1	0		
	Filu	5	1		
	Hêlag	2	0		
	(Alo)mahtig	2	0		
	Uurêth	0	0		
	Sâlig	0	0		
	Rîki	0	0		
Grand total				935 (70%)	396 (30%)

Table #1: *The occurrences of the ten most frequent adjectives in the Old Saxon corpus according to the order relative to the noun they modify*.

Not all instances of these lexemes co-occur as adjectives immediately adjacent to nouns. In a number of cases these adjectives behave very similar to pronouns or adverbs in that they do not modify nouns, which is typical of the Germanic languages. In other cases these adjectives are predicative and are not adjacent to nouns, but to verbs. Therefore, the total number of co-occurrences of each adjective with a noun will be lower than the total number of attestations of such an adjective in the Old Saxon corpus. Additionally, all variants of each adjective have been controlled for: the forms given in Table #1 are "standard" forms taken from Tiefenbach (2010). The numbers are quite clear: Old Saxon prefers the left-branching order of Adjective-Noun much better than the opposite. However, a detail must be pointed out: the kinds of adjectives that tend much more to follow the noun and thus conform to the right-branching pattern are adjectives such as *mikil* "much, great", *manag* "many(fold), various", *filu* "many" or *luttil* "small". These are adjectives that measure the size of or determine the event denoted by the noun. That is why in part of the literature they are referred to as "adjectifs déterminatifs" (Marouzeau 1922: 15) or "determinative adjectives" (Larson 1998: 166). Such adjectives behave semantically like determiners[46], and this is reflected in syntax (Larson 1998: 166-167). Therefore, it is possible that the right-branching nature of postnominal

[46] In fact, because determinative adjectives often behave similar to quantifiers, both are sometimes included in the same group. This is what Smith (1971: 225) does, who considers determinative adjectives like *manag* "many, great" to be quantifiers and thus puts them into the same group as *fiuuuar* "four" or *ênig* "any". The same is done by Ratkus (2010: 132), who labels these kind of adjectives as "adjectival quantifiers". However, two reasons motivate treating determinative adjectives and quantifiers separately: (a) in morphological terms, determinative adjectives are inflected like adjectives, whereas at least some quantifiers are inflected like pronouns (Cathey 2000: 36-41); (b) in syntactic terms, determinative adjectives behave unlike quantifiers in that they much more frequently follow the noun (as shown in Table #1). This suggests that determinative adjectives and quantifiers should be treated separately.

adjectives such as *mikil* or *filu* in Old Saxon is not motivated by a shift in word order, but rather by the semantics of the adjectives themselves, i.e. it is possible that word order is in this case lexically conditioned. This would in principle render mute the synchronic co-occurrence of pre- and postnominal adjectives in Old Saxon as an indicator of syntactic change. Alternatively, it could be that determinative adjectives have preserved an older Noun-Adjective pattern to a larger extent than the rest, and that the change has rather taken place in leftward direction (Noun-Adjetive > Adjective-Noun). Plausible as this second possibility is, it would however imply a non-harmonic change against the rest of word order traits, something that the comparative evidence below seems to exclude. In any case, a statistical relevance test should determine whether a correlation exists between Noun-Adjective order and determinative adjective.

The statistical relevance test shows that, if the determining adjectives *filu*, *manag* and *mikil* are considered as a unitary group as opposed to the rest of adjectives, a correlation between word order and adjective type can be established in V-P-L-S ($\chi^2 = 16.61$, $p = 0.00026$), *Munich* ($\chi^2 = 249.81$, $p = 0$) and *Cotton* ($\chi^2 = 285.23$, $p = 0$). Such a correlation could not be established, however, in the *Genesis* ($\chi^2 = 0.57$, $p = 0.312016$), the *Psalm Commentary* (χ^2 = indeterminable, $p = 1$) and in the rest of texts (χ^2 = indeterminable, $p = 1$). The *Confession* and the *Homily* unfortunately do not provide any information to this respect. In general, then, it seems as though Noun-Adjective order is semantically determined to a large extent. This may be related to definiteness, since it has been widely observed in the literature on Old Germanic that adjectives tend to precede nouns when nouns are accompanied by a determiner, i.e. when they are definite[47] (Askedal 2011: 58-59, Colman 2014: 235). In fact, a relationship between definiteness and adjective position seems to exist in (24a) above, where the adjective *mikila* "great" precedes the noun and is accompanied by a determiner, whereas the same adjective follows the noun in the absence of a determiner (24b). If adjective position is related to definiteness, it may well be that the choice of Adjective-Noun or Noun-Adjective is somehow related to the rise of determiners in early Germanic[48] (Ramat

[47] Notice that, within the syntactic approach assuming two levels of representation (i.e. section 1.3), the co-occurrence of Determiner-Noun-Adjective order and Adjective-Noun (without a determiner) order in the same language can be explained in terms of the noun moving to the determiner phrase (DP) when the DP is empty, i.e. when there is no determiner, and staying "in situ" when there is a determiner filling the DP slot. This operation is labelled "N-to-D movement" (Cinque 1993: 31) and is an alternative formal explanation to examples (24a-b).

[48] For a view of the correlation between definiteness, the emergence of the dual adjective inflection (weak vs. strong) in Germanic and adjective position, see Ratkus (2010: 222-263), where he explains his "Artroid Hypothesis", as well as literature cited therein for alternative explanations.

1984: 406). The question whether adjective position is related to definiteness can be empirically tested. The following are the numbers for Adjective-Noun vs. Noun-Adjective order of the above-mentioned ten adjectives (*uualdand*, *gôd*, *manag*, *mikil*, *filu*, *hêlag*, (*alo*)*mahtig*, *uurêth*, *sâlig* and *rîki*) in relation to definiteness (understood here as the presence or absence of a restricting word, such as a definite article, quantifier, pronoun, genitive etc. next to or close to the adjective):

Definiteness	**Term**	**Adj-N**	**N-Adj**	**Total Adj-N**	**Total N-Adj**
Definite (+)	Uualdand	143	0	733 (87%)	106 (13%)
	Gôd	88	4		
	Manag	15	7		
	Mikil	20	44		
	Filu	6	12		
	Hêlag	282	14		
	(Alo)mahtig	89	23		
	Uurêth	35	0		
	Sâlig	24	2		
	Rîki	31	0		
Indefinite (-)	Uualdand	0	0	202 (41%)	290 (59%)
	Gôd	23	17		
	Manag	63	89		
	Mikil	13	131		
	Filu	35	49		
	Hêlag	11	0		
	(Alo)mahtig	13	4		
	Uurêth	37	0		
	Sâlig	2	0		
	Rîki	5	0		
Grand total				935 (70%)	396 (30%)

Table #2: *Distribution of adjectives across definiteness in Old Saxon*.

In the quantification of adjectives across definiteness a number of cases have been excluded. These cases involve vocative constructions (25a), partitive uses of the genitive accompanied by a superlative (25b) as well as constructions which are ambiguous between discontinuity and substantivation (25c):

(25) a. *huat thu sâidos hluttar corn hêrro thie guodo*
what you saw pure corn lord the good
"You saw pure corn, good lord" (*Cotton* 2550a-b)

b. *thar gi ina fiđan mugun an Bethlemaburg barno*

there you him find can in Bethlehem children *rîkeost*

mightiest

"There you can find him, in Bethlehem, the mightiest of all children" (*Cotton* 403b-404a)

c. *thuo sea Erodesan thar rikkian fundun*

then they Herod there powerful found

"Then they found the powerful Herod/Herod, the powerful, there" (*Cotton* 548a-b)

In sentences like (25a) the adjective (*guodo*) follows the noun it modifies (*hêrro*), and the whole NP functions as a vocative meaning "oh, good lord". These kind of vocative NPs are very frequent in the *Heliand*, and they have rather been considered to be formulaic instances of nominalization and thus left out of quantification. In the case of (25b), a partitive use of the genitive case-marked noun *barn* "child" is accompanied by the superlative form of the adjective *rîki* "mighty, powerful". The combination of the noun and the adjective translates as "the richest of (all) children", which is in fact an instance of substantivization and is therefore left out. In sentences like (26a), where the noun *Erodesan* "Herod" and the adjective *rikkian* "(the) powerful, mighty" agree in case, number and gender, it is not clear whether both form a discontinuous phrase meaning "the powerful Herod" or whether the adjective is a substantivised apposition to the noun, meaning "Herod, the powerful (king)". Due to the doubtful nature of these instances, they have been left out as well.

The results suggest that there exists a certain correlation between adjective position and definiteness, since 733 (87%) of definite adjectives are prenominal, as opposed to 202 indefinite adjectives (41%). The statistical relevance test confirms this, showing moreover that the correlation is absolute ($\chi^2 = 316.01$, $p = 0$). The fact that adjectives found in definite NPs (n = 839) are not less frequent than adjectives found in indefinite NPs (n = 492) is relatively unexpected, considering that "the use of a definite form requires a highly specific context by which to justify emphasis on the definiteness/uniqueness of the notion denoted by the adjective" (Ratkus 2010: 158). On the other hand, some of the selected adjectives, such as (*alo*)*mahtig* "mighty, powerful" or *hêlag* "holy, sacred", which are also among the most frequent in the Old Saxon corpus, almost exclusively modify the various nouns used to refer to Christ, such as

barn “child”, *drohtin* “lord”, *heleand* “savior”, etc. Considering that these nouns almost always denote the same definite referent (namely Christ), it then becomes clear why definite adjectives are so frequent. In other words, the religious theme (i.e. the life of Christ) of the greatest part of the Old Saxon corpus and the idiomaticity of some of the denominations used to refer to Christ (i.e. *that hêlage barn* (*godes*) “God's mighty child”, *mahtig drothin* “the mighty lord”, etc.) have a strong impact on the results. This does not change the fact that there is a certain tendency for indefinite adjectives to appear postnominally and for definite adjectives to appear prenominally. Examples (26a-b) illustrate this relationship between adjective position and definiteness. This relationship does not imply, however, that there are no indefinite nouns preceded by adjectives, which is the case when the indefinite adjective is preceded by an indefinite pronoun, as in (26c). It does not exclude the possibility either to have indefinite nouns preceded by adjectives (26d):

(26) a. *mid* *gilôƀon* *gôdun*
with faith good
“In good faith” (*Munich* 290b)

b. *the* *gôdo* *bôm*
the good tree
“The good tree” (*Munich* 1747a)

c. *thar* *fundun* *sea* *enna* *godan* *man* *aldan*
there found they one good man old
“There they found a good old man” (*Munich* 463b-464a)

d. *he* *began* *im* *samnon* *thô* *gumono* *te*
he began him to-gather then people as
iungoron *gôdoro* *manno*
followers good men
“He then began to gather people, good men, as followers”
(*Munich* 1148b-1149b)

As the statistics have shown, examples like (26c-d) are far less frequent than (26a-b) and should thus be regarded as marked. Moreover, and in addition to the criteria of adjectival semantics (i.e. determinative vs. non-determinative adjectives) and definiteness, there is at least another factor that conditions the position of adjectives. In

early Germanic the possibility exists of placing adjectives either before the noun, which conveys an attributive[49] meaning, or after the noun, which conveys a predicative meaning, without the need of using a copula verb (Ratkus 2010: 6-9). Even though cases of predicative postnominal adjectives without a copula are quite rare in early Germanic (they are only attested in Biblical Gothic, and possibly in the runic inscriptions as well), the result of their existence is that in some cases the only indication of attributive or predicative status is the position of the adjective[50]. The following is an example of predicative postnominal adjective without a copula (Ratkus 2010: 112):

(27) *aþþan nu sweþauh witoþ weihata jah anabusns*
but so indeed law holy and commandment
weiha jah garaihta jah þiuþeiga
holy and just and good
"Wherefore the law is holy, and the commandment holy and just and good"
(*Codex Amrbosianus A*, *Romans* 7:12)

Therefore, many factors condition the position of adjectives with the respect to the noun in Old Saxon and early Germanic, which is why the reconstructed dominant position of adjectives in Proto-Germanic and Proto-Indo-European is quite controversial: there are advocates of Noun-Adjective (Faarlund 2002: 730, Perridon & Sleeman 2011: 12) as well as of Adjective-Noun (Hopper 1975: 60-61, W. P. Lehmann 2007: 76, Ratkus 2010: 217) as the dominant order. As a counterexample to the claim that only determining adjectives follow the noun in Old Saxon it must be pointed out, however, that another adjective like (*alo*)*mahtig*, which is not a determining adjective, also shows a certain tendency to follow the noun. In general terms, however, the frequencies show that in Old Saxon Adjective-Noun order can be said to correlate with OV order, against what is argued by Dryer (1992: 107-108), although see Dryer (1998: 294-295), who

[49] See Ratkus (2010: 105-108) for a discussion on the definition of the term "attributive".
[50] Not only does adjective position alone seem to indicate attributive/predicative status in early Germanic. In fact, at least in Gothic weak adjectives, which are "capable of expressing definiteness on [their] own", i.e. without help of the determiner, are confined to the attributive position (Ratkus 2010: 91). This suggests that Adjective-Noun order, especially when the adjective is weak, implies definiteness (in addition to attributive status), and by opposition that Noun-Adjective implies indefiniteness (in addition to predicative status). For an illustration of the attributive-predicative word order distinction of adjectives, see Ratkus (2010: 8), who provides examples from Lithuanian. For examples from Sanskrit, see (Kulkarni et al. 2015 : 289-290) and the bibliography therein.

shows that Adjective-Noun much more frequently correlates with OV languages than VO languages in Europe. Note also that extragrammatical factors such as alliteration or the line break restriction in many cases cannot be responsible for marked Noun-Adjective order (28a-b), as has frequently been pointed out in the literature (Axel 2007: 71):

(28) a. *an* ***gr****ase* ***gr****uonimu*
on grass green
"On green grass" (*Munich* 2850a) (1 word, 3 syllables)

b. *thoh nam is mede gehue fulle*
then took his reward complete full
"Then (he) took his complete, full reward" (*Munich* 3512b-3513a)
(2 words, 4 syllables)

In cases like (28a-b), the cause for Noun-Adjective order rather seems to be the weight of the adjective. Under this assumption, the relative order of the adjective and the noun might not only be conditioned by metrical factors (i.e. alliteration, the line break restriction), the semantics of the adjective (i.e. determinative vs. non-determinative), definiteness and the attributive/predicative value distinction, but also by the weight of the adjective. What all these factors seem to have in common, however, is that Noun-Adjective is a derived order. In general, then, Old Saxon seems to be a language which allows for both dominant Adjective-Noun and marked Noun-Adjective order. It must also be pointed out that Noun-Adjective order is a very restricted option in present-day Germanic (Cinque 2010). This means that not all typological traits considered to correlate with branching direction or more general word order shift from one type to the other. The reason why left-branching Adjective-Noun order does not shift to Noun-Adjective in Germanic is probably the above-mentioned fact that many different syntactic and extrasyntactic factors intervene in the positioning of adjectives, i.e. that adjective position has more than one grammatical use (attributive vs. predicative, marking definiteness, determinativity, etc.). This might explain why the existence of Noun-Adjective order in Old Saxon is not the product of a shift in Germanic, unlike it is for example in Romance (Bauer 2006: 263). All in all, then, the Old Saxon data suggest that Adjective-Noun is the dominant word order, whereas Noun-Adjective should be regarded as a marked, partially lexically-conditioned possibility. A comparison to other

early Germanic and Indo-European languages below should establish whether this state of affairs can be reconstructed for Proto-Germanic or whether it is particular to Old Saxon.

4.1.2. Genitive-Noun vs. Noun-Genitive

Genitive noun phrases, i.e. genitive case-marked noun phrases sometimes follow nouns (29a), and sometimes precede them (29b) in Old Saxon, the most frequent pattern being that of the genitive preceding the noun:

(29) a. *sprâca* *godes*
speech God.GEN
"The speech of God" (*Munich* 1732a)
b. *godes* *suno*
God.GEN son
"The Son of God" (*Baptism* 10)

Smith (1971: 239-240, 249) and Rauch (1985: 1093) observe that both possibilities exist in the *Heliand* for the ordering of genitive NPs with respect to nouns. The same author claims with regard to such patterns in the different *Heliand* manuscripts that the pattern Noun-Genitive is the marked pattern, whereas the pattern of Genitive-Noun is its unmarked variant (ibid.). Notice, however, that Rauch does not support these claims with numbers. In addition, a factor that Rauch does not take into account regarding the use of Noun-Genitive vs. Genitive-Noun phrasal order is the nature of the noun: "Sacred and kinship terms may fail to undergo a regular change and therefore constitute an exception. They are conventional forms and encourage the use of older constructions" (Harris & Campbell 1995: 329, cf. Petersen 2011: 21).

Certain kinds of nouns, then, tend to be more conservative regarding word order than others. These include sacred and kinship terms, i.e. nouns that refer to members of family or to religious concepts and/or beings. The following most common sacred, kinship and other kinds of terms according to Köbler's *Altsächsisches Wörterbuch* (2014), as opposed to the rest of terms, are tested in this work for word order[51]:

[51] Proper names as well as monoreferential terms like those referring to "God", "Lord", "world" or "Heaven" behave less like common nouns and more like proper names (van Langendonck 2007a: 102). Proper names are syntactically similar (if not identical) to titles such as *king*, *princess* or *empress*; recall

Sacred terms (23): ***anabusan*** "commandment", ***biscop*** "bishop", ***bôk*** "(holy) book", ***bôkan*** "miracle, sign", ***craft*** "power", ***engil*** "angel", ***erl*(*os*)** "follower(s), disciple(s)", ***ginâthon*** "mercy", ***giscapu*** "fate", ***gisîth*(*i*)** "follower(s), disciple(s)", ***giuuald*** "power", ***geld*** "worship, service", ***hirdi*** "shepherd", ***helpa*** "salvation", ***huldi*** "favor, mercy", ***jungro*** "follower, disciple", ***lera*** "teaching", ***lioht*** "world, light", ***maht*** "might", ***rîki*** "kingdom (of heaven)", ***spell*** "message, gospel", ***stôl*** "throne" and ***têkan*** "miracle, sign".

Kinship terms (16): ***aldiro*** "ancestor", ***aƀaro*** "offspring", ***barn*** "child, son", ***brôthar*** "brother", ***brûd*** "bride, wife", ***brûdigomo*** "bridegroom, husband" ***dohtar*** "daughter", ***fadar*** "father", ***hîuuski*** "family", ***idis*** "woman, wife", ***knôsal*** "kin", ***magu*** "son", ***môdar*** "mother", ***sunu*** "son", ***swestar*** "sister" and ***suuiri*** "cousin".

Other terms (43): ***aldar*** "life, age", ***ahsla*** "shoulder", ***burg*** "castle, city", ***bôdo*** "messenger", ***briost*** "chest, inside, thought(s)", ***(gi)dâd(i)*** "deed(s)", ***drôm*** "bustle, tumult, dream", ***duru*** "door", ***êo*** "law(book)", ***flett*** "hall", ***folmos*** "hand(s)", ***folk*** "people", ***gibôd*** "order, command", ***giburd*** "birth", ***gilîknessi*** "shape", ***gimang*** "community", ***gisîth(i)*** "companion(s)", ***giuuitt*** "wisdom", ***giuuerk*** "doing", ***hand*** "hand", ***harm*** "grief, sorrow, pain", ***heti*** "hatred", ***hôf*** "court", ***hôƀid*** "head", ***hugi*** "mind, mood", ***kumi*** "arrival", ***kuning*** "king", ***land*** "land", ***lif*** "life", ***liudi*** "people", ***mann*** "man, servant, warrior", ***môdseƀo*** "thought(s)", ***sêli*** "hall", ***sprâka*** "speech", ***stemna*** "voice", ***suuêƀan*** "dream", ***uuastom*** "growth", ***uuatar*** "water", ***uueg*** "way, road", ***uuillio*** "will, intention", ***uuord*** "word, speech", ***uunnia*** "bliss" and ***uuerod*** "(group of) people".

The following table shows the different word order patterns of these sacred (S), kinship (K) and other (O) nouns when combined with genitive-case marked NPs, as in (29a-b above):

Text	Term	Gen-N	N-Gen	Total Gen-N	Total N-Gen
V-P-L-S (840-850)	S	14	12	54 (63%)	32 (37%)
	K	15	14		
	O	25	6		
	S	11	1		
	K	7	0		

that the position of titles with respect to nouns as a diagnostic for branching direction has been excluded in chapter 3, section (g).

Genesis (850)	O	14	2	32 (91%)	3 (9%)
Confession (850)	S	6	1	7 (86%)	1 (14%)
	K	0	0		
	O	1	0		
Munich (850)	S	131	86	437 (64%)	249 (36%)
	K	127	102		
	O	179	61		
Psalm Commentary (900)	S	7	2	13 (87%)	2 (13%)
	K	0	0		
	O	6	0		
Cotton (950)	S	156	117	580 (63%)	340 (37%)
	K	167	133		
	O	257	90		
Homily (975)	S	4	0	4 (100%)	0 (0%)
	K	0	0		
	O	0	0		
Rest (850-1050)	S	1	0	3 (75%)	1 (25%)
	K	1	0		
	O	1	1		
Total sacred terms				330 (60%)	219 (40%)
Total kinship terms				317 (56%)	249 (44%)
Total other terms				483 (75%)	160 (25%)
Grand total				1,130 (64%)	628 (36%)

Table #3: *The word order of genitive noun phrases relative to noun type in the Old Saxon corpus*.

These numbers suggest that Noun-Genitive is a marked possibility in Old Saxon with 36% of the cases, as opposed to 64% Genitive-Noun, which should then be regarded as the unmarked variant. Interestingly, Noun-Genitive order seems to occur more frequently with kinship and sacred nouns: this pattern occurs in 40% of the cases with sacred terms and in 44% of the cases with kinship terms, as opposed to only 25% with other kinds of nouns. Bearing in mind Harris & Cambpell's (1995: 329) claim, this would suggest that Noun-Genitive order is the older pattern. A statistical relevance test should determine whether the difference in word order between sacred-kinship nouns and the rest is statistically relevant. The above intuitions are partially supported by the statistical relevance test: Noun-Genitive order correlates with sacred and kinship terms in V-P-L-S ($\chi^2 = 3.54$, $p = 0.045339$ for sacred terms and $\chi^2 = 4.41$, $p = 0.027805$ for kinship terms, respectively), *Munich* ($\chi^2 = 9.91$, $p = 0.001324$, $\chi^2 = 18.07$, $p = 0.000032$) and *Cotton* ($\chi^2 = 18.92$, $p = 0.000039$, $\chi^2 = 23.3$, $p = 0.000044$). On the other hand, in texts such as the *Genesis* (χ^2 = indeterminable, $p = 1$ for sacred terms and χ^2 = indeterminable, $p = 1$ for kinship terms, respectively), the *Confession* (χ^2 = indet., $p = 1$, χ^2 = indet., $p = 1$), the Psalm commentary (χ^2 = indet., $p = 0.485714$, χ^2 = indet., $p = 1$)

the *Homily* (χ^2 = indet., p = 1, no data) and the rest of texts (χ^2 = indet., p = 1, χ^2 = indet., p = 1), no such correlation can be observed. Even though their numbers are not included in the above table, the conservative effect of sacred and kinship terms on syntax can be observed in the position of possessive pronouns as well. The reason for this similar behavior is that possessive pronouns have been observed to act in a manner like genitive noun phrases in semantic terms (Partee & Borschev 2000: 192). That is why both genitive NPs and possessive pronouns are sometimes included together under the supra-label "possessor" (Rappaport 2004: 243). See 4.4.2 below for more on the position of possessive pronouns with respect to nouns.

The results suggest that in Old Saxon dominant Genitive-Noun word order, which is more frequent, coexists with a marked Noun-Genitive pattern, which occurs more often with sacred and kinship terms. As a matter of fact, this state of affairs is not exclusive of Old Saxon: Noun-Genitive order also survives, next to the dominant Genitive-Noun pattern, in contemporary Faroese and Icelandic with sacred and kinship terms, though with other kinds of terms as well, in addition to certain intervening syntactic conditions (Barnes 2002: 59, Petersen 2011: 19). Something similar happens in Georgian, where the order Noun-Possessor has been preserved only with kinship terms (Harris & Campbell 1995: 328, Petersen 2011: 21). Because in Old Saxon Noun-Genitive order survives in environments that are more resilient to word order change, this pattern seems to be inherited rather than an innovation[52]. A comparison to other Germanic and Indo-European languages should determine whether Noun-Genitive order can be reconstructed for Proto-Germanic. Regarding the differences between texts, it is remarkable how the different *Heliand* manuscripts show a much higher use of the marked pattern (36-37%) than the rest of texts (9-14%). The low frequencies of the marked Noun-Genitive pattern in the smaller texts could, however, be ascribed to chance due to their small size.

4.1.3. Noun-Adposition vs. Adposition-Noun

[52] There is at least one possible alternative explanation to the Genitive-Noun vs. Noun-Genitive dichotomy in Old Saxon. In this sense, Haiman (1985) and van Langendonck (2007b: 409) observe that inalienable possession involves less distance between possessor and possessee than alienable possession does. Now, in grammar a modifier is iconically put as closely to the noun as possible (i.e. van Langendonck's "principle of simple adjacency"). If it is assumed that sacred and kinship terms are more inalienable than other terms (i.e. that the possessor stands closer to the possessee), then one way to iconically mark this difference may be word order. This would explain why sacred and kinship terms more often tend to follow Noun-Genitive order, also against the synchronic tendency of the language to place modifiers preverbally.

Adpositions occur both prenominally as prepositions (30b) and postnominally as postpositions (30a), although the former are considerably more frequent than the latter:

(30) a. *firio barnum biforan*
people sons before
"In front of the people" (*Cotton* 46b-47a)

b. *aftar themo uuatare*
through the water
"Through the water" (*Blessing* 1)

The following tables show the distribution of adpositions across the Old Saxon corpus, distributed according to the individual adposition (Table 4.1) as well as to the frequency of occurrence of adpositions across texts (Table 4.2):

Adp	Heliand (C, M, L, P, S, V)		Genesis		All other texts		n
	N-Adp	Adp-N	N-Adp	Adp-N	N-Adp	Adp-N	
For(a)	1	193	0	3	1	0	198
Aftar	5	151	0	3	0	2	161
Umbi	11	109	0	7	0	0	127
Âno	2	8	0	0	1	4	15
Biforan	7	1	1	0	1	0	10
Angegin	2	5	0	0	0	0	7

Table #4.1: *The occurrences of all positionally varying adpositions in the Old Saxon corpus*.

Text	N-Adp	Adp-N	N
V-P-L-S (840-850)	1 (6%)	18 (94%)	19
Genesis (850)	1 (7%)	13 (93%)	14
Confession (850)	0 (0%)	2 (100%)	2
Munich (850)	12 (4%)	216 (96%)	228
Psalm Commentary (900)	0 (0%)	0 (0%)	0
Cotton (950)	15 (5%)	237 (95%)	252
Homily (975)	0 (0%)	1 (100%)	1
Rest (850-1050)	3 (50%)	3 (50%)	6
Total	32 (6%)	486 (94%)	518

Table #4.2: *The frequencies of all positionally varying adpositions in the Old Saxon corpus*.

(a) Adpositions that allow only for prenominal order (prepositions): *af*, *an*, *and*, *bit*, *êr*, *aneƀan*, *fan*, *fram*, *furi*, *in*, *innan*, *mid*, *nâh*, *bioƀan*, *ôƀar*, *ti*, *tôti*, *thurh*, *und*, *undar*, *farûtar*, *uuith*, *uuithar* (23)
(b) Adpositions that allow only for postnominal order (postpositions): *tiforan* (1)
(c) Adpositions that allow for both orders (ambipositions): *aftar*, *âno*, *angegin*, *biforan*, *for*(*a*), *umbi* (6)
(d) Adpositions that both precede and follow the noun (circumpositions): *at … foran* (1)

In addition to the numbers shown above, the grammatical circumstances of each postnominal occurrence (as opposed to the prepositional occurrences) of each specific adposition can provide interesting insights. For example, in the case of the adposition *umbi*, in most postnominal occurrences this adposition acts more as a modifier of the verbal meaning (rather than as an adposition) that is attached to the nominal element and constitutes a phrasal unit with it. This is suggested by the fact that this adposition is attested in postnominal position exclusively with the predicate *huuerƀan* "to surround" (Tiefenbach 2010: 191), which already implies "position around X", making the use of *umbi* in principle redundant (Rauch 1985: 1093):

(31) *huurƀun* *ina* *umbi*
they-surrounded him around
"They surrounded him/stood around him" (*Munich* 4915b)

In view of these facts, one is tempted to draw the conclusion that the postposition of the adposition/preverb is a means to mark a semantic association with the verb, rather than a syntactic association with the noun or pronoun. In other words, one is tempted to conclude that *umbi* is not an adposition, but a preverb that acts in a very similar manner to the so-called "separable verbs" of Modern German (Dewell 1996: 111). There are a couple of occurrences of *umbi*, however, that seem to contradict this conclusion. The same Old Saxon verb *huuerƀan* "to surround" can, for example, co-occur with *umbi* as a preposition (32a), or it can occur in non-final position with finite verbs (32a-b), in addition to standing before the verb and being written as one word (32c):

(32) a. *huurƀun* *umbi* *iro* *heritogon*
surrounded around their commander

"They surrounded their commander" (*Cotton* 5125a)

b. *thar ina megin umbi thiodo thrungun*
there him crowd around of-people pressed
"There the crowd of people pressed him" (*Cotton* 2375b-2376a)

c. *umbihuarf ina craft uuero*
surrounded him group of-men
"A group of men surrounded him" (*Cotton* 5270b)

d. *umbi ina heriskepi theoda thrungun*
around him crowd of-people pressed
"The crowd of people pressed around him" (*Munich* 2294b-2295a)

Examples like (32c) leave little doubt that *umbi* can be a preverb[53]. The fact that *umbi* and *huarf* are written together in Sievers' (1878) and Burkhard & Taeger's (1996) editions of the *Heliand*, as well as the fact that the unstressed clitic pronoun *ina* follows them in second position suggests that both *umbi* and *huarf* form a single prosodic unit and are therefore one word. However, examples like (32a), where *umbi* can precede the direct object, and especially (32b), where *umbi* can follow the direct object and follow the finite verb, which is moreover separated from *umbi* by another word, suggest that, if anything, *umbi* is quite free to move around. Whether this implies that instances (32a-b) of *umbi* are postpositional, as opposed to (32c-d) which are clearly preverbal, or not, remains open. In any case, the behavior of other adpositions seems to support the former case.

In the case of *aftar*, all postpositional occurrences coincide with its nominal object being a third-person singular pronoun (i.e. *Cotton* 2994b, 3295b). In sentences in which *aftar* occurs postpositionally after a third-person singular pronoun, the pronoun occurs in second position; therefore the postpositional occurrences of *aftar* could be related to Wackernagel's Law. The same goes for *âno* "without": parallel prepositional cases of this adposition are found when standing before full NPs (33a) alongside postpositional cases after pronouns (33b):

[53] Gvoznadović (2016: 426) defines a preverb as a bound form that has to occur in the vicinity of a verb and whose meaning (tense, telicity, etc.) it modifies. Accordingly, when a preverb precedes the verb it is labeled a "preverb", when it follows it a "postverb". Preverbs and postverbs are believed to derive from previous adverbs (whose freedom of movement is greater than that of pre- and postverbs) in early Indo-European (ibid.). In view of this definition, the fact that *umbi* forms a single prosodic unit with the verb *huarf* in (32b), which speaks for the boundedness of *umbi*, is in accordance with its labeling it a preverb.

(33) a. *huand* *sie* *ano* *is* *helpa* *ni* *mugun* [..]
since they without his help not can
uuiht *athengean*
nothing achieve
"Since they cannot achieve anything without his help"
(*Cotton* 1767b-1768b)

b. *so* *huilik* *so* *iuuuer* *ano* *si* *quathie* *slithia*
ever which ever of-you without be said-he evil
sundiun
sins
""Whoever of you be without sin", he said" (*Cotton* 1767b-1768a)

The fact that the adposition *ânо* precedes full noun phrases when the second position is occupied (in the case of 33a, by the pronoun *sie* "they") and follows pronouns when these are in second position (in the case of 33b, by the pronoun *iuuuer* "of you") suggests that postpositional occurrences of positionally varying adpositions are motivated by Wackernagel's Law: Noun-Adposition only seems to occur when the adposition takes a clitic pronoun as an object and the first position is occupied, thus leaving the adposition no other chance but to occur after the clitic, as in (32b, d) in the case of *umbi* and in (33b) in the case of *ânо*. This is also the case of *aftar* on many occasions. Since *aftar*, *umbi* and *ânо* are three of the four most frequent positionally varying adpositions, the fact that Noun-Adposition order is motivated by Wackernagel's Law seems to be a logical conclusion. The point here is, in any case, that postpositions *can* and in fact *do* occur in Old Saxon (albeit as a highly restricted possibility), regardless of their motivation.

On the other hand, there is some intertextual variation with respect to the occurrence of prepositions vs. postpositions: as can be seen in the table above, postpositions occur much more rarely in the *Genesis* than in any other text. Since the *Genesis* translation was produced later (ca. 850 CE) than the main *Heliand* fragments (ca. 830 CE), the lack of postpositional occurrences in the former text may suggest a gradual diachronic decay of postpositions. Although the difference in postpositional occurrences between the *Heliand* and *Genesis* fragments cannot be ascribed to the texts being based on one same archetype (Price 2010: 52), it can certainly be due to the small corpus. The nature of the attested texts could also be responsible for intertextual differences and the presence or

lack of adpositions (see the discussion in 2.1 above). In typological terms, the existence of postpositions can be especially valuable to the determination of the dominant word order of Old Saxon, as well as of the word order of previous undocumented stages of Germanic. This value comes from the fact that the correlation between adpositions and other typological traits is quite well studied, as the following chart shows (Dryer 1992: 83, 2011: 338):

	Africa	Euras.	SE As-Oc.	Aus-NG	NAm.	SAm.	Average
OV	**.88**	**.94**	**.93**	**.96**	**1.00**	**.98**	.95
VO	.22	.43	.00	.17	.15	.33	.22

Table #5: *Proportion of genera*[54] *that contain languages with postpositions*.

These results show that postpositions strongly correlate with OV order. The correlation between OV order and postpositions suggests that the word order of early Germanic undergoes a gradual typological shift from a left-branching to a mixed type. This conclusion is only valid, however, under the important assumption that in Old Saxon postpositions are an inherited trait rather than an innovation. A discussion of the individual occurrences of postpositions has shown, however, that postpositions are synchronically motivated by extrasyntactic factors. In addition, prepositions are overwhelmingly more frequent than postpositions in Old Saxon (32 vs. 486 occurrences, i.e. Table #4.2), not to mention that postpositions exclusively occur in poetic texts, which by nature allow for marked word order traits (i.e. the discussion in 2.1 above). Therefore, the existence of postpositions in Old Saxon may well be an innovation rather than an inherited trait. That is why a comparison to other early Germanic and Indo-European languages should determine whether this state of affairs is an innovation of the individual Germanic languages or whether it is an inherited trait.

The possibility that adpositions may not have existed in Proto-Indo-European and that they be an innovation of the individual daughter languages, including Proto-Germanic (Comrie 1998: 90) must be taken into account at this point. Indeed, it is a relatively widely accepted view that the adpositions of the daughter Proto-Indo-European languages can be traced back to previous particles and adverbial elements involving local or temporal notions, which moreover have a characteristic relative

[54] See Dryer (1992: 84, f. 2) for his definition of the term "genus" and the motivation behind dividing genera into six linguistic macro-areas as seen in Figure #5, as well as Dryer (1992: 133-135) for a list of examples.

freedom of movement (Magni 2009: 229). On the other hand, it may also be the case that postpositions are original and that a later shift takes place that places them in prepositional position. This view is put forth, for example, by Bauer (2006), who claims that the fact that cognates of postpositions in the early Proto-Indo-European languages are prepositional in the later ones suggests that postpositions at some point must have changed place and become prepositions (Bauer 2006: 253). If this other view is assumed, then, the same shift must have been underway in Proto-Germanic, which explains why Old Saxon allows for both kinds of adposition. As mentioned above, a discussion of related languages should clarify the state of affairs of Old Saxon adpositions.

4.1.4. Relative clause-Noun vs. Noun-Relative clause

The position of relative clauses with respect to nouns can be an indicator of branching direction (Dryer 1992: 86-87, 2011: 340-342) and thus also at the time of reconstructing word order. Before going further into the discussion, however, two kinds of relative clauses need to be distinguished: (a) so-called "headed" or "bound" relative clauses, which characteristically depend on a noun that they modify and are irrelevant to the constituency of the main clause, and (b) "free" relative clauses, which function as one of the constituents of the verb and thus of the main clause (Fleischer 2004: 212). This distinction between bound and free relative clause can be seen in the two following examples from Old English (34a) and Old High German (34b):

(34) a. *eadig* *bið* *se* ***man*** *se* *ðe* *gemet* *wisdom*
wealthy is the man who that meets wisdom
"Wealthy is the man who finds wisdom"
(Ælfric's *Lives of Saints*, *Prayer of Moses* 322)

b. *denne* *der* *paldêt* *der* *gipuazzit* ***habet***
because he comforts who suffered has
"Because then the one who has suffered takes comfort" (*Muspilli* 99a-b)

There are two reasons why free relative clauses such as (34b) are irrelevant to the present discussion: (i) bound relative clauses are the "basic" kind of relative clause (C. Lehmann 1984: 85) and (ii) the Branching Direction Theory refers only to bound

relative clauses because it is their order with respect to the noun that is relevant (Dryer 1992: 86). Therefore, relative clauses such as (34b) will not be discussed further here. A characteristic of Ancient and Old Germanic, including Old Saxon, is that the dominant pattern concerning bound relative clauses seems to be a particle-introduced Noun-Relative and thus right-branching order according to the BDT. Note, however, that Noun-Relative clauses introduced by a relative pronoun are almost certainly a Germanic innovation or at least an innovative development of an earlier pattern. In fact, one of the major unanswered questions of Germanic linguistics is the origin of relative clauses introduced by a relative pronoun. Many different theories have been proposed, namely that relative clauses derive from correlative pronouns in the main clause (Delbrück 1909), appositions (Mitchell 1985) or demonstrative pronouns (W. P. Lehmann 2007), among others (see Hock (1991: 59-68) for a discussion of all the proposals). Such clauses can be observed in all three branches of Germanic, i.e. in Gothic (35a), Old English (35b) and Old Norse (35c), which suggests that the innovation must nonetheless be quite old (W. P. Lehmann 2007: 75):

(35) a. *und þana dag ei waírþái þata*
until the day in-which happen these-things
"Until the day in which these things shall happen" (*Luke* 1:20)

b. *worolde wilna, þē ic geweald hæbbe*
world joys which I control have
"Of joys in the world, over which I have control" (*Beowulf* 950)

c. *Eiríkr inn Rauði hét maðr er fór út heðan*
Eric the Red was-named man who went out thither
"Eric the Red was the name of the man who went out there (to Greenland)" (Ari's *Libellus Islandorum*)

The view that relative clauses introduced by a particle or relative pronoun are a late Proto-Germanic or early Ancient Germanic innovation is indicated by the synchronic variation that exists in early Germanic between relative particles and demonstrative pronouns used to introduce relative clauses, such as *sē*, *sēo*, *þæt*, *þē* in Old English, *ei*, *sa, sō, þata* in Gothic or *er*/*es*, *sem* in Old Norse. This hypothesis is further supported by the divergent etymology of the relative particles in the earliest attested dialects,

which indicates that the development of relative particles is an innovation of the individual dialects:

> [The emergence of relative particles] may have been a further development to the construction that was later introduced by a relative pronoun. These differ among the dialects, providing a further indication that the postposed pattern of relative clauses was a late development, e.g. Gothic *ei*, Old English *þē/þe*, Old Norse *er* and *es* (W. P. Lehmann 2007: 75).

The idea that particle relative constructions are a reconstructable, but later innovation than relative present participles (i.e. 38a-c below) is supported by the fact that the same etymological problem, but with respect to comparative constructions, can be observed in a related linguistic family such as the Romance branch. More specifically, a number of Romance languages opted to use Latin *plus* "more" (French *plus*, Italian *più*) as the degree marker, whereas others opted for Latin *magis* "greater" (Spanish *más*, Catalan *mès*, Portuguese *mais*, Romanian *mai*) (Bauer 2006: 263). In fact, W. P. Lehmann (2007: 78-79) goes as far as to claim that the process of grammaticalization of relative clauses can be observed in Old Germanic, as well as in other old Indo-European languages. Such a process would develop through three stages[55]: in stage #1, a clause containing a noun is followed by another clause which comments on that noun, i.e. whose theme is the noun, and which contains an anaphoric pronoun that refers to the noun (36a). In stage #2, the second clause is fronted, giving rise to inverse word order. This inverse order is identical to the order found in Noun-Relative clauses. Finally, in stage #3, the inverted biclausal construction is reanalyzed as a non-inverted monoclausal construction (36b). This results in the predicate of the fronted clause being analyzed as the modified noun, and the now second clause being analyzed as a relative clause (36c). Note that reanalysis, which is a mechanism of linguistic change that consists of a change in the underlying structure of a syntactic pattern (in this case,

[55] Note that the examples provided by W. P. Lehmann (36a-c) to illustrate the emergence of the innovative relative construction in Old Germanic do not involve relative particles like the ones discussed above (i.e. Old English *þē*, Gothic *ei* Old Norse *er*/*es* and *sem*), but rather a relative pronoun, in this case Old High German *ther* "he, that one, who". This relative pronoun can, unlike the relative particles, be inflected for gender and number and would have been derived, according to W. P. Lehmann's proposal of grammaticalization, from an earlier demonstrative pronoun. This state of affairs does not, however, affect the point of the discussion: an innovative relative construction (introduced by a relative particle or by a pronoun) emerges in the individual Germanic languages that is responsible for right-branching Noun-Relative order and which eventually wins over the Proto-Germanic-inherited relative present participle construction (39a-c), itself responsible for left-branching Relative-Noun order.

biclausal construction > relative clause) without any surface manifestation, is cross-linguistically a very productive source of language change (Harris & Campbell 1995: 61). The process of grammaticalization of particle relative clauses is illustrated by W. P. Lehmann (2007) with an Old High German clause:

(36) a. *ther brût habet, ther scal ther **brûtigomo** sîn*
he bride has he shall the groom be
"He who has a bride shall be the groom" (*Otfrid* 2, 12, 9)
(Stage #1: biclausal construction)

b. *****ther scal **brûtigomo** sîn ther brût habet*
he shall groom be who bride has
"He shall be the groom who has a bride"
(Stage #2: fronting of the second clause)

c. *(*ther scal*) **brûtigomo** (*sîn*) ther brût habet*
he shall groom be who bride has
"A groom who has a bride"
(Stage #3: reanalysis of the biclausal as a monoclausal construction)

As mentioned above, the different etymology of the relative particles in the individual early Germanic languages suggests that the relative particle construction is an innovation. This does not, however, exclude the possibility that relative clauses introduced by an inflected relative pronoun (like the Old High German *ther*) were already a possibility in Proto-Germanic, and that relative particles emerged on the basis of these. In other words, W. P. Lehmann's (2007) proposal of grammaticalization does not speak against there having been Noun-Relative order in Proto-Germanic, it only

speaks against there having been one *subtype* of the Noun-Relative construction. Therefore, reconstructing right-branching Noun-Relative order for Proto-Germanic is regarded here as a possibility; comparative data in Part III below should help clarify this matter.

The other possibility is left-branching Relative-Noun order. According to W. P. Lehmann's (2007) proposal, there is a construction in the early Germanic and Indo-European languages that is functionally equivalent to relative constructions and which follows Relative-Noun order: the present participle relative construction[56]. Before going any deeper into the analysis of this kind of construction in early Germanic, however, a layout should be made of the characteristics that define a relative clause. According to Hendery (2012: 5), the following characteristics are cross-linguistically typical of relative clauses:

(38) i. They contain some form of a verb (as opposed to adjectives)
ii. They are linked in some way to another clause (as opposed to nominalized verbs)
iii. They delimit the reference of a noun phrase by specifying the role of the referent of that noun phrase in the situation described by the relative clause (as opposed to adverbial clauses)

As opposed to the above-mentioned particle relative constructions, traces of a parallel, alternative but semantically equivalent pattern, the present participle construction, are attested in Old English (39a), in Gothic (39b) and in Old Saxon (39c). In Gothic the

[56] W. P. Lehmann (2007) actually speaks of "participial constructions comparable to relative constructions", without specifying whether these participles need be present or past. However, the examples he gives from Gothic and Old English (39a-b, 39c has been provided by the author) only involve present participles, i.e. *flītende manna cynne* "contending men" and *atgaggandin ... mis* "us, going". This suggests that W. P. Lehmann's proposal implicitly considers only present participles to be functional equivalents to relative constructions. Consider, however, the following example from Gothic (Ratkus 2010: 161):

(37) *ufargaggan* *þo* *faura* *ju* *us* *anastodeinai* *garaidon* *garehsn*
to-violate this for already from beginning preordained plan
"To violate the plan (which had been) preordained from the beginning" (*Skeireins* 1:5)

In (37) the noun *garehsn* "plan" is modified by the past participle weak form *garaidon* of the verb *garaþjan* "to count, preordain" (Streitberg 2000 [1919]: 291). The result is a phrase (*þo faura ju us anastodeinai garaidon garehsn* "the plan (which had been) preordained from the beginning") that is functionally equivalent to a relative clause. In view of this example, then, it is clear that both present and past participles should be regarded as functionally equivalent to relative clauses in early Germanic.

participle corresponds to a finite verb in the Greek original, suggesting its genuinity (W. P. Lehmann 2007). As can be seen in these examples, the forms *flītende*, *atgaggandin* and *biddandi* are not only semantically equivalent to a relative clause, but are also verb forms (cf. 38i), they are each linked to the previous or following clause (38ii) and they delimit the reference of the noun phrase they modify (38iii), which means they should be considered at least functionally equivalent to "genuine" relative clauses. In other words, the possibility to reconstruct Relative-Noun order[57] for Proto-Germanic cannot be excluded (W. P. Lehmann 2007: 79):

(39) a. *hwīlum* *flītende* *manna* *cynne* *fealwe*
at-times contending men kind yellow
strǣte *mēarum* *mǣton*
street with-horses traversed
"The men who competed (lit. *the men competing*) from time to time proceeded down the sandy road with their horses" (*Beowulf* 916-917)

b. *atgaggandin* *in* *gard* *þeinana* *wato* *mis* *ana* *fotuns*
going into house yours water me for feet
meinans *ni* *gaft*
mine not gave
"To me, who entered your house (lit. *entering your house*), you did not give water for my feet" (*Luke* 7:44)

c. *than* *uuas* *thar* *en* *biddandi* *man*
then was there a begging man
"At the time there was a man who was begging (lit. *a begging man*) there" (*Cotton* 3334b)

In light of the word order reconstruction under consideration, the existence of the participial construction used with a relative meaning in Old English, Gothic and Old Saxon elegantly explains the existence of consistently left-branching word order, albeit only as a marked alternative to the "genuine" relative construction, in all typological traits taken into account by the Branching Direction Theory in Ancient and Old

[57] Actually, present participle relative constructions may also follow the noun they modify, thus resulting in Noun-Relative order. As will be shown in Part III, however, the occurrence of postverbal present participle relative constructions in early Germanic and Indo-European seems to be motivated by prosodic factors, which suggests that in this case Noun-Relative order is a derived order.

Germanic. Because participial constructions that are equivalent to relative constructions are attested in the classic Indo-European languages as well (see below), such constructions should therefore be regarded as a conservative pattern that is inherited by the Ancient Germanic languages from Proto-Germanic. Based on the above discussion on the existence of two kinds of relative constructions in early Germanic, then, the following table quantifies the amount in Old Saxon of present participle relative constructions (Rel-N, 39c) and of relative clauses introduced by a pronoun or a particle (N-Rel, 35a-c, 36a):

Text	Rel-N	N-Rel	N
V-P-L-S (840-850)	0 (0%)	25 (100%)	25
Genesis (850)	1 (6%)	15 (94%)	16
Confession (850)	0 (0%)	11 (100%)	11
Munich (850)	13 (3%)	384 (97%)	397
Psalm Commentary (900)	0 (0%)	24 (100%)	24
Cotton (950)	20 (4%)	446 (96%)	466
Homily (975)	1 (33%)	2 (67%)	3
Rest (850-1050)	2 (11%)	17 (89%)	19
Total	37 (4%)	924 (96%)	961

Table #6: *The order of relative clauses and nouns in Old Saxon*.

As can be seen by the figures, the participial relative construction is only a marginal, but existent possibility in Old Saxon, with 4% of the total. On the basis of the above-mentioned examples, the fact that both orders (i.e. Rel-N or N-Rel) can be reconstructed for Proto-Germanic seems at first glance to pose a problem for the predictions made by the Branching Direction Theory[58]. But this is actually not so. As Dryer (Dryer 2011: 340) observes, Noun-Relative is extremely common among VO languages. One would thus be tempted to predict that inversely Relative-Noun order should be very common in OV languages, and to posit that relative clauses pattern with objects, and nouns with heads, like the Head-Dependent Theory does. This is not the case. Dryer (ibid.) observes that Noun-Relative and Relative-Noun are both common among OV languages:

[58] In any case, the existence of Rel-Noun and Noun-Rel in the early Germanic languages does not pose a problem to comparative reconstruction: given the comparative principle which assumes that reconstructed languages must be similar to actually existing languages (Mitxelena 1986, Campbell 1998, see the discussion in section 1.1), there is no problem in assuming a protolanguage with two possible orders, provided that the languages which are assumed to come from that language attest the same range of possibilities.

	Africa	Euras.	SE As-Oc.	Aus-NG	NAm.	SAm.	Total
OV&RelN	6	**21**	**11**	11	3	7	59
OV&NRel	**21**	5	3	**17**	**15**	**9**	70
VO&RelN	0	0	3	0	0	0	3
VO&NRel	**40**	**9**	**29**	**13**	**18**	**9**	118

Table #7: *Cross-linguistic order of verb and object and the order of noun and relative clause*.

In view of this, it makes sense that the early Germanic languages seem to allow for both Relative-Noun and Noun-Relative order with no dominance distinction. Because early Germanic languages seem to be more OV and because OV languages allow for both Relative-Noun and Noun-Relative order, it follows that Proto-Germanic should allow for both orders; the comparative evidence will be the basis on which a decision is made. Many reasons have been proposed for the asymmetry between left-branching languages, which allow for both Relative-Noun and Noun-Relative order, and right-branching languages, which almost exclusively allow for Noun-Relative order. Greenberg (1963) and Dryer (2011: 341) propose that the asymmetry is caused due to a clash between two principles governing word order: on the one hand, branching direction, which in the case of left-branching languages favors Relative-Noun order, and on the other hand dominance of word order, which due to harmony with other traits such as Noun-Adposition favors Noun-Relative order, come into a clash.

This clash does not take place in right-branching languages. As a result, left-branching languages tend to allow for both Relative-Noun and Noun-Relative order. As opposed to this interpretation, Hawkins (1983: 336) explains this asymmetry by means of Behaghel's (1909: 139, 1932) Law of Increasing Constituents: because relative clauses tend to be heavy and humans prefer to order heavy constituents after light ones, there is a general tendency (regardless of branching direction) to postpose relative clauses. Should Proto-Germanic thus present evidence for its reconstruction as a VO language, then the Branching Direction Theory would predict that only Noun-Relative order should be attested in Ancient and Old Germanic. Thus what for W. P. Lehmann (2007: 79-80), who reconstructs Proto-Germanic word order within Head-Dependent Theory, poses a problem because the data forces him to consider nouns and relative clauses as both heads and dependents at the same time, is an advantage for Branching

Direction Theory: the predictions that this theory makes are fulfilled not only by the synchronic typology of languages, but also by their diachronic reconstruction.

4.1.5. Standard-Adjective vs. Adjective-Standard

The languages of the world make use of different grammatical means to encode comparative constructions (Stassen 1985: 15, Harris 2000: 149). Andersen (1983: 118) distinguishes four main strategies used by languages to encode comparative constructions:

(40) a. Juxtapositional comparison: A is big, B is small / not big.
b. Adpositional comparison: A is big(ger) (from) B (from).
c. Case comparison: A is big(ger) B-from.
d. Particle comparison: A is bigger than B.

This typology of comparative constructions is relevant to the present discussion, since as will be shown below languages can abandon overtime a specific type of comparative construction in favor of another. In the Old Saxon corpus only constructions are attested in which the standard of comparison follows (40a) the comparative adjective, the opposite pattern being unattested. Note, however, that the Indo-European-inherited comparative ablative, whose Germanic counterpart would be, as a result of case syncretism, the comparative dative, is a kind of comparative construction in which the noun that conforms the standard of comparison is marked with dative case and precedes the adjective (Stassen 1985: 27, 28-30, Ramat 1987: 218, 1998: 524-525). This comparative strategy would thus correspond to (40c). Such a structure is not attested in Old Saxon, but it exists in other Ancient and Old Germanic languages (see 44a-d below). A structure formally identical and semantically very similar to that of the comparative dative is, however, attested in Old Saxon: equative constructions introduced by the adjective *gelîc* "alike". Equative constructions express situations in which two referents have a gradable property to the same degree[59] (Haspelmath 2015: 1). If an equative construction has an adverbial rather than an adnominal meaning, then it is referred to as a similative, that is, "a construction expressing sameness of manner"

[59] Another widespread way to distinguish between comparative and equative constructions is to label them "comparatives of inequality" and "comparatives of equality", respectively (Stassen 1985: 25).

(Haspelmath & Buchholz 1998: 278). For the sake of clarity, however, equatives and similatives will be equally referred to as "equatives" here. Moreover, equatives are in many ways similar to comparative constructions, and in fact they are sometimes referred to as "comparative constructions of equality" (Haspelmath 2015: 1). This might explain why the same grammatical structure, the comparative dative, is used to encode equatives in Germanic[60]:

(41) a. *friðu meran than the men êgin*
peace greater than the humans own
"A greater peace than what humans have ever had"
(*Munich* 1954b-1955b)

b. *sô duot the unuuîson erla gelîco*
thus do they unwise.DAT man.DAT alike[61]
"Thus they do as the unwise man does" (*Munich* 1817a-b)

As has been shown in Figure #2 above (chapter 3, section g), the branching element in this case would be the standard of comparison, that is, the comparative particle in the case of particle constructions and the dative noun phrase (*unuuîson erla* in (41b)) in the case of the equative dative. Because in Old Saxon the equative dative is much less

[60] One could thus speak of an "equative dative" as a parallel of the "comparative dative".

[61] Strictly speaking, *gelîco* is not an adjective, but an adverb, as the adverbial ending *-o* indicates in example (41b). Thus one would be dealing here with a similative, rather than an equative. However, in semantic terms *gelîco* can be claimed to modify not the verb, but the NP *unuuîson erla*, as indicated by the fact that said NP receives dative case, which is crucial to considering this a comparative/equative dative construction. It must also be pointed out that the adverb *gelîco* and the adjective *gelîc* are not only etymologically related, but that they are also in complementary distribution in equative constructions, i.e. that they always appear in exactly the same syntactic position (either immediately preceding or immediately following a standard of comparison). Therefore, all cases of *gelîco* in equative constructions are quantified here as equatives. As opposed to equative/similative cases of *gelîco*, the following are examples of genuine (i.e. without any dative case-marked NP) adverbial (42a) and adjectival (42b) uses of this word, respectively:

(42) a. *thar thu thi hugis eft gelic neman thero uuordo endi*
where you you hope again alike get the words and
thero uuerco
the deeds
"Where you hope to receive again words and deeds alike"
(*Munich* 1550b-1551a)

b. *that thu thar te ênum duoas uƀila endi guoda lioƀa*
that you there at once do evil and good kind
endi lêða huuand sia gilîca ni sind
and unkind since they alike not are
"That you are doing good and evil, kind and unkind things there at the same time, since they are not the same thing" (*Genesis* 784a-785b)

frequent than the comparative particle, the right-branching pattern can be said to be much more frequent than the left-branching one.

The fact that the equative dative and the particle comparative constructions co-occur synchronically in Old Saxon does not, however, imply that both are inherited from the common ancestor language. The reason for this is that the right-branching comparative particle construction is believed to be an innovation resulting from grammaticalization. Stassen (1985: 206), drawing on Givón (1979a: 208), refers to the process of grammaticalization of comparative particle constructions as "syntacticization". This label refers to "a diachronic process by which loose, paratactic, "pragmatic" discourse structures develop - over time - into tight, "grammaticalized" syntactic structures" (Givón 1979a: 208, cf. Stassen 1985: 206). More specifically, the construction out of which the comparative particles *þonne*/*þanne* (in Old English), *thanne*, *danne*, *denne* (in Old High German), *an*, *en*, *þen* in Old Norse etc. (from Proto-Germanic **þana-na*, Orel 2003: 415) emerged must have consisted of two paratactically connected clauses, where the original word **þana-na* must have meant something like "as long as" (Stassen 1985: 206).

The fact that particle comparative constructions are probably an innovation originating in paratactically connected temporal constructions implies that the use of the original relative pronoun/time adverb *þonne* must have been extended to comparatives. Such an origin is reinforced by the fact that the Old Saxon comparative particle *than* "then, than" is attested in the original temporal sense (43a) (Tiefenbach 2010: 230). In other words, the comparative/equative dative construction should be regarded as a much older, Indo-European-inherited construction than the particle comparative. The grammaticalization of particle comparative constructions can be illustrated as follows:

(43) a. Stage #1: Use of *than* as a temporal adverb which paratactically connects two clauses (i.e. meaning "as long as"). Example:

huo	*hie*	*that*	*giuuirkie*	***than***	*lang*	*hie*	*an*
how	he	that	would-do	as	long	he	on
thesaro	*uuerold*	*sî*					
this	world	be					

"How he would do that to as long as he is on this world" (*Cotton* 2525b)

b. Stage #2: Extension of *than* to particle comparative constructions, followed by specialization (i.e. meaning "than"). Example:

ôk	*iuhu*	*ik*	*that*	*ik* [...]	*mêr*	*terida*	***than***	*ik*
also	confess	I	that	I	more	ate	than	I
scoldi								
should-have								

"I also confess that I ate more than I should have" (*Confession* 13-15)

The emergence of comparative particles goes in line with the view expressed in this dissertation that the early Germanic languages change from having pragmatically-controlled word order to having syntactically-controlled word order. The origin and rise of particle comparatives would then be parallel to the decline of the dative comparative construction. This seems to be a process general to Old Germanic, since the predominance of the right-branching order of comparative constructions as well as their coexistence with the left-branching comparative dative can be observed in Old Norse (44a), Old English (44b), Old High German (44c) and Gothic (44d) (Ziemer 1884: 74, Small 1923: 27, Breivik 1994: 54, Mitchell & Robinson 2003: 106, W. P. Lehmann 2007: 70):

(44) a.

sal	*sér*	*hon*	*standa*,	*sólo*	*fegra*
hall	sees	she	standing	sun.DAT	fairer

"She sees a hall standing (there), fairer than the sun" (*Vǫluspá* 64.1-2)

b.

hēo	*wǣron*	*stearce,*	*stāne*	*heardran*
they	were	strong	stone.DAT	harder

"They were strong, harder than stone" (*Elene* 505)

c.

ther	*ist*	*mir*	*strengiro*
who	is	me.DAT	stronger

"Who is stronger than me" (*Tatian* 13, 23)

d.

managizo	*þaim*
greater	those.DAT

"Greater than those" (*Codex Argenteus*, *Matthew* 5:37)

If the less common left-branching construction is regarded as a more conservative pattern, as is done by W. P. Lehmann (1974a) and Andersen (1980) when proposing the comparative ablative as the original Proto-Indo-European means of comparison, then the introduction of comparative constructions by means of comparative particles should

be regarded as an innovation, whereas the comparative dative gradually gives in to the innovative pattern until it dies out. This is supported by the fact that some Old Saxon equative (45a) and Middle High German comparative constructions (45b) are found that use the comparative dative, but with the right-branching order:

(45) a. *nis* *heƀanrîki* *gelîhc* *sulicaro* *lôgnun*
not-is heaven-kingdom like such.DAT flames.DAT
"The kingdom of heaven is not like such flames" (*Genesis* 559b-560a)

b. *is* *sterker* *uns* *her* *salatin*
is stronger us.DAT here Saladin
"Saladin is stronger than us here" (Small 1929: 30)

The fact that the comparative dative is attested as right-branching in some Old Saxon equative and in Middle High German comparative constructions suggests that this construction allowed for more word order flexibility than the innovative particle comparative construction. In view of the other Old Germanic examples, this suggests that both patterns Standard-Adjective and Adjective-Standard should be reconstructed for Proto-Germanic, since, even though it is not certain when the particle comparative must have emerged, the data speak for reconstructing one, and the comparison speaks for reconstructing the other. This is also the case for Proto-Indo-European: comparative evidence from early Indo-European languages suggests that the proto-language had both constructions to convey comparison (Bauer 2006: 253).

In the case of Old Saxon equatives, another reason for the shift of the comparative dative from left-branching to right-branching order could be due to the effect of the Growing Constituent Rule (Behaghel 1932: 6), according to which shorter constituents tend to precede longer ones, as well as of extraposition (Walkden 2014b), according to which heavy noun phrases tend to appear to the right of the clause more often than lighter phrases (Ross 1967, Wallenberg 2009). Weight is understood in this case as a phonological feature, although the exact weight that divides noun phrases into light and heavy is not clear (Walkden 2014b). Note that the fact that heavy nominal elements tend to be postposed implies that the basic order of such elements is left-branching. The

following are the effects of extraposition on the branching direction of equative constructions in Old Saxon[62]:

Word order	**Standard-Adjective**					**Adjective-Standard**				
Weight (in nº of words)	1		2		3	1		2		3
Nº of occurrences	10		3		2	0		9		0
Weight (in nº of syllables)	1	2	3	4	5≤	1	2	3	4	5≤
Nº of occurrences	2	3	2	4	4	0	2	2	2	3
Total	15 (62%)					9 (38%)				

Table #8: *The effects of phonological weight on the branching direction of equative constructions in the Old Saxon corpus*.

Even though the results are quite short to be conclusive, a tendency can be observed according to which nominal elements consisting of two or more words tend more to follow right-branching direction, whereas nominal elements consisting of one word tend to follow left-branching direction: in 10/15 (67%) cases of Standard-Adjective the standard is one word long, as opposed to 5/15 (33%) cases in which it is two or three words long. On the contrary, there are no cases of Adjective-Standard where the standard is one word long, all the cases being two words long. The effects on word order of the number of syllables of the standard of comparison are not so clear since all numbers are evenly distributed. Noteworthy is the fact, however, that no monosyllabic standard follows (0/9) the adjective, whereas some monosyllabic standards may precede (2/15). Therefore, the effects of extraposition must be considered to be a contributing factor to the shift taking place in ancient Germanic from left-branching to right-branching direction when dealing with nominal word order.

4.2. Verbal word order

4.2.1. Verb-Auxiliary vs. Auxiliary-Verb

Dryer (1992: 98) does not consider the relative order of auxiliary verbs and main verbs to correlate with word order. Moreover, there is the issue that an early stage of Proto-Germanic is believed not to have made use of auxiliary verbs: tense, mood and aspect

[62] Of the total twenty-four quantified examples of equative constructions nineteen are found in the *Cotton* and *Munich* manuscripts of the *Heliand* (none in the fragments), one in the *Genesis* and four in the rest of texts.

distinctions are encoded by morphological means at this early stage[63], and verbs such as *uuerthan* "become", *uuesan* "be" or *hebbian* "have" on the one hand and verbs such as *uuillian* "will, want", *sculan* "shall", *môtan* "must" or *mugan* "can, be able" on the other grammaticalize only later from main verbs into auxiliaries and modals, respectively, when found in periphrastic constructions (Faarlund 2001: 1716-1717, W. P. Lehmann 2007: 81).

This late grammaticalization of auxiliary verbs from main verbs has left traces that are visible in the Old Germanic languages. This can be seen in the fact that, in Old Saxon, participles of periphrastic constructions still occasionally agree with the subject in gender, number and case (46a) (Arnett 1997: 33, Macleod 2011: 113). Therefore, some constructions with a copula and a participle verb can have either a stative reading, which is the original one, or a past reading, where the copula acts as an auxiliary verb (46a). As opposed to this, in other constructions only a past reading is possible (46b). The occurrence of ambiguous constructions like (46a) can have an impact on the analysis of word order depending on the reading, since a stative reading of (46a) would imply considering the participle verb *cumana* "come" not to be an auxiliary. A past reading would, on the other hand, imply considering (46a) an instance of Auxiliary-Verb order. Bearing this in mind, ambiguous constructions such as (46a) and non-ambiguous ones such as (46b) will be henceforth treated alike (i.e. as instances of Auxiliary-Verb order) for the sake of comparison:

(46) a. *ne* *sint* *mina* *tîdi* *noh* *cumana*
not are my times yet come
Stative reading: "It is not my time yet" (*Munich* 2027b-2028a)
Past reading: "My time has not come yet"

b. *endi* *thiu* *fîƀi* *uuarun* *agangan*
and the five were gone
"And all five of them had/were gone" (*Cotton* 47b)

[63] Even though it is true that Proto-Germanic must have had few, if any, auxiliary verbs, one can safely assume the existence of auxiliary and modal verbs in the early Germanic languages, and thus these may be reconstructed for earlier stages of the language, perhaps even for late stages of Proto-Germanic (Ringe 2006: 169). One construction that is widely assumed to have existed in Proto-Germanic is the compound passive (W. P. Lehmann 2007: 93), which was probably expressed by means of the verb *werþan* "to become" (Orel 2003: 457).

In addition to these issues, an analysis of the position of auxiliary verbs in early Germanic is tied to another considerable methodological problem: the Verb Second Rule requires the finite auxiliary verb (whenever there is one) to stand in second position in main clauses. This has the consequence that, whenever a finite auxiliary is found in a main clause, very often the right-branching Aux-V order is found, a fact that could skew the results[64]. In spite of this, the relative order of auxiliaries and verbs seems to behave in a very similar manner to the rest of verbal traits (Subject-Verb, Verb-Object, AdpP-Verb etc.) in Germanic, as will be shown below. That is why its word order occurrences are worth investigating; let it suffice to say that the results of this word order trait need to be assumed with caution. In Old Saxon auxiliary verbs may both precede or follow main verbs, but they tend to precede main verbs in main clauses (47a) and follow them in subordinate clauses (47b). The opposite pattern is more marginal, but possible, in both kinds of clauses (47c-d), depending, among other factors, on whether the direct object (if any) has been extraposed (Walkden 2014b: 318-319):

(47) a. *ik* *scal* *slapan* *endi* *restian*
I shall sleep and rest
"I shall sleep and rest" (*Psalm Commentary* 4, 9:1)

b. *ni* *ik* *thes* *sorogun* *ni* *scal*
not I that worry not shall
"I will not be worried by that" (*Genesis* 626b)

c. *huar* *he* *thea* *liudi* *tô* *lêdean* *scolde*
where he the people toward lead would
"To where he would lead the people" (*Munich* 4816a-b)

d. *that* *ik* *scal* *an* *thînum* *hêti* *libbian*
that I shall in your hatred live
"That I shall live in your hatred" (*Genesis* 649b)

[64] Another factor to cause high frequencies of Auxiliary-Verb order, in this case in subordinate clauses, is believed to be Verb (Projection) Raising. This syntactic operation is defined as the rightward movement of an infinite verb (V°) or an infinite verb and its complements (V', VP) to the right of inflected forms in verb-final languages (Bies 1996: 40-43, see also the literature cited therein). According to this view, examples like (47d) may be analyzed as instances of Verb Projection Raising, where the infinite verb *libbian* "to live" would have been "base-generated" immediately preceding the finite auxiliary verb *scal* "shall" and would have moved to clause-final position. Notice that this is a problem only under the two-level approach to syntax (i.e. section 1.3).

It is because of this apparent variation that a quantification of the occurrences of Auxiliary-Verb as opposed to Verb-Auxiliary order would be clarifying with respect to the branching direction question. The following are the frequencies of the relative order of main verbs with respect to the auxiliary verbs ***hebbian*** "to have", ***uuesan*** "to be", ***uuerthan*** "to become" as well as to the modal verbs ***môtan***, ***mugan***, ***sculan*** and ***uuillian***, which are the most frequent verbs in the Old Saxon corpus. Note that such verbs are all what have often been called "light verbs" due to their cross-linguistic tendency to carry little semantic information (Sundquist 2006: 107). The fact that these are "light verbs" has consequences for the analysis of word order: apparently "light verbs" tend to be slightly more conservative than other kinds of verbs with respect to word order change (van Gelderen 2011: 358). This means that they are syntactic relics, and thus more valuable than other kinds of verbs for word order reconstruction (Harris & Campbell 1995: 329, Harris 2008: 82-85). Accordingly they will be a source for quantification in the following sections. On the other hand, note also that relatively often clause type is ambiguous in Old Saxon, in the sense that it is difficult to determine whether a clause is main or subordinate. Sentences (49) and (50a-b) below are good examples of this ambiguity. This ambiguity is due to various factors: the considerable freedom of word order of the language, the incomplete grammaticalization of complementizers at the stage of the language in question or the related fact that Old Saxon, like the rest of Ancient and Old Germanic languages, inherits a system relatively similar to Proto-Germanic, where rather than hypotaxis, parataxis is common (though see Linde (2009: 380) for a view against the hypotaxis/parataxis distinction in favor of pragmatic rules):

> Proto-Germanic seems to have been quite poor regarding subordinating conjunctions. Those forms meaning "since, during, when, after" etc. developed later in each of the individual languages together with subordinating syntax [...] Proto-Germanic must not have had a well-developed subordinating syntax (hypotaxis). Indeed, even the late medieval texts show a large number of instances of coordination (parataxis) and of simple juxtaposition (Ramat 1998: 521-523).

Szczepaniak (2015: 104-124) shows how throughout the history of another Germanic language like High German a development can be observed from a much more paratactic syntax in Old High German (8th-11th centuries) to a much more hypotactic

syntax in Early Modern High German (14th-17th centuries). Kiparsky also refers to this matter by claiming that the language attested in the earliest Old Germanic texts has just begun to shift from adjunction to embedding by means of subordinating complementizers (Kiparsky 1995: 162). Such a change must indeed be in quite an early stage in Old Saxon, since parataxis/adjunction is still quite common, as can be seen by the following example of asyndetic parataxis[65]:

(48) *nis* *heƀanrîki* *gelîhc* *sulicaro* *lôgnun:* *thit* *uuas*
not-is heavenly-kingdom alike such flames this was
alloro *lando* *scôniust*
of-all countries the-most-beautiful
"The kingdom of heaven is not like such flames; this used to be the most beautiful country" (*Genesis* 559b-560b)

To sum up, it is difficult to establish clause type in Old Saxon, a fact that can hinder any generalizations on the relationship between clause type and word order in this language. In view of these facts, some criterion is necessary to distinguish main clauses from subordinate clauses. The following is the criterion used in this dissertation:

(i) All clauses with an initial conjunction, particle, adverb or complementizer and verb-final or verb-late order[66] have been labelled as subordinate.
(ii) All other clauses have been labelled as main clause.

In addition to this criterion, all (direct) questions, commands and exhortations are considered to be main clauses, since these modify the illocutionary force of the proposition, and illocutionary force is present only in main clauses (Van Valin 2005: 9). These considerations apply not only to the quantification of auxiliary and main verb

[65] Peters (1886: 13) considers the use of asyndetic parataxis in Old Saxon poetry to convey a contrast between both pragmatically related sentences. He calls this "die asyndetische Gegenüberstellung zweier Hauptsätze zum Zwecke der Hervorhebung eines Gegensatzes" (ibid.). This would imply that examples like (48) are not a mere archaism in Old Saxon, but rather fulfill a specific function. Moreover, and in spite of (48) being a clear instance of asyndetic parataxis, it must be pointed out that a pause is likely to have separated both clauses (i.e. to have existed between *lôgnun* "flames" and *thit* "this"). The existence of a pause is assumed by Behaghel & Taeger (1996: 241) as well as by Gippert et al. (2010), who write a semicolon separating both words in their editions of the *Genesis*. For an example of asyndetic parataxis in Old English and Old High German, see Stockwell & Minkova (1991: 369-371).
[66] In Walkden's (2011) terms, verb-late is considered to exist in all clauses where three or more constituents stand before the verb.

order, but also to all other verbal orders below. Finally, and because using these criteria would run the risk of making the quantification of word order according to clause type quite circular (verb-late clauses are subordinate, subordinate clauses have verb-late order), an attempt has been made to discern clause type by means of discourse and context. Note also that other frequent verbs, such as the movement verbs *gangan* "to go, walk", *giuuîtan* "to go, head towards" and *faran* "to go, travel" or the light verbs *lâtan* "let", *dôn* "do" and *hêtan* "call, command" are not taken into consideration:

Text	Clause	V-Aux	Aux-V	Total V-Aux	Total Aux-V
V-P-L-S (840-850)	Main	4	53	17 (18%)	75 (82%)
	Sub	13	22		
Genesis (850)	Main	5	62	18 (17%)	89 (83%)
	Sub	13	27		
Confession (850)	Main	0	0	22 (100%)	0 (0%)
	Sub	22	0		
Munich (850)	Main	35	684	301 (24%)	958 (76%)
	Sub	266	274		
P. Commentary (900)	Main	0	5	8 (50%)	8 (50%)
	Sub	8	3		
Cotton (950)	Main	48	875	365 (23%)	1202 (77%)
	Sub	317	327		
Homily (975)	Main	0	0	4 (80%)	1 (20%)
	Sub	4	1		
Rest (850-1050)	Main	24	23	34 (56%)	27 (44%)
	Sub	10	4		
Total	**Main clause**			116 (6%)	1,702 (94%)
	Subordinate clause			653 (50%)	656 (50%)

Table #9: *The word order of auxiliary verbs relative to the main verb*.

The results are quite revealing: in subordinate clauses, the left-branching pattern (Verb-Auxiliary) is far from being the only option or even the dominant one. In fact, Verb-Auxiliary and Auxiliary-Verb are found in practically the same frequencies. This seems to suggest that the relative order of the verb and the auxiliary is mixed in Old Saxon. When compared to the frequencies in main clauses, however, one can see that Verb-auxiliary order is nearly ten times more frequent (50% vs. 6%) in subordinate than in main clauses. In view of these facts, a statistical relevance test should determine whether there exists a correlation between clause type and the position of auxiliaries with respect to verbs: in the texts V-P-L-S ($\chi^2 = 11.14$, $p = 0.000565$), *Genesis* ($\chi^2 = 9.5$, $p = 0.001253$), *Munich* ($\chi^2 = 331.62$, $p = 0$), *Psalm Commentary* (χ^2 = ind., p =

0.025641) and *Cotton* (χ^2 = 408.99, p = 0) there exists a correlation between clause type and verb position. In the *Confession* (χ^2 = ind., p = 1), *Homily* (χ^2 = ind., p = 1) and in the rest of texts (χ^2 = 1.08, p = 0.347962), on the other hand, no correlation can be found between clause type and the position of the auxiliary. Considering that these latter texts are among the smallest texts in the corpus, this lack of correlation could be ascribed to the absence of attested patterns rather to a lack of correlation. These facts suggest that Verb-Auxiliary order is more conservative, since it correlates with subordinate clauses, which are more resilient to word order change (Bybee 2002). A comparison to other early Germanic and Indo-European languages should determine whether Verb-Auxiliary can be reconstructed for Proto-Germanic. Regarding the frequencies of this typological trait in main clauses, Auxiliary-Verb order is the overwhelmingly dominant order, due probably, as mentioned above, to the existence of the verb-second rule in Old Saxon. Especially interesting is the fact that, in spite of the low frequency (6%) of Verb-Auxiliary order, a considerable number of cases are attested in which this is the order in main clauses, i.e. where the verb-second rule does not apply:

(49) *nu* *uui* *thi* *frâgon* *sculun*
now we you ask should
"Now we should ask you" (*Munich* 3807b)

In such cases it seems that, in spite of the considerably more conservative nature of subordinate clauses, main clauses occasionally display an order of words that could be attributed to an earlier, dominant Verb-Auxiliary order. In many cases, such instances of word order cannot be ascribed to syntactic movement operations, or to phonological rules that affect word order, such as Wackernagel's Law, as some intratextual quasi-minimal word order pairs seem to suggest:

(50) a. *sum* *it* *eft* *bifallen* *uuarđ*
some of-it however dug-into was
b. *sum* *uuarđ* *it* *than* *bifallen*
some was of-it then dug-into
"Some of it was then dug into" (*Munich* 2398b, 2406a)

4.2.2. Subject-Verb vs. Verb-Subject

The relative order of the subject and the verb can only partly be considered as a diagnostic for word order. The reason for this is that the order Verb-Subject, which is very frequent in Old Saxon, does not exclude the possibility of this being a SVO language, since SVO languages share many characteristics with VSO languages (Dryer 1992: 87). Two such characteristics are the frequent use of passive voice (W. P. Lehmann 1974a) or the fact that "all languages with dominant VSO order have SVO as an alternative or as the only alternative basic order" (Greenberg 1963: 79). Here the clash between dominance of word order and branching direction surfaces: SVO languages present mostly right-branching typological traits, but their dominant order of subject and verb is Subject-Verb, a left-branching typological trait (Dryer 2011: 342). Dryer, however, admits in spite of some doubts that the position of subjects should be taken into account when dealing with word order. He claims that subjects can be regarded as object patterners because the proportion of genera containing Subject-Verb languages is higher among Object-Verb languages than it is among Verb-Object languages (Dryer 1992: 105).

Another important reason for discussing the relative order of subject and verb in Old Saxon is the claim that the dominant order of the main constituents of this language is (X)VSO (Rauch 1992: 24). This claim is problematic for several reasons[67]. One of them is that it hides important syntactic and pragmatic factors that condition word order, such as the fact that main clauses have developed dominant verb-second order in Old Saxon, as well as in the rest of sister Germanic languages, by already roughly 600 CE (Smith 1971: 138, though see Braunmüller 1982: 141) or perhaps even earlier (Eyþórsson 1995: 336, 2011: 33). In addition, verb-initial order in Old Saxon and Old Germanic main clauses is largely the product of narrative inversion (Linde 2009: 377, Barðdal & Eyþórsson 2012: 378). Another reason why Rauch's claim is problematic is that this claim on dominance of word order is made based, apparently, on the criterion of frequency, yet no numbers are provided. Still another important problem with this claim is the fact that yes-no questions are encoded by means of subject-verb inversion in all Ancient and Old Germanic languages, including Old Saxon:

(51) a. *forsachis=tu diobole*?

[67] For claims against establishing word order dominance solely in quantitative terms, as Rauch (1992: 24) seems to do, as well as for a number of alternatives see Sasse (1981: 253-290).

forsake-you devil

"Do you forsake the devil?" (*Baptism* 1)

b. *muot thanna that land gisund uualdand and*

may then the country safe lord on

thînum uuillean giuuerid standan?

your mercy untouched stay

"May then the country, oh Lord, stay untouched, on your mercy?"

(*Genesis* 792b-793b)

Examples (51a-b) show that Old Saxon cannot be a VSO language[68]: it has been observed in the literature that inversion of the verb-fronting type can only occur in languages whose basic word order type is either SOV or SVO and that it is ruled out for VSO languages, since these usually already have unmarked, declarative verb-initial order (Siemund 2001: 1017). In other words, languages usually need to make a formal distinction (in this case by means of word order) to distinguish declarative from interrogative clauses. Thus it seems more likely that the high frequency of (X)VSO order is due to syntactic and pragmatic factors rather than to dominance of word order, as already observed by Ries (1880: 11) and as will be shown in 4.2.3 to be the case. Coming back to the relative order of the verb and subject in Old Saxon, both SV and VS order is attested in main (52a-b) and subordinate (52c-d) clauses:

(52) a. *sprak im thuo mid is uuordun tuo*

spoke he then with his words to-them

"He then spoke to them with his words" (*Prague* 969b)

b. *gisuuerek upp driþit*

black-clouds onwards come

"Black clouds come onwards" (*Genesis* 571b)

c. *thah he heddi creht goddes*

although he had power of-god

"Although he had the power of God" (*Straubing* 382b)

d. *alsô thâr êr inna begangan uuarth thiu*

[68] In addition to examples (51a-b) and according to the HeliCoPTER (Walkden 2011), all nine yes-no questions and all fifteen wh-questions attested in the *Heliand* follow the starategy of inverting the subject and the verb. Thus a safe conclusion is that subject-verb inversion is the strategy used by Old Saxon to mark questions.

because there before in worshipped had the
<u>menigi</u> thero diuvilô
people the devils
"Because the people had worshipped devils in there before" (*Homily* 7-8)

Regarding (52a), it must be pointed out that verbs of speaking like *sprêkan* "to speak" form a class of their own in the sense that they tend to stand clause-initially more often than other verbs and to take oblique subjects (Macleod 2011: 127). In this respect verbs of speaking align with motion verbs, verbs of perception, cognition, possession etc. (see Arnett & Dewey 2015: 190-191 for an overview). In order to avoid such verbs to affect the analysis of word order, only "light verbs" have been quantified, as in section 4.2.1 The following are therefore the frequencies for SV vs. VS order in the Old Saxon corpus of all occurrences of the verbs ***hebbian*** "to have", ***uuesan*** "to be", ***uuerthan*** "to become" as well as of the modal verbs ***môtan***, ***mugan***, ***sculan*** and ***uuillian***:

Text	**Clause**	**SV**	**VS**	**Total SV**	**Total VS**
V-P-L-S (840-850)	Main	20	31	57 (63%)	34 (37%)
	Sub	37	3		
Genesis (850)	Main	24	54	66 (55%)	54 (45%)
	Sub	42	0		
Confession (850)	Main	6	0	27 (100%)	0 (0%)
	Sub	21	0		
Munich (850)	Main	200	460	704 (57%)	526 (43%)
	Sub	504	66		
P. Commentary (900)	Main	20	3	33 (87%)	5 (13%)
	Sub	13	2		
Cotton (950)	Main	254	534	864 (59%)	610 (41%)
	Sub	610	76		
Homily (975)	Main	0	1	1 (50%)	1 (50%)
	Sub	1	0		
Rest (850-1050)	Main	52	18	86 (83%)	18 (17%)
	Sub	34	0		
Total	**Main clause**			576 (34%)	1,101 (66%)
	Subordinate clause			1,262 (90%)	147 (10%)

Table #10: *Frequencies of the relative order of the subject and the verb in the Old Saxon corpus*.

The numbers show that VS is the most frequent pattern in main clauses in Old Saxon. This supports the claims made by Rauch (1992: 24) on the most frequent order of main

clauses. Yet it cannot be assumed only on the basis of frequency that VS is, in addition to the most frequent one, the unmarked order: one of the arguments that Ries (1880) uses to support his view that SV is the unmarked pattern of main and subordinate clauses in Old Saxon is that the inverse order, VS, is typical of main non-declarative clauses: yes-no questions, commands, exclamations etc.:

> Against the assumption that inverse word order [i.e. verb-subject] is the basic word order the fact can furthermore be observed that interrogative and imperative clauses almost exclusively follow inverse order, whereas the declarative clause follows inverse and uninverted word order in similar proportions[69] (Ries 1880: 6).

Based on this observation Linde claims that, because of the functionally marked character of such constructions, their word order is unlikely to represent the dominant pattern of the language (Linde 2009: 368). This, coupled with the fact that VS in declarative clauses is a specific "device of concatenation" (Rauch 1992: 30), suggests that VS is not the unmarked order, but a derived order, of main clauses. As has been shown above, the same concatenative device is frequently used in sister Germanic languages, such as Old Norse. Yet Verb-Subject has not been proposed to be the unmarked order of main clauses in Old Norse (Barðdal & Eyþórsson 2012: 378, though see Faarlund 2004: 195).

Verb-Subject order is not attested at all in some of the prose texts, such as in the *Confession*. Now, it has been mentioned above that verb-initial order is frequently the product of narrative inversion, as well as of illocutionary modification. The *Confession* is basically a recounting of sins; nothing is narrated and there is no dialogue, which is why there are neither commands nor questions. In other words, all sentences in the text are non-narrative and declarative, and there is no verb-initial order. In view of this, two observations can be made here: (a) the type of text seems to condition word order to a large extent, as pointed out by Cichosz (2010) for Old English and Old High German; (b) the order of main declarative clauses, which as argued in chapter 3, section (f) above constitutes here the principal diagnostic for word order dominance, is not VSO, but rather SVO, as claimed by Linde (2009: 371). In fact, out of the 16 main clauses in the text (according to the count made here), half (8/16) follow Subject-Verb order, whereas

[69] "Gegen die Annahme der ungeraden Folge als Grundstellung spricht ferner der Umstand, dass Frage- und Heischesatz sich fast ausschließlich der ungeraden Folge bedienen, während der Aussagesatz ungerade und gerade Folge nebeinander verwendet".

in the other half the position of the subject is occupied by another phrase (such as the adverb phrase *ôk* "also", the conjunction *thes* "in addition" or the noun phrase *mîna gitîdi* "my prayers") and the verb immediately follows. This indicates that, whenever nothing is fronted, the order is Subject-Verb, and when something is fronted, the order is XV(S), in accordance with the verb-second rule. The absence of verb-initial order cannot be ascribed to a later date of the text, since this is nearly contemporary to the *Heliand* (second half of the 9th century, to be more precise, Sanders 1985: 1107).

In light of these facts VS should be considered an inverse pattern in declarative clauses in Old Saxon, leaving SV as the unmarked pattern in both main and subordinate clauses in spite of the higher frequency of VS in main clauses. In addition, by a very large difference (90% vs. 10%) SV is the most frequent pattern and VS is much less frequent (10% vs. 66%) in subordinate clauses than in main clauses in Old Saxon. A statistical relevance test should then determine whether there exists a correlation between verb position and clause type: in V-P-L-S ($\chi^2 = 24.97$, $p = 0$), the *Genesis* ($\chi^2 = 50.11$, $p = 0$), *Munich* ($\chi^2 = 419.7$, $p = 0$), *Cotton* ($\chi^2 = 483.49$, $p = 0$) and in the rest of texts ($\chi^2 = 8.85$, $p = 0.001058$) a correlation could be established. On the other hand, in the *Confession* ($\chi^2 =$ ind., $p = 1$), the *Psalm Commentary* ($\chi^2 =$ ind., $p = 1$) and in the *Homily* ($\chi^2 =$ ind., $p = 1$), no such correlation could be found. The latter are, however, by far the smallest texts in the corpus, where the lack of correlation could be ascribed to a lack of attestations. To sum up, then, the data suggest two facts: (a) VS is a derived order and therefore SV should be established as the dominant word order for Old Saxon in both main and subordinate clauses; (b) SV is probably inherited, since it is more frequently found in the more conservative subordinate clauses. A comparison to other Germanic and Indo-European languages should clarify whether this state of affairs can be reconstructed for Proto-Germanic.

4.2.3. Object-Verb vs. Verb-Object

The most frequent word order pattern for main clauses in Old Saxon involves VO order (which could well be a consequence of the prevalence of verb-initial order in this language, as argued above) (53a) (Rauch 1992: 24, Linde 2009: 384), whereas OV is a relatively marginal option in main clauses (53b). In line with the reconstruction of dominant SOV word order in Proto-Germanic, Eyþórsson (1996: 116) classifies sentences such as (53b), where the order is subject-object-verb, as archaisms that reflect

earlier word order patterns: "[Such] examples reflect a more archaic stage of Germanic". It must be noted, however, that the same author describes Old Saxon as regularly following the verb-second rule in independent clauses. Examples like (53b), in addition to others that will be discussed below, show that an analysis of Old Saxon as a completely regular verb-second language is inaccurate (Linde 2009: 374). The situation is the opposite in subordinate clauses, OV being much more frequent than VO (53c-d):

(53) a. *tholodun* *siu* *bêđiu* *mikila* *mordđuâla*
endured they both great deadly-pain
"They both endured deadly pain" (*Genesis* 689b-690a)

b. *iungaron* *kristes* *thene* *ambahtscepi* *tholodun*
followers of-Christ the service allowed
"Christ's followers allowed for the service" (*Munich*, 4521b-4522b)

c. *thát* *iu* *nian* *scátha* *ni* *uuírthid*
that you none riches not become
"That you shall receive no riches" (*Essen Glosses* 67b)

d. *vuan* *thiu* *idalnussi* *beuualdid* *iro* *hertono*
since the idleness rules their hearts
"Since idleness rules their hearts" (*Psalm Commentary* 5, 10:12-13)

The following are the frequencies for OV vs. VO order in the Old Saxon corpus of the verbs ***hebbian*** and ***uuerthan***. The verb *uuesan* "to be" is not taken into account here, but in the Predicate-Copula section below. It must also be pointed out that even though the relative order of the four modals ***môtan***, ***mugan***, ***sculan*** and ***uuillian*** with respect to direct objects is also considered, these verbs hardly ever take direct objects. This is due to their advanced stage of grammaticalization from lexical to auxiliary verbs:

Text	Clause	OV	VO	Total OV	Total VO
V-P-L-S (840-850)	Main	1	11	10 (38%)	16 (62%)
	Sub	9	5		
Genesis (850)	Main	6	21	11 (29%)	27 (71%)
	Sub	5	6		
Confession (850)	Main	1	0	4 (100%)	0 (0%)
	Sub	3	0		
Munich (850)	Main	25	173	103 (32%)	222 (68%)
	Sub	78	49		

P. Commentary (900)	Main	1	4	3 (33%)	6 (67%)
	Sub	2	2		
Cotton (950)	Main	29	207	119 (31%)	267 (69%)
	Sub	90	60		
Homily (975)	Main	0	3	1 (20%)	4 (80%)
	Sub	1	1		
Rest (850-1050)	Main	7	22	10 (31%)	22 (69%)
	Sub	3	0		
Total	**Main clause**			70 (14%)	441 (86%)
	Subordinate clause			191 (61%)	123 (39%)

Table #11: *Frequencies of the relative order of the direct object and the verb in the Old Saxon corpus*.

Two distinctions need to be made at this point that are very important when dealing with the relative order of the verb and the direct object in Old Saxon: clause type and finiteness of the verb. VO order (or, rather, verb-second order) is assumed to specialize through a series of syntactic operations into the unmarked order of finite main clauses, whereas OV order is assumed to remain a conservative trait in infinitive main clauses and in subordinate clauses in all West Germanic languages except English (Nübling et al. 2013: 104). Any claims made on the unmarked pattern of this syntactic trait should thus take clause type into account.

If it is assumed, then, that the earliest stage of Germanic presents OV and left-branching word order and that a shift takes place in ancient Germanic that leads to VO and more mixed order, the change OV > VO may be argued to be the trigger for the change in the dominant branching direction of the language. Hawkins (1979: 621-622) explains this assumption in terms of the Doubling Acquisition Hypothesis (DAH) and Frequency Increase Hypothesis (FIH), which state that the development of a right-branching feature in a typological trait of a given language that is otherwise left-branching (and vice versa) implies the development of other right-branching features, and that this development will take place gradually in terms of a frequency increase. As the same author points out, no language that is shifting from left-branching to right-branching direction suddenly shifts all objects from preverbal to postverbal position (Hawkins 1979: 620). Such a change rather takes place gradually, with innovative patterns coexisting with conservative ones during a specific period of time. Therefore, an important conclusion to be drawn from the data is that previous stages of the language must have increasingly favored OV over VO order, the further back in time one goes. This may be a way to interpret the variety of word order patterns existing in

Old Saxon, where all six logically possible orderings of the major constituents of the clause (subject, object, verb) are attested:

(54) a. *iungaron* *kristes* *thene* *ambahtscepi* *tholodun*
apostles of-Christ the service endured
"The apostles of Christ endured the service" (SOV) (*Munich* 4521b-22b)

b. *neriendo* *Crist* *uuarode* *thea* *uuâglîđand*
savior Christ protected the seafarers
"Christ the savior protected the seafarers" (SVO) (*Munich* 2817b-18b)

c. *bêd* *aftar* *thiu* *that* *uuîf* *uurdigiscapu*
awaited after that the woman decree of fate
"After that the woman awaited her destiny" (VSO) (*Munich* 196b-197a)

d. *farfioth* *thîn* *folcskepi* *fiures* *liomon*
consumes your retinue of-fire glares
"The fire's glares shall consume your retinue" (VOS) (*Munich* 3698a-b)

e. *tionon* *frumidun* *thes* *cuninges* *gisîthos*
task carried-out of-the king liegemen
"The king's liegemen carried out the task" (OVS) (*Cotton* 732b-733a)

f. *the* *sêolîđandean* *naht* *neƀulo* *biuuarp*
the sailors night fog surrounded
"The night fog surrounded the sailors" (OSV) (*Munich* 2909b-2910a)

The flexibility of word order in Old Saxon can be coupled with the fact that other Old Germanic languages allow for considerably flexible word order as well. For example, W. P. Lehmann (2007: 77) claims that the order of constituents can be modified with the aim of emphasizing elements, especially in poetry, after which he provides examples of word order flexibility in Old High German, Old English and Old Icelandic. Thus it is quite undisputed that Old Germanic allows for flexible word order, which is used to encode information based on discourse-pragmatic factors, such as emphasis. As will be shown below, many consistently and near-consistently left-branching languages allow for various orderings of the main constituents of the clause as well. As has been shown above, the fact that verb-initial order in Old Saxon is a product of information-structural factors such as the narrative environment suggests that (X)VSO is not the unmarked order like Rauch claims, in spite of its being the most frequent order. This suggests that

frequency alone is not always a good indicator of dominance or markedness of word order (Ries 1880: 11). As has been frequently pointed out, high frequency does not necessarily imply grammaticality, in the same way as absence or low frequency do not necessarily imply ungrammaticality (Devine & Stephens 2006: 4).

Regarding the frequencies of OV vs. VO order in the Old Saxon corpus, most texts seem to favor an overall VO order over OV order. Regarding the syntactic environment of this typological trait, Object-Verb seems to be quite rare in main clauses and moreover seems to be confined to specific syntactic environments, such as clauses beginning with particles such as *nu* or *huuat* (Rauch 1992: 24, Walkden 2013a: 466). As opposed to this, a clear preference can be observed (i.e. 61% vs. 39%) for OV order in subordinate clauses. In view of this, a statistical relevance test should determine whether there exists a correlation between clause type and the position of the verb. The test shows that a significant correlation between clause type and the relative ordering of the verb and the direct object exists in the texts V-P-L-S (χ^2 = ind., p = 0.005304), *Munich* (χ^2 = 82.84, p = 0), *Cotton* (χ^2 = 95.68, p = 0) and in the rest of texts (χ^2 = ind., p = 0.029557). Such a correlation does not exist in the *Genesis* (χ^2 = ind., p = 0.237829), the *Confession* (χ^2 = ind., p = 1), the *Psalm Commentary* (χ^2 = ind., p = 0.52381) and in the *Homily* (χ^2 = ind., p = 0.4). Thus the data suggest that Object-Verb is the original dominant word order, whereas Verb-Object should be regarded as a derived pattern.

As has been mentioned in the introduction, however, information-discourse factors exercise a considerable amount of influence on Old Saxon word order, especially in poetry, as has been noticed by the latest authors dealing with word order in Old Saxon (Rauch 1992, Linde 2009, Walkden 2014a-b). This means that not all marked word orders of OV vs. VO in main and subordinate clauses can or should be attributed to a diachronic change in word order in Old Saxon. More specifically, (S)VO order in subordinate clauses should be frequently attributable to extraposition (Walkden 2014b, also Petrova 2009: 268-270 on Old High German), whereas (S)OV, O(S)V and some cases of (S)VO order in main and subordinate clauses should be attributable to topicalization and focus, respectively (Linde 2009), although much less frequently so in subordinate clauses, which are less prone to syntactic and information-structural operations (see above discussion). V(S)O order should be regarded, as mentioned above, as the product of narrative inversion or concatenation (Rauch 1992: 24). Illocutionary modification should not be overlooked either, since direct yes-no

questions and imperative constructions are responsible for many cases of inverted verb-subject order (Ries 1880: 6).

In addition, certain syntactic environments have been observed to be more conservative or more innovative with regard to word order in Old Germanic. An example of the latter is that negated main clauses tend to correlate with verb-initial order more often than affirmative clauses (Eyþórsson 1996: 111, Axel 2007: 52, Linde 2009: 382). Finally, the fact should not be overlooked that Wackernagel's Law (Wackernagel 1892) is responsible for most clitics appearing in clitic preverbal position in main clauses. When dealing with word order in Old Germanic, one may not forget two similar laws to Wackernagel's one which also concern phonological-prosodic and information-structural effects on word order, namely Otto Behaghel's (1909: 110-142, 1932: 4-6) Second Law: "that which is less important (or already known to the listener) is placed before that which is important" as well as his Law of Increasing Constituents: "given two phrases, when possible, the shorter one precedes the longer one". Subsequent typological work, notably Hawkins (1983, 1994: 233), incorporates Behaghel's rules into his explanations of language universals. Behaghel's laws should thus also be considered relevant from a typological point of view. A quantification of the major constituents of the clause in Old Saxon should thus be able to bring into light the impact of all these syntactic and information-structural factors on word order. When quantifying word order appositions are not taken into account. Also, examples like the following should be regarded of cases of both SOV and SVO, i.e. SOVO word order:

(55) *endi* *im* *thero* *dâdeo* *bigan* *uundron* *thero* *uuordo*
and him.DAT the deeds began be-astonished the words
"And he began to feel astonished by the deeds and by the words"
(*Cotton* 140b-141a)

The following are the frequencies of the major constituents of the clause and the impact on word order of syntactic and information-structural factors in all *Heliand* manuscripts (C-M-V-P-L-S)[70]. It must be stressed at this point that not all values in Tables #12.1 and #12.2 are mutually exclusive; for example, a clause may be negated and focused at the same time. This may result in higher numbers than the actual ones in the corpus. Also,

[70] This investigation could not have been carried out without the help of Professor Doctor George Walkden for the producing and making available on-line of the *Heliand Corpus, a Partially Tagged Excel Resource* (HeliCoPTER) (Walkden 2011).

for purposes of clarity clauses containing null subjects, expletives and appositions are excluded from the count. Only those clauses containing at least a finite verb, an overt subject and a direct object are quantified. Still, it can quite safely be considered that the results reflect quite clearly the word order reality of Old Saxon[71]:

Cl	WO	Neg	XV/Pt	Conj	Clit	Extp	Tp/fc	Inv	Ill	Ø	N
M	VSO	26	108	14	7	-	69	86	59	10	**379**
	SVO	7	16	13	3	-	62	-	4	111	**216**
	VOS	2	17	6	22	-	7	16	4	0	**74**
	SOV	6	20	11	9	-	9	-	4	7	**66**
	OVS	1	1	8	0	-	175	-	5	3	**193**
	OSV	0	2	4	5	-	7	-	0	2	**20**
S	VSO	2	1	5	2	5	9	-	-	2	**26**
	SVO	6	1	2	3	68	75	-	-	13	**168**
	VOS	0	0	1	2	1	3	-	-	1	**8**
	SOV	43	6	6	129	-	92	-	-	273	**549**
	OVS	4	0	6	3	6	17	-	-	3	**39**
	OSV	13	1	1	26	-	22	-	-	37	**100**
Total		**110**	**173**	**77**	**211**	**80**	**547**	**102**	**76**	**462**	**1,838**

Table #12.1: *The order of the major constituents in the* Heliand *manuscripts and the factors conditioning each specific order*.

Word order	Weight (in nº of words)				Weight (in nº of syllables)				Inf. stat.	
	1	**2**	**3**	**≥ 4**	**1**	**2**	**3**	**≥ 4**	**N**	**O**
OV	92	64	9	11	48	46	19	63	61	115
VO	20	59	33	82	11	8	23	152	143	50
Total OV	156 (89%)		20 (11%)		94 (53%)		82 (47%)		-	
Total VO	79 (41%)		115 (59%)		19 (10%)		175 (90%)		-	

Table #12.2: *The effect of extraposition on word order in the* Heliand*, lines* 1-1000.

These results can be complemented by those from McKnight (1897: 176), which are included in Table #12.3:

Word order pattern	Pattern number	Pattern frequency
"Regular-direct": S(X)V(X)	330	32%
"Irregular-direct": XS(X)V(X)	59	6%
"Indirect in free use": VSX	188	18%
"Regular-indirect": XVS(X)	446	44%

[71] The criteria used in quantification of the factor "extraposition" are as follows: all postverbal NPs of three or more syllables are considered heavy, all those being one or two syllables light. Participating in alliteration is considered to be a strong indicator of heaviness. Also, all postverbal elements containing new information (i.e. all elements except appositions, previously mentioned arguments and so on) are counted as extraposed. As opposed to these criteria, an alternative measure to quantify the weight of extraposed NPs may be that of internal syntactic complexity (as is done, for example, by Hawkins 1983: 90).

Total	1,023	100%

Table #12.3: *Verb position and its position with respect to modifiers in lines 1-3000 of the* Heliand.

In line with what has been observed in the literature, the results show that in Old Saxon there is a clear preference for verb-initial order in main clauses (379 VSO and 74 VOS out of 948 main clauses (48%)). Verb-initial order is often triggered by the presence of a preverbal phrase (XV), with 125 out of 453 verb-initial cases (28%): here, the verb-second rule is in play. Altogether, VSO and VOS order can only be considered to be "natural" (i.e., not derived by factors like narrative inversion, illocutionary modification, the presence of a preverbal phrase etc.) in 10 out of 453 cases (2%). As opposed to this, SVO order has the highest number of non-derived cases in main clauses, with 111 out of 216 (51%), far above VSO or any other order. Regarding marked patterns, it is noteworthy how particles and conjunct clauses tend to correlate with SOV order in main clauses, with 20/66 (30%) of the cases. Object-initial order, on the other hand, is clearly the product of narrative devices, since it nearly always occurs in constructions of the kind "[...]" *quað he* "X, he said", with 182/213 (85%) of the total.

In the case of subordinate clauses, verb-final order is clearly the dominant order with 649 cases out of 890 (73%). Of these, nearly all are SOV. Even though most SOV cases are unmarked, clitics should not be disregarded as a motivating factor, with 129 out of 549 cases (23%). SVO order is, however, also relatively important in subordinate clauses, with 168 out of 890 cases (19%). A look at the factors influencing SVO order, however, clearly shows that this is a derived order: of all 241 cases of non-verb-final order in subordinate clauses, 180 (75%) are motivated by the fact that the postverbal subject or object are either heavy in phonological terms, or new/contrasting in information-structural terms, as indicated by their number of syllables and the fact that they participate in alliteration. In fact, there is a full statistical correlation between extraposed or focused object and SVO order in subordinate clauses ($\chi^2 = 663.67$, $p = 0$). Non-verb-final order in subordinate clauses therefore seems to be derived. This finding is supported by the frequencies of OV vs. VO order, where heavy elements clearly tend to be postverbal, i.e. in 175/194 cases (90%) in which the object is three, four or more syllables long.

On the other hand, lighter elements tend to stand in preverbal position, i.e. in 156/176 cases (89%) in which the object is one or two words long. In fact, a correlation can be

established between the phonological weight of the object and its position with respect to the clause ($\chi^2 = 89.37$, $p = 0$ regarding weight in number of words and $\chi^2 = 80.71$, $p = 0$ as well regarding weight in number of syllables). The same is valid regarding the information status of the object ($\chi^2 = 56.32$, $p = 0$). These numbers do not imply, however, that phonologically light or given objects are not occasionally extraposed, but rather reflect a general tendency: the heavier and/or the more informationally salient (i.e. new or focused) the object, the more likely it is to be extraposed. Finally, in general terms, the use of word order to mark topic and focus, i.e. to mark information-structural relations in the clause, is very common, as the numbers indicate: 805 out of 1,838 clauses (44%) with at least one overt subject, one overt object and a finite verb indicate topic, focus (of the verb or of the object) or modification of the illocutionary force by means of word order. This supports the view that word order in Old Saxon is not so much syntactically as pragmatically conditioned, which goes in line with claims above that languages tend to change from having more pragmatically-conditioned to more syntactically conditioned word order (Givón 1978: 83).

Finally, clause type can also be observed to crucially condition word order in Old Saxon: beyond the OV-subordinate clause/VO-main clause distinction, main conjunct clauses also tend to place the verb in later or final position, since 11/66 SOV clauses (17%) and 4/20 OSV clauses (20%) are conjunct clauses, as opposed to for example 14/479 VSO (4%) or 13/216 (6%) SVO. A correlation between conjunction and verb-late/final position has been well observed for other Old Germanic languages, especially Old English (Mitchell 1985), leading to the claim that conjunct clauses pattern with subordinate clauses (Campbell 1970: 93). Because verb-final order is much more frequent in subordinate conjunct clauses (649/890, 73%) than in main conjunct clauses (15/56, 27%), however, both kinds of clause should not be assumed to be identical with regard to word order. All in all, these results support the findings made in previous sections.

4.2.4. Predicate-Copula vs. Copula-Predicate

The term “copula” is understood here as denoting “a word that is used with nominals, adjectives, or locatives when they are used predicatively” (Dryer 1992: 93); to wit, a verb that would be equivalent to the English verb “to be”. Analyzing the word order of predicate constructions, which Dryer (ibid.) finds to be branching direction correlates,

can be of particular value to reconstructing word order. In Old Saxon the distinction of word order occurrences between main clause and subordinate clause does not seem so clear-cut in predicative constructions (56a-c) as in OV/VO constructions. In addition, discourse particles seem to interfere with the position of the copula (56d):

(56) a. *ic* *is* *engil* *bium*
I his angel am
"I am his angel" (*Munich* 119b)

b. *ik* *biun* *forabodo*
I am messenger
"I am a messenger" (*Cotton* 931a)

c. *he* *sô* *gihôrig* *uuas*
he very obedient was
"He was very obedient" (*Cotton* 837b)

d. *nu* *ic* *sus* *gigamalod* *bium*
now I thus aged am
"Now that I am this aged" (*Munich* 481b)

The left-branching order of Predicate-Copula[72] can be observed not only in declarative clauses, but in an idiomatic expression of seemingly imperative nature as well, namely the part of the *Heliand* where the Archangel Gabriel greets the Virgin Mary:

(57) *hel* *uuis* *thu* *Maria*
whole be you Mary
"Hail to you, Mary! (lit. *be whole!*)[73]" (*Cotton* 259a)

Idiomatic expressions can be regarded as relics with respect to linguistic change (Harris & Campbell 1995: 354). Relics are of particular value to syntactic reconstruction because they are exceptions in an otherwise regular system (Harris & Campbell 1995:

[72] As mentioned in chapter 3, section (g) above, the BDT considers the predicate to be the branching constituent and the copula to be the nucleus in constructions like (56a-d) (Dryer 1992: 93-94). Notice that this contradicts a number of claims in the literature (von Heusinger et al. 2011: 1805-1829) that in copular predicates not the copula, but the nominal element (i.e. the predicate) is the nucleus.

[73] A parallel of the construction in (57) is the Latin greeting *salvē* "Hello!", which is the second person singular imperative form of the second-conjugation intransitive verb *salvēre* "to be well, whole" (Álvarez 1999: 693).

354). This suggests that Predicate-Copula is indeed the more conservative order. The following are the frequencies for the order of Predicate-Copula vs. Copula-Predicate[74] in the Old Saxon corpus:

Text	Clause	Pred-C	C-Pred	Total Pred-C	Total C-Pred
V-P-L-S (840-850)	Main	6	27	19 (34%)	37 (66%)
	Sub	13	10		
Genesis (850)	Main	3	21	13 (32%)	28 (68%)
	Sub	10	7		
Confession (850)	Main	1	0	10 (100%)	(0%)
	Sub	9	0		
Munich (850)	Main	71	413	212 (29%)	526 (71%)
	Sub	141	113		
P. Commentary (900)	Main	4	13	9 (38%)	15 (62%)
	Sub	5	2		
Cotton (950)	Main	89	514	256 (28%)	656 (72%)
	Sub	167	142		
Homily (975)	Main	0	1	2 (66%)	1 (33%)
	Sub	2	0		
Rest (850-1050)	Main	11	36	20 (34%)	39 (66%)
	Sub	9	3		
Total	**Main clause**			185 (15%)	1,025 (85%)
	Subordinate clause			356 (56%)	277 (44%)

Table #13: *Frequencies of the relative order of copula and predicate in the Old Saxon corpus*.

The frequencies show that main clauses favor right-branching Copula-Predicate, where 1,025 (85%) attestations follow this order, whereas subordinate clauses favor left-branching Predicate-Copula order, with 356 (56%) attestations. Predicate-Copula order is almost four times as frequent in subordinate as in main clauses (56% vs. 15%). In synchronic terms, the fact that left-branching Predicate-Copula order is marked in main clauses (59a) and Copula-Predicate in subordinate clauses (59b) is supported by the metric environment:

(59) a. // *an is* ***e****nes craft* / *ic is* ***e****ngil* *<u>bium</u>* //
on his unique power I his angel am

[74] Note that, in addition to the verb *uuesan* "to be", the verb *uuerthan* can occasionally be equivalent to the copula when it functions as the main verb of the clause in Old Saxon:

(58) *thius guodlica rasta vuirthid*
this godly rest is
"This is the godly rest" (*Psalm Commentary* 4, 9: 6).

"... on his unique power. I am his angel" (*Munich* 119a-b)

b. // ***s***uokiesmina ***s***elda / huand ik <u>biun</u> ***s***o ***s***undig man //
seek my house since I am such sinful man
"You seek my house, since I am such a sinful man"
(*Cotton* 2106a-b)

In (59a) the predicate *is engil* displays alliteration of <e>, which is visible in a previous word of the same line, *enes*. Here the "line-break restriction" (Axel 2007: 92, see 2.1) may be in play, whereby the alliterating word *engil* "angel" could have, in principle, stood in line-final position, thus obeying the Verb Second Rule. However, this would have violated the restriction. Therefore, the line-final position of the copula *bium* "(I) am" serves as a means to avoid the alliterating word *engil* to stand in line-final position. This suggests that the line-final position of *bium* is possible, but derived and thus marked, in Old Saxon. The same can be held of (59b): because the alliterating word *sundig* "sinful" needs to stand in penultimate position, yet the ultimate position is already occupied by the non-alliterating *man* "man", the copula *biun* cannot stand after the predicate *so sundig* "so sinful", as would be the rule in subordinate clauses. This suggests that Copula-Predicate order is derived in subordinate clauses:

(60)

<u>Derived marked order</u>		<u>Original unmarked order</u>
*ic is **e**ngil <u>bium</u>*	<	**ic bium is engil*
*huand ik <u>biun</u> **s**o **s**undig man*	<	**huand ik so sundig man biun*

In view of these facts, a statistical relevance test should determine whether there exists a correlation between clause type and the position of the verb in copula constructions. The conclusions drawn from metrics are supported by the statistical relevance test: a statistically relevant correlation between clause type and verb position exists in V-P-L-S ($\chi^2 = 7.26$, $p = 0.004244$), the *Genesis* ($\chi^2 = 7.84$, $p = 0.002578$), *Munich* ($\chi^2 = 22.49$, $p = 0$), *Cotton* ($\chi^2 = 154.23$, $p = 0$) and in the rest of texts (χ^2 = ind., $p = 0.00335$). No such correlation could be found, however, in the *Confession* (χ^2 = ind., $p = 1$), the *Psalm Commentary* (χ^2 = ind., $p = 0.060563$) and in the *Homily* (χ^2 = ind., $p = 0.333333$). Again, since those texts not showing a correlation between verb position and clause type belong to the smallest ones in the corpus, such a lack of correlation may be due to a lack of attestations. The data should thus be interpreted as suggesting that Predicate-Copula,

which is more frequently found in the more conservative subordinate clauses, is an inherited word order pattern.

4.2.5. Manner adverb-Verb vs. Verb-Manner adverb

In Old Saxon manner adverbs are attested both preceding (61a) and following (61b) verbs. In any case, preverbal manner adverbs seem to be more frequent in subordinate clauses (61c) than in main clauses, where the pattern seems to be rather for manner adverbs to follow verbs (61d):

(61) a. *thuo he im mid them liudeon samad*
then he him with the people together
frolico fuor
willingly went
"Then he willingly went accompanied by the people"
(*Cotton* 2676b-2677a)

b. *Abraham thuo gimahalda agalêtlîco*
Abraham then spoke zealously
"Abraham then spoke zealously" (*Genesis* 812a-b)

c. *er than ik selbo suido diurlico fan dode*
before than I self very gloriously from death
astande
arise
"Before I myself very gloriously arise from death"
(*Munich* 3166b-3167b)

d. *im anduuordidun frôlîco is friund angegin*
him answered willingly his friends against
"His friends answered him willingly" (*Cotton* 3041a-b)

The following are the frequencies of the relative orders of verbs and manner adverbs occurring in the Old Saxon corpus:

Text	Clause	Madv-V	V-Madv	Total Madv-V	Total V-Madv
V-P-L-S	Main	3	12	7 (33%)	14 (67%)

(840-850)	Sub	4	2		
Genesis (850)	Main	7	11	15 (56%)	12 (44%)
	Sub	8	1		
Confession (850)	Main	0	3	21 (87%)	3 (13%)
	Sub	21	0		
Munich (850)	Main	26	73	65 (41%)	92 (59%)
	Sub	39	19		
P.Comm. (900)	Main	0	0	0 (0%)	0 (0%)
	Sub	0	0		
Cotton (950)	Main	34	108	80 (38%)	132 (62%)
	Sub	46	24		
Homily (975)	Main	0	0	0 (0%)	0 (0%)
	Sub	0	0		
Rest (850-1050)	Main	1	5	1 (17%)	5 (83%)
	Sub	0	0		
Total	**Main clause**			71 (25%)	212 (75%)
	Subordinate clause			117 (72%)	46 (28%)

Table #14: *Frequencies of the relative order of verbs and manner adverbs in the Old Saxon corpus*.

The results clearly show that Manner Adverb-Verb is the preferred order of subordinate clauses, whereas the inverse is the case of main clauses. Bearing in mind the above-mentioned conservatism of subordinate clauses with respect to linguistic change, this word order asymmetry suggests that the former order, namely Manner Adverb-Verb, is the original one. The statistical relevance test shows that a correlation between clause type and the position of manner adverbs with respect to the verb can be established in the *Genesis* (χ^2 = ind., p = 0.019175), *Confession* (χ^2 = ind., p = 0.000494), *Munich* (χ^2 = 23.65, p = 0) and *Cotton* (χ^2 = 33.06, p = 0) texts. Such a correlation could not be established in V-P-L-S (χ^2 = ind., p = 0.119582) and in the rest of minor texts (χ^2 = ind., p = 1) as well as in the *Psalm Commentary* and the *Homily*, which have no usable data. Thus again the largest texts show a correlation between word order and clause type, whereas the smaller texts do not: verb-final order correlates with subordinate clause, non-verb-final order correlates with main clause. The absence of statistically relevant correlation found in the smaller texts might be due to the small size of the corpus, and thus to chance, rather than to a real lack of correlation. Therefore, a safe conclusion to draw from this is that the Old Saxon data supports the reconstruction of the unmarked position of manner adverbs relative to the verb as preverbal, rather than postverbal, or in other words, as left-branching rather than as right-branching.

4.3. Combined nominal and verbal word order

4.3.1. Adposition phrase-Verb vs. Verb-Adposition phrase

In Old Saxon adpositional phrases tend to follow the verb in main clauses (62a), whereas they tend to precede it in subordinate clauses (62b), although the opposite pattern is also attested (62c-d):

(62) a. ***sat*** *im* *uppan* *ûsses* *drothines* *ahsla*
set he on our lord's shoulder
"[The bird] set itself on our lord's shoulder" (*Cotton* 988b)

b. *thô* *sanctus* *Bonifacius* *pâvos* *an* *Rôma* ***was***
when Saint Boniface pope in Rome was
"When Saint Boniface the pope was in Rome" (*Homily* 1)

c. *imu* *at* *gomun* ***sat***
he at banquet sat
"He was sitting at the banquet" (*Munich* 3332b)

d. *io* *that* *Christ* *selƀo* ***uuas*** *an* *Galileoland*
and that Christ himself was in Galilee
"And that Christ himself was in Galilee" (*Leipzig* 5837b-5838a)

Table #15 below shows the frequencies of the relative order of verbs and adpositional phrases co-ocurring with the verbs ***hebbian***, ***uuesan*** and ***uuerthan*** and the modal verbs ***mugan***, ***môtan***, ***sculan*** and ***uuillian*** in the Old Saxon corpus. Note, however, that not rarely adpositional phrases occur both before and after verbs:

(63) *thuo* *an* *forahtun* ***uuarđ*** *Kain* *aftar* *them* *quidiun*
then in fear became Cain after the speech
drohtinas
of-the-lord
"Then, after God had spoken, Kain became afraid" (*Genesis*, 644b-645a).

In such cases adpositional phrases are counted as occurring both before and after the verb. The following are the frequencies:

Text	Clause	AdpP-V	V-AdpP	Total AdpP-V	Total V-AdpP
V-P-L-S (840-850)	Main	12	39	33 (37%)	56 (63%)
	Sub	21	17		
Genesis (850)	Main	10	26	30 (47%)	34 (53%)
	Sub	20	8		
Confession (850)	Main	1	0	13 (100%)	0 (0%)
	Sub	12	0		
Munich (850)	Main	196	475	408 (38%)	664 (62%)
	Sub	212	189		
P. Commentary (900)	Main	1	9	3 (14%)	19 (86%)
	Sub	2	10		
Cotton (950)	Main	250	585	507 (38%)	814 (62%)
	Sub	257	229		
Homily (975)	Main	0	0	1 (100%)	0 (0%)
	Sub	1	0		
Rest (850-1050)	Main	8	26	18 (40%)	27 (60%)
	Sub	10	1		
Total	**Main clause**			478 (29%)	1,160 (71%)
	Subordinate clause			535 (55%)	444 (45%)

Table #15: *Frequencies of the relative order of verbs and adpositional phrases in the Old Saxon corpus*.

In this case the picture is not as well defined as with the previous typological traits concerning verbal word order. However, the situation is quite similar: whereas main clauses favor the right-branching type Verb-Adposition phrase, subordinate clauses favor the left-branching Adposition phrase-Verb by a small margin. Also, the left-branching pattern is almost twice as frequent in subordinate as in main clauses (55% vs. 29%). The statistical relevance test shows that a significant correlation exists between the relative order of adposition phrase and verb and clause type in V-P-L-S ($\chi^2 = 8.09$, $p = 0.00364$), the *Genesis* ($\chi^2 = 10.36$, $p = 0.000895$), *Munich* ($\chi^2 = 58.59$, $p = 0$), *Cotton* ($\chi^2 = 67.39$, $p = 0$) and in the rest of texts (χ^2 = ind., $p = 0.000776$): AdpP-V order correlates with subordinate clause, V-AdpP order with main clause. Such a correlation could not be found in the *Confession* (χ^2 = ind., $p = 1$), in the *Psalm Commentary* (χ^2 = ind., $p = 1$) and in the *Homily* (χ^2 = ind., $p = 1$). Again, since these last three texts show almost no data at all, a lack of correlation should be regarded as caused by the scarcity of attestations. Thus the data suggest that the left-branching type, Adposition Phrase-Verb, should be regarded as the dominant pattern for subordinate clauses. A comparison

to related languages should determine whether this order can be reconstructed for Proto-Germanic.

4.3.2. Equative construction-Verb vs. Verb-Equative construction

The order of the standard of comparison with respect to the adjective in Old Saxon equative constructions has been analyzed in section 4.1.5 above. However, the standard of comparison together with the adjective also forms a phrase on its own, which can stand either to the left or to the right of the verb. Such a phrase is referred to here as the "equative construction"[75] (Haspelmath & Buchholz 1998: 277, Haspelmath 2015: 1). In Old Saxon equative constructions always follow the verb in main clauses (64a), but they can either precede or follow the verb in subordinate (64b-c) clauses:

(64) a. *nu* ***biun*** *ik* *mid* *uuihtig* *gilik* *drohtine* *minon*
now am I with nothing alike lord my
"I am nothing like my lord" (*Cotton* 935b-936a)

b. *that* *ik* *iu* *allon* *gilico* ***muot*** *lon* *fargeldan*
that I you all alike can wage pay
"That I can pay you wages all alike" (*Cotton* 3443a-b)

c. *huilic* *thero* ***uuari*** *himilrikie* *gelich*
which of-them was kingdom-fo-heaven alike
"Which one of them was like the Kingdom of Heaven"
(*Munich* 2623a-2624b)

Since equative constructions are shown to be extraposed quite frequently in Old Saxon subordinate clauses (Walkden 2014b: 329), their phonological weight and information status should be taken into account in quantification. The following are the frequencies of the relative orders of verbs and equative constructions occurring in the Old Saxon corpus:

Word order	Equative-Verb	Verb-Equative

[75] The name "equative construction" used throughout this dissertation as referring to a subtype of comparative construction should not be confused with the same name used by other authors (Hendrick 2012 among others) to refer to a specific kind of copular construction of the kind *they consider Mark Twain funny* (Hendrick 2012: 208).

Weight (in nº of words)	1	2	3	1	2	3
Main clause	0	0	0	3	3	13
Subordinate clause	0	2	0	0	2	1
Total main clause	0 (0%)			19 (100%)		
Total subordinate clause	2 (40%)			3 (60%)		

Table #16: *Frequencies of the relative order of verbs and equatives in Old Saxon*.

The results show that postverbal equatives are the rule in main clauses, whereas this is an option in subordinate clauses. There is a clear tendency for equative constructions to be heavy in postverbal position, where 14/22 (63%) constructions are three words long, as opposed to 8/22 (37%) which are one or two words long. In addition, the fact that equative constructions can only follow the verb in main clauses, whereas the possibility exists of preceding it in subordinate clauses, should be considered to be relevant in light of the mentioned facts regarding extraposition and the conservatism of subordinate clauses. A statistical relevance test confirmed that there exists a correlation between the position of equative constructions with respect to the verb and clause type (χ^2 = ind., p = 0.036232): verb-final order correlates with subordinate clause, non-verb-final order with main clause. In view of these facts, the position of equative constructions should be regarded as being conditioned both by clause type and by the effects of extraposition.

4.4. Controversial word order traits

4.4.1. Numeral-Noun vs. Noun-Numeral

In Old Saxon, numerals can either precede (65a) or follow (65b) the noun, although the former pattern is more frequent than the latter one:

(65) a. *te* *<u>thrim</u>* *<u>hogetidon</u>*
for three festivities
"For the three festivities" (*Freckenhorst Parchment* 3)

b. *thuo* *bêðiun* *uuard* *<u>sinhîun</u>* *<u>tuêm</u>* *sêr* *umbi* *herta*
then both was spouses two sorrow in heart
"Then both spouses felt sorrow in their hearts" (*Genesis* 684b-685b)

The existence of a correlation between a specific order of numerals with respect to the noun and branching direction is quite controversial. Even though early typological

work, starting by Greenberg (1963: 84) and followed by Vennemann (1974: 10) and Hawkins (1983: 71), considers numerals as important word order indicators, later work, for example Dryer (1992: 118-120) shows how numerals can be quite problematic when establishing correlations. More specifically, it seems as though the position of numerals is unstable diachronically, in addition to there existing, like with adjectives, an interaction between the position of numerals and the definiteness of the noun (ibid.). In addition, the evidence seems to suggest that the relative order of numerals and nouns conforms to areal linguistic patterns rather than correlate with branching direction (Dryer 1992: 119). This means that, in addition to there being no consensus in the literature regarding the relevance of possessive pronouns as a meaningful word order trait, their power as a predictive tool is not clear either. That is why numerals should be kept out of the discussion around the reconstruction of word order in Proto-Germanic. Still, the co-occurrence of numerals in certain positions with specific nouns may bring some valuable insights into light. The following are the frequencies of all the attested numerals in Old Saxon, namely ***ên*** "one, a", ***tuuê*** "two, both", ***thria*** "three", ***fiuuar*** "four", ***fif*** "five", ***sehs*** "six", ***sîbun*** "seven", ***ahta*** "eight", ***nîgun*** "nine", ***tehan*** "ten", ***ellîban*** "eleven", ***tuelibi*** "twelve", ***thriutehan*** "thirteen", ***fiuuartehan*** "fourteen", ***fiftehan*** "fifteen", ***sehstehan*** "sixteen", ***sîbuntehan*** "seventeen", ***ahtotehan*** "eighteen", ***nîguntehan*** "nineteen", ***tuuêntig*** "twenty", ***thrîtig*** "thirty", ***fiftig*** "fifty", ***nigen ende uiftech*** "fifty-nine", ***andsîbunta*** "seventy", ***andahtoda/ahtodig*** "eighty", ***fiuuar endi hunahtud*** "eighty-four", ***ahte ende ahtedeg*** "eighty-eight", ***tuehund*** "two hundred" and ***fif thusundig*** "five thousand", which co-occur with definite (+) and indefinite (-) nouns in the Old Saxon corpus:

Text	Def	Num-N	N-Num	Total Num-N	Total N-Num
V-P-L-S (840-850)	+	3	1	11 (79%)	3 (21%)
	-	8	2		
Genesis (850)	+	1	2	10 (59%)	7 (41%)
	-	9	5		
Confession (850)	+	0	0	0 (0%)	0 (0%)
	-	0	0		
Munich (850)	+	20	40	122 (68%)	58 (32%)
	-	102	18		
Psalm Commentary (900)	+	0	0	0 (0%)	0 (0%)
	-	0	0		

Cotton (950)	+	26	54	143 (65%)	77 (35%)
	-	117	23		
Homily (975)	+	0	0	1 (100%)	0 (0%)
	-	1	0		
Rest (850-1050)	+	0	0	522 (100%)	1 (0%)
	-	522	1		
Total definite				50 (34%)	97 (66%)
Total indefinite				759 (94%)	49 (6%)
Grand total				809 (85%)	146 (15%)

Table #17: *Frequencies of the relative order of numerals and nouns in Old Saxon*.

As can be seen by the numbers, both orders of Numeral-Noun and Noun-Numeral are attested in Old Saxon, regardless of the definiteness of the noun. Numeral-Noun order, however, seems to be considerably more frequent in general (85%) than Noun-Numeral order (15%), with the vast majority of cases of marked Noun-Numeral order being found in the two major *Heliand* manuscripts. The findings go in line with what has been found so far: most, if not all, traits have shown one dominant pattern that can be reconstructed. Most traits have, however, shown numbers for at least one marked pattern whose frequencies are too high to be attributable to chance. The same occurs with the relative order of numerals and nouns: whereas Numeral-Noun should be reconstructed as the dominant pattern, Noun-Numeral should be reconstructed as a marked alternative. The existence of both word orders is probably due to the considerable freedom of word order of Old Saxon and of previous stages of the language; the predominance of one pattern of numerals in Old Saxon is especially relevant, considering that numerals are cross-linguistically amongst the most extraposable elements of a language (Hawkins 1983: 96).

Regarding the question whether the position of numerals correlates with definiteness, such a correlation was found solely in *Munich* ($\chi^2 = 46.55$, $p = 0$) and *Cotton* ($\chi^2 = 56.14$, $p = 0$). In V-P-L-S ($\chi^2 =$ ind., $p = 1$), the *Genesis* ($\chi^2 =$ ind., $p = 0.536765$) and in the rest of texts ($\chi^2 =$ ind., $p = 1$), such a correlation could not be established. The *Confession*, the *Psalm Commentary* and the *Homily* unfortunately do not provide any information to this respect. Even though the results fall short of statistical relevance, the general tendency is for Noun-Numeral order to occur more often with definite nouns (see 65b above), with 66% of all cases, and for Numeral-Noun order to occur more frequently with indefinite nouns, with 94% of the total. Numeral pronouns are attested

both preceding and following the noun in sister Ancient and Old Germanic languages, such as Old Norse (66a-b) or the runic inscriptions (66c-d) (Eyþórsson 2011: 44):

(66) a. *en* *konungr*
one king
"One king" (*Alexanders Saga* I:276)

b. *öxn* *tvá*
oxen two
"Two oxen" (*Edda*, *Hymiskviða* 15:4b)

c. *þrijoz* *dohtriz*
three daughters
"Three daughters" (Tune Stone)

d. *staba* *þria*
staves three
"Three staves" (Gummarp Stone)

Notice that, if frequency is used as the sole indicator for markedness in the analysis of the Old Saxon data, Numeral-Noun order, which is attested in 85% of all numeral attestations, should doubtless be regarded as the unmarked pattern. However, if this order is analyzed in view of some of the implicational word order hierarchies that have been proposed in the literature, the state of affairs in Old Saxon is quite the contrary (Bickel 2013: 417):

(67) a. Proposed typological generalization: Prep-N → (N-Num → N-Gen)
b. State of affairs in Old Saxon: (Gen-N → Num-N) → Adp-N, N-Adp

This opposition can be interpreted in two different ways: (i) The implicational hierarchy proposed in the literature has a reverse counterpart that is visible not only in Old Saxon, but also in the rest of Old Germanic; (ii) the proposed typological generalization is not fulfilled for Old Saxon and Old Germanic. In any case, this opposition clearly shows that typological generalizations should be handled with care. In any case, these apparently contradicting word orders should not be regarded, in the present view, as indicative of the existence of two competing grammars, as is done for example for Old English (Pintzuk 1996: 241 and subsequent literature). Both opposing word orders

(Numeral-Noun and Noun-Numeral) should rather be regarded as dominant and marked, respectively, in line with the fact that Old Saxon allows for a considerable degree of word order freedom.

4.4.2. Possessive pronoun-Noun vs. Noun-Possessive pronoun

In Old Saxon, possessive pronouns can either precede (68a) or follow (68b) the noun. The more frequent pattern is that of possessive pronouns preceding nouns:

(68) a. *thuo giuuet im* <u>*usa*</u> <u>*drohtin*</u> *forth*
then went he our lord forth
"Then Our Lord went forth" (*Cotton* 4185b)

b. *drohtin* <u>*frô*</u> <u>*min*</u>
lord ruler mine
"My lord and ruler" (*Genesis* 801b)

The relative order of possessive pronouns with respect to nouns is controversial as a means to determine branching direction. In the early typological literature Greenberg (1963: 100) mentions their validity only in passing: "where pronominal possession is involved, some languages use a derived adjective, while others use a genitive of the pronoun". Greenberg seems, then, to establish the predictive power of possessive pronouns at the same level as that of adjectives and genitives. Indeed, possessive pronouns have been noticed to behave semantically in similar terms to genitive noun phrases (Partee & Borschev 2000: 192). Part of the later literature, however, disregards possessive pronouns completely: Dryer (1992) and Harris (2000), for example, do not even discuss possessive pronouns. As opposed to this, other authors (Haspelmath 2014: 498) do include possessives and genitives under the common supralabel "possessors" when discussing word order. This means that possessive pronouns should be handled with caution when used as a predictive tool, since there is no consensus in the literature regarding their predictive validity. The following are the frequencies of the possessive pronouns ***mîn*** "my/mine", ***thîn*** "your", ***is***/***sîn*** "his", ***iru*** "her/their", ***ûsa*** "our" and ***iuuar*** "your (pl.)" in the Old Saxon corpus:

Text	Poss-N	N-Poss	N

V-P-L-S (840-850)	66 (92%)	6 (8%)	72
Genesis (850)	78 (89%)	10 (11%)	88
Confession (850)	26 (100%)	0 (0%)	26
Munich (850)	705 (89%)	85 (11%)	790
Psalm C. (900)	25 (93%)	2 (7%)	27
Cotton (950)	1,164 (92%)	97 (8%)	1,261
Homily (975)	3 (100%)	0 (0%)	3
Rest (850-1050)	52 (90%)	6 (10%)	58
Total	2,119 (91%)	206 (9%)	2,325

Table #18: *Frequencies of the relative order of possessive pronouns and nouns in Old Saxon*.

The numbers show that, as is the case of most other word order traits in Old Saxon, a clearly dominant pattern, Possessive Pronoun-Noun, coexists with a much less frequent, yet existent pattern of Noun-Possessive Pronoun. These findings are similar to those of Smith (1971: 239-240, 249). This state of affairs should then be compared to the rest of early Germanic languages. Unfortunately, W. P. Lehmann (2007) does not mention possessive pronouns at the time of reconstructing Proto-Germanic word order. Other authors who do address possessive pronouns, such as Hopper, reconstruct nouns as exclusively following possessive pronouns in Proto-Germanic (Hopper 1975: 64-66). Hopper's reconstruction of a single order of possessive pronouns relative to the noun has been, however, contested in later literature. Thus Antonsen (2002: 292), for example, claims that a considerable number of runic inscriptions show the opposite order as the one reconstructed by Hopper:

(69) a. *swestar* *minu*
sister mine
"My sister" (Opedal Stone)

b. *magu* *minino*
son mine
"My son" (Kjølevik Stone)

In spite of the apparent flexibility that the Old Saxon numbers reflect, when looking at the individual pronouns it must be pointed out that the possessive pronouns *is* and *iru* never appear in postnominal position in Old Saxon, as opposed to the rest of possessive pronouns. A possible reason for this may be the reduced phonological body and unstressed nature of *is* and *iru*, which would relegate them to a fixed clitic position (in

more accurate terms, they would function as proclitics) and would thus always appear prenominally. This does not explain why other monosyllabic pronouns whose phonological weight is similar to that of *is* and *iru*, such as *mîn*, *thîn* or *sîn*, can appear postnominally. The reason for this divergent behavior thus remains open[76]. In any case postnominal possessive pronouns are widely attested in Germanic beyond Old Saxon, as can be seen in sister Ancient and Old Germanic languages such as Old Norse (70a), Old English (70b), Gothic (70c) or the above-mentioned runic inscriptions (also 70d), as well as in Modern East Scandinavian (i.e. Icelandic, Faroese and Norwegian) (Lødrup 2011: 383) and in some dialects of Swedish (Delsing 1998: 87) postnominal possessive pronouns are likewise a possibility (Antonsen 1975: 38, Eyþórsson 2011: 43):

(70) a. *<u>váðir</u>* *<u>mínar</u>* *gaf* *ek*
clothes mine gave I
"I gave my clothes" (*Edda*, *Hávamál* 49:1)

b. *þa* *me* *þæt* *gelærdon* *<u>leode</u>* *<u>mine</u>*
then me that advised vassals mine
"Then my vassals advised me to do that" (*Beowulf* 415a-b)

c. *jah* *urraisida* *haúrn* *<u>nasenais</u>* *<u>unsis</u>*
and arose horn salvation ours
"And the horn arose our salvation" (*Codex Argenteus*, *Luke* 1:69)

d. *<u>magoz</u>* *<u>minas</u>* *staina*
son mine stone
"The stone of my son" (Vetteland Stone)

A noteworthy fact is that all Germanic languages that allow for postnominal possessive pronouns also allow for prenominal ones (Delsing 1998: 87), but not vice versa. Variation regarding the word order of possessive pronouns is not, however, random. Lødrup (2011: 383-403) explains the co-occurrence of pre- and postnominal possessive pronouns in Modern East Scandinavian by means of information structure: the element that comes first may have a contrastive or focus value with respect to the element that

[76] As many other questions involving asymmetric patterns, this question may have multiple explanations. One possible explanation is that *is* and *iru* are genuine genitive case-marked forms of personal pronouns, whereas *mîn*, *thîn* and *sîn* are possessive pronouns that are inflected as strong adjectives in the sense that they agree, unlike *is* and *iru*, in case and number with the noun they modify (Gallée 1910: 238). Therefore, a difference in the class of pronouns (with consequences for inflection) may explain why *is* and *iru* never appear postnominally (i.e. Noun-Numeral order), whereas *mîn*, *thîn* and *sîn* occasionally do.

comes second (ibid.). Here the interplay between information structure and word order can be appreciated. Prosody and definiteness can, however, play a role in the position of the possessive pronoun with respect to the noun (ibid.). In any case, the possibility of postnominal possessive pronouns seems to correlate with a certain degree of freedom of word order. In light of these observations, the Old Saxon data suggests that both orders Possessive-Noun and Noun-Possessive are possible, the former as the dominant and the latter as a marked pattern.

4.4.3. Indirect object-Direct object vs. Direct object-Indirect object

In Old Saxon, indirect objects can either precede (71a) or follow (71b) direct objects. However, the former pattern is more frequent than the latter:

(71) a. *that he imo an Rômo en hûs gefi*
that he him in Rome a house would-give
"That he would give him a house in Rome" (*Homily* 2-3)

b. *ni giƀu ik that ti rada rinco nigenon*
not give I that as advice men none
"I do not recommend that to anyone" (*Cotton* 226a-b)

The relative position of indirect and direct objects is a highly questionable diagnostic for branching direction. The main reason for that is that there is a considerable number of languages, such as the Romance and Slavic language families, Greek, Guarani or Swahili, which make a two-way distinction: whereas pronominal objects precede the verb, nominal objects follow it (Greenberg 1963: 93). This is also the case of a number of unrelated languages such as Berber (Afro-Asiatic), Luritja (Pama-Nyungan), Masai (Nilo-Saharan) or Welsh (Indo-European). That is why most of the typological literature considered in this work does not regard the relative order of direct and indirect objects as a trait indicative of word order harmony. See, however, Ramat (1998: 525), who reconstructs indirect-direct object order for Proto-Germanic and furthermore considers this an indicator of left-branching order. The same assumption is made by Donegan & Stampe (1983: 339-340) in their paper on the holistic organization of language structure. At least in Old Germanic, the relative position of direct and indirect objects is known to be heavily influenced by prosodic factors such as Wackernagel's Law

(Wackernagel 1892), as well as by information-structural factors (Linde 2009: 375-384). That is why even though the typological trait under discussion should not be used to reconstruct branching direction in Proto-Germanic, its quantification may bring some important insights into light. The quantification of the position of indirect objects in this dissertation assumes the analysis of oblique subjects or subject-like arguments made within the theoretical frame of Construction Grammar for Old Germanic (see Arnett & Dewey (2015) for Old Saxon, or Barðdal & Eyþórsson (2012) and subsequent work for Ancient and Old Germanic and Classic Indo-European languages, see also Fischer (2010) for an alternative approach towards oblique subjects in Old Germanic). This approach assumes, using a series of subjecthood tests, that preverbal dative case-marked noun phrases in clauses such as the following are subjects or subject-like arguments, i.e. the so-called "Dative Subject Experiencer" construction found cross-linguistically (Barðdal 2015: 359)[77]:

(72) *ik* *uuêt* *that* *is* ***iu*** *is* *niod* *sehan*
I know that that.GEN to-you is need to-see
"I know that **you** need to see that/I know that it is necessary for **you** to see that"
(*Leipzig* 5825b)

Oblique case-marked subjects in Old Saxon include subjects of verbs of motion, verbs of emotion, perception, cognition, attitude, bodily states, possession, gain, success, hindrance, ontological states, anticausative verbs, modality verbs, evidential verbs and verbs of speaking and of happening (Arnett & Dewey 2015: 190-191). The analysis of such noun phrases as subjects is, therefore, not so much a syntactic as a semantic consideration since it depends on the semantics of the verb with which the noun phrase in question occurs.

[77] The subjecthood tests performed by Construction Grammar are different to those performed by more traditional approaches to grammar, such as subject-verb agreement. Construction Grammar rather assumes a definition of subjecthood in the lines of Basic Linguistic Theory (Haspelmath 2004b, Dryer 2006), a framework that comprises all basic theory-neutral concepts of linguistics that have been developed throughout the decades and which captures the reality found cross-linguistically. Some examples of the subjecthood tests used within Construction Grammar are position within the clause, conjunction reduction or subject-to-object raising (Barðdal & Eyþórsson 2012: 369). The logic behind this difference with respect to traditional subjecthood tests lies in the fact that in many western Indo-European languages (including Germanic) oblique subjects of transitive predicates historically derive from oblique objects of detransitive predicates; a process of detransitivization i.e. of valency reduction results in the direct object behaving like the subject but preserving oblique case marking (see Barðdal 2015 for an explanation).

On the other hand, in traditional linguistics noun phrases such as the bold-marked in (72) have rather been considered to be objects, since all non-nominative marked noun phrases (i.e. a morphosyntactic criterion) are considered to be direct or indirect objects; see Müller 2016: 35 for an overview. Assuming the precepts of Construction Grammar for Old Saxon, then, has the important consequence that a considerable number of noun phrases that traditional grammar would consider indirect objects are classified as oblique subjects and thus as irrelevant to the present discussion. The following is a table that shows the distribution of direct and indirect objects in the Old Saxon corpus, depending on whether Wackernagel's Law (W), topicalization or focalization (T/F) or no factor (Ø) conditions word order:

Text	Factor	IO-DO	DO-IO	Total IO-DO	Total DO-IO
V-P-L-S (840-850)	Clitic	9	8	42 (76%)	13 (24%)
	T/F	19	3		
	Ø	14	2		
Genesis (850)	Clitic	6	2	33 (85%)	6 (15%)
	T/F	11	3		
	Ø	16	1		
Confession (850)	Clitic	2	0	3 (60%)	2 (40%)
	T/F	0	1		
	Ø	1	1		
Munich (850)	Clitic	195	43	372 (74%)	134 (26%)
	T/F	67	55		
	Ø	110	36		
Psalm C. (900)	Clitic	0	1	1 (33%)	2 (66%)
	T/F	0	1		
	Ø	1	0		
Cotton (950)	Clitic	241	53	463 (74%)	163 (26%)
	T/F	79	68		
	Ø	143	42		
Homily (975)	Clitic	1	2	1 (25%)	3 (75%)
	T/F	0	1		
	Ø	0	0		
Rest (850-1050)	Clitic	0	0	3 (25%)	9 (75%)
	T/F	1	4		
	Ø	2	5		
Total clitic				454 (81%)	109 (19%)
Total topic or focus				177 (57%)	136 (43%)
Total none				287 (77%)	87 (23%)
Grand total				918 (73%)	332 (27%)

Table #19: *The distribution of direct and indirect objects across the Old Saxon corpus according to a number of conditions*.

The results clearly show that the order in which indirect objects precede direct objects is more frequent overall. In the case of clitics, the tendency of indirect objects to precede direct objects is very clear (81% vs. 19%); this is probably so because in most such constructions the indirect object is pronominal, whereas the direct object is nominal. When the direct object is pronominal, however, then it comes before the indirect object (see (73a) below). This means that the pronoun tends to occupy the clitic position regardless of its syntactic category. When no clitics are involved but some kind of pragmatic topic or focus is, then there is no clear tendency (57% vs. 43%). This means that the tendency of pronouns to appear in clitic position is overrun by pragmatic operations, which goes in line with the findings on the interaction between word order and pragmatics in Old Saxon. Whenever both the indirect and direct object are full noun phrases, the rule seems to be that of the indirect preceding the direct object (73% vs. 27%) (73a). When there is focus on the direct object or it is topicalized, on the other hand, the direct object more often precedes the indirect object (73b):

(73) a. *uuânde* *he* *suuîðo*, *that* *he* *bihelan* *mahti*
hoped he very that he conceal might
hêrran *sînum* *thia* *dâdi* *bidernian*
lord his the deed hide
"He very much hoped to be able to hide and conceal the deed from his Lord" (*Genesis* 629b-631a)

b. *anduuordi* *gaf* *uualdand* *themu* *uuîƀe*
answer gave lord the woman
"The Lord gave the woman an answer" (*Munich* 4085b-4086a)

Clear evidence of the effect of Wackernagel's Law on word order is that, whenever both the direct and indirect object are pronominal, the direct object tends to occupy the clitic position and thus precede the indirect object[78] (74). This is the exact opposite of the general rule that indirect objects precede direct objects:

(74) *ni* *it* *mi* *god* *ni* *gibôd*
not it me god not command

[78] However, one could also consider both unstressed pronouns *it* and *mi* in (74) to occupy the clitic position and therefore to be clitics. This would not be unheard of: see, for example, Spanish *díga-me-lo* "tell me it", where both *me* and *lo* are enclitics of the verb *decir* "to say".

"Not even if God commanded me it" (*Genesis* 627b)

These findings are confirmed by the statistical relevance test. The test shows that a statistically relevant correlation could be established between clitic position and the position of direct and indirect objects relative to each other in V-P-L-S (χ^2 = ind., p = 0.013496), *Munich* (χ^2 = 15.54, p = 5.2E-05) and *Cotton* (χ^2 = 17.7, p = 1.7E-05): when either one of the direct or indirect objects is pronominal and the other is not, the pronominal one tends to come first in clitic position. When both are pronominal, the direct object tends to come first in clitic position. When none are pronominal, the indirect object tends to come first. Such a correlation could not, however, be established in the *Genesis* (χ^2 = ind., p = 0.583376), *Confession* (χ^2 = ind., p = 0.4), *Psalm Commentary* (χ^2 = ind., p = 1), *Homily* (χ^2 = ind., p = 1) or in the rest of texts (χ^2 = ind., p = 1). A correlation could also be established between the existence of topic or focus and the position of direct and indirect objects relative to each other in the *Cotton* (χ^2 = 39.42, p = 0) and *Munich* (χ^2 = 27.32, p = 0) texts: whenever a direct or indirect object is topicalized or focused, it tends to come earlier then the non-topicalized or focused one. Again, such a correlation could not be established in V-P-L-S (χ^2 = 1.21, p = 0.203834), the *Genesis* (χ^2 = ind., p = 0.64717), *Confession* (χ^2 = ind., p = 0.4), *Psalm Commentary* (χ^2 = ind., p = 1), *Homily* (χ^2 = ind., p = 1) and in the rest of texts (χ^2 = ind., p = 1).

4.5. Summary

All in all, in many cases the frequencies seem to support the reconstruction of both branching direction possibilities for each typological trait. Regarding the differences between texts, the larger texts, especially the different *Heliand* manuscripts, seem to support the reconstruction of left-branching traits. The medium-sized texts, mostly the *Genesis*, the *Psalm Commentary* and the smaller texts included under the term "rest", sometimes favor the reconstruction of left-branching, sometimes of right-branching traits. The smallest texts usually do not show any statistically significant numbers. Thus it seems that the larger the size of the text, the more likely it is for left-branching traits to be observed. This suggests that large numbers of right-branching traits are more due to chance and to the abundance of marked word orders in the Old Saxon corpus, which just like the rest of Ancient and Old Germanic languages, allows for a considerable

pragmatically and information-structurally conditioned freedom of word order. In fact, from a comparative point of view the flexibility of word order traits in Old Saxon is sizeable, since not only cross-linguistically flexible traits such as Verb/Object (flexibility = 0.73) or Adjective/Noun (f = 0.52) allow for variation, but also very rigid ones such as Numeral/Noun (f = 0.20) Adposition/Noun (f = 0.15) (Bakker 1998: 388).

Altogether, then, the following are thus the numbers found in the Old Saxon corpus for each typological trait. The frequencies of verbal word order have been drawn from subordinate clauses, since subordinate clauses are more conservative (Givón 1978, Tomlin 1985, Hock 1986, Bybee 2002 among others) and thus more valuable for reconstruction. Also, the numbers for the relative order of noun and relative clause should be considered with caution due to the above-mentioned observation by Dryer (2011: 340) that both Relative Clause-Noun and Noun-Relative Clause are common among left-branching languages. Due to their unclear value as a means of determining branching direction, all controversial typological traits, i.e. Numeral-Noun vs. Noun-Numeral, Possessive Pronoun-Noun vs. Noun-Possessive Pronoun and Indirect Object-Direct Object vs. Direct Object-Indirect Object, should likewise be considered carefully:

Adjective-Noun: 935 (70%)	vs.	Noun-Adjective: 396 (30%)
Genitive-Noun: 1,130 (64%)	vs.	Noun-Genitive: 628 (36%)
Noun-Adposition: 32 (6%)	vs.	Adposition-Noun: 486 (94%)
Relative clause-Noun: 37 (4%)	vs.	Noun-Relative-clause: 924 (96%)
Standard-Adjective: 15 (62%)	vs.	Adjective-Standard: 9 (38%)
Verb-Auxiliary: 653 (50%)	vs.	Auxiliary-Verb: 656 (50%)
Subject-Verb: 1,262 (90%)	vs.	Verb-Subject: 147 (10%)
Object-Verb: 191 (61%)	vs.	Verb-Object: 123 (39%)
Predicate-Copula: 356 (56%)	vs.	Copula-Predicate: 277 (44%)
Manner adverb-Verb: 117 (72%)	vs.	Verb-Manner adverb: 46 (28%)
Adposition phrase-Verb: 535 (55%)	vs.	Verb-Adposition phrase: 444 (45%)
Equative constr.-Verb: 2 (40%)	vs.	Verb-Equative constr.: 3 (60%)
Left-branching: 5,265 (56%)	**vs.**	**Right-branching: 4,139 (44%)**
(Numeral-Noun: 809 (85%))	vs.	(Noun-Numeral: 146 (15%))
(Possessive-Noun: 2,119 (91%))	vs.	(Noun-Possessive: 206 (9%))
(Indirect-Direct object: 918 (73%))	vs.	(Direct-Indirect object: 332 (27%))
(Left-branching: 9,111 (65%))	**vs.**	**(Right-branching: 4,823 (35%))**

The same frequencies can be schematically laid out in a conceptual continuum:

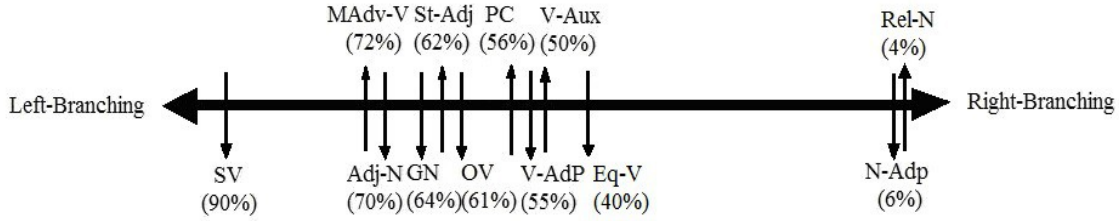


Figure #4: *Branching direction of the Old Saxon typological traits*[79].

Old Saxon thus seems to be only slightly more left-branching than right-branching from a general point of view of word order. It must be highlighted as well, however, that if Possessive Pronoun-Noun (Poss-N) and Indirect Object-Direct Object (IO-DO) order, which Dryer (1992, 1998, 2005, 2009, 2011) does not take into account within Branching Direction Theory, but many other scholars working with word order typology and reconstruction do (see, for example, Ramat 1998), as well as Numeral-Noun (Num-N) order, which is controversial as a word order predictor within the BDT but not within the HDT, are considered to align with left-branching direction, then Old Saxon provides considerably stronger evidence (65% vs. 35%) for left-branching word order:

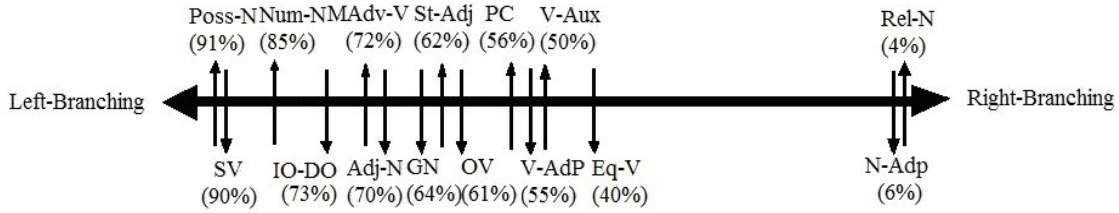
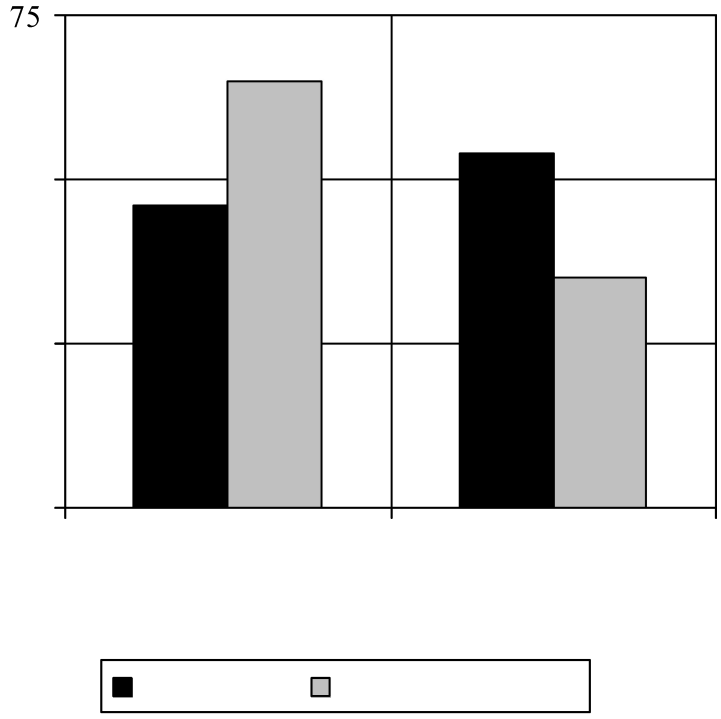


Figure #5: *Branching direction of the Old Saxon typological traits, including the controversial ones.*

Regarding verbal word order, the typological generalizations that can be made on Old Saxon escape some important factors influencing word order in Old (West) Germanic, such as the distinction between main and subordinate clauses. The importance of this distinction can be seen in the following figure, which shows the oppositeness of verbal word order dominance in main vs. subordinate clauses in Old Saxon:

[79] Figures #4 and #5 only show numbers for left-branching order. Notice, however, that this does not change the position of each word order trait in the continuum, which is the point of the figures: for example, 4% of left-branching Relative-Noun order is at the same time 96% of right-branching Noun-Relative order, and is accordingly found at the right end of the continuum. The same applies to all other traits.



	Left-branching traits	Right-branching traits
Main clause	7,488 (46%)	8,787 (54%)
Subordinate clause	9,111 (65%)	4,823 (35%)

Figure #6: *Correlation between clause type and branching direction in Old Saxon*.

The correlation between branching direction and clause type is statistically relevant at the level of .01. In fact, mathematically there is no room for the correlation to be a result of accident, since the standard deviation is $p = 0$ ($\chi^2 = 1{,}136.85$). Therefore, there is no doubt that clause type determines word order in Old Saxon, main clauses favoring right-branching traits and subordinate clauses favoring left-branching traits. This asymmetry between main and subordinate clauses regarding verb position is not exclusive of Old Saxon (Walkden 2014a: 81), but is observed also for Old English (Pintzuk & Haeberli 2008: 398) and Old High German (Axel 2007: 6-8). If one thus has a cluster of word order patterns A occurring in main clauses, and another cluster of word order patterns B occurring in subordinate clauses, and A and B occur synchronically, which one should be reconstructed, A or B? Bearing in mind that subordinate clauses are more conservative with respect to word order (see the discussion in chapter 3, section (f)), there should be no doubt that, between A and B, word order B should be reconstructed for the proto-language. And since B is a consistently left-branching verbal word order

pattern, the most likely state of affairs is that nominal word order is left-branching as well, as the data from Old Saxon and from related Germanic and Indo-European languages seem to suggest (see below for more on the comparison of these languages). The above-mentioned fact that in Ancient and Old Germanic all nominal modifiers may either precede or follow the noun might be related more to an inherited considerable freedom of word order, coupled with a distinction of restrictiveness versus non-restrictiveness (Givón 1990: 473), rather than to branching direction. It should also be borne in mind that different noun modifiers have different probabilities to conform to word order type and thus to branching direction (Givón 1990: 202):

(75) ↑ Most likely to conform to prediction (left-branching)
↕ genitive and possessive modifiers (Old Saxon: 64% and 91%, respectively)
↕ adjectives (Old Saxon: 70%)
↕ relative clauses (Old Saxon: 4%)
↕ numerals or quantifiers (Old Saxon: 85%)
↓ Least likely to conform to prediction (right-branching)

What is worth noting here is that, regardless of these tendencies, most nominal modifiers that Dryer (1992) shows to correlate with branching direction, which are not the same as the ones discussed by Givón (1990), show a two-way distinction regarding word order: (a) a dominant left-branching pattern coexists with (b) a marked right-branching pattern. The quantitative and comparative data (which are further discussed below) thus suggest so far that Proto-Germanic should be reconstructed as not only a verb-final language, but also a consistently or near-consistently left-branching language, in accordance with what has been proposed in previous literature (W. P. Lehmann 1974a, 2007, Vennemann 1975, Ramat 1998 among others). Before a conclusion is reached in the following sections regarding the reconstruction of Proto-Germanic word order, however, the typological plausibility of such a reconstruction, as well as of those reconstructed word order changes that may have occurred since the reconstructed stage, must be demonstrated. More specifically, it must be demonstrated that the reconstructed word order and subsequent changes conform not only to the synchronic typology of languages, but also to what is known about universals of diachronic word order change (Givón 1999: 95). Note at this point that, regarding the order of the major constituents

of the clause, six orders are logically possible, and that they are unevenly distributed (Dryer & Haspelmath 2013):

(76)

	Number of languages according to word order		
Verb-final	SOV: 497 (40%)	OSV: 4 (1%)	Total: 501 (41%)
Verb-medial	SVO: 436 (35%)	OVS: 11 (1%)	Total: 447 (36%)
Verb-initial	VSO: 85 (7%)	VOS: 26 (2%)	Total: 111 (9%)
Free WO: 172 (14%)			
Total: 1,377 (100%)			

If one tends to Rauch's (1992: 24) claim that Old Saxon is a (X)VSO language, these frequencies imply that this language is 7% likely to have VSO as the basic constituent order, and 9% likely to have verb-initial as the unmarked order. In both cases, there is only less than one in ten possibilities for such a claim to be right if the typology of the world's languages is considered. Instead, there exists a 35% chance for Old Saxon to be a SVO language and an almost identical chance for it to be verb-medial, as the above analysis has suggested. Finally, reconstructing Proto-Germanic as a SOV language (40%) or as verb-final (41%) seems to be most likely, independently of the direct data. Another useful tool to determine the plausibility of a reconstructed stage, in addition to typological comparison, is provided by the syntactic implicational universals in the lines of Greenberg (1963) and subsequent typological literature. These universals concern word order and are thus relevant to the present discussion:

(i) If a language has noun-possessor order, it tends to have preposition-NP order, and if it has possessor-noun order, it tends to have NP-postposition order (Haspelmath 2014: 498).
(ii) If a language has dominant VSO order, then it has dominant adposition-noun order (Greenberg 1963: 78, Haspelmath 2014: 498, Greenberg's Universal #3).
(iii) In languages with prepositions, the genitive almost always follows the governing noun, while in languages with postpositions it almost always precedes (Greenberg 1963: 78, Greenberg's Universal #2).
(iv) With overwhelmingly greater than chance frequency, languages with dominant SOV order are postpositional (Greenberg 1963: 78, Dryer 1992: 83, Greenberg's Universal #4).

(v) If the relative expression precedes the noun either as the only construction or as an alternate construction, either the language is postpositional, or the adjective precedes the noun or both (Greenberg 1963: 88, Greenberg's Universal #24).

It is important to point out that Greenberg's original universals have been subsequently found not to be so universal. An illustrative example is Greenberg's Universal #3, "Languages with dominant VSO order are always prepositional". At least six languages (Koreguaje, Majang, Guajajara, Cora, Tepehuan and Taushiro) have been found which follow dominant Verb-Subject-Object order, yet exclusively display postpositions (Dryer & Haspelmath 2013). Also, three VSO languages exist (Makah, Murle and Tonnet) which allow for both pre- and postpositions (Givón 2010: 21). Such data show that Greenberg's so-called universals should rather be considered universal tendencies. In any case, the predictive force of Greenberg's universal tendencies is not rendered moot by the low number of exceptions, and thus they should still be a useful tool to linguistic reconstruction. Some of these typological universals can be clarifying with respect to the existence of traces of previously left-branching syntax in an apparently dominantly right-branching language like Old Saxon: the fact that both Genitive-Noun and Noun-Genitive order are found in the language under study matches the existence of traces of previous left-branching syntax, i.e. postpositions coexisting with prepositions, and supports the existence of a typological shift, in accordance with claims (i) and (iii) above.

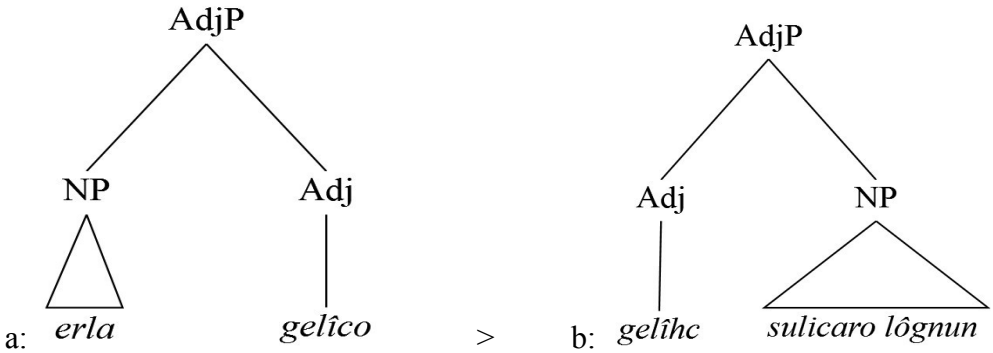
Concerning claim (iv), the coexistence of both left- and right-branching traits like OV and VO order in both main and subordinate clauses in Old Saxon concurs with the coexistence of other traits such as pre- and postpositions. It has been shown by means of quantification of word order traits how the apparent possibility that both VO and OV orders may be heavily influenced by the poetic nature of many Old Saxon texts, as may be the case in other Old Germanic languages such as Old High German (Axel 2007: 92), is very well grounded for main clauses, but unfounded for subordinate clauses. The latter are much less prone to word order variation due to their processing characteristics (i.e. the discussion in chapter 3, section (f)), and this is reflected in the Old Saxon numbers. Finally, claim (v) can only be said to be applied to ancient and Old Germanic languages if certain nuances are made, such as considering prenominal participial constructions to be equivalent to relative clauses.

In light of these word order universals, the typological shift that takes place in early Germanic can be labelled as a coherent shift in that it develops in accordance and not in contradiction to them. As can be seen by the frequencies of Old Saxon, certain word order traits, such as the relative order of object and verb in main clauses, change earlier than the order of adpositions or genitives with respect to nouns. As a result, Old Saxon is a language where left-branching word order can be observed in the form of marked patterns that disappear in later stages of the language. This speaks for a gradual diffusion of the change in word order that is extended in time across various centuries. The change in word order occurring in Old Saxon, which can be generalized to Old Germanic and traced back to Ancient Germanic, as will be shown below, can be represented as follows, following Dryer's (2009: 186-187) representation of Modern English word order:

(77) a. *erla gelîco* (Standard of Comparison-Adjective)

>

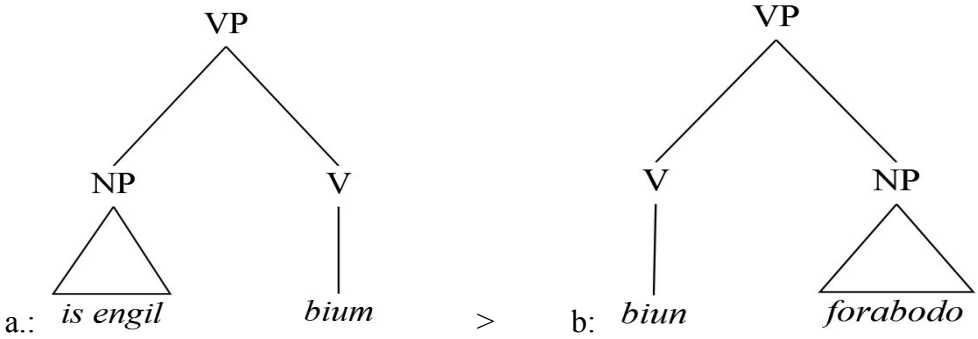
b. *gelîhc sulicaro lôgnun* (Adjective-Standard of Comparison)



(78) a. *ic is engil bium* (Predicate-Copula)

>

b. *ik biun forabodo* (Copula-Predicate)



Note that the patterns given in (77a) and (78a) seem to be the dominant ones, but not the only ones. Patterns like (77b) and (78b) would be more likely to emerge as a result of phonological and information-structural factors, namely as a product of extraposition (Linde 2009: 380). This can be seen in the following scheme:

(79) a. *erla gelîco* (1 word, 2 syllables, old information[80])
a'. *gelîhc sulicaro lôgnun* (2 words, 6 syllables, old information)
b. *ic is engil bium* (2 words, 3 syllables, old information)
b'. *ik biun forabodo* (1 word, 4 syllables, new information)

As can be seen by the evidence, then, the shift in branching direction that occurs in early Germanic seems to involve a reanalysis of the previously marked, extraposed order as the unmarked order. Reanalysis is a major driving force in syntactic change (Harris & Campbell 1995: 61-93, Campbell 1998: 227). The shift would develop in the manner that left-branching patterns as in (77a) and (78a) would become increasingly rare in favor of right-branching patterns such as those in (77b) and (78b). The reason why previous work that assumes different levels of syntactic representation, such as the Principles and Parameters approach within the generative frame, claim that Old Germanic languages, including Old Saxon, display base left-branching OV order (Erickson 1997) is thus probably based on the intuition that extraposed order is originally marked. Notice, as well, that no word order combination that violates the above-mentioned Final-Over-Final-Constraint (FOFC) is attested in Old Saxon. According to this, no right-branching dyad, such as Noun-Genitive or Noun-Adjective, can be dominated by a left-branching dyad, such as a postposition phrase, as discussed in chapter 3, section (g) above. In accordance with this rule, no word order patterns like N-Gen-Adp or N-Adj-Adp (such as, say, **sunu godes umbi* "around the son of God", **grase gruonimu an* "on green grass" or **than thu giniodon himilo rîkeas môst* "then you may enjoy the heavenly kingdom", i.e. 23a-c above) are attested in Old Saxon. This means that the word order shift occurring in Old Saxon ensues without violating universal typological tendencies.

[80] Recall the criteria used here to determine information status (new or old) and which was discussed in chapter 3, section (d.1) above: elements not inferable from context or from the world knowledge of the listener and that have not been mentioned in the previous 30 lines of discourse are considered to be new information, in the lines of Walkden (2014b: 320).

Part III: Typological comparison

CHAPTER 5. RECONSTRUCTION COMPARED TO INDO-EUROPEAN LANGUAGES

5.1. Ancient Germanic

5.1.1. The runic inscriptions

The runic inscriptions are a cover-term used to denote a series of inscriptions written in two different variants of the original Germanic runic alphabet, the *Futhark*, whose name derives from the first six symbols in that alphabet (namely *f-u-þ-a-r-k*). A problem posed by the runic inscriptions is that the early 24-character *Futhark* (which is usually referred to as "older Futhark") is not a completely phonological writing system, with a number of sounds not being represented in writing due to ongoing phonological changes. An example of this are postvocalic nasal sounds, which when dropped after *a*, nasalize the previous vowel, i.e. [an] > [ã:]; this change is not represented in writing (Looijenga 1997: 87-88). Also, modern writing conventions like the separation of words with spaces or writing in a given direction (such as left to right) and a given order (such as having no words or letters upside down) are non-existent. In addition, in many cases parts of the inscriptions are missing, and the directionality of reading is unknown (Antonsen 1975: 24, Eyþórsson 2011: 36). Furthermore, many of the attested inscriptions are of a formulaic nature, which makes it difficult to determine whether the language they reflect sounded "natural" or "grammatical" at the time of writing. Moreover, frequently the context of the inscription is entirely lacking. This gives rise to different possibilities of interpretation of the inscriptions. Finally, another problem posited by the runic inscriptions is that these are in general quite short (ranging from a few characters to a few words) and not without limitations. For example, there is not one single instance of clausal subordination in the corpus[81] (Ratkus 2010: 178).

[81] The lack of subordinate clauses in the runic inscriptions may not be exclusively due to the limited size and quality of the corpus. Note that languages that are largely spoken and barely have any writing tend a lot more to be paratactic than hypotactic (i.e. chapter 3, section (g) above), which means that they make very little use of subordination. This may have been the case of the language of the runic inscriptions, since a clear increase in the use of subordination, coupled with a multiplication and specialization of subordinating particles, can be observed throughout the history of the Germanic languages (Szczepaniak 2015: 108-117).

Therefore, the validity of the runic inscriptions for word order reconstruction should not be overestimated.

In spite of these limitations, the runic inscriptions are, together with Gothic, the earliest attested form of Germanic and thus of special interest to reconstruction. This interest is further enhanced if it is taken into account that the runic inscriptions are one of the written forms least affected or conditioned by poetic conventions, which means that the word order attested in them reflects genuine Ancient Germanic word order (W. P. Lehmann 2007). The runic inscriptions are, however, found in many different locations, including mostly southern continental Scandinavia, northern Holland and Germany, the area just north of the Alps and along the Danube river as well as the British Isles. The runic inscriptions are part of a writing tradition that stretches across a long period of time, more or less from the 2nd century CE until long after the first documents written in Old Germanic had appeared, around the 12th century. Moreover, approximately from the 5-6th centuries CE on the runes show clear dialectal differences. Therefore, a considerable degree of heterogeneity with regard to linguistic patterns is to be expected.

Out of the around 6,000 runic inscriptions that have been discovered up to date, Antonsen (1975: 24) identifies thirty-four that he classifies as being written in "Northwest Germanic", that is, in an early period in which the North and West Germanic branches have not yet separated, and thus being roughly equivalent to the label "Ancient Germanic" used by Faarlund (2001). Of these thirty-four inscriptions, the majority, twenty-two (71%) present clause-final verbs, which leads the author to conclude that the dominant order of indicative sentences at this language stage, if no distinction is made between main and subordinate clauses, is OV: "With the exception of genitive constructions with inanimate heads and the single instances of quantifier + noun of deictive adverbs after an adjective, the phrase structure rules point to a language with SOV" (Antonsen 1975: 24-25). From a typological viewpoint OV order correlates with left-branching order, as well as with other characteristics of the language such as the ordering of morphemes or the dominant use of postpositions (Greenberg 1963: 78, Harris 2000: 133). Thus, it is possible to assume *a priori* and tending to Greenberg's implicational hierarchies that if Proto-Germanic follows unmarked OV order, then it also presents other left-branching typological traits. In any case, already in the earliest runic inscriptions VO order is at least as frequent as OV order (Eyþórsson 2011: 47).

This is reflected in the co-occurrence in the runic corpus of verb-final (i.e. 82a-e further below), verb-medial (82f-h) and verb-initial inscriptions (80a-c):

(80) a. *wate hali hino horna*
wet stone this horn
"Let the horn wet this stone!" (Strøm whetstone, ca. 600 CE)

b. *maridai ala makija*
praised Alla sword
"Alla praised the sword" (Vimose chape, ca 250 CE)
(Eyþórsson 1995: 183)

c. *fahidu wilald wigaz ek erilaz*
painted work-of-art warrior I runemaster
"I, the warrior runemaster, painted this work of art"
(Eskatorp and Väsby bracteates, and possibly also the Overhornbæk and Raum Vendsyssel inscriptions, ca. 500 CE) (Looijenga 1997: 117)

These examples, coupled with the ones given below, show that the order of the major constituents of the clause is quite free in the language of the runic inscriptions. Such a state of affairs does not pose a problem to the Branching Direction Theory: as has been mentioned above, the observed freedom of word order supports the reconstruction of Proto-Germanic as discourse-configurational combined with a specific dominant word order and branching direction. Support for this view comes from the fact that example (80a) is a hortative or imperative clause, i.e. there is illocutionary modification and thus word order could well be derived. In the case of (80b), Eyþórsson himself draws a parallelism between this example and verb-initial narrative-inverted clauses in Old Germanic. Example (80b) should thus be regarded as a clause with derived order as well. As has been argued above, derived word order should not be reconstructed as the dominant pattern of the proto-stage (Ries 1880: 7). This means that Verb-Subject and VSO order cannot possibly be the dominant order of the runic inscriptions (see, for example, Braunmüller (1982), who reaches the same conclusion).

Regarding adpositions, it must also be pointed out that out of the total 7,500 runic inscriptions, prepositions are attested only twenty-three times (Looijenga 1997: 146, Marold & Zimmermann 2008, Eyþórsson 2011: 45). These prepositions are *af*(*atz*) "after, in memory of" (three attestations), *a*(*na*, *o*) "on, onto, at, in" (six att.), *bi* "to, by"

(one att.), *fura* “in front of” (one att.), *i* “in” (three att.), *ōs* “from, out of” (two att.), *uf* “down, under” (one att.), *umb*(*a*, *i*) “around, about, because of” (two att.), *un*(*þ*) “to, for, out” (three att.) and *wid* “against” (one att.). These twenty-three attestations make up a total of ten different kinds of preposition. This is quite a small number to draw any conclusions. On the other hand, it must be borne in mind that a large number of runic inscriptions have no certain reading, which is why the existence of postpositions in the runic inscriptions cannot be completely excluded (as opposed to claims by, for example, Eyþórsson 2011: 27, 47). In addition to examples (81a-b), which according to Marold & Zimmermann (2008) are two instances of postposition, one further attestation of a postposition may be found in the Oberflacht sieving spoon inscription (ca. 550 CE) (81c), where an unresolved element *afd* is found. Even though no reading has ever been made of this word as an adposition (see, for example, Looijenga 1997: 145, who considers this word to be an adverb meaning “after, later”, or Klingenberg 1974: 81-94 and Opitz 1977: 123-126, who consider the word to be separated in two words, *af* “of” + *d*[*ag*] “hereafter” (lit. “of the day”)), there is no argument against reading *afd* as a postposition meaning “for” or “after”:

(81) a. *birgingu* *umb* *āras* *swestar* *mīnu* *liubu* *mez* *wāgjē*
bringing with harvestsister lovely mine me help
“My dear sister may help me with the bringing-in of the harvest”
(Opedal stone, 200-450 CE)

b. *birgingu* *umb* *āras* *swestar* *mīnu* *liubu* *mez* *wāgjē*
bringing with harvestsister lovely mine me help
“My dear sister may help me with the bringing-in of the harvest”
(Roes stone, ca. 700 CE)

c. *g*[e]*ba* *dulþ* *afd* (?)
gift feast for/after
“A gift for (after) the feast” (Oberflacht sieving spoon, ca. 600 CE)

In general terms, then, both kinds of adpositions are attested in the runic corpus, with a preponderance of prepositions (23 attestations, 10 kinds) over postpositions (2-3 attestations, 1-2 kinds). This shows a relatively mixed picture for word order. The same applies to the ordering of the main constituents of the clause: the runes produced in the early period (ca. 350-500 CE) and those produced during the “transitional period” (ca.

500-600 CE) show a certain degree of variation, with (S)OV order (82a-e) being attested as often as (S)VO order (82f-h), which is why hardly any conclusions can be drawn regarding dominance of word order based only on the evidence that these runes provide. It is also interesting to note that pronominal objects only appear preverbally (82d):

(82) a. *ek* *hlewagastiz* *holtijaz* *horna* *tawidō*
I Hlewagast of-Holt horn made
"I, Hlewagast of Holt, made this horn"
(Gallehus gold horn, 400 CE)

b. *ek* *erilaz* *sa* *wilagaz* *hat-eka*
I runemaster the wily be-called-I
"I, the runemaster, am called the wily" (Lindholm amulet, 400-500 CE)

c. *godagastiz* *runo* *faihido*
Godagast rune painted
"Godagast painted (this) rune" (Einang stone, 350-400 CE)

d. *hagiradaz* *i* *tawide*
Hagirada it made
"Hagirada made this/it" (Garbølle box, 400 CE)

e. *ek* *erilaz* *runoz* *waritu*
I runemaster runes carve
"I, the runemaster, carve runes" (Järsberg stone, ca. 500 CE)

f. *afatz* *hariwulafaz* *haþuwlafz* *haerwulfiz* *warait runaz* *þaiaz*
after Hariwulaf Hatuwulf Haerwulf carved runes these
"In memory of Hariwulf, Hatuwulf Haeruwulf carved these runes" (Istaby stone, 600 CE)

g. *ek* *hagustaldaz* *hlaaiwidō* *magu* *mīninō*
I Hagustald buried son mine
"I, Hagustald, buried my son" (Kjølevik stone, 400-450 CE)

h. *ek* *hrazaz satido* *stain*
I Hraza set stone
"I, Hraza, set this stone" (Rö stone, 450 CE)

Beyond the (S)OV-(S)VO opposition, a reduced number of runic inscriptions may be claimed to follow alternative or marked patterns (Eyþórsson 1995: 183-185):

(83) a. *hariuha* *hait-ika* *fārawīsa*
Hariuha be-called-I danger-knowing
"I am called Hariuha, the one who knows danger"
(Sjælland bracteate 2, 500 CE) (OVS)

b. *rūnō* *fahi* *raginakundo* *tōj-eka* *hakuþo*
rune suitable divine make-I for-Hakuþ
"I make this suitable and divine rune for Hakuþ"
(Noleby stone, 450 CE) (OVS)

c. *wurte* *rūnōz* *an* *walhakurne* *heldaz* *kunimudiu*
wrought runes on foreign-grain Helda for-Kundimund
"Helda wrought runes on foreign grain for Kunimund"
(Tjurkö bracteate, 450 CE) (VOS)

Also in late (i.e. post-700 CE) runic inscriptions containing intransitive verbs, a tendency can be observed to place the verb at the end of the clause, after all its modifiers (Seebold 1990: 421):

(84) *op* *hæmu* *jibada* *æmluþ*
at home good-fortune stays
"Good fortune stays at home" (Westeremden stick, 750 CE)

In summary, then, the following orders of the major constituents of the clause are attested in the runic inscriptions: SOV and SVO, one of which is dominant, and OVS, VSO and VOS, all of which are marked. Only OSV order, then, is missing from the corpus so that all possible orders may be realized. As a matter of fact, OSV order happens to be the least frequently attested order of major constituents in Old Saxon as well, as shown above. This means that OSV order is likely to be the most marked and thus the least probable one to be attested in a fragmentary corpus like that of the runic inscriptions. The runic inscriptions should thus be claimed to allow for practically any possible order. On the other hand, it must also be pointed out that not only the runic inscriptions that reflect early Norse or pre-Old Norse (as in 82a-e above) display both

OV and VO-patterns, but that also West Germanic runic inscriptions (80a-b, ca. 550-650 CE) do so (Braunmüller 1982:140):

(85) a. *boso wraet runa*
Boso carved runes
"Boso carved these runes" (Freilaubersheim inscription, 550 CE)

b *aigil andi ailrūn elahu gasōkun*
Aigil and Ailrun elk cursed
"Aigil and Ailrun cursed (the) elk" (Pforzen buckle, 550 CE)

Also, a number of runic inscriptions known to be the earliest of Frisian (i.e. West Germanic) origin and to date to around 600 CE display left-branching traits as well (Looijenga 1997: 179):

(86) a. *skano modu*
beautiful mind
"Beautiful mind" (Coin inscription, ca. 600 CE)

b. *aib kabu deda habuku*
Aib's comb made Habuku
"(This is) Aib's comb, which was made by Habuku"
(Oostum inscription, ca. 700 CE)

It should be borne in mind that the West Germanic runic inscriptions are much fewer in number than the early Norse inscriptions, which are already small in number. This means that drawing any conclusions from them regarding word order can be quite speculative, and that their value for reconstruction is quite testimonial. Regarding typological patterns that do not concern adpositions or the ordering of the major constituents of the clause in the runic inscriptions, the dominant order of constituents in predicative constructions seems to be that of Predicate-Copula more clearly than Copula-Predicate in regular (i.e. non-inverted) constructions (87a-c) (Antonsen 2002: 293, W. P. Lehmann 2007: 73-74), whereas Copula-Predicate seems to be a derived order, for example in restrictive contexts (87d) (Faarlund 2010: 208). Genitives seem both to follow (87e, 87g) and precede (87f) nouns (Nielsen 2006: 264, Eyþórsson 2011: 44), just like adjectives (87h-i) (ibid.). Finally, as in Old Saxon, equatives follow left-

branching order (87d). Other typological traits relevant to the BDT, such as relative clauses, are practically unattested in the runic corpus, though see (87j):

(87) a. *ek* *erilaz* *asugisalaz* *em*
I rune-master of-Ansugisala am
"I am the runemaster of Ansugisala" (Kragehul lance, 400 CE)

b. *flagda-faikinaz* *ist*
attack-deceived is
"Is deceived by attack" (Vetteland stone, 400 CE)

c. *haitinaz* *was*
called was
"Was called" (Kalleby stone, ca. 400 CE)

d. *ni* *-s* *solu* *sot*
not is to-the-sun sought
"It is not touched by the sun" (lit. "It is not at the same level as the sun")
(Eggja stone, 700 CE)

e. *sijostez* *arbijano*
next-of-kin of-the-heirs
"The next of kin of the heirs" (Tune stone, 400 CE)

f. *hnabdas* *hlaiwa*
of-Hnabda grave
"Hnabda's grave" (Bø stone, 500 CE)

g. *ek* *hagustaldaz* *þewaz* *godagas*
I Hagustald servant of-Godag
"I, Hagustald, am a servant of Godag"
(Valsfjord cliff inscription, ca. 400 CE)

h. *owlþuþewaz* *niwajemariz*
Wolþuþew of-immaculate-repute
"The immaculate-reputed Wolþuþew"
(Thorsberg chape inscription, 200 CE)

i. *hidez* *runo* *rono* *felah-eka* *hedera* *gino*
bright of-runes sequence produce-I here mighty
ronoz
of-runes

"The sequence of bright runes, of mighty runes, I produce here"
(Stentoften stone, 500-600 CE)

j. *saz* *þat* *barutz*
he-who this breaks
"He who breaks this" (Björketorp monolith, ca. 600 CE)

The ordering of these typological traits seems to speak, again, for a left-branching language that allows for considerable freedom of word order. Right-branching traits can, in addition to flexibility of word order, be ascribed to the fact that the word order of the language attested in the runes is shifting in branching direction, whereby right-branching traits are replacing left-branching ones (Nielsen 2006: 267). This means that, although synchronically left-branching traits are still dominant in the language of the runic inscriptions, already a shift in rightward direction can be appreciated. The result is that left- and right-branching traits are found in similar proportions in the runic corpus (Delbrück 1911: 13). A certain synchronic dominance of left-branching traits can, however, be seen in the following table[82]:

LB traits	**Number**	**RB traits**	**Number**	**Total**
Early runic inscriptions (150-450 CE)				
OV	6	VO	5	11
Adj-N	0	N-Adj	3	3
Gen-N	1	N-Gen	2	3
SV	12	VS	4	15
Pred-Cop	2	Cop-Pred	0	2
AdpP-V	0	V-AdpP	1	1
Total	21 (58%)	Total	15 (42%)	36 (100%)
Late runic inscriptions (450-700 CE)				
OV	13	VO	27	40
Adj-N	6	N-Adj	2	8
Gen-N	5	N-Gen	4	9
SV	9	VS	8	17
Pred-Cop	0	Cop-Pred	3	3
AdpP-V	0	V-AdpP	1	1
Total	33 (42%)	Total	45 (58%)	78 (100%)
Total LB	52 (46%)	**Total RB**	56 (54%)	104 (100%)

Table #20: *Word order in the runic inscriptions produced between 150-700 CE*.

[82] Statistics have been drawn from the corpus of runic inscriptions dating to 150-700 CE compiled by Looijenga (1997: 79-195, 206-210) as well as from the *Runendatei* corpus of runic inscriptions compiled by the University of Kiel (Germany) (Marold & Zimmermann 2008). The inscriptions mentioned across the dissertation are included in the statistics. It should also be pointed out that the statistics may vary slightly according to the reading made of a number of the inscriptions whose reading is not certain.

The results show that, whereas some traits display a clear dominance of one or the other pattern, other traits do not show a unitary picture. Among the former especially the relative order of subject and verb should be mentioned, where the overall picture of 21 SV vs. 12 VS shows that the dominant order is that of the subject preceding the verb. Among the latter the relative order of the direct object and the verb should be mentioned: whereas the early runes display a slight preference for preverbal objects: 6 OV (55%) vs. 5 VO (45%), late runes show a predominance of Verb-Object order: 13 OV (33%) vs. 27 VO (67%). This is in accordance with the shift OV > VO that is assumed to take place in main clauses. Such an interpretation of the facts provides, however, an oversimplified view of reality: as is the case in sister Germanic languages, in the language of the runic inscriptions extraposition seems to play a key role in the occurrence of (S)OV vs. (S)VO order. More specifically, postverbal objects tend to be phonologically heavier than preverbal ones and to convey new information more often than preverbal objects:

(88) a. *ek* *hagustaldaz* ***hlaaiwidō*** *magu* *mīninō*
I Hagustald buried son mine
"I, Hagustald, buried my son" (Kjølevik stone)
(2 words, 5 syllables, new inf.)

b. *haþuwlafz* *haerwulfiz* ***warait*** *runaz* *þaiaz*
Hatuwulf Haeruwulf wrote runes these
"Hatuwulf Haeruwulf wrote these runes" (Istaby stone)
(2 words, 4 syllables, new inf.)

c. *ok* ***rāþ*** *rūnar* *þār* *raginakundu*
and solve runes those divinely-descended
"And solve those runes of divine descent" (Sparlösa stone)
(3 words, 8 syllables, old inf.)

d. *ek* *hlewagastiz* *holtijaz* *horna* ***tawidō***
I Hlewagast of-Holt horn made
"I, Hlewagast of Holt, made this horn" (Gallehus gold horn)
(1 word, 2 syllables, old inf.)

e. *godagastiz* *runo* ***faihido***
Godagast runes painted
"Godagast painted (this) rune" (Einang stone)

(1 word, 2 syllables, old inf.)

Something similar, though with exceptions, seems to be the case with genitival and adjectival modifiers of the noun, always bearing in mind that adjectives tend to shift position more easily than genitives (i.e. Hawkins's 1983: 93 so-called Mobility Principle):

(89) a. *hnabdas* ***hlaiwa***
Hnabda's grave
"Hnabda's grave" (Bø stone) (1 word, 2 syllables)

b. ***þewaz*** *godagas*
servant of-Godag
"Servant of Godag" (Valsfjord cliff inscription) (1 word, 3 syllables)

c. *hidez runo* ***rono***
bright of-runes sequence
"A bright sequence of runes" (Stentoften stone) (1 word, 2 syllables)

d. ***owlþuþewaz*** *niwajemariz*
Wolþuþew of-immaculate-repute
"The immaculate-reputed Wolþuþew" (Thorsberg chape inscription)
(2 (phonological) words, 5 syllables)

The following numbers show that an effect on word order of the distinction between old and new information and phonological lightness and heaviness is likely to exist:

Word order	**Weight (in nº of words)**					**Weight (in nº of syllables)**					**Inf. status**	
	1	**2**	**3**	**4**	**> 4**	**1**	**2**	**3**	**4**	**> 4**	**New**	**Old**
OV	13	6	0	0	0	2	10	4	3	0	9	10
VO	23	7	0	0	0	4	13	7	4	2	19	11
GenN	4	0	0	0	0	1	2	0	1	0	-	-
NGen	5	4	0	0	0	0	2	3	1	3	-	-
AdjN	3	0	0	0	0	1	2	0	0	0	-	-
NAdj	6	4	0	0	0	0	2	1	3	4	-	-

Table #21: *The effect of extraposition on word order in the language of the runic inscriptions*.

At first glance no straightforward connection seems to exist between the number of words of a specific noun phrase and its position with respect to the verb, the genitive or

adjective: nearly one third of all OV inscriptions are two words long (6/19, 32%) and a similar proportion seems to hold for VO inscriptions (7/30, 23%). In this respect it is telling that Genitive-Noun and Adjective-Noun patterns containing two-word noun phrases are not attested, whereas this is not the case for the opposite pattern: four out of nine (44%) Noun-Genitive NPs are two words long and four out of ten Noun-Adjective NPs (40%). Furthermore, when looking at weight in number of syllables and at information status it becomes even clearer to what extent extraposition has an effect on word order of the runic inscriptions:

(90) a. Object-Verb: 12 times nº of s. ≤ 2 (63%), 7 times nº of s. > 2 (37%)
b. Verb-Object: 17 times nº of s. ≤ 2 (57%), 13 times nº of s. > 2 (43%)
a'. Object-Verb: 9 times (47%) new inf., 10 times old inf. (53%)
b'. Verb-Object: 19 times (63%) new inf., 11 times old inf. (37%)
c. Gen-Noun: 3 times nº of s. ≤ 2 (75%), 1 time nº of s. > 2 (25%)
d. Noun-Gen: 2 times nº of s. ≤ 2 (29%), 7 times nº of s. > 2 (71%)
e. Adj-Noun: 3 times nº of s. ≤ 2 (100%), 0 times nº of s. > 2 (0%)
f. Noun-Adj: 2 times nº of s. ≤ 2 (20%), 8 times nº of s. > 2 (80%)

Thus it seems that in the runic inscriptions phonological weight and information status have a significant impact especially on the position of adjectives and genitives. This goes in line with the reconstruction that has been proposed so far for Proto-Germanic: the language of the runic inscriptions, being one of the earliest descendants of the proto-stage, allows for considerable freedom of word order next to dominant left-branching traits. The various word order patterns are, as is usual in languages, not random, but pragmatically and phonologically conditioned. In general terms, however, and because of the scarcity and difficult comprehensibility and dating of the runic inscriptions, it is difficult to determine whether the language attested in them follows dominant OV or VO order and what consequences this has for the reconstruction of the proto-language. In spite of this and if the interpretation of the facts, together with the findings from the previous chapter, are assumed to be right, then the Branching Direction Theory would predict the language of the runic inscriptions to follow dominant Object-Verb order. This is in accordance with claims made by W. P. Lehmann (1974a, 2007), Antonsen (1975 and subsequent work) and Nielsen (2000, 2006), among others.

5.1.2. Gothic

The other earliest attested form of Ancient Germanic and only attested language belonging to the East Germanic branch, Gothic, is preserved in fragments of the Bible translated from Classical Greek and attributed to Bishop Wulfila (ca. 310-383 CE). Gothic is preserved in five manuscripts originally written in the fourth century CE: these are the *Codex Argenteus*, the *Codex Ambrosianus* A-E, the *Codex Gissensis*, the *Codex Taurinensis* and the *Codex Carolinus*. In addition to the codices, a few later fragments dating to the sixth century CE have also been discovered in recent years, such as the *Codex Vaticanus Latinus* 5750, the *Codex Vindobonensis* 795, the Naples Deed, the Arezzo Deed, the *Skeireins*[83] or the Commentary on the Gospel of John, in addition to a reduced number of runic inscriptions (Braune 1894: ix). The difference in the dating of Gothic texts opens a window of opportunity to analyze the development of word order in the language, something done first by Smith (1971) and Friedrich (1975). Together these manuscripts, fragments and runes make up a corpus of about 67,400 words, according to the Wulfila Project (de Herdt & van Loon 2004)[84]. This makes Gothic one of the most widely attested early Germanic languages.

In spite of the sizeable corpus, the downside of Gothic is that most of the corpus consists of translations, which may be affected, to a higher or lesser degree, by the Greek original, and possibly also by an additional Latin manuscript (Streitberg 1919, cf. Walkden 2014a: 12-13, see also Ratkus 2010: 28-36 for a discussion on the uncertainty concerning the original Greek manuscript and the implications for the study of word order). Whereas due to this reason some authors consider Gothic invalid for word order reconstruction (Metlen 1933, Hopper 1975: 60, W. P. Lehmann 2005: 34-35), more recent authors have tended towards considering Gothic, in spite of its similarity to the original Greek, a valuable tool for reconstruction of Proto-Germanic, providing evidence for this (Klein 1992a: 370-371, Eyþórsson 1995: 18-139, Ferraresi 1997, 2005, Walkden 2014a: 11-13 among others). This has especially, but not exclusively, been the case in those instances where one original Greek word is rendered by more than one word in the Gothic translation. The following (91a-b) is an example of a Greek verb rendered by two words in Gothic (Jasanoff 2004: 904-905, cf. Ratkus 2010: 26):

[83] For more details about the context in which the *Skeireins* was produced, together with a discussion on its authorship and implications for a linguistic analysis, see Ratkus (2010: 146-148) as well as the literature cited therein.

[84] A claim that can be found at [http://www.wulfila.be/gothic/]. All Gothic examples have been drawn from the *Wulfila project*, which uses Streitberg's (1919) edition.

(91) a. *wrakos* *winnand*
persecution they-suffer
"They will suffer persecution" (*Codex Ambrosianus A*, *Timothy* 3:12)

b. *διωχθήσονται*
they-will-be-persecuted
"They will be persecuted"

Such cases can be interesting to the study of Gothic syntax, since the Gothic translation, which follows Object-Verb order, corresponds to a single Greek word. Cases like these suggest that Object-Verb is a genuine Gothic word order pattern[85]. Regarding Gothic word order from a more general perspective, this language presents only prepositions (Wright 1966: 168). In the whole Gothic corpus 21 prepositions are attested, and not one single postposition, similar to the runic inscriptions[86]. On the other hand, the dominant word order of the constituents of the clause in Gothic has been claimed to be SOV (W. P. Lehmann 2005: 34). These facts, then, show a somewhat confusing picture with regard to the claim that Proto-Germanic should be reconstructed as following left-branching word order. In general, then, the picture presented by Ancient Germanic texts is not very helpful in discerning syntactic and diachronic patterns (Faarlund 2001: 1706). The absence of prepositions could thus be ascribed to the effects of the Greek original, taking into account that Classical Greek only has prepositions as well (Hawkins 1979: 630). However, whenever Gothic word order deviates from the Greek original, Gothic word order is relatively free[87] and mostly dependent on stylistic and logical factors (Tamašauskaitė 2013: 67). This can be seen quite clearly in constructions

[85] The matter is not, however, so simple. As Ratkus (2010: 26, f. 21) himself points out, the Gothic Object-Verb order in (91a) is replicated by the Latin translation, because of which it cannot be excluded that this sentence has been affected by the word order of Latin. There are, on the other hand, cases in which the Gothic word order corresponds to neither of the Greek and Latin manuscripts (See Ratkus 2010 for a discussion).

[86] Similar to the language of the runic inscriptions, the fact that only prepositions are attested in Gothic does not necessarily imply that only prepositions were used in this language. In fact, the use of many of the most frequent Gothic prepositions in Wulfila's translation of the Bible, such as *ana* "on, at", *us* "out of" or *in* "in, on", has been claimed to be influenced not only by the Greek original, but also by a Latin manuscript, which Wulfila would have had at hand next to the Greek manuscript (Yoshioka 1986: 221, Ratkus 2010: 23, f. 19). As will be shown below, Latin only has prepositions for most of its written history. Therefore, it cannot be excluded that the exclusive occurrence of prepositions in Gothic is partly due to the influence of Latin. On the other hand, see Klein (1992b: 1-79) for arguments that the Gothic prepositional system "represent[s] a cohesive idiomatic system largely free of translational inference from Greek" (1992b: 70).

[87] See Rauch (2003: 94), who claims that Gothic favors parataxis over hypotaxis and that the language can be considered to be non-configurational (see chapter 8 for a discussion).

that deviate from the Greek original, where mostly left-branching traits (92b, d-e) are attested, although right-branching traits (92a, c) are not uncommon (Ratkus 2010: 98-99):

(92) a. *jah* <u>*naudibandjom*</u> <u>*eisarneinaim*</u> *gabundans*
and with-chains of-iron bound
"And bound with iron chains" (*Codex Argenteus*, *Mark* 5:4)

b. *jah* *gaman* <u>*ahmins*</u> <u>*weihis*</u> *miþ* *allaim* *izwis*
and salute holy spirit with all you
"All the saints salute you" (*Codex Ambrosianus A*, *Corinthians* II 13:13)

c. *ni* *habaida* <u>*diupaizos*</u> <u>*airþos*</u>
not had depth of-earth
"It had no depth of earth" (*Codex Argenteus*, *Mark* 4:5)

d. *all* *boko* <u>*gudiskaizos*</u> <u>*ahmateinais*</u>
all scripture of-God inspiration
"All scripture is given by God's inspiration"
(*Codex Ambrosianus A*, *Timothy* II 3:16)

e. <u>*managáim*</u> <u>*sparwam*</u> <u>*batizans*</u> *sijuþ* *jus*
many sparrows better are you
"You are better than many sparrows" (*Codex Argenteus*, *Matthew* 10:31)
(W. P. Lehmann 2005: 34)

Example (92a) has innovated the adjective *eisarneinaim* "of iron", since this adjective is not found in either the Latin or Greek originals. In the case of (92b), the order Adjective-Noun is the opposite of both the Latin and Greek originals, where the adjective follows. Much the same can be claimed about (92c), where the genitive follows the noun when the original Greek shows the opposite pattern, and about (92d), where Genitive-Noun order is rendered by a single Greek word. Finally, example (92e) has an adjective that follows the standard of comparison, where the original Greek has no adjective, but rather a verb:

(93) *πολλῶν* *στρουθίων* <u>*διαφέρετε*</u> *ὑμεῖς*
many.GEN sparrows.GEN differ you (pl.)
"You are different to many sparrows" (W. P. Lehmann 2005: 34)

This suggests that the syntax of the Gothic translations in (92a-e) is genuine, i.e. that it is proper of the Gothic language and not due to mere transposition of the order of the Greek original. In view of these facts, the left branching traits Adjective-Noun, Genitive-Noun and Standard-Adjective, next to the right-branching traits Noun-Adjective and Noun-Genitive, should be considered for reconstruction[88]. As regards which nominal order should be reconstructed as unmarked, already Braunmüller (1982: 123) shows that the left-branching pattern is unmarked in the *Skeireins* (ca. 6th century CE), despite the Greek influence:

> The proportion of A[djective]N[oun] : NA (without the article) is 35 : 10, that of G[enitive]N : NG 46 : 31. Ebel (1978: 68) points out regarding the position of the genitive, however, that the proportion of GN in the Bible translation by *Wulfilas* is around 5%, so that the light predominance of GN in the *Skeireins* (in those parts without a known original) with 46 (as opposed to 31) must be considered significant. If the genitives co-occurring with pronouns and numerals in *Topoi* are disregarded, according to Ebel (1978:67) the following proportion results: GN : NG = 46 : 16, which speaks for the OV-type, just like the proportion of AN : NA of 35 : 10[89] (Braunmüller 1982: 123).

[88] For an opposite view, namely that on the basis of attestations from the runic inscriptions and from Gothic noun-adnominal modifier order should be reconstructed for Proto-Germanic, see Ratkus (2010: 167-190). This view, which is very practical for justifying the author's theory that a number of adjectives in *-ata* emerged when standing postnominally, overestimates, however, the value of attestations such as (92a) and (92c), where the adnominal modifier follows the noun, and ignores examples such as (92b) and (92d-e), where the adnominal modifier precedes the noun. It has been shown in section 5.1.1 above that in the language of the runic inscriptions prenominal modifiers are at least as frequent as postnominal modifiers, something that also seems to be the case in the Gothic examples deviating from Greek and Latin. Therefore, on the basis of only Ancient Germanic data there is no evidence suggesting that one or the other order should be reconstructed. If typological universals are considered and a degree of flexibility is allowed for, however, there is a clear case for reconstructing both prenominal and postnominal modifiers, with the former being unmarked.

On the other hand, the fact that the left-branching comparative dative can be claimed to be the most common means of comparison in Gothic (see 92e) does not imply that the comparative dative can occasionally follow inverse order, even in environments where this would in principle be unexpected, such as with light words like pronouns:

(94) *máiza* *imma*
more him.DAT
"More than him" (*Codex Argenteus*, *Matthew* 11:11)

In such cases where a left-branching trait is rendered with right-branching order the Gothic order happens to follow the Greek. Therefore, examples like (94) should rather be attributed to a slavish translation.

[89] "Das Verhältnis von AN : NA (ohne Artikel) ist gleich 35 : 10, das von GN : NG immerhin noch 46 : 31. Ebel (1978, 68) weist aber bei der Stellung der Genitive darauf hin, daß bei Wulfilas Bibelübersetzung der GN-Anteil nur bei ca. 5% liegt, so daß dem leichten Überwiegen von GN in der Skeireins (bei Stellen ohne bekannte Vorlage) mit 46 (gegenüber 31) doch Signifikanz zukommt. Zieht man noch die Genitive in Topoi sowie die Pronomina und Zahlwörtern ab, ergibt sich nach Ebel (1978, 67) folgendes Verhältnis: GN : NG = 46 : 16, was für den OV-Typus spricht, ebenso wie das Verhältnis

These results are replicated by Smith (1971), who finds that the frequencies for Adjective-Noun order are 73% for early Gothic (ca. 4th century) and 83% for late Gothic (ca. 6th century), as well as by Ratkus (2010: 110), who finds that, whenever the Gothic word order deviates from the Greek, 67% of the cases follow Adjective-Noun order. Regarding verbal word order, Gothic seems to present a strong tendency for verb-final order whenever the Gothic translation differs from the original Greek (Eyþórsson 1995: 22, 1996: 109, Ferraresi 1997, 2005, W. P. Lehmann 2005:34, Axel 2007: 33). This tendency can be seen in examples such as (95a-b), where a Greek verb consisting of a single word is rendered as a relative clause in Gothic, with the copula in final position (Ratkus 2010: 97):

(95) a. *runa* *sei* *gafulgina* *was* *fram...*
secret which hidden was from
"The mystery which has been hidden from..."
(*Codex Ambrosianus A*, *Colossians* 1:26)

b. *τὸ* *μυστήριον* *τὸ* *ἀποκεκρυμμένον* *ἀπὸ...*
the secret the has-been-hidden from
"The mystery which has been hidden from..."

The tendency of Gothic to follow verb-final order seems, indeed, to be stronger than in the languages analyzed so far (i.e. Old Saxon and the runic inscriptions). This can be seen by the fact that, whenever an overt subject, a direct object and a verb are part of the same clause, (S)OV is almost always the attested order (unless the subject or the object have been postposed) (96a-b). The result is that deviations from SOV order, such as verb-initial orders like those attested in Old Saxon and in the runic inscriptions, are relatively rare (Kotin 2012: 324, 334-337), although they are sometimes found (96c):

(96) a. *fauhons* *grobos* *aigun*
foxes pits own
"Foxes have pits" (*Codex Argenteus*, *Matthew* 8:20)

b. *ƕar* *habiþ* *sein* *anahnaiwjai*
where head his lay-down

von AN : NA von 35 : 10".

"Where to lay down his head" (*Codex Argenteus*, *Matthew* 8:20)

c. *bigitan was þizei hlaibe .ib. tainjons fullos*
found was these loaves twelve baskets full
"There were found twelve baskets full of the loaves" (*Skeireins* 7:4)

Regarding the impact that pragmatics and information value can have on word order in Gothic, the following fact is worth noting: when rendering synthetic mediopassive forms of Ancient Greek, which Gothic very frequently renders as analytic forms, in 60 out of 62 cases (97%) the Gothic translation follows the original Greek order (Pagliarulo 2006: 441), which is Predicate-Copula. In two cases, however, the order is the inverse, Copula-Predicate:

(97) a. *sijum gabauranai*
we-are born
"We are born" (*Codex Argenteus*, *John* 8:41)) (1 word, 4 syllables)

b. *γεγεννήμεθα*
we-are-born
"We are born"

c. *sijuþ ganasidai*
you-are healed
"You are healed" (*Codex Ambrosianus A*, *Ephesians* 2:5))
(1 word, 4 syllables)

d. *ἐστε σεσωσμένοι*
you-are healed
"You are healed"

These examples can be interpreted in one of two ways: on the one hand, it could be that the order of Gothic copular constructions is Copula-Predicate, since example (97a) renders a single Greek word. This, however, would contradict the observation made above that Gothic seems to show a strong tendency towards placing verbs and copulas clause-finally. On the other hand, it could be that extraposition of phonologically heavy elements is responsible for the creation of marked word order patterns, since both participles in (97a) and (97c) are polysyllabic. Extraposition is also observed by Eyþórsson (1995: 28) to produce marked orders diverging from the original Greek that

are responsible for the existence of right-branching traits in Gothic, such as Noun-Genitive (98a), Verb-Adposition Phrase (98b) or Copula-Predicate (98c):

(98) a. *iþ* ***þaiei*** *sind* *Xristaus*
but they are of-Christ
"But they belong to Christ" (*Codex Ambrosianus A*, *Galatians* 5:24)
(1 word, 2 syllables)

b. *þizei* *namna* ***sind*** *in* *bokom* *libainais*
whose names are in the-book of-life
"Whose names are in the Book of Life"
(*Codex Ambrosianus A*, *Philippians* 4:3) (3 words, 6 syllables)

c. *jah* *sa* *manna* ***was*** *garaihts* *jah* *gudafaurhts*
and the man was just and god-fearing
"And the man was righteous and devout" (*Codex Argenteus*, *Luke* 2:25)
(4 words, 6 syllables)

As for the relevance of the opposition between new and old / given information, new NPs tend to be extraposed (Walkden 2014a: 110), especially when these are phonologically light. This speaks for the fact that, in Gothic, both phonological weight and information status are triggers for extraposition.

To sum up, in spite of the translational effect the picture of Gothic seems to be quite similar to the sister Ancient and Old Germanic languages, where left-branching patterns seem to be dominant, but allowing for a wide freedom of word order that produces various marked orders. As has been shown, such freedom of word order can be traced back to pragmatic and information-structurally-conditioned factors. In light of the shift in branching direction that the Ancient Germanic languages seem to display, extraposition should be considered a major actor in the causation and development of such a change.

5.2. Old Germanic

5.2.1. Old Norse

Old Norse is the direct descendant of the language attested in the North Germanic runic inscriptions sketched above, as well as the only representative of the North Germanic branch. One big advantage of working with Old Norse is that a considerable amount of autochthonous texts are available. Unfortunately, however, Old Norse is attested in writing only from around 1100 CE on. In addition, most of the largest texts written in this language date to the 12th, 13th and 14th centuries (Walkden 2014a: 13). By this time, Old Norse has evolved considerably more than other Old Germanic languages. One of the most relevant texts written in Old Norse is the *Vǫluspa* (ca. 1250 CE), although the original is thought to have been written before CE 1000 at the latest and copied later (Bellows 1923: xvii). Numerous other epic sagas, poems and lawbooks exist, however. Due to its comparatively early time of production and size, the *Vǫluspa* is amongst the more valuable texts for syntactic analysis and reconstruction. In the case of Old Norse the widest accepted view is that the earliest attested stages of Old Norse should be regarded as an SOV language and that by ca. 700 CE, before the emergence of large texts, it has become an SVO language (Smith 1971: 138, Harmon & Siegel 1976: 8, cf. Braunmüller 1982: 141). This can be seen in the following table, which comprises the word order of main declarative clauses in the history of Old Norse-Icelandic[90] (12th-20th centuries CE) (Barðdal & Eyþórsson 2012: 378):

Word order	**Number**	**Frequency (%)**
SOV	0	0%
SVO	2,401	66%
VSO	596	15%
VOS	21	1%
OVS	641	18%
OSV	0	0%
Total	3,659	100%

Table #22: *The ordering of the major constituents in declarative clauses in the history of Icelandic*.

The numbers clearly show that SVO is the most frequent order in Old Norse, with 66% of occurrences. It is also of special relevance that not one single instance of SOV or OSV, both of which violate the verb-second rule, is attested. VSO, VOS and OVS exist as marked variants, the former two as a means of narrative concatenation (Barðdal &

[90] Properly speaking, Old Icelandic is a dialect of Old Norse that eventually becomes a language in its own right. Because the differences between Old Icelandic and Old Norse regarding word order are not considerable, the assumption is made here that the word order frequencies observed in Old Icelandic can be extrapolated to Old Norse as a whole. Accordingly, the word order data in this section are referred to as "Old Norse-Icelandic".

Eyþórsson 2012: 378) in the lines of Rauch (1992: 24), and the latter as the product of topicalization of the direct object (ibid.). In other words, in Old Norse OV order is only possible through topicalization of the object and should therefore be regarded as a derived order. OV does continue, however, to exist as the unmarked order in subordinate clauses for a considerably long time. The following frequencies illustrate this state of affairs, in addition to showing that the phonological weight and information status of the object also play an important role in the shift from preverbal to postverbal objects in subordinate clauses in Old Norse-Icelandic (Hróarsdóttir 2009: 75-76):

Date	Noun Phrases			Pronouns		
	OV	VO	% OV	OV	VO	% OV
14th c.	75	186	29%	92	33	74%
15th c.	66	110	38%	54	28	75%
16th c.	69	112	38%	34	7	83%
17th c.	94	245	28%	162	120	57%
18th c.	25	125	17%	27	58	32%
19th c.	99	1,603	6%	258	1,050	20%

Table #23.1: *Word order of NPs and pronouns with respect to the verb in Old Norse-Icelandic subordinate clauses*.

Date	New information			Old information		
	OV	VO	% OV	OV	VO	% OV
14th c.	75	204	27%	156	36	81%
15th c.	48	136	26%	110	24	82%
16th c.	50	132	28%	77	17	82%
17th c.	79	314	20%	215	104	67%
18th c.	20	98	17%	39	43	48%
19th c.	84	1,312	6%	261	1,072	20%

Table #23.2: *Word order according to information value in the diachrony of Old Norse-Icelandic subordinate clauses*.

Date	1 word	2 words	3+ words
	% OV	% OV	% OV
14th century	73%	37%	11%
15th century	66%	33%	10%
16th century	60%	32%	8%
17th century	46%	24%	3%
18th century	44%	21%	2%
19th century	14%	5%	2%

Table #23.3: *Frequency of preverbal objects according to phonological weight in Old Norse-Icelandic subordinate clauses*.

The figures leave little doubt as to how word order change proceeds in Old Norse, and by extension in Old Germanic: noun phrases change considerably earlier to a VO

pattern than pronouns, as can be seen in the first of the set of three tables. The fact that NPs tend to be more innovative than pronouns is based on information value (Table #23.2) and phonological weight (Table #23.3): NPs are heavier and tend more often to carry new information than pronouns, thus they tend to be extraposed more often. Therefore, it is quite safe to assume that, at an early stage of shift from OV to VO, and by extension from left- to right-branching direction, extraposition a major driving force of the shift (Hróarsdóttir 2009, Petrova 2009, Wallenberg 2009, Walkden 2014b among others). A practically identical development of OV to VO order in subordinate clauses as the one displayed in the tables above can be observed in a very closely related, contemporary language to Old Norse-Icelandic, namely Old Swedish (Delsing 2000: 261-262). The development of VO order from OV order as a consequence, among other factors, of extraposition is illustrated in the following opposition of non-extraposed (99a) vs. extraposed (99b) word order in subordinate clauses (Hróarsdóttir 2009: 76). Extraposition can also affect other branching traits such as genitives (cf. (99c) vs. (99d)):

(99) a. *sól* *þat* *né* *vissi* *hvar* *hon* *sali* ***átti***
sun that not knew which she hall owned
"The sun did not know which hall she owned" (*Vǫluspá* 5:3)
(1 word, 2 syllables, old information)

b. *vil* *eg* *nú* *upphéðan* ***heita*** *yður* *minni*
want I now from-now-on promise you my
fullri *og* *fastri* *vináttu*
complete and constant friendship
"From now on I will promise you my complete and constant friendship"
(*Munnmælasǫgur*, *Galdrasaga* 53) (5 words, 10 syllables, new inf.)

c. *sagt* *þeim* ***fallið*** *Brjáns* *konungs*
told them fallen of-Brján of-king
"(He) told them about the fall of king Brján" (*Njálas Saga* 340)
(2 words, 3 syllables, old inf.)

d. *frá* *Íslands* ***byggð***
about Iceland's settlement
"About the settlement of Iceland"
(*Heimskringla*, *Harald Harfagras Saga* 6:10)

(1 word, 2 syllables, old inf.)

This development has the consequence that, in synchronic terms, for a time both OV and VO order are found in subordinate clauses in Old Norse-Icelandic. Other branching traits, such as subjects, can also vary regarding the relative position of the main verb under specific conditions (100a-b) (Faarlund 1994: 54, 2010: 203-204). In the case of adjectives, these usually precede the noun in the unmarked order (Barnes 2008: 228-229), although they can follow nouns under certain circumstances, such as when they are definite (100d). In general, nominal modifiers precede the noun (Ratkus 2010: 205), the only exception being genitive case-marked noun phrases, which tend more often to follow the noun (100e) (Smith 1971: 233-234, Nielsen 2000: 178-179):

(100) a. *komu sendimenn ok sǫgðu konungi sitt erendi*
came messengers and told to-the-king their errand
"Then the messengers arrived and passed on their message to the king"
(*Heimskringla*, *Ynglingsaga* 48)

b. *Úlfr Uggason kvað í Húsdrápu langa stund*
Olaf Uggason spoke in the-Húsdrápa long time
"Olaf Uggason spoke in the Húsdrápa for a long time"
(Snorri's *Eddas*, *Skáldskaparmál* 16)

c. *gamall maðr*
old man
"Old man" (*Saga Ólafskonúngs Tryggvasonar* 4, 282)

d. *Ólafr digri*
Olaf stout
"The Stout Olaf" (*Ólafs Saga Helga* 3:3)

e. *þingstǫð þeira borgfirðinga*
assemply-place of-the Borfirdings
"The assembly-place of the people from Borgfjord"
(*Gunnlaugs Saga* 2, 9)

Old Norse may thus have developed a relatively fixed order of the major constituents different from the original Proto-Germanic one, yet it still allows for considerable freedom. In addition, and as the runic inscriptions above seem to suggest, the earliest

stage of Old Norse that evolves from Proto-Norse must still have followed dominant Object-Verb and possibly left-branching order, but already involved in a shift towards a more right-branching type. In spite of this predominance of a number of right-branching traits, such as Verb-Object order, another left-branching trait, namely postpositions (101a-g)[91] is relatively frequently attested in Old Norse:

(101) a. *Nástrǫndo á, norðr horfa dyrr*
Nastrond at north facing door
"At Nastrond, the door facing north" (*Vǫluspá* 38:2)

b. *Byrði betri berrat maðr brautu at // en sé mannvit mikit*
burden better bears man wilderness at than the wisdom great
"A man bears no better burden in the wilderness than great wisdom" (*Hávamál* 10:1, 11:1)

c. *Háva ráðs at fregna Háva hǫllu í*
Háva's advice to ask Háva hall in
"In order to ask for Háva's advice in Háva's hall" (*Hávamál* 109:4)

d. *Huginn ok Muninn fljúga hverjan dag Jǫrmungrund yfir*
Huginn and Muninn fly every day earth-ground over
"Huginn and Muninn fly over the earth every day" (*Gríminsmál* 20:1-2)

e. *Reið hann meir þaðan myrkvan við*
rode he further thence Mirkwood through
"He rode further thence through Mirkwood" (*Rígsþula* 36:1)

f. *heilir hildar til heilir hildi frá*
fare battle into fare battle from
"They fare into battle, (and) they fare out of battle" (*Hávamál* 156:4-5)

g. *því at ill ráð hefr maðr oft tegit*
that that evil counsel has man often received

[91] It must be pointed out that both these left-branching traits are present in both the *Konungsbók* (Chisholm 2005: 7) and the *Hauksbók* manuscripts (Jónsson & Jónsson 1896) of the *Vǫluspá*, which suggests that they might not be scribal errors. Notice also that the verse-final position of these adpositions cannot be due to rhyme (ibid.).

annars *brjóstum* *ór*
another-one's breast out-of
"Since a man often receives evil counsel from another man's heart" (*Hávamál* 9:3-4)

With regard to these postpositions it must be pointed out that, unlike Old Saxon but like runic and Old English postpositions, *á* "at, on", *at* "at", *í* "in", *yfir* "over", *við* "with, against, through", *frá* "from, out of" and *ór* "out of" are not "complex" adpositions, i.e. not derived from the union of two previous adpositions, such as *bi* "by" + *fora*(*n*) "for" > *biforan* "in front of", but simple ones. This rules out in principle any kind of grammatical correlation between simple-preposed vs. complex-postposed adpositions. Rather, some adpositions can simply function either as pre- or as postpositions in Old Norse[92] (Barnes 2008: 181). From a broad comparative perspective, then, the examples from Old Norse support the view that the coexistence and gradual decline of typological left-branching traits (such as postpositions) is an indicator of earlier general left-branching word order.

5.2.2. Old English

Old English comprises a number of closely related dialects of West Germanic that were spoken in Great Britain approximately between the appearance of the first written texts in the late 8th century CE and the imposition of Norman French over English as the official language of England by the new aristocratic elite around 1150 CE, which was the result of the Norman Invasion (1066). The end of the Old English period also marks a great number of linguistic changes that were independent of contact with Norman French. Old English thus comprises all texts written between ca. 800 and 1150 CE. The period before that, which begins with the arrival of the Angles, Saxons, Jutes and Frisians into Britannia in 449 CE and in which only a small body of runic inscriptions

[92] Admittedly, all examples of postpositions in (101a-g) also occur as prepositions and they are all taken from poetic texts, which might (or might not) imply that there is a relationship between poetic diction and the use of postpositions in Old Norse. This does not, however, necessarily have to be the case, as has been shown to occur in the runic inscriptions and as will be shown to occur in Old English. Even if the postpositions were influenced by the kind of text, however, this would have no negative consequences for the present argument: as discussed in chapter 2, section 2.1, poetic diction is often conservative and reflective of earlier stages of the language (Dewey 2006: 17-21, Ratkus 2010: 211, f. 110).

exists, is usually referred to as Proto-English. Old English is especially valuable because it is by far the Old Germanic language in which the largest and most varied body of texts has been written and preserved. This means that any statistics drawn from such a corpus will be more conclusive than those of other languages simply because of its size. The Old English corpus comprises works of several kinds, including both original religious (for example Wulfstan's *Homilies* or the *West Saxon Gospels*) and secular texts (*The Anglo-Saxon Chronicles*), translations from Latin (the translation of Bede's *Historia ecclesiastica gentis Anglorum*, Boethius's *Consolation of Philosophy* or King Ælfred's translation of the Old Testament), works of epic Germanic poetry (*Beowulf*), prose (Orossius's *Lives of Saints*), medical essays (Bald's *Leechbook*), lawbooks and letters, among others.

Regarding the word order of Old English, and as opposed to the data from Gothic and the runic inscriptions, many of the earliest genuine Old Germanic poetry works, such as *Beowulf* (apparently written by various authors between ca. 8th-10th centuries (Neidorf 2014)) present both right- and left-branching syntactic traits like postpositions or Genitive-Noun order as can be seen in (102a-b) below. In fact, modifiers (quantifiers[93], numerals, adjectives, genitives and participial relative clauses, but not particle relative clauses) are believed to precede nouns in the unmarked order in Old English (Smith 1971: 240-241, 256, Mitchell 1985: 548-559, Fischer et al. 2000: 46, Ratkus 2010: 191-192), which points toward nominal order being left-branching in this language. The following is an illustration of Old English left-branching word order according to W. P. Lehmann (2007: 71), where it can be observed that Noun-Postposition (102a) and Object-Verb (102b-c) are perfectly acceptable orders in affirmative declarative main clauses (Kiparsky 1995: 143):

(102) a. *Scyldes* *eafore* *Scedelandum* *in*
Scyld.GEN offspring Scandinavian-lands.DAT in
"Scyld's offspring, in the Scandinavian lands" (*Beowulf* 19)

b. *hwæt,* *wē* *Gār-dena* *þēodcyninga* *þrym* *gefrūnon*
what we Spear-danes people-kings glory heard

[93] Notice that, as is the case of Old Saxon *manag* "many, various", the Old English determinative adjective *manig*, *monag* "many, various" can often follow the noun (103) (Fischer et al. 2000: 47):

(103) *hlafordswican* *manige*
traitors many
"Many traitors" (*Wulfstan's Homilies*, 20.1.64)

"Listen, we have heard of the glory of the Spear-danes, of the kings of the people" (*Beowulf* 1-2)

c. *he þa his here on tu todælde*
he then his army in two divided
"He then divided his army in two" (*Orosius* 116, 16)

Unlike most other Old Germanic languages, but in a similar manner to Ancient Germanic, Old English reflects a stage of the language where one of the possible word orders of declarative clauses is still that of Subject-Object-Verb in main clauses (Øystein 2014: 92). This is partly due to the fact that the Verb Second Rule, although present, is not as strong in Old English as in the modern Germanic verb-second languages (Vennemann 1974, Gerritsen 1984, Pintzuk 1999 and subsequent work, Øystein 2014 among others). This can be observed in the fact that XSV order is quite frequent across Old English (Øystein 2014: 85). The dominance of Object-Verb order can be seen in the following figure which is an analysis of verb position of the main Old English texts (Gorrell 1895, cf. Øystein 2014: 92):

Type of cl.[94]	Or 414	Bede 782	CP 561	Boe 466	BH 456	Chr 164	LS 519	W 591	AH 1348	Gosp 451	Av. %
OV (a)	61	56	40	27	39	55	45	43	40	20	**42**
OV (b)	81	84	71	57	70	66	66	70	66	67	**70**
OV (c)	77	74	60	47	65	62	60	59	55	57	**61**
V-fin	64	60	48	35	51	52	45	44	43	44	48
XP-V	67	65	51	37	55	39	51	51	48	46	52
V-XP	33	35	49	63	45	44	49	49	52	54	48

Table #24: *Frequencies of verb position in all kinds of clauses across the Old English corpus.*

As can be seen in the figure, then, those clauses containing at least a phrase and a verb are more frequent (55% on average) than those clauses in which a phrase follows the verb (48%). This means that Old English is a verb-final language, and that therefore unmarked order in this language is Object-Verb. At the same time as having unmarked Object-Verb order, the language allows for a considerable freedom of word order, especially pertaining to the ordering of the major constituents of the clause, where

[94] Øystein, drawing on Gorrell's work, distinguishes three types of Object-Verb order (2014: 92):
OV (a) = object before main verb in all clauses containing an object.
OV (b) = object before main verb in all clauses containing an object, minus those clauses containing a simple verb phrase (for example, no auxiliaries)
OV (c) = object before main verb in all clauses containing an object and something else (i.e. XP).

marked patterns are pragmatically motivated. In this sense, see (104a), which follows OSV order, and (104b), which follows VSO order (Hopper 1975: 67, 88):

(104) a. *hiene þa Cynewulf on Andred adræfde*
him then Cynewulf onto Andred exiled
"Then Cynewulf exiled him to Andred" (*Anglo-Saxon Chronicle* 755 CE)

b. *ofereode þa æþelinga bearn steap stanhliðo*
passed-over then noble warrior steep gorges
"Then the noble warrior passed over steep gorges" (*Beowulf* 1408)

Such a freedom of word order can, however, be a byproduct of an original discourse-configurational left-branching syntax. Research done within the generative framework on Old English reaches conclusions that support the view of this language having left-branching word order. For example, van Kemenade (1987) concludes that Old English displays "base-generated" (see section 1.3) verb-final order. The situation in later stages of the language, especially Middle English, is different from that of Old English. Middle English comprises the stage of the English language that was spoken in the late Middle Ages, roughly between the years 1150 and 1450 CE. This is a time of great change in English, where the language is found in a diglossic situation together with Norman French and Latin (which has less of an influence on English than Norman French) and is neither the official language of court nor the language of prestige (Trudgill 2009). Accordingly a smaller number of texts are written in the period, and only in the latter part. This makes it difficult to document the changes occurring in the language. Middle English is, in addition, a stage of the language in which a shift in branching direction like the one in Old Saxon seems to have occurred. There is little doubt in the literature that there is a change in word order from Old English to late Middle English (see Lightfoot 1991 and subsequent literature, also van Kemenade 1987 among others). One of the most notorious traits to change is OV order in main clauses: with a few syntactic exceptions, such as negation (Emonds & Faarlund 2014: 64) or modality (Biberauer & Roberts 2006: 263), which tend to preserve OV order longer, especially in main clauses, Object-Verb order declines fast by the beginning of the period in favor of an innovative Verb-Object pattern:

1. Word order in Old and Middle English (Øystein 2009: 124):

(105) a. Early Old English (800-975): 275 OV (55%), 229 VO (45%), total 504.
b. Late Old English (975-1150): 370 OV (64%), 270 VO (46%), total 577.
c. Early Middle English (1150-1300): 180 OV (38%), 295 VO (62%), total 475.
d. Late Middle English (1300-1450): 4 OV (1%), 395 VO (99%), total 399.

2. Word order in Middle English (Pintzuk & Taylor 2006):

(106) a. Early Middle English (1150-1250): 28'4% OV, 71'6% VO
b. Middle Middle English (1250-1350): 3'1% OV, 96'9% VO
c. Late Middle English (1350-1450): 1'3% OV, 98'7% VO

Examples (105-106) show that OV and VO order coexist side by side at first (i.e. in early Old English), and that VO order eventually prevails over OV in late Middle English. This can be compared to the evolution of other word order traits, such as postpositions, which are attested well into the Middle English period. Postpositions are not only attested in poetry, though. They can also occasionally be found in prose, such as in the *Anglo-Saxon Chronichle* (van Gelderen 2014: 83):

(107) a. *Harold com norðan ⁊ him wið gefeaht*
Harold came from-north and him against fought
"Harold came from the north and fought against him"
(*Anglo-Saxon Chronicle* 1066, 7)

b. *him cyþdon þæt hiera mægas him mid wæron*
him they-told that their sons him with were
"They told him that their sons were with him"
(*Anglo-Saxon Chronicle* 755, 16)

Here the postpositions *wið* "with, against" and *mid* "with", as well as *in* "in, on" in (102a), are not complex, but simple, unlike in Old Saxon. Such examples of postpositions cannot be ascribed to phenomena such as Wackernagel's Law, since the pronoun *him* is not in second position, or to the extragrammatical operations that affect poetry, since this is an extract from a prose text. They cannot be ascribed to translation

practices either, since the *Chronicle* is not a translation. This suggests that postpositions are genuine of Old English and, by extension, of earlier stages of the language. W. P. Lehmann (1978: 37) observes that Old English is predominantly an OV language, even though VO structures are almost as frequent as OV structures already in the earliest stages of the language. This coexistence of orders has lead to explanations of various kinds in the literature[95]. The emergence of the *of*-genitive and the generalization of VO order in Middle English support the view of a typological shift to right-branching direction. Such a diachronic view of word order in Old English explains the coexistence of left-branching and right-branching patterns in this language, such as Adjective-Noun, which has failed to change to the right-branching Noun-Adjective pattern, as in the Romance languages, for example. In fact, the coexistence of left-branching and right-branching traits and the gradual decline of the former have been observed to last until the late Middle English period (Biberauer & Roberts 2006: 270-284). As has been mentioned above, left-branching traits include among others OV order (108a-b, see also 102b-c above) and Verb-Auxiliary order (108a, 108c), both of which co-occur synchronically with their right-branching counterparts VO (108d) and Auxiliary-Verb (108d) in subordinate clauses in late Old English and in Middle English (Fischer et al. 2000: 259, Biberauer & Roberts 2006: 274, 281):

(108) a. *ðonne he* *nyle* *ða bisne* *oðrum*
eowian when he not-wants the example to-others show
ða he midryhte eowian sceal
that he properly show must
"When he does not want to set the example to others that he properly ought to set" (*Capgrave Chronicles*, 15th century)

b. *þei* *shuld* *no* *meyhir* *haue*
they should no mayor have
"They were not allowed to have a mayor"
(*Capgrave Chronicles*, 15th century)

c. *er* *þanne* *þe* *heuene* *oðer* *eorðe* *shapen* *were*

[95] These proposals include, in addition to Kemenade's (1987) assumption of "base-generated" vs. derived word orders, Pintzuk's (1999 and subsequent work) proposal of the existence of two competing grammars in Old English, as well as that of word order being conditioned by information structure (Wallenberg 2009 among others).

before that the heaven or earth created were
"Before heaven and earth were created" (*Trinity Homilies*, 13th century)

d. *þæt heo scolde geberan godes sunu*
that she must bear god's son
"That she must bear God's son"
(King Alfred, *Histories*, ca. 9th century)

(108a, c) are among the clearest examples of verb-final and left-branching word order in earli(er) Germanic, as well as of their preservation across time. The verb-final nature of Old English and, by extension, of earlier stages of the language is thus beyond doubt due to the dominantly left-branching order in subordinate clauses (Denison 1993: 29-30). Regarding the effects of extraposition on word order in Old English, this operation has been found to be relevant in producing postverbal constituents in subordinate clauses that correlate either with information status or with phonological weight (109a-b) (Walkden 2014b: 327):

(109) a. *þe God gegearwod* ***hæfð*** *eallum þæm, þe hine andrædað*
that God prepared has all those who him fear
"That God has prepared for all those who fear him"
(*Regula S. Benedicti* VII, 24) (5 words, 9 syllables)

b. *þæt he him sendan* ***sceolde*** *gif him swa geþuht wære, sume eawfæste munecas*
that he him send should if him so thought were some pious monks
"That he should send him, if he were so inclined, some pious monks"
(Hrabanus Maurus, *Martyrology* 53) (3 words, 8 syllables)

Old English thus supports the view that typological inconsistence is due to the diachronic shift of one type of word order to another, as well as for the synchronic effects of extraposition.

5.2.3. Old High German

The label "Old High German" covers not a unified language, but a group of dialects that undergo the Second Consonant Shift and that covers varieties such as Bavarian, Alemannic, East Frankish or Rhine Frankish (Schallert 2006: 32). The texts written in this language cover various different genres, which include epic poetry (the *Hildebrandslied*, ca. 8.th century CE), charms (the *Merseburger Zaubersprüche*, ca. 9th century CE), religious prose (*Isidor*, ca. 8th century CE), gospels quite literally translated from Latin (*Tatian*, ca. 9th century CE), or freer translations (*Otfrid*, ca. 10th century CE and *Notker*, ca. 10/11th century CE). The time span covered by Old High German runs from ca. the 6/7th centuries CE to the 11th century CE, about five hundred years. Therefore, it is no surprise that regarding word order differences are found between the individual texts and as opposed to the sister Germanic languages. That is why the synchronic dominant word order as well as the branching direction of Old High German are problematic to determine, since both left-branching and right-branching typological traits are attested in the same period. This is certainly the case of verbal word order, where both kinds of branching direction are attested in both main and subordinate clauses, such as VO (110a) and OV (110b-d) (Schallert 2006: 39, Axel 2007: 4-8, 183, Walkden 2014a: 70):

(110) a. *ih* *gáb* *íu* *bilidi*
I gave you image
"I gave you an example" (*Tatian* 553, 9)

b. *erino* *portun* *ih* *firchnussu*
iron portals I will-destroy
"I will destroy iron portals" (*Isidor* 157)

c. *dhazs* *ih* *dhinam* *uuilum* *duoe*
that I your will do
"That I do your will" (*Isidor* 295)

d. *dat* *Hiltibrand* *haetti* *min* *fater*
that Hildebrand is-called my father
"That my father is called Hildebrand" (*Hildebrandslied* 17)

However, in a few cases where pronouns and/or alliteration are involved an older, marked Subject-Object-Verb pattern seems to surface in main clauses in coexistence

with unmarked Subject-Verb-Object order (111a-c). On very few occasions, verb-final order can also be observed in main clauses without any extrasyntactic factor seeming to play a role[96] (111d) (Walkden 2014a: 71):

(111) a. *suma* ***h**aft* ***h**eftidun* *suma* ***h**eri* *lêzidun*
some fetters fastened some army hindered
"Some fastened fetters, and some hindered the army"
(*Merseburger Zaubersprüche* I, 2)

b. *ih* *inan* *chistifiu* *in* *minemu* *dome*
I him install in my house
"I will install him in my house" (*Isidor* 157)

c. *cot* *almahtico,* *du* *himil* *enti* *erda* *gauuorahtos* *enti*
God almighty you heaven and earth created and
du *mannun* *so* *manac* *coot* *forgapi*
you men so many goodness granted
"God almighty, you created heaven and earth and you granted men much goodness" (*Wessobrunner Gebet* 10-11)

d. *min* *tohter* *ubilo* *fon* *themo* *tiuuale* *giuuegit* *ist*
my daughter badly by the devil shaken is
"My daughter is severely possessed by a demon" (*Tatian* 273, 10)

The examples in (110a-d) and (111a-d) suggest that Verb-Object or at least verb-second order has become the dominant word order of main clauses, whereas the more conservative and now marked Object-Verb order has only to a certain extent been preserved as the dominant order of subordinate clauses and as a marked variant in main clauses. In fact, Old High German has often been found to exhibit a well-established variant of the verb-second rule (Lippert 1974: 48, Axel 2007: 63, Walkden 2014a: 68 among others). This makes the situation of Old High German quite similar to that of Old Saxon and means that word order is largely determined by clause type. This is by

[96] Clauses where the word *sum* "some" occurs seem, however, the be somewhat exceptional in that they cause the verb to stand in clause-final position. Consider, for example, the Old Saxon clause (112), which is comparable to the Old High German example above (111a) in that it has both the word *sum* and verb-final order:

(112) *sum* *mann* *thann* *midfiri* *men* *farlatid*
some men then midlife maliciousness leave
"Some middle-aged men then abandon maliciousness" (*Cotton* 3476a-b)

no means a rare state of affairs in the world's languages: according to the WALS, word order is determined by clause type also in Quileute (Chimakuan family, Washington State), Miya (Chadic, Nigeria), Kashmiri (Indo-European, India) and in the Kru languages (Niger-Congo, Nigeria), among others.

Nevertheless, the association of clause type with a specific word order is not completely regular in OHG, and one may find especially VO order in subordinate clauses, specifically when post-verbal constituents tend to be heavy or focused (see Petrova 2009: 253-255, 273, Sapp 2014: 1). In addition, verb-first clauses that are the product of narrative inversion are attested in this language, resulting in marked patterns such as VSO (113a-b). Verb-subject order is also occasionally attested in subordinate clauses (113c), as in Old Saxon (Axel 2007: 114, 125, 132):

(113) a. *fluog er súnnun pad*
flew he of-sun path
"He flew the path of the sun" (*Otfrid* I 5, 5)

b. *arquamun thó alle mihhilero forthu*
frightened then all great fear
"Then they all felt great fear" (*Tatian* 207, 32)

c. *ér thanne arsterbe mín sún*
before that dies my son
"Before my son dies" (*Tatian* 195, 21)

The fact that verb-first declaratives are attested in Old High German as well as in all other early Germanic languages discussed so far suggests that the possibility for such an ordering of constituents should be reconstructed for Proto-Germanic. Regarding the nominal word order of Old High German, except for right-branching particle relative clauses (114d), nominal modifiers, i.e. attributive adjectives, quantifiers, numerals and genitives tend to precede the noun (114a-c) (Ratkus 2010: 194-197):

(114) a. *mit uueihhen giuuatin*
with expensive garments
"With expensive garments" (*Tatian* 64, 5)

b. *managiu guotiu uuerc*
many good deeds

"Many good deeds" (*Tatian* 134, 6)

c. *in* *wales* *wambu*
in whale's womb
"In the whale's belly" (*Monsee Fragments*, 1, 7, 1)

d. *themo* *therde* *zehen* *mnas* *habet*
the who ten minas has
"The one who has ten minas" (*Tatian* 541, 22)

In addition to these left-branching traits, the above-mentioned comparative dative (44a-d) is also attested in later stages of this language. The distinction between left- and right-branching traits is, however, too simplistic if no other factors are taken into account. In this sense, consider the following Old High German sentences[97] (Hinterhölzl 2009: 47, Petrova & Solf 2009: 128):

(115) a. *dat* *Hiltibrand* ***haetti*** *min* *fater*
that Hildebrand was-called my father
"That my father was called Hildebrand" (*Hildebrandslied* 17)
(2 words, 3 syllables, new inf.)

b. *thane* *thú* ***tuos*** *elimosnan*
when you do charity
"When you do charity" (*Tatian* 66, 29) (1 word, 4 syllables, new inf.)

b' *cum* *facies* *elimosnan* *ergo*
when you-do charity therefore
"When you therefore do charity"

c. *thaz* ***gibrieuit*** ***uuvrdi*** *al* *these* *umbiuuerft*
that listed was all this mankind
"That all of mankind was listed" (*Tatian* 35, 9)

As can be seen in the examples, extraposition of heavy constituents and of those carrying new information, also where the OHG translation differs from the Latin original like in (115b), is clearly observable (Hinterhölzl 2009, Petrova 2009, Petrova &

[97] In the case of (115a), where Petrova & Solf (2009: 128) consider the constituent *min fater* "my father" to have been extraposed due to its phonological weight, one could argue that the constituent carrying new information (and therefore narrow focus) is *Hiltibrand*. This is supported by the fact that (115a) is the first line in which *Hiltibrand* is mentioned in the text. Therefore, the fact that *min fater* has been extraposed does not necessarily mean that another constituent in the same clause cannot carry focus.

Solf 2009). Since the same phenomenon can be observed in the rest of Ancient and Old Germanic languages, extraposition should be reconstructable for Proto-Germanic.

5.3. Summary of word order in early Germanic

So far, a comparison of the earliest Germanic languages has provided evidence for the existence of both left-branching and right-branching word order traits, with various markedness distinctions being necessary. On the basis of the compared data and the analyzed traits (i.e. Figure #2 above), the results can be summarized as follows (where "dom" = reconstructed dominant order in Proto-Germanic, "(m)" = main clause):

Trait	Runic	Gothic	OS	ON	OE	OHG	PG	Dom
Adj/N	Both	Both	Both	Both	Both	Both	Both	Adj-N
Gen/N	Both	Both	Both	Both	Both	Both	Both	Gen-N
Adp/N	Both	Adp-N	Both	Both	Both	Adp-N	Both	No dom
Rel/N	N-Rel	Both	Both	N-Rel	Both	N-Rel	Both	No dom
Std/Adj	Std/Adj	Std/Adj	Adj/Std	Both	Both	Adj/Std	Std/Adj	-
V/Aux	Both	Both	Both	Both	Both	Both	V-Aux	-
V/O (m)	Both	Both	Both	VO	Both	Both	Both	OV
V/S	Both	Both	Both	Both	Both	Both	Both	SV
Cop/Pr	Both	Both	Both	Both	Both	Both	Both	Pr-Cop
V/Adv	Both	Both	Both	Both	Both	Both	Both	Adv-V
V/AdpP	Both	Both	Both	Both	Both	Both	Both	AdpP-V
V/Eq	-	-	Both	Both	Both	Both	Both	Eq-V

Table #25: *Word order across early Germanic*.

A comparison in the remainder of Part III of these results with Indo-European languages contemporary to Proto-Germanic should determine the plausibility of the proposed reconstruction.

5.4. Ancient Greek

Ancient Greek is among the Indo-European languages with the longest written history and largest number of texts, which makes this language quite suitable for word order analysis and comparison. The label "Ancient" refers to the attestations of the Greek language that range, in general terms, from the 9th century BCE to the 6th century CE. The subdivision that is usually made within this period is that between Archaic / Homeric Greek (9th-6th c. BCE), Classical Greek (6th-4th c. BCE) and Hellenistic Greek (4th c. BCE to 6th c. CE). Later stages outside this classification include

Byzantine Greek (6th to 15th c. CE) and Modern Greek (15th c. onwards). Ancient Greek covers, in any case, a very vast period in which attestations are frequent, yet they differ according to time of writing, dialect, register and other linguistic as well as extralinguistic factors (Dik 2007: i). This, coupled with the fact that Ancient Greek apparently allows for a considerable freedom of word order (ibid.), has led some scholars to claim that no single dominant word order pattern can be identified for this language stage (see for example Dryer 2005: 331, Deligianni 2011: 165).

The free word order approach usually assumes that word order in Ancient Greek is not completely random, but that it is determined by specific pragmatic rules, coupled perhaps by prosodic factors. That is why scholars working within the free word order approach to Ancient Greek usually make the distinction Subject-Predicate (Frisk 1932), Theme-Rheme (Loepfe 1940), Nucleus-Concomitant (Dover 1960) or Topic-Focus (Dik 1995: 5-7, 256-257). Within this view the fact has been identified that emphatic elements are postposed, in a very similar line to Behaghel's Law of Growing Constituents and Ross' Heavy Noun Phrase Shift in Germanic. According to this approach, all modifiers of a verb, including non-verbal topic and focus, can appear at either side of the verb (Dunn 1988: 78). Another argument that has been used in support of the view that Ancient Greek is a "free" word order language is the existence of discontinuous phrases (Devine & Stephens 2000), which are typical of languages that allow for freedom of word order (i.e. non-configurational languages, see chapter 8 below). In fact, the Ancient Greek grammarians themselves notice this construction, and refer to it as "hyperbaton". Example (116) is an illustration of hyperbaton or discontinuous phrase, where the adjective *ἀγνῶτος* "unknown" is separated from its complement *τοῖς Ἕλλησιν* "to the Greeks" by the noun *ἀνθρώπου* "of a man":

(116) *ἀγνῶτος* *ἀνθρώπου* *τοῖς* *Ἕλλησιν*
unknown.GEN man.GEN to Greeks
"Of a man unknown to the Greeks" (*Lycurgus* 14)

Not all authors agree, however, with the view that Ancient Greek is a free word order language. Alternative proposals mostly claim that Ancient Greek shows a preference for Object-Verb order (Divine & Stephens 1994: 382, Fraser 1999: 58). Within the last view, Cervin (1990) argues that Greek has a rule of extraposition for emphasized or de-emphasized constituents, which can derive VO orders from a verb-final base. According

to this proposal, the dominant order of object-verb constructions would be OV and thus belong to the left-branching type. This is supported by Taylor (1994), who claims that once one controls for movement of clitic pronouns, Homeric Greek is most frequently OV. The character of Ancient Greek as a dominant OV and thus left-branching language is supported by the following numbers (Fraser 1999[98]: 51-52):

Clause type	Word order	Aeschylus's *Oresteia* (5th c. BCE)	Euripides's *Medea* (5th c. BCE)	Plato's *Crito* (4th c. BCE)	**Total**
Main	SOV	48	11	4	63
	SVO	30	8	1	39
	VSO	6	3	0	9
	VOS	6	2	1	9
	OVS	24	7	3	34
	OSV	24	7	0	31
Sub.	SOV	18	16	3	37
	SVO	5	1	1	7
	VSO	7	1	0	8
	VOS	2	1	1	4
	OVS	10	7	0	17
	OSV	3	4	1	8
Total		182	68	15	265

Table #26: *The ordering of the major constituents of the verb in Ancient Greek*.

The figures show that SOV order is more common (100/265, 38% of the total) than SVO (46/265, 17%), regardless of clause type. They also show that OVS is the second most frequent word order pattern (51/265, 19%), which suggests that it is probably the product of a frequent pragmatic operation, namely topicalization or focus (Fraser 1999: 58). Another relevant typological trait would be adpositions. In this sense it has been pointed out that late Greek presents only prepositions, but that in Archaic Greek particles and preverbs must have functioned both as pre-, post- and free adpositions (Luraghi 2010: 215-217). This claim goes in line with Comrie's (1993: 139) claim that adpositions did not exist in Proto-Indo-European, and that they originate in the grammaticalization of particles and preverbs in the individual languages, including

[98] When analyzing the word order of Ancient Greek, Fraser does not explicitly claim to be working within the Branching Direction Theory or any other specific approach: "The approach is structural, but largely informal" (Fraser 1999: 7). However, this author does cite and discuss Dryer's (1992) paper, as well as using theory-laden terms such as "left-branching". On the other hand, Fraser also assumes the X-bar Theory (Jackendoff 1977, Chomsky 1981, 1986) when analyzing phrase structure. Therefore, Fraser (1999) could safely be claimed to have at least some influence from the BDT. This makes the results of his work all the more comparable to those of this dissertation.

Ancient Greek. This means, however, that Ancient Greek adpositions cannot be used as indicators of branching direction. On the other hand, and in spite of the difficulty of drawing any conclusions regarding Ancient Greek word order due to the considerable degree of freedom, the relatively uncontroversial finding has been made, based on frequency and pragmatic value, that Subject-Verb order is the unmarked counterpart of Verb-Subject order (Frisk 1932: 14, Denniston 1952: 43, Dover 1960: 25). The following is an example of Verb-Subject order in Ancient Greek (Fraser 1999: 50):

(117) *βοᾷ* *γὰρ* *λοιγὸς* *Ἐρινὺν*
calls for murder Erynis
"For murder calls on the Erynis" (Aeschylus, *Choephoroi* 402)

When taking a direct object, Verb-Subject constructions usually yield either VSO, VOS (118a), or OVS (118b) order (ibid.). This suggests that all those patterns are marked (Fraser 1999: 55, 60):

(118) a. *ἕως* *ἂν* *αἰθῃ* *πῦρ* *ἐφ* *ἑστίας* *ἐμῆς* *Αἴγισθος*
as-longprt. kindles fire as on-fireplace mine Aegisthus
"As long as Aegisthus kindles the fire on my fireplace"
(Aeschylus, *Agamemnon* 1435-1436)

b. *χειμῶνα* *δ'* *εἰ* *λέγοι* *τις* *οἰωνοκτόνον*
winter if would say one bird-killing
"If one were to tell of a bird-killing winter"
(Aeschylus, *Agamemnon* 563)

Frisk, for example, finds out that on average 76% of all declarative clauses follow SV order in Ancient Greek (cf. Fraser 1999: 31). Moreover, Verb-Subject seems to be slightly more frequent in main than in subordinate clauses (ibid.):

Text	Main clause	Subordinate clause
Homer, *Iliad* (8th c. BCE)	33 (56%)	26 (44%)
Homer, *Odyssey* (8th c. BCE)	22 (52%)	20 (48%)
Aeschylus, *Septem* (5th c. BCE)	29 (52%)	27 (48%)
Aeschylus, *Oresteia* (5th c. BCE)	27 (36%)	48 (64%)
Euripides, *Medea* (5th c. BCE)	37 (56%)	29 (44%)

Euripides, *Cyclops* (5th c. BCE)	24 (45%)	29 (55%)
Aristophanes, *The Frogs* (5th c. BCE)	23 (46%)	27 (54%)
Thucydides, *Melian D*. (5th c. BCE)	9 (36%)	16 (64%)
Plato, *Crito* (4th c. BCE)	48 (67%)	24 (33%)
Old Testament (3rd c. CE)	29 (53%)	26 (47%)
Total	**281 (51%)**	**272 (49%)**

Table #27: *Frequencies of Verb-Subject order depending on clause type in Ancient Greek*.

Bearing in mind the above-discussed claim that subordinate clauses are more conservative than main clauses regarding word order, the assumption can be made that Verb-Subject is a marked innovation with respect to Subject-Verb in Ancient Greek. Note also that Modern Greek has become dominantly right-branching and that it favors SVO order in main declarative clauses (Tzanidaki 1994, Lascaratou 1989, 1998, cf. Deligianni 2011: 163). In broad terms and in relation to the Branching Direction Theory, then, it seems that Ancient Greek is, like the proposed reconstruction of Proto-Germanic, a language that follows dominantly left-branching word order, which is however coupled with a considerable degree of freedom. This can be seen in the following figure of Ancient Greek word order, which compiles the former results regarding the relative order of object and verb in addition to data from Friedrich (1975) and Andersen (1983):

(119) a. Object-Verb: 190 (71%) vs. Verb-Object: 76 (29%)
b. Genitive-Noun: 101 (39%) vs. Noun-Genitive: 157 (61%)
c. Adjective-Noun: 191 (56%) vs. Noun-Adjective: 148 (44%)
d. Standard-Adjective: 37 (51%) vs. Adjective-Standard: 35 (49%)
e. **Average**: **Left-branching 519 (56%) vs. Right-branching 416 (44%)**
f. (Relative clause-Noun: 25 (6%) vs. Noun-Relative clause: 375 (94%))

Later in the diachrony of this language a shift occurs from more left-branching to more right-branching word order (W. P. Lehmann 1974a, Vennemann 1974, Watkins 1976, Bauer 1995, 2006). The difference between Greek and the rest of Indo-European languages would lie in the fact that Ancient Greek allows for even more freedom, making it more difficult to determine a dominant pattern. The shift in branching direction may also have occurred later and slower in Greek than in Proto-Germanic, as the Ancient Greek data suggest. This difference in the development of the shift may be explained in genetic as well as geographic terms: note that Greek forms a unique,

relatively isolated branch of its own within Indo-European, unlike for example Romance, Germanic or Slavic. Greek is also geographically more distant from the core of the West Indo-European language area in central Europe. Genetic and geographic distance as a factor influencing the shift in branching direction that many European languages undergo is assumed, for example, by Dryer (1998) to be of relevance.

5.5. Latin

Latin was the official language of the Roman Empire and, together with Classical Greek, the language of or source language for scientific production up to the 18th century CE. Latin is still in broad use in education today. This makes Latin one of the most widely and frequently documented languages in history. A periodization of the language is, however, necessarily arbitrary. A reduced number of inscriptions are attested between the beginning of the 8th century BCE and ca. 240 BCE (Cuzzolin & Haverling 2009: 39), which is a period that is generally referred to as Archaic Latin (see, in any case, Väänänen (1985: 41-44) for an overview and a considerably divergent periodization). Latin is systematically documented for the first time as Old Latin in the period of the Roman Republic, i.e. approximately between the end of the First Punic War in 240 BCE and the end of the Republic around 75 BCE (Woodcock 1959: xxiii, Cuzzolin & Haverling 2009: 20). On the other hand, the language spoken during the Roman Empire (ca. 75 BCE-475 CE) is referred to as Classical Latin (Woodcock 1959). Vulgar Latin is a vernacular variant contemporary to Classical Latin, although it apparently starts to evolve differently from Classical Latin since the first plays written by Livius Androcinus at the beginning of the Old Latin period (Woodcock 1959: xxiii). Classical Latin evolves into Late Latin during the third and fourth centuries CE. Late Latin becomes early Romance at the beginning of the Middle Ages, which eventually divides out into the different individual Romance languages.

Most relevantly, though, Latin is much better documented than Germanic across its history, and so the changes occurring in both (which regarding word order are relatively similar, as will be shown below) can be traced back much better in the former. This makes Latin one of the most valuable comparative sources against which to test the reconstruction made above[99]. Both Old and Classical Latin are richly attested in prose

[99] In spite of the potential advantages of comparing the word order evolution of Latin to that of early Germanic, this does not seem to be a widespread practice. Most of the authors that do engage in this practice are interested in reconstructing Proto-Indo-European on the basis of typological word order

and verse, including narrative, poetry, theatre plays, translations, treaties, law documents, scientific productions and a long list of etcetera. Regarding the object of study of this dissertation, word order, the fact that Latin is documented in such an immense corpus should lead one to think that the derivable frequencies of that corpus might leave little doubt about word order. This is not, however, the case (Adams 1976). The word order of Classical Latin is in general not uncontroversial due to the widespread freedom of word order that this language displays (Baldi 2009: 44). This, coupled with the variation among contemporary authors and even among different texts written by the same author, makes it hard to draw any definitive conclusions regarding the development of word order. The general agreement, however, is that early Latin follows dominant Subject-Object-Verb order (Bauer 2006: 257) or, alternatively, has a clear preference to place the subject in clause-initial position and the verb in absolute final position (Väänänen 1985: 260-261). Also, it should be taken into account that the subject tends to precede the direct object more often than not (Pinkster 1988: 266, 2015: 97-102). The relative freedom of word order in Latin concerns not only the ordering of the main arguments of a verb (120a-c), but it also pertains to the widespread discontinuity within the elements of a given noun phrase (Hale 1998: 16). This freedom of word order is evident in the following sentences, where the order of the major constituents of the clause is OSV (120a), SOV (120b), SVO (120c) and VSO (120d) respectively (Luraghi 1995: 371-372, Halla-aho 2009: 144, 147, Pinkster 2015: 145):

(120) a. *ceruesam* *commilitones* *non* *habunt*
beer fellow-soldiers not have
"My fellow soldiers have no beer" (*Vindolanda tablets* II 343, 3-4)

b. *Romani* *ponte* *Ticinum* *iungut*
Romans bridge Ticinus.ACC threw
"The Romans threw a bridge over the Ticinus"
(Livius, *Ab Urbe Condita* 21.45.1)

c. *a* *Cordonouis* *amicus* *missit* *mihi* *ostria* *quinquaginta*
from Cordonovi friend sent me oysters fifty
"A friend sent me fifty oysters from Cordonovi"
(*Vindolanda tablets* II 299, i, 2-4)

universals, such as Bauer (2006: 255-256) or Lehmann (2007: 16).

d. *relinquit* *animus* *Sextium* *gravibus*
leaves consciousness Sextus.ACC severe.ABL
acceptis *vulneribus*
received.ABL wounds.ABL
"Sextius faints after receiving severe wounds"
(Caesar, *De Bello Gallico* 6, 38)

The same freedom of word order can be observed in other nominal and typological traits in both Old and Classical Latin. A good example of this is that, quite notoriously, two typologically differentiated means to produce comparative constructions coexist in Latin: the left-branching comparative ablative (121a), which is a syntactic cognate of the comparative dative in Germanic, and the right-branching comparative construction introduced by a particle *quam* "as/than" (121b) (Bauer 2006: 253):

(121) a. *te* *maior*
you greater
"Greater than you"
b. *maior* *quam* *tu*
greater than you
"Greater than you"

Other typological traits include the relative order of the adjective and noun, which can be Adjective-Noun (122a) or Noun-Adjective (122b) in Latin, or that of the verb and adpositional phrase (122c-d) (Bauer 2006: 264):

(122) a. *Punica* *fide*
Punic faith
"In (bad) Punic faith" (Sallust, The *Iugurthine War* 108, 3)
b. *litteris* *Punicis*
characters Punic
"(With) Punic characters" (Cicero, *Verres* 2, 4, 103)
c. *accipēre* *in* *uxōrem*
according to wife

"According to the wife" (St Jerome, *Vulgate*, 30, 3)

d. *qui* *cum* *eum* *in* *itinere* *conuenissent*
who when him in journey they-had-met
"When they had met him during the journey"
(Caesar, *De Bello Gallico* 1, 27, 2)

Additionally, as in Ancient and Old Germanic participial constructions are attested in Latin which functionally overlap with relative clauses (123a) (Adams 1976: 87). Next to this construction relative particles introduced by a relative pronoun (in this case, *quod*) are attested as well (123b), which form a syntactic quasi-minimal pair with participial relative constructions (Pompei 2011: 444, 498):

(123) a. *id* *est* *oppidum* *Senonum* *in* *insula* *Sequanae*
this is town of-Senones on island on-Seine
positum
situated
"This is a town of the Senones, which is situated on an island in the river Seine" (Caesar, *De Bello Gallico* 7, 58, 3)

b. *id* *est* *oppidum* *Parisiorum* *quod* *positum* *est*
this is twon of-Parisii which situated is
in *insula* *fluminis* *Sequanae*
on island on-river Seine
"This is a town of the Parisii, which is situated on an island in the river Seine" (Caesar, *De Bello Gallico* 7, 57, 1)

According to Pompei (2011: 499), relative constructions such as (123a), where a participle is involved, are not a predominant strategy in Classical Latin, the opposite option involving a relative pronoun (123b) being the dominant pattern. This goes in line with a typological shift (Relative-Noun > Noun-Relative) taking place in the history of Latin. Even though participial constructions like (123a) are not the dominant pattern, they are at least frequent enough to have grammaticalized into a different relative construction, namely nominalized participial relative clauses (124) (Pompei 2011: 445):

(124) *nunc* *ad* *medicinam* *de* *eo* *pertinentia* *indicabimus*

now to medicinal of it properties we-will-speak
"We shall now proceed to speak of its medicinal properties"
(Pliny the Elder's *Natural History* 23, 7)

In (124), the noun *medicina* "medicine" is modified by a nominalized participle verb, *pertinentia* "(that) pertaining to", which translates as "pertaining to medicine", i.e. "medicinal properties". Since the nominalized participle is a nominal form that restricts the noun *medicina*, a construction like (124) can be considered to be functionally equivalent to a relative clause on the basis of the criteria (38i-iii) in section 4.1.4.

In general, then, and in spite of a number of traits that vary in word order (N-Adj vs. Adj-N and V-AdpP vs. AdpP-V in 122a-d), Latin can be claimed to present dominant Object-Verb order and typological traits that correlate with left-branching syntax (Devine & Stephens 2006: 79). An example of early left-branching order is the fact that postpositions are attested in early Latin. In addition to postpositions co-occurring with pronouns (121a-b), various frozen expressions such as legal formulae and proverbs preserve postpositions (Baldi 2009: 45). Moreover, archaizing authors such as Tacitus also use stylistically marked postpositions in non-proverbial speech (Adams 1976: 88). This shows that the situation in Latin is not unlike that of Old Saxon, where the existence of both kinds of adposition and discontinuity of NP-internal elements is a relatively frequent phenomenon. The following is an example of discontinuous phrase in Classical Latin (Spevak 2010: 24):

(125) *hae* *permanserunt* *aquae* *dies* *complures*
these lasted floods days several
"These floods lasted several days" (Caesar, *De Bello Ciuile* 1, 50, 1)

The existence of discontinuous noun phrases in Latin (Väänänen 1985: 260, Pinkster 2015: 934-936) is relevant to the present discussion, since these are believed, regarding word order, to correlate in some cases with a specific type of language (Hale 1982, see discussion below). As a final note on word order in Latin it should be pointed out that verb-initial clauses that cover a wide array of functions, such as imperative (126a), narrative (126b) or hortative, are quite common in Latin (Bauer 2006: 276-278). The functional overlap of Latin and early Germanic verb-initial clauses suggests that these

are a Proto-Indo-European-inherited feature and should thus be reconstructed for Proto-Germanic (Bauer 2006: 277-278):

(126) a. *percide* *os* *tu* *illi* *odio*
smash jaw you him with-malice
"Smash his jaw with malice" (Plautus, *Casina* 404)

b. *erat* *in* *Carnutibus* *summo* *loco* *natus* *Tasgetius*
was among Carnutes highest place birth Tasgetius
"There was among the Carnutes a man of highest lineage, Tasgetius" (Caesar, *De Bello Gallico* 5, 25)

In view of the data laid out so far, there should be little doubt that discontinuous phrases, together with a considerable freedom of word order and a widespread existence of left-branching traits, should also be reconstructed for Proto-Latin. To summarize, Old and Classical Latin show a considerably similar picture to the one proposed for the reconstruction of Proto-Germanic. More specifically, Latin seems to be a language with discourse-configurationally motivated freedom of word order and a dominant left-branching pattern that coexists with right-branching traits. Both languages seem to allow for discontinuous phrases to very similar extents. Comparison with Latin thus supports reconstructing Proto-Germanic as a consistently left-branching language with considerable freedom of word order.

How can Latin be enlightening regarding the shift in branching direction that occurs in Ancient Germanic? As has been shown above, Old and Classical Latin typological traits show that the language at that stage is quite consistently left-branching. Later stages of the language, such as Late Latin, together with the individual Romance languages (127a-b) display word order that rather conforms to the contrary pattern (Bauer 2006: 272):

(127) a. *un* *jardin* *grand* *comme* *un* *mouchoir*
a garden large as a tissue
"A garden as large as a tissue"

b. *vio* *puertas* *abiertas* *e* *uços* *sin*
he-saw doors open and doors without
cannados

locks

"He saw open doors and doors without locks" (*Cantar del Mío Cid* 3)

The shift in branching direction that takes place in the evolution from Latin to the Romance languages can already be observed in the texts of the classical period, with some innovative or shifted traits, such as Noun-Genitive order, being favored in the vernacular, as opposed to Genitive-Noun order, which for some time remains as a marked option common to poetry and to the speech of the higher classes (Adams 1976: 82, Bauer 2006: 267). A similar evolution, although with nuances, can be observed for other typological traits that correlate with word order:

Text	Genitive-Noun	Noun-Genitive
Plautus, *Aulularia* (2nd c. BCE)	49 (64%)	28 (36%)
Plautus, *Bacchides* (2nd c. BCE)	34 (40%)	52 (60%)
Terentianus, *Andria* (2nd c. BCE)	64 (55%)	53 (45%)
Cicero, *Orationes* (1st c. BCE)	186 (48%)	199 (52%)
De Bacchanalibus (1st c. BCE)	12 (86%)	2 (14%)
Caesar, *De Bello Gallico* (1st c. BCE)	319 (42%)	437 (58%)
Petronius, *Satyricon* (1st c. CE)	91 (43%)	123 (57%)
Quintilian, *Declamationes* (1st c. CE)	55 (36%)	99 (64%)
Suetonius, *Life of Nero* (2nd c. CE)	66 (50%)	67 (50%)
Scholia to Juvenal (4th c. CE)	61 (30%)	145 (70%)
St. Jerome, Latin *Vulgate* (4th c. CE)	57 (3%)	1738 (97%)
Anonymus Valesianus II (6th c. CE)	10 (9%)	97 (91%)

Table #28.1: *The frequencies of the relative order of genitives and nouns across the history of Latin (Adams 1976: 73-82).*

Text	Object-Verb	Verb-Object
Twelve Tables (5th c. BCE)	34 (100%)	0 (0%)
Plautus, *Asinaria* (2nd c. BCE)	30 (67%)	15 (33%)
Plautus, *Captivi* (2nd c. BCE)	88 (62%)	54 (38%)
Plautus, *Miles Gloriosus* (2nd c. BCE)	45 (56%)	35 (44%)
Terentianus, *Andria* (2nd c. BCE)	14 (26%)	40 (74%)
Caesar, *De Bello Gallico* (1st c. BCE)	75 (96%)	3 (4%)
Cicero, *Orationes* (1st c. BCE)	71 (96%)	3 (4%)
Suetonius, *Life of Nero* (2nd c. CE)	63 (87%)	8 (13%)
Itinerarium Egeriae (ca. 4th c. CE)	22 (39%)	35 (61%)
Peregrinatio Aetheriae (4th c. CE)	18 (30%)	42 (70%)
Anonymus Valesianus (6th c. CE)	2 (8%)	22 (92%)

Table #28.2: *The frequencies of the relative order of verbs and objects across the history of Latin (Adams 1976: 73-82).*

The figures show a quite easily identifiable shift from left-branching to right-branching word order across time. However, these numbers should be handled with care, since in many contemporary writers of the late Republic and early Empire (i.e. ca. 2nd BCE to 2nd CE) variation is to be seen. This variation depends on a vast array of linguistic factors, which include the register in which the text is written, the presence of proverbs, the phonological weight of constituents (cf. the discussion in chapter 3, section d, 5), the presence of negation, illocutionary modification, etc. (Adams 1976: 84). In order to determine whether a shift actually occurs in Latin, then, the following facts need to be taken into account:

(i) Already in Old Latin, genitive-marked sacred and kinship terms such as *familia* "family" or *Castoris* "(the god) Castor" follow nouns (Adams 1976: 76-77):

(128) a. *pater familias*
father of-the-family
"Father of the family" (*Corpus Inscriptionum Latinarum* I)

b. *aedes Castoris*
temple of-Castor
"Temple of (the god) Castor" (*Corpus Inscriptionum Latinarum* I)

(ii) A considerable number of prenominal genitives in Classical Latin, such as in (129), are formulaic, i.e. frozen expressions and thus archaisms (Adams 1976: 78):

(129) *servi officium*
slave service
"The slave's service" (Petronius, *Satyricon*, 1, 5)

(iii) A number of prenominal genitives, such as in (130), seem to be emphatic in Classical Latin, the non-emphatic pattern being Noun-Genitive (Adams 1976: 79):

(130) *Romanorum imperia*
of-the-Romans empire
"The Romans' empire" (Caesar, *De Bello Gallico* 1, 17)

(iv) As in Old Saxon, in Classical Latin determinative adjectives (which Adams refers to as "adjectives of quantity and size") such as *omnis* "everything, all", *totus* "entire, whole", *magnus* "large, great", *tantus* "so/as much", *ingens* "huge" or *multus* "much, many" behave differently from the rest of adjectives: they more often precede nouns than other kinds of adjectives (Adams 1976: 80).
(v) Adjective-Noun order also survives in frozen expressions of the kind in (131) (Adams 1976: 89):

(131) *erilis filius*
master son
"Master son" (Plautus's *Casina*, 1013-1014)

(vi) In Old Latin archaic expressions the dominant order of comparatives is Standard-Adjective, whereas in Classical Latin it is the opposite (Adams 1976: 83-84).
(vii) In Classical Latin, the dominant order of comparatives is Standard-Adjective and that of predicates Predicate-Copula only in negated contexts or when the standard is pronominal and stands in second position, such as in (132a-b) (Adams 1976: 84):

(132) a. *nil* *hoc* *homine* *audacius*
nothing this man.ABL audacious
"Nothing is more audacious than this man" (Plautus, *Menaechmi*, 631)
b. *nemo* *me* *miserior* *est*
non-one me.ABL more-miserable is
"No one is more miserable than me" (Plautus, *Mostellaria*, 1072)

(viii) Relative-Noun order is attested only in Old Latin frozen expressions, such as laws (Kroll 1912: 3, cf. Adams 1976: 87), whereas the contrary pattern is the rule in Classical Latin (Adams 1976: 87).
(ix) Postpositions are the rule only in Old Latin, whereas in later stages a few postpositions, such as *cum* "with", are used only with pronouns (cf. *mecum* "with me", *tecum* "with you", Adams 1976: 88).
(x) Verb-Object order surfaces earlier in main clauses than in subordinate clauses in Classical Latin (Bauer 2006: 269), or, reversely, Object-Verb order is preserved longer in subordinate clauses (Linde 1923: 154, cf. Bauer 2006: 268). In addition, the

placement of the object with respect to the verb seems sometimes to be conditioned by the weight of the object, light objects tending to precede the verb (133a), heavy objects tending to follow it (133b) (Baldi & Cuzzolin 2011: 874):

(133) a. *multum* *te* *amamus*
much you we-love
"We love you very much" (Cicero, *Epistulae ad Atticum* 1, 1, 5)

b. *Caesar cognouit* *Vercingetorigem* *castra* *mouisse*
Caesar learned Vercingetorix.GEN camp moved
propius *Auaricum*
near Avaricum
"Caesar learned that Vercingetorix had moved his camp closer to Avaricum" (Caesar, *De Bello Gallico* 7, 18, 1)

(xi) In Classical Latin Object-Verb order is preferred when the object is pronominal (Adams 1976: 97).

All these factors suggest that in Classical Latin many left-branching traits are stylistically marked (Adams 1976: 85), whereas the opposite is the case for Old Latin. A conclusion that can be drawn from these facts is that a shift can be said to take place in the evolution from Old to Classical Latin around 250-200 BCE. The general trend, then, is quite clear: Old Latin and archaic expressions show a distinct preference for left-branching order, whereas Late Latin and the early Romance languages prefer the opposite order. This trend has been observed in the literature since the beginning of the interaction between historical linguistics and word order typology based on implicational hierarchies (Greenberg 1963, W. P. Lehmann 1974a, Adams 1976, Bauer 1995, 2006, Magni 2009, Gianollo 2011 among others). The same trend of change from more left-branching to more right-branching word order that can be observed in Ancient and Old Germanic can, then, even more clearly be appreciated in Latin. To sum up, an evolution from Latin into Romance can be observed by which predominant left-branching word order results in exceptionless right-branching order (Bauer 2006: 271-274).

5.6. Old Indic

Old Indic is an Old Indo-Aryan language that was in use as a *lingua franca* and literary language in India roughly between the 20th and 4th or 3rd centuries BCE (Whitney 1885: xi). It is due to this use as a literary and standardising language that many written texts of the time have been handed down; in fact, Sanskrit (a written version of Old Indic from the classical period that was used after the language lost all native speakers) is still used to this day as a learned written language in India. Written Old Indic is usually divided into rigvedic Old Indic, which comprises the period ranging from the writing of the earliest written forms of this language, the *Veda*s, in ca. 1200 BCE, to the production of Pāṇini's grammar of Sanskrit in ca. 350 BCE. The period after that is generally referred to as (Classical) Sanskrit (Macdonell 1927: 1-2). Old Indic comprises a large number of some of the largest literary texts ever written, such as the *Mahābhārata*, the *Pañcatantra*, the *Rāmāyaṇa* or the *Hitopadeśa*. This makes Old Indic a very suitable language for word order analysis and comparison. Old Indic is only one more of a large number of contemporary Old Indo-Aryan dialects, some of which were considered vulgar in comparison, such as Prakrit (ibid.): Prakrit itself has been preserved in writing, but to a much lesser extent. This is a largely parallel situation to that Latin. Regarding the word order of Old Indic, in both rigvedic Old Indic and Middle Indic it has been claimed to be largely free (Macdonnell 1916: 283-287; see, however, Gonda 1952: 71 for the opposite view), with various different orders being possible. This can be seen in the case of adpositions, which in Old Indic can either precede or follow the noun or stand alone. This is due to the above-mentioned fact that preverbs are in the process of grammaticalizing into adpositions in rigvedic Old Indic (Delbrück 1893: 654), much like in Ancient Greek. That is why it is sometimes difficult to distinguish preverbs from adpositions (134a), although in other cases there exist adpositions that can function as both pre- (134b) and postpositions (134c). In yet other cases, adpositions can only occur as postpositions (134d) (Gonda 1966: 101-102):

(134) a. *dāśvā́ṃsam* *úpa* *gachatam*
one-who-is-offering towards go
"Approach the one who is offering" (*Rigveda* 1.47.3)

b. *ājagāma* *punar* *veśma* *Sāvitrī saha* *mantribhiḥ*
he-went back to-house Sāvitrī with counsellor
"Savitri went back into the house with the counsellor" (Gonda 1966: 102)

c. *nandigrāme 'karod rājyaṃ duḥkhito mantribhiḥ saha*
at-Nandigrām he-did reign concerned counsellor with
"At Nandigrām he built a reign together with the concerned counsellor"
(*Rāmāyaṇa*, *Ayodhyākaṇḍā* 210.7.19)

d. *na rājānam vinā rājyaṃ balavatsv api*
not king without reign powerful even
mantriṣu
counsellors
"Even with powerful counsellors, there is no reign without a king"
(Gonda 1966: 101)

This means that Old Indic displays both pre- and postpositions. Regarding the dominant word order of the major constituents of the clause, the dominant word order of Old Indic has been claimed to be SOV as in (135a) (Macdonell 1927: 178, Dryer 2005: 331) and not VO as in (135b), which is also a more marked possibility in Old Indic (Bubenik 1991: 21). Thus, the situation in Old Indic is very similar to what the Old Saxon data suggest must have been the case of Proto-Germanic. Other left-branching traits observed in Old Indic include dominant Standard-Adjective order in comparative constructions (135c) (Andersen 1983: 193), Genitive-Noun order (135d) (Deshpande 1991: 33) or the more frequent use of postpositions than prepositions (Speijer 1988: 113-114):

(135) a. *viśaḥ kṣatriyāya baliṃ haranti*
peasants prince tribute bring
"The peasants bring tribute to the prince"
(*Śatapatha-Brāhmaṇa* 1.3.2.15)

b. *nikkāsia rākkṣasam*
having-discarded Rākkṣasa
"Having discarded Rākkṣasa..." (*Mudrārākṣasa* 6.2.29)

c. *diváś cid pūrvo nī-asādi hotā*
day-than even earlier takes-his-seat priest
"The priest takes his seat even before dawn" (*Rigveda* 1.60.2c)

d. *nadyāḥ tiṣṭhati kūle*
of-river he-stands at-bank

"He stands on the bank of the river" (*Mahabhaśya* I, 368)

Regarding comparative constructions, it is quite meaningful that very few cases of right-branching Adjective-Standard order are attested in the whole *Rigveda* (Adams 1976: 71, Andersen 1983: 141), which supports the fact that the left-branching comparative case construction (i.e. dative in Proto-Germanic and ablative elsewhere) is the earliest pattern and the particle comparative an innovation of the individual languages (Friedrich 1975: 27, Andersen 1980: 236). This innovation becomes evident when taking into account that Adjective-Standard order becomes a possibility only in later portions of the *Rigveda* (W. P. Lehmann 1973: 55). The chronological rise of Adjective-Standard order, however, cannot clearly be seen from a diachronic point of view in Old Indic (Table #29.1) (Andersen 1983: 193-222). In the same line, word order frequencies hardly give any evidence of a shift OV > VO, although the role of pronominal objects in the occurrence of OV order over VO order, as well as that of sentence type can more clearly be seen (Table #29.2) (Bubenik 1991: 28). This accounts for word order in different genres, namely prose (i.e. the *Vetāla*) and drama (i.e. the *Vikramorvaśīya* and *Prakrits*). Moreover, apparently direct objects tend to follow the verb more often in poetry than in prose[100] (Scharf et al. 2015: 316):

Text	Standard-Adjective	Adjective-Standard
Rigveda (ca. 1500-1200 BCE)	76 (72%)	29 (28%)
Vedas, *Brāhmaṇas* (ca. 900-700 BCE)	23 (38%)	37 (62%)
Upaniṣads (ca. 500 BCE)	73 (78%)	21 (22%)
Middle Indic texts[101] (ca. 200-250 CE)	35 (71%)	14 (29%)

Table #29.1: *Frequencies of the relative order of standard and adjective in comparative constructions across the history of Old Indic*.

Text type	Inf. clauses		Declarative clauses				Jussive clauses			
	Nom. Os		Nom. Os		Pron. Os		Nom. Os		Pron. Os	
	VO	OV	VO	OV	VO	OV	VO	OV	VO	OV
Vet. (c.1000 BCE)	1	68	2	1,322	8	303	4	29	4	20
Vikr. (c.350 BCE)	1	5	8	51	1	20	7	12	0	4
Prak. (c.200 CE)	6	9	3	75	6	23	14	10	8	3

[100] The difference in word order between poetry and prose does not affect only the ordering of direct objects and verbs, but also that of genitives and nouns. Scharf et al. (2015: 318) find that genitives are up to eight times more likely to follow nouns in Sanskrit poetry than in prose. This does not, however, contradict findings made here: it merely shows how the word order of poetry can be freer than that of prose. Genitives still more frequently precede than follow nouns overall (ibid.).

[101] Andersen analyzes the word order in the *Edicts of Aśoka* (ca. 250 CE), the *Prakrits* and the *Pāli* (ca. 200 CE) (Andersen 1983).

Table #29.2: *Frequencies of OV and VO order as well as the role of sentence type and pronominal objects in their occurrence across the history of Old Indic*.

(136) a. Early Old Indic: 19 VO (1%), 1,742 OV (99%)
b. Late Old Indic: 17 VO (16%), 92 OV (84%)
c. Middle Indic: 37 VO (24%), 120 OV (76%)

Clearly, beyond the different linguistic and extralinguistic factors affecting object position, a diachronic shift from more left- to more right-branching is difficult to observe in the development of Old Indic in comparison to Latin, Ancient Greek or the Old Germanic languages, in spite of a relative diachronic reduction of OV order and of the preference of marked environments, such as infinitival or jussive sentences, for VO order (ibid.). Two important factors should be taken into account when analyzing the frequencies, which show that the numbers represent a distorted version of the reality of Old Indic:

(i) As is the case in Latin, pronouns in Old Indic tend a lot more to preserve the conservative Standard-Adjective pattern than nouns (Andersen 1983: 161-162). This can be seen in pairs such as (137a-b):

(137) a. *tasmāt* *pūrvas*
him.ABL earlier
"Earlier than him" (*Rigveda* 10.87.11)
b. *pūrvas atithes*
earlier guest.ABL
"Earlier than a guest" (*Rigveda* 8.92.10)

Pronouns are much less frequent in the *Vedas* and the *Brāhmaṇas* than elsewhere, which is probably why these texts show more right-branching traits (ibid.). Also, these latter texts are written in prose, whereas the *Rigveda* and many Middle Indic texts are poetic; recall the conservative nature of poetic diction (ibid.).
(ii) Even if Old Indic and related languages might show an initial tendency towards moving in a rightward direction (W. P. Lehmann 1999), there is a later tendency towards the contrary (Andersen 1983: 161), since in the end nearly all of the Indo-Aryan languages develop consistently left-branching order (Dryer & Haspelmath 2013).

Therefore, there is no shift in branching direction in Old Indic (W. P. Lehmann & Ratanajoti 1975) that would be comparable to that occurring in Latin, Ancient Greek and, as proposed here, Proto-Germanic.

The coexistence of left- and right-branching traits in Old Indic, the latter being marked versions of the former, is made possible by the fact that, in general, Old Indic allows for a considerable freedom of word order. This can be seen in sentences (138a-d), where all of them are grammatical in Old Indic, but have different pragmatic value:

(138) a. *rāmo* *rāvaṇam* *hanti* (SOV)
Rāma Rāvaṇa kills
b. *rāvaṇam* *hanti* *rāmaḥ* (OVS)
Rāvaṇa Rāma kills
c. *hanti* *rāmo* *rāvaṇam* (VSO)
kills Rāma Rāvaṇa
d. *hanti* *rāvaṇam* *rāmaḥ* (VOS)
kills Rāvaṇa Rāma
"Rāma kills Rāvaṇa" (Rajendran 1988: 113)

In addition to this apparent freedom of word order, extraposition of heavy objects (along with an array of different grammatical elements, i.e. the so-called "amplified" sentences, see Gonda (1959) for an overview) is a possibility in Old Indic. This can be seen in (139a-b) as opposed to a light object, cf. (139d) (Schäufele 1991: 182). Especially worth mentioning, in this respect, is the fact that when the object consists of a sequence of words, all of them are postposed except the first one (139c) (Holland 1980: 93). It has also been pointed out, however, that subjects are much more likely than objects to be extraposed in rigvedic Old Indic (Delbrück 1878: 52, Gonda 1959: 7, 1966: 56, Holland 1980: 86-88, Hock 2015: 43-44 among others), as can be seen in (139e):

(139) a. *tat* *etat* *purastāt* *mithunam* *prajananam*
thus here beginning-here union fruitful
kriyate *sāmidhenīnām*
is-made of-the-kindling-verses

"Thus at the beginning a fruitful union is made of the kindling verses" (*Śatapatha-Brahmana* 1.4.1.2) (2 words, 5 syllables, new information)

b. *atha* *antataḥ* *prajātim* ***āśāste*** *gavām* *aśvānām* *puruṣānām*
then finally offspring invokes cows horses people
"Then (he) finally invokes offspring for cows, horses and people" (*Aitareya-Brāhmaṇa* 8.11.5) (3 words, 9 syllables, new information)

c. *prajāpatir* *devān* ***asṛjata*** *vasūn* *rudrān* *ādityān*
creatures-lord Gods created Vasūs Rudrās Ādityas
"The lord of creatures created the Gods, Vasūs, Rudrās and Ādityas" (*Taittiriya Brāhmaṇa* 2.22) (3 words, 7 syllables, new information)

d. *viśaḥ* *kṣatriyāya* *balim* ***haranti***
peasants to-the-prince tribute pay
"Peasants pay tribute to the prince" (*Śatapatha-Brāhmaṇa* 14.81.15) (1 word, 2 syllables, new information)

e. *hastena* *śilām* ***akṣipat*** *sainikaḥ*
with-the-hand stone cast soldier
"The soldier cast a stone with his hand" (Gonda 1966: 118) (1 word, 3 syllables, new information)

The likeliness of subjects to be extraposed is due to the fact that a number of functions, such as the marking of politeness, are fulfilled by extraposition of subjects that are not fulfilled by extraposing other elements (Gonda 1959, cf. Hock 2015: 43). In addition, examples (139a-c) clearly illustrate that a number of cases of extraposition should be considered the result of phonological weight or information status. This has already been pointed out in the literature on Old Indic: "long appositions are postposed; so, too, are similes and comparisons" (Gonda 1959: 93). Extraposition is thus the strategy, i.e. the manner in which the speaker gets a pragmatically marked order. The combination in Old Indic of dominant left-branching traits, pragmatically marked counterparts and a considerable freedom of word order is, then, very similar to the reconstructed version of Proto-Germanic. The exception to the apparently dominant left-branching nature of rigvedic Old Indic word order seems to be the case of relative clauses, which are introduced by a relative pronoun *yáś* "that, which" (mostly inflected as a pronominal

adjective) and which always follow Noun-Relative order (W. P. Lehmann 1974a, Kiparsky 1995: 154 *inter alia*):

(140) *sahásraśṛṅgo* *vṛṣabhó* *yáḥ* *samudrā́d* *ud* *ā́carat*
thousand-horned bull which from-sea out arose
"The thousand-horned bull that arose from the sea"(*Rigveda* 7.55.7)

It has been argued above, however, that relative clauses introduced by particles may have corresponded to participial constructions in Proto-Germanic. Such left-branching participial constructions whose function could be similar to that of a relative clause and which have been referred to as "independent participles" (Lowe 2015: 121) or more commonly "participial relatives" (W. P. Lehmann 2007), are attested in Classical Sanskrit, although they could already have been in use in earlier rigvedic Old Indic as well (Bauer 2000: 117) (141a). A very similar function can also be fulfilled by adjectival compounds (141b) (Gonda 1966: 59):

(141) a. *yó* *radhrásya* *coditā* *yáḥ* *kṛśáśya* *yó*
who abject encourager who poor who
brāhmáṇo *nādhamānasya* *kīreḥ* *sa* *janāsa* *indraḥ*
Brahmin be-in-need poet he men.VOC Indra
"He who (is) the encourager of the abject, who (is the encourager) of the poor, who (is the encourager) of the Brahmin poet that is in need, he, men, is Indra" (*Rigveda* 2.12.6)

b. *taṃ* *muniṃ* *sūryakarasamtāpaklāntaṃ* *vaṇig* *dṛṣṭvā*
the wise-man from-the-sun-ray-heat-tired merchant seen
kutas *tvam* *iti* *pṛṣṭavān*
where-from you said-he asked
"After he had seen the wise man that was tired from the heat of the sun rays, the merchant asked him: where do you come from?"
(*Rigveda* 12.19.29)

These examples indicate that the use of adjectival compounds and participial constructions with a relative meaning are used as an alternative to relative clauses *strictu sensu*, which are introduced by a particle, in other Indo-European languages or

language families outside of Germanic. These examples suggest as well as that Proto-Germanic inherited both possibilities, left- and right-branching, from earlier stages of the language. Regarding the development of word order in Old Indic and other Indo-Aryan languages themselves, however, the evidence points to an evolution towards right-branching patterning (W. P. Lehmann & Ratanajoti 1975: 157-158). In view that nearly all present-day Indo-Aryan languages are consistently left-branching (Dryer & Haspelmath 2013, though see Kashmiri, which is arguably a verb-second language (Masica 1993: 334-337)), such an evolution points towards a general tendency of Indo-European to move towards a more right-branching type, which in Indo-Aryan would, however, have been reversed at one point (Andersen 1983: 171). The question is, then, why a shift does not take place in Old Indic as it does in Latin, Ancient Germanic and Ancient Greek, especially considering that pragmatic operations such as extraposition are just as available in Old Indic, and thus the possibility of reanalysis and shift. The answer seems to be that this reversion towards consistent left-branching order has been ascribed to a Dravidian substrate (Hock 1975: 75-126).

CHAPTER 6. RECONSTRUCTION COMPARED TO SELECTED NON-INDO-EUROPEAN LANGUAGES

A comparison of Old Saxon word order to early Germanic and other old Indo-European languages in chapter 5 has led to the conclusion that Proto-Germanic should be reconstructed as a near-consistently left-branching language. Information-structure and phonological weight, among other factors, have been shown to be at least partially responsible for the creation of marked word order patterns. Extraposition has also been suggested to be responsible for the word order shift taking place in Proto-Germanic. As has been mentioned in the introduction, comparison of this state of affairs (i.e. a left-branching language shifting to right-branching word order) to other languages and language families where similar and comparable shifts have occurred should determine how plausible the proposed reconstruction of Proto-Germanic is.

6.1. Basque

Basque is an isolate language spoken next to and around the western end of the Pyrenees (present-day Spain and France) in West Europe by just over 700,000 speakers,

in addition to nearly 400,000 passive speakers (Eusko Jaurlaritza 2013: 15). In spite of the numerous efforts, no successful attempt has been made to prove that Basque is related to any of the languages spoken in the world in the present or past and is therefore commonly labelled as a language isolate. The earliest records of the language date back to a number of inscriptions of words and names of persons and deities carved in stone and that were found in various points of Aquitania (south-west France), dating back to between the 1st and 3rd centuries CE (Gorrochategui 1984), and which are accordingly referred to as the Aquitanian inscriptions. In spite of this early attestation, only a small number of sporadic and fragmentary glosses, chants, letters, poems and place- and person-names survive from the subsequent medieval period. It is only in the mid-16th century, with the publication in 1545 CE of *Linguae Vasconum Primitiae*, a collection of secular poems written by Bernat Etxepare, that Basque literary tradition can be said to begin. Works of different kinds regularly appear after *LVP*, with most dialects and periods of the language after the year 1545 being well represented for a relatively small language.

The word order of Basque can be clarifying in terms of a typological and diachronic comparison to the proposed reconstructed word order for Proto-Germanic: this language presents practically all the traits of a left-branching language, including postpositions and dominant (S)OV word order (Lafitte 1944: 46, de Rijk 1969, Villasante 1980: 17, Trask 1997, 1998: 320, Hualde & Ortiz de Urbina 2003: 448 among others), both in written and in spoken language. In spoken language a strong tendency exists to use marked (S)VO order as well (see the table below), but no rightward tendency exists with respect to adpositions, postpositions being the only possibility (Euskaltzaindia 2011: 75-76), or to any other typological trait. Only a few non-left-branching traits can be observed in the relatively brief documented history of this language, namely postnominal relative clauses, although these have been observed to gradually decrease overtime, giving in to the unmarked prenominal pattern:

> Its basic word order is SOV, and it exhibits virtually all the typological characteristics commonly associated with SOV word order. Apart from lexical adjectives, all modifiers are preposed, and this includes large and syntactically complex modifiers like genitives and finite relative clauses (Trask 1998: 320).

In spite of this claim it should be pointed out that both diachronically and synchronically Basque also allows "large and syntactically complex modifiers" to be extraposed to postverbal position (see below). Some evidence for SOV as the dominant order of Basque comes from marked constructions, and more specifically from double wh-questions, where the order of interrogative pronouns can only be that of subject-object-verb:

(142) *eta* *zure* *prestutasunaz* *nork* *zer* *erranen* *du*?
and of-your virtue who what say will
"And about your virtue, who will say what?"
(Hualde & Ortiz de Urbina 2003: 449)

The fact that SOV is the basic order and other orders are derived from it is supported by psycholinguistic evidence, since any order other than SOV shows more processing complexity in speech production (Erdozia et al. 2012: 217). Thus there is little doubt that Basque is a SOV language. This also applies, with few exceptions, to most of historical Basque.

Regarding the prehistory Basque word order, as an isolate language with a comparatively short written tradition the only source for word order reconstruction comes from internal reconstruction. In spite of the limited possibilities, some progress has been made in recent years: Basque has been argued to follow VO order at a prehistoric stage, based on the prefixal character of certain modal morphemes such as *ba-* "if" or *bait-* "because, since", which are assumed to have grammaticalized from previous modal verbs. In this line of thought, the fact that such morphemes are prefixes in an otherwise overwhelmingly suffixing language means that modal verbs must have preceded main verbs in Proto-Basque, which speaks for right-branching order, including basic VSO or SVO order (Trask 1977: 206, Gómez 1994: 94, Gómez & Sainz 1995: 327-238, Reguero-Ugarte 2013: 455). Support for this hypothesis comes from a number of apparent previous right-branching traces. These include Noun-Relative order attested in some early texts (Lakarra 2005: 421-422, Krajewska 2013), the fact that the only possible word order in present-day Basque is the "inconsistent" Noun-Adjective, the late emergence of suffixes and postpositions and their reduced number (Lakarra 2005: 422-424, 2006: 601) as well as a series of phonological and morphosyntactic factors (ibid.), which strongly speak for the fact that Proto-Basque must have had right-branching word

order. This apparent right-branching proto-stage has led researchers to propose a typological shift taking place in Proto-Basque from right-branching to left-branching order (ibid.). This shift, however, would have to have taken place considerably early, since a few lengthier attestations of Basque occur already in the 10th century, with no indication as to a right-branching syntax, even though the attested corpus is too scarce to draw any conclusions regarding word order. In case such a shift were assumed, the reconstructed history of Basque would constitute a good example that word order can indeed shift in leftward direction and thus change from one typological type to another, and that traces of such a shift can still be observed several centuries later, just as is proposed here to be the case of Ancient Germanic. Coming back to present-day Basque, there is little doubt about the left-branching character of the language: de Rijk (1969: 323), using a moderate-sized sample consisting of spoken (sample II), written (sample I) and translated (sample III) folk tales gathered in the early 20th century, provides the following frequencies to determine the dominant word order of Basque:

	Sample I	**Sample II**	**Sample III**	**Sum**
Nº of clauses	209	183	67	459
SOV	138 (66%)	80 (44%)	41 (61%)	259 (57%)
SVO	48 (23%)	67 (37%)	21 (31%)	136 (30%)
OVS	11 (5%)	17 (9%)	3 (4%)	31 (6%)
OSV	5 (2%)	13 (7%)	1 (2%)	19 (4%)
VSO	6 (3%)	4 (2%)	1 (2%)	11 (2%)
VOS	1 (1%)	2 (1%)	0 (0%)	3 (1%)

Table #30: *Word order frequencies in Basque according to de Rijk (1969: 323).*

The frequencies indicate that Basque is a language with flexible word order, since any conceivable order of the major constituents of a clause is attested. Greenberg himself admits this when mentioning that languages in which the verb is always in clause-final position should be referred to as the "rigid" subtype of III (Greenberg 1963: 79), which is roughly equivalent to Dryer's consistent left-branching type. According to Greenberg, then, due to its flexibility of word order Basque does not belong to this group (ibid.). In spite of this flexibility, however, it must be noted that there is a relatively strong tendency in spoken Basque to place subjects and objects after verbs (Laka 1996: 9). This is something very comparable to the claim by C. Lehmann (1992: 409) that one of

the factors leading to the change to initial verb order of Proto-Celtic must have been the same tendency taking place in the spoken language[102].

Language contact should also be borne in mind, since nearly all Basque speakers are bilingual in either French or Spanish, where verb-initial order is considerably common. Even though the opposite pattern is also attested, it is a much more marginal option that is used in the spoken language. Other orders are also allowed for, the vast majority of them being clauses that contain a topicalized object (OVS and OSV). Therefore, in spite of earlier claims that have been proven to be wrong due to insufficient knowledge of the language, cf. Echaide (1912: 93), who argues for OSV as the dominant order in modern Basque, or to a wrong interpretation of the facts, cf. Hidalgo (1995), who argues for SVO as the dominant order not only in modern Basque, but also in previous phases of the historical period, (S)OV can be said to be the dominant order in Basque (see also Osa 1990: 21). This goes in line with the rest of typological traits of the language, all of which are left-branching except for Noun-Adjective, which as argued by Dryer (1992: 95) may not correlate with word order. The following sentence[103], which is a combination of de Rijk's (1969: 324) and Trask's (1998: 320) examples of unmarked word order in Basque, represents all of the left-branching traits under consideration:

(143) *loreak* *eman* *dizkiodan* *neska* *baino* *gazteagoa* *den*
flowers give AUX girl than younger be
gaizkileak *atzo* *Legazpin* *auzoaren* *bost* *txerri*
criminal yesterday in-Legazpi the-neighbor's five pigs
labankadaka *hil* *zituen*
by-stabbing kill AUX
"The criminal who is younger than the girl to whom I gave the flowers killed five of the neighbor's pigs by stabbing them yesterday in Legazpi"

It is also worth pointing out that, parallel to relative constructions, participial constructions precede the noun they modify (144) (Zubiri & Zubiri 2000: 535):

[102] This is, of course, not the only explanation given by historical linguistics to explain the change to verb-initial order in Proto-Celtic. The best-known explanation is that by Watkins (1963), who proposes the change to have occurred through movement of the verb to initial position (as has been shown in this dissertation, a possibility in all old Indo-European languages) and attachment of various unstressed elements to the verb, i.e. "univerbation" (Watkins 1963: 38).
[103] Admittedly, even though (143) is a perfectly grammatical sentence in Basque, its occurrence in actual speech might be very rare.

(144) *orain arte esandako guztia egia da*
now until what-has-been-said all true is
"Everything (which has been) said thus far is true"

The point here is, returning to de Rijk's work, that in spite of presenting a specific dominant order, Basque allows for freedom of word order. By claiming that "Basque allows for other orders", however, it should be understood that Basque allows for a considerable freedom of *phrase* order, and not of *word* order (Erdozia, Laka & Rodríguez-Fornells 2012: 218-219). Even though, as can be seen in (145a-f), the major constituents of the clause can be ordered almost at will, phrase-internal variation is much less desirable in Basque. This well-known fact (see, for example, Trask 1997) is evident in both nominal and verbal word order:

(145) a. *txistulari bat* "One/a flutist"
b. *txistulari hau* "This flutist"
c. **bat txistulari* "One/a flutist"
d. **hau txistulari* "This flutist"
e. *hil zituen* "(He/she) killed (them)"
f. **zituen hil* "(He/she) killed (them)"

The last example (145f), which involves Auxiliary-Verb order, is ungrammatical in Standard Basque and in most dialects, but grammatical in some northern dialects, where Auxiliary-Verb coexists as the marked variant of Verb-Auxiliary order. The following is an example of Auxiliary-Verb order from Souletin Basque (Rebuschi 2009: 762):

(146) *dagün abentüaren bostean dateke erabakia hartürik*
next of-December five-on will decision be-made
"The decision will be made on the upcoming fifth of December"

In addition to this difference regarding word order between the standard and the dialects, there is also the fact that negation co-occurs with Auxiliary-Verb order. Beyond these relatively small differences and the diachronic traces of right-branching syntax mentioned above, however, "in both constituent order at clause level and in some

orders within the phrase, dialects do not show easily perceptible variations, neither between themselves nor in the course of their attested history" (Reguero-Ugarte 2013: 429). Thus neither the diachronic nor diatopic dimensions of word order are of much interest to the present discussion. The freedom of phrase order that present-day Basque allows for is reflected in the existence of discourse-pragmatically marked constructions, such as the following (Trask 1998: 320), which concern the order of the major constituents of the clause (focused elements are translated in italics):

(147) a. *atzo* ***hil*** ***zituen*** *bost txerri txistulari batek Legazpin*
yestrd. kill AUX five pigs flutist one in-Legazpi
"A flutist killed five pigs *yesterday* in Legazpi" (VOS)

b. *atzo bost txerri* ***hil*** ***zituen*** *txistulari batek Legazpin*
yestrd. five pigs kill AUX flutist one in-Legazpi
"A flutist killed *five pigs* yesterday in Legazpi" (OVS)

c. *atzo* ***hil*** ***zituen*** *txistulari batek bost txerri Legazpin*
yestrd. kill AUX flutist one five pigs in-Legazpi
"A flutist killed five pigs *yesterday* in Legazpi" (VSO)

d. *atzo txistulari batek bost txerri hil zituen Legazpin*
yestrd. flutist one five pigs kill AUX in-Legazpi
"A flutist killed five pigs yesterday in Legazpi" (SOV)

e. *atzo bost txerri txistulari batek* ***hil*** ***zituen*** *Legazpin*
yestrd. five pigs flutist one kill AUX in-Legazpi
"*A flutist* killed five pigs yesterday in Legazpi" (OSV)

f. *atzo txistulari batek* ***hil*** ***zituen*** *bost txerri Legazpin*
yestrd. flutist one kill AUX five pigs in-Legazpi
"*A flutist* killed five pigs yesterday in Legazpi" (SVO)

As can be seen in the translations of each of the different word orders in (147a-f), focused information tends very much to stand immediately to the left of the main verb: in (147a), for example, *atzo* "yesterday" is the focus because it stands immediately to the left of the verb *hil zuen* "killed". The same goes for (147c), where the relative difference in word order of *bost txerri* "five pigs" and *txistulari batek* "one/a flutist", and which implies a difference between (V)OS and (V)SO, does not seem to be pragmatically relevant at all. In (147b), on the contrary, *atzo* is the topic instead of the

focus, which is *bost txerri* and correspondingly occupies the immediate preverbal position. Except for the SOV pattern in (147d), where all constituents occupy an unmarked position, then, preverbal position seems to be focus position in Basque. The fact that focus tends to immediately precede the verb has been often noticed in the literature on Basque (Hualde & Ortiz de Urbina 2003: 454). Focused information, in addition to occupying a specific position in the clause, is also marked with pitch accent in those dialects of Basque that have preserved pitch (Hualde & Ortiz de Urbina 2003: 453). In fact, pitch accent can be used as the sole marker of focus in Basque, which means that there is a *syntactic* focus and a *prosodic* focus in this language (ibid.). The point here is, in any case, that it is clear that Basque allows for a considerable pragmatically and information-structurally conditioned freedom of word order.

How does this freedom of word order relate to typology? Drawing on the discussion above about the classification of languages into those with fixed and those with flexible word order, Basque has been claimed to belong to both groups: whereas Rebuschi (1987) defends that Basque is non-configurational and that there is no reason to support dominant SV order, other authors such as de Rijk (1969), Ortiz de Urbina (1989) or Erdozia et al. (2012) have defended the contrary. In this sense, a salient characteristic of Basque is that, in spite of allowing for a relative freedom of word order, it does not allow for discontinuous noun phrases. In addition to the possibly related fact that Basque allows for no freedom of phrase-internal word order, the absence of discontinuous noun phrases may be traced back to the prosodic nature of this language: it has been observed that languages like Basque, which have pitch accent, do not allow for discontinuous noun phrases to the same extent as, say, intonational languages do (Fanselow & Féry 2006: 29).

As has been argued above in Basque focus is marked either by syntactic means, i.e. by placing the focused constituent immediately preceding the verb, or by prosodic means, i.e. by stressing the accent on the focused constituent. This is not, however, the only means to mark focus in Basque: there also exists a pragmatic means to do so. As is the case of many left-branching languages that allow at least for a minimal degree of word order flexibility (and unlike strict verb-final languages like Japanese), focus can be marked in Basque by extraposing the focused constituent to postverbal position (Euskaltzaindia 1991: 16, Aske 1997: 687). Also, phonologically heavy constituents such as postpositional phrases or relative clauses tend to occur postverbally (148a), as well as clausal objects, which are considerably larger in prosodic terms than nominal

objects, tend to be postposed (148b-c) (Hualde & Ortiz de Urbina 2003: 452-454). A specific kind of adverbials (148d) as well as negative quantifiers (148e) and adnominal complements (148f) can also be extraposed to postverbal and postnominal position for reasons of phonological heaviness or focus (de Rijk 2008: 243, 291, 329), together with a myriad of other kinds of elements (Villasante 1980: 12, Aske 1997: 690 among others). This results in a considerable number of examples of marked SVO or SVX word order:

(148) a. *neuk* ***emango*** ***diot*** *Joni* *bileran* *eskatutako*
I give will to-Jon at-meeting requested
informazio *guztia*
information all
"It is me who will give John all the information he requested at the meeting"

b. *Jonek* ***esan*** ***du*** *Mikelek* *erlojua* *galdu* *duela*
Jon say has Mikel watch lost has-that
"John has said that Michel has lost the watch"

c. ***konturatu*** ***da*** *etxean* *inor* *ez* *zegoela*
realized has home-at nobody not be-that
"(He/she) has realized that there was nobody at home"

d. *inspektorearen* *erantzuna* *azkarra* ***izan*** ***zen*** *oso*
of-the-inspector answer fast be was very
"The inspector's answer was very fast"

e. *beretzat* *ez* ***zegoen*** *gizonik* *inor*
for-him/her not be man none
"For him/her there was no man"

f. ***banuen*** *gogoa* *Pazko* *afari* *hau* *zuekin*
I-had longing Passover dinner this with-you
egiteko!
to-do
"How I longed to eat this Passover supper with you!"

The clear-cut distinction between marked postverbal order and unmarked preverbal order is, according to some authors, not so apparent though, since some cases of

postverbal word order are not so clearly marked or derived (Reguero-Ugarte 2013: 436). Moreover, clauses with multiple subordination tend more often to be postverbal; that is why the more appropriate description of extraposition in Basque is that, the more heavy and focused a constituent is, the more likely it is to appear postverbally (ibid.). This tendency to extrapose such elements parallels the tendency of the Old Germanic languages, including Old Saxon, to extrapose heavy and focused constituents. The difference, in this case, is that Basque does not seem to be undergoing a change from unmarked left-branching to unmarked right-branching word order as a result of extraposition, in spite of claims to the contrary (Aske 1997: 729). Heavy extraposed constituents are namely attested since very early periods of the language, such as in the *Onsa hilceco bidia*, an ascetic treaty written by Juan Tartas in 1666 (Larrarte 1983: 234):

(149) *Frantzia* *orok* ***aitortzen*** ***dü*** *zü* *jaun* *handi* *bat* *Baroin*
France whole admit does you lord great one baron
handi *bat* *Markis* *handi* *bat* *zirela*
great one marquis great one that-are
"The whole of France admits that you are a great lord, a great baron, a great marquis"

Example (149) is very similar to (148c), a modern Basque example. Thus even though extraposition can be claimed to have been a possibility in Basque during the last three and a half centuries, the language still seems to be consistently left-branching.

6.2. Georgian

Georgian is a language that belongs to the Kartvelian or South Caucasian family and which is spoken in the Republic of Georgia and parts of the surrounding countries by approximately 4 million people (Boeder 2005: 5). Whereas the term "Kartvelian" refers solely to the linguistic family comprising Georgian, Megrelian / Mingrelian, Svan and Laz, "South Caucasian" is used to capture the fact that all three unrelated indigenous families of languages spoken in the Caucasus (i.e. North-West Caucasian or Abkhaz-Adyghe, North-East Caucasian or Nakh-Daghestan and Kartvelian), together with Indo-European languages like Ossetian or Armenian and Turkic languages like Turkish or

Azerbaijani, form a linguistic area that is the result of a prolonged situation of contact (Klimov 1986, Chirikba 2008, although see Tuite 1999 for a sceptical view). The oldest attested stage of the Georgian language, Old Georgian (5th-11th centuries CE), is attested first in the 5th century CE, although the oldest manuscripts that have been preserved are copies that date from the 8th century CE. This means that some features may in principle be more recent than assumed. In addition, the earliest texts are religious texts translated from Classical Greek, which implies the translational bias that because in the source language the order of major constituents is very free, their order in Old Georgian sometimes reflects that of the source language (Harris 2000: 134). In spite of the freedom of word order and translation practices, the dominant word order of this linguistic stage can be established (see the figure below), which is near-consistently right-branching (Harris 2000: 135).

The modern linguistic stage of Georgian can be said to follow mostly left-branching word order, although this language presents a few synchronic right-branching typological traits (Harris 2000: 135, 141, Boeder 2005: 49-50, Dryer & Haspelmath 2013), such as optional postposed Noun-Genitive and Noun-Relative order, even though the order of noun phrases is assumed to be left-branching (Boeder 2005: 49). In addition, the order of the constituents of the verb in Georgian can vary enormously depending on phonological, morphological and discourse factors (Boeder 2005: 64), making it difficult to determine the unmarked order of the verb phrase. If such factors are left aside and only the dominant word order of the language is considered, however, then Georgian has been generally accepted to follow verb-final order (Vogt 1971: 221, Harris 2000: 141-146, Boeder 2005: 64, Skopeteas et al. 2009: 103 among others). The fact that Georgian allows for right-branching order of some traits implies that a consistently left-branching language can also present right-branching traits that are due to an incomplete diachronic shift in the headedness of word order, in the line of Hawkins (1979: 641). The following is an illustration of the shift in the traits under consideration that takes place in the diachrony of Georgian[104]:

[104] The shift portrayed in Figure #7 is one of the relatively few historically attested word order changes from right-branching to left-branching. Because change leftward seems to be much more rare than change rightward and because in many cases it seems to be conditioned by contact (i.e., in a contact situation, a dominant left-branching language "forces" a right-branching one to change leftward), it has been proposed in the literature that "the change from SVO to SOV [...] is less likely to be a language-internal development. It occurs in cases of language attrition and contact" (van Gelderen 2011: 356) and that "not much evidence for a full word order cycle can be found" (van Gelderen 2011: 343). Even though Georgian is well-known to be part of the Caucasian linguistic area (and has arguably been so for thousands of years), where left-braching order is an important feature, it is not clear how Old Georgian, which as argued by Harris (2000: 133) to be right-branching, was less part of the Caucasian linguistic

Old Georgian word order		**Modern Georgian word order**
Noun-Adjective	>	Adjective-Noun
Noun-Genitive	>	Genitive-Noun/Noun-Genitive
Adp-Noun/Noun-Adp	>	Noun-Postposition
Noun-Relative clause	>	Relative-Noun/Noun-Relative
Adjective-Standard	>	Standard-Adj/Adj-Standard
Verb-Auxiliary	>	Verb-Auxiliary
Subject-Verb	>	Subject-Verb
Verb-Object/Object-Verb	>	Verb-Object/Object-Verb
Copula-Predicate	>	Predicate-Copula
Verb-AdpP/AdpP-Verb	>	Verb-AdpP/AdpP-Verb

Figure #7: *The shift in word order from Old to Modern Georgian*[105].

As can be seen in the figure, nearly all word order traits have shifted from right-branching to left-branching order throughout the history of Georgian. All orders present at least a right-branching variant in Old Georgian[106] and a left-branching one in Modern Georgian. This suggests that the synchronic variation between right-branching and left-branching traits should be regarded as the product of diachronic change. Moreover, it has been proposed that the situation in Old Georgian is derived from an older, unattested and more right-branching proto-stage: indications have been observed that prepositions in Old Georgian are relics of an older, dominant Adposition-Noun Phrase

area in the 5th-11th centuries CE. In other words, in this case language contact does not seem to have been responsible for the change leftward. The only way the author can think of by which van Gelderen's (2011) claims can be held is by looking at Dryer's (1989b: 257-292) and Yamamoto's observation (1999: 75) that word order is largely conditioned by linguistic macro-areas: under this view, Georgian would have changed under pressure from the left-branching Eurasian macro-area.

The shift occurring in Georgian has also implications for the synchronic consideration of "inconsistent" word order languages: it is possible that Georgian still displays many right-branching traits because the shift is still underway. If this were assumed to be true, it may open the way to reevaluate other changes analyzed in this dissertation. For example, a modern Indo-Aryan language such as Hindi could be argued not to have developed "genuine" left-branching Relative-Noun order (but rather so-called "correlative clauses", Dryer & Haspelmath 2013) because its ancestor, Old Indic, underwent an incomplete rightward shift (as argued at the end of section 5.6). In other words, "inconsistent" or "mixed" word order could be cross-linguistically attributed to an incomplete shift, as argued by Vennemann (1973) and discussed in chapter 3, section b.

[105] If both options are given for a trait, this indicates that there is no dominant word order for said trait.

[106] For a contrary view, see Boeder (1994: 448), who claims that Old Georgian, like Modern Georgian, can be regarded as a SOV language. Boeder does not, however, support this claim with any data at all. In light of the arguments and data provided by Harris (2000), then, Old Georgian can be regarded as a SVO and right-branching language, a view shared by most of the literature (Šaniʒe 1942: 371, Harris 2000: 139, Tuite 2004: 967 among others).

order (Šaniʒe 1942: 371, cf. Harris 2000: 136). This would suggest that Georgian has undergone a nearly complete shift in word order from right-branching to left-branching syntax, spanning across several centuries. Such a shift is comparable to the shift undergone by ancient Germanic. Regarding the present stage of Georgian, this can be said to be a near-consistently left-branching language that allows for flexible word order. With respect to nominal word order, it has been held that noun phrases are normally "head-final" because they are preceded by their modifiers according to the unmarked pattern, whereas relative clauses can either precede or follow the noun under specific conditions (Boeder 2005: 49). Something similar has been claimed about verbal word order, especially about the relative order of the verb and the direct object:

> When examining the order of words of main/declarative clauses it can be observed that the subject usually occupies the first position with respect to the words in the center of the clause; the verb often occupies the last position and the direct object often precedes the verb[107]. (Vogt 1971: 221)

In addition to following verb-final and near-consistently left-branching word order, then, Georgian can be said to follow unmarked SOV order. Georgian is moreover similar to Basque and to the proposed reconstructed type of Proto-Germanic in that it allows for pragmatically-marked freedom of word order of the major constituents of the clause (Skopeteas et al. 2009: 103):

(150) a. *ǯarisk'aci* *monadires* *dač'ris*
soldier hunter will-cut
"The soldier will wound the hunter" (SOV)

b. *ǯarisk'aci* *dač'ris* *monadires*
soldier will-cut hunter
"The soldier will wound the hunter" (SVO)

c. *dač'ris* *ǯarisk'aci* *monadires*
will-cut soldier hunter
"The soldier will wound the hunter" (VSO)

d. *dač'ris* *monadires* *ǯarisk'aci*

[107] "Si on examine l'ordre des termes de la proposition principale-déclarative, on constate que le sujet occupe normalement la première place par rapport aux autres termes du noyau, le verbe occupe souvent la dernière place, le régime précède souvent le verbe".

will-cut hunter soldier

"The soldier will wound the hunter" (VOS)

e. *monadires dač'ris ǯarisk'aci*

hunter will-cut soldier

"The soldier will wound the hunter" (OVS)

f. *monadires ǯarisk'aci dač'ris*

hunter soldier will-cut

"The soldier will wound the hunter" (OSV)

This freedom of word order is, as is typical of such languages, pragmatically conditioned. This relates to topic and focus: like in Basque, in Georgian narrow focus has been found to appear immediately to the left of the finite verb (Skopeteas et al. 2009: 104, Skopeteas & Fanselow 2010: 1370 among others). Thus in (150b), for example, the noun *ǯarisk'aci* "(the) soldier" is the focus of the clause because it immediately precedes the finite verb *dač'ris* "will cut". The same goes for all constituents immediately preceding the finite verb in (150c-f), except for (150a), where word order is unmarked. Also like in Basque, focused elements have been found to be pronounced with a pitch accent (see Jun et al. 2007: 41-57, although see Skopeteas et al. 2009: 105 for a contrary claim). Interestingly, verb-initial order (such as that in 150c-d) is a grammatical possibility, but seems to be restricted to the beginning of narrative sequences (Skopeteas et al. 2009: 103). Thus the use of verb-initial order could well be a parallel to that of narrative inversion in the old Indo-European and Germanic languages. In addition Georgian, like all old Indo-European languages discussed in this dissertation, allows for discontinuous noun phrases, as can be seen in example (151) (Fanselow & Féry 2006:49):

(151) *c'iteli naxa merim sami c'ignebi*

red saw Mary three books

"Mary saw three red books"

The fact that Georgian allows for discontinuous noun phrases is relevant to the discussion below on the typological characteristics of flexible word order languages and the implications of these characteristics for the reconstruction of Proto-Germanic word order. Another important question regarding Georgian is that of extraposition.

Moreover, thanks to the fact that Georgian has a long written history, the possibility can be analyzed whether extraposition has played a role in the word order change occurring in this language and portrayed in Figure #7. Extraposition seems to have been a possibility in the earliest Old Georgian texts, in spite of word order being considerably free (Tuite 2004: 967). This only seems to have been a possibility, however, with subject NPs that refer to new topics and thus belong to new information (152), but not with direct objects (ibid.) (Tuite 2004: 967):

(152) *xolo* ***xiq'wnes*** *mun* *dedanica* *mravalni*
but were there women many
"But many women were there"

Since the unmarked order of the major constituents of the clause in Old Georgian seems to have been SVO, with modifiers usually following the verb (Harris 2000: 141-146) in spite of a considerable degree of freedom, direct objects and modifiers cannot be extraposed. This explains why extraposition of direct objects is not a possibility in Old Georgian. Regarding Modern Georgian (18th-21st centuries CE), even though focus has been found to be immediately preverbal in this language, the possibility has also been observed for focused constituents to be extraposed (Skopeteas & Fanselow 2010: 1381). Phonological weight has also been found to be a cause for extraposition in Georgian (ibid.), where a light constituent tends to precede the verb (153a) and a heavy one to follow it (153b):

(153) a. *p'eteri* *mankanas* ***qidulobs***
Peter car buys
"Peter buys a car" (1 word, 3 syllables)
b. *p'eteri* ***qidulobs*** *did* *panžrebian* *mankanas*
Peter buys big window-with car
"Peter buys a car with big windows" (3 words, 8 syllables)

This means that extraposition as well as focus function in Georgian in a very similar way to that in Basque. Extraposition should not, however, be regarded as the only source for postverbal objects and constituents. Light, unfocused objects belonging to

new information can also occur postverbally, with the verb in medial position, as noted by Skopeteas & Fanselow (2010: 1371-1372):

(154) *bič'i* ***č'exavs*** <u>*šešas*</u>
boy is-cutting tree
"The boy is cutting a tree"

This means that postverbal position is, unlike in Old Germanic, Old Indic and Basque, not restricted to phonologically heavy, focused or new constituents in Georgian. In other words, in Georgian postverbal position seems to be "less marked" than in the previously discussed languages. This may explain why Modern Georgian has remained a consistently left-branching language since the leftward shift in Old Georgian, but it does not explain why the extraposed, postverbal subjects of Old Georgian have not been reanalyzed as standing in the unmarked position (as has indeed been the case in other languages, see below). If one tends to the Branching Direction Theory, one could argue that a change Subject-Verb > Verb-Subject would be exactly opposite to the leftward shift of Old Georgian. On the other hand, Dryer (1989b) argues for the existence of macro-linguistic areas of contact in the world. More specifically, the Caucasus seems to be located in the "core of [the] Eurasian linguistic area", which is characterized, among other features, for having consistently verb-final order[108] (Dryer 1989b: 274-275). In addition, as has been mentioned above, the Caucasus forms a linguistic area on its own, where verb-final order is the widespread basic order (Chirikba 2008: 42). This means that there are both typological and areal reasons why Old Georgian may not have had the possibility to develop unmarked Verb-Subject order as the result of extraposition, as well as why Modern Georgian does not develop SVO order on the basis of verb-final order.

6.3. Carib

Carib is a relatively average linguistic family in number of languages (around fourty) that is spoken in a large area covering most of northern South America, i.e. countries such as Venezuela, Brazil, Colombia, Surinam, Guyana or French Guyana (Meira 1999:

[108] There are, however, exceptions: Khvarshi, Arch'i, Tsakhur and Udi have unmarked verb-medial order (Yamamoto 1999: 74).

159). The number of speakers of Carib languages, however, is quite reduced, most of them having a few hundred or thousand speakers. The total number of speakers of Carib languages amounts to about 17,000 (Courtz 2008: 2). Even though Carib languages hardly have any written history at all[109] and most are scarcely investigated, this linguistic family is well-known in typological studies for presenting some cases of one of the rarest possible orderings of the major constituents of the clause, namely OVS. This order, which is present in only eleven out of the 1377 (0'8%) language-sample in the WALS, can be observed in seven Carib languages, namely Apalaí, Arekuna/Taulipang, Bacairí, Hianacoto-Umaua, Hixkaryana, Makúsi and Panare (Derbyshire 1981: 209, van Gelderen 2011: 362). The rest of Carib languages, on the other hand, seem to be predominantly SOV[110] (ibid.), even though many allow for more than one order depending on the type of clause and construction[111], for example in Tiriyó (Meira 1999: 542-558), Wayana (Tavares 2005: 421) or Ye'kwana (Cáceres 2011: 281). Because all investigated Carib languages present, in spite of this SOV-OVS difference, consistently left-branching word order with postpositions (155a), Genitive-Noun (155b) Predicate-Copula (155c) Adposition phrase-Verb (155d), among other traits, Proto-Carib is reconstructed as a consistently left branching language (Derbyshire 1981, Meira 1999: 95, 494, Caesar-Fox 2003: 105, van Gelderen 2011: 362, Kalin 2014: 1092, though see Gildea 2000: 65-106, who reconstructs the proto-language simply as Object-Verb):

(155) a. *parimö* *boro*
Paruima through
"Through Paruima" (Akawaio)

b. *pahko* *ipawana*
father friend
"My father's friend" (Tiriyó)

[109] Some Carib languages, however, have been described at a very early stage in comparison to other languages spoken in America. Such is the case, for example, of Tamanaku (†), which was described in the 18th century by the jesuit Filippo Salvatore Gilij (Meira 2006: 163).

[110] Gildea (2000: 65) mentions that "other synchronic Cariban languages have been argued to have the basic orders SOV, VSO, Absolutive-V-Ergative, and syntactically free word order", but then goes on to show that SOV and OVS are the most common types (Gildea 2000: 69).

[111] These synchronically coexisting different word order patterns have been referred to as "sets" and are typical of the Carib family (Meira 1999, Gildea 2000 among others). Despite the apparent difficulty that the presence of coexisting sets may pose to word order reconstruction, Gildea (2000) shows how all except for the "accusative OV" set can be traced back to the reanalysis of non-verbal constructions, such as the reanalysis of a nominalized Genitive-Noun order as Object-Verb order (Gildea 2000: 78-80). Thus, if the innovative word order sets are counted out, OV results as the original, Proto-Carib word order.

c. *ohxe* *rmahaxa* *naha* *woto*
good very is meat
"The meat is very good" (Hixkaryana)

d. *Paris* *wyino* *mòko* *ajumy* *wopỳpo* *sukùsa*
Paris from that your-father come I-know
"I know that your father has come from Paris" (Carib)

Since Proto-Carib is reconstructed as a consistently left-branching SOV language, this means that any divergence from the original order should be regarded as an innovation. That is why the observed OVS order of Hixkaryana and Makúsi should be regarded as the result of a change from SOV to OVS. In this respect, Derbyshire (1981) proposes that extraposition of subjects to postverbal position and posterior reanalysis as the unmarked order might have played a role in the emergence of OVS order in these two languages. In this sense it must be pointed out that not all Carib languages allow for OVS in equal terms; whereas Hixkaryana is among the most robustly OVS languages, Makúsi and Arekuna/Taulipang only slightly favor OVS over SOV, whereas OVS is a marked option for the otherwise SOV Carib language (156a-b) (Derbyshire 1981: 211). This means that the change SOV > OVS should be regarded as occurring in a continuum (ibid.):

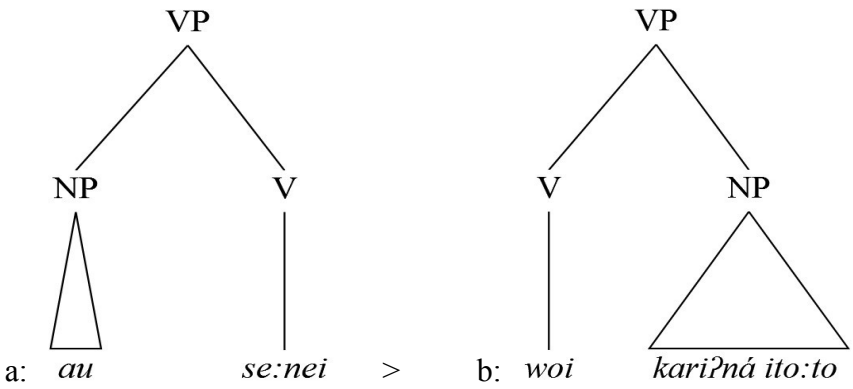
(156) a. *au* *moxko* *pe:ru* *se:nei*
I the dog I-have-seen-it
"I have seen the dog"

b. *pa:pa* *woi* *kariʔná* *ito:to*
father him-have-killed Indians the enemy
"The enemy Indians have killed my father"

Notice that, in Carib, postverbal subjects tend to be complex noun phrases consisting themselves of two or more noun phrases (cf. the preverbal pronoun *au* vs. the postverbal complex noun phrase *kariʔná ito:to*) (Derbyshire 1981: 218-219). This means that postverbal subjects tend to be phonologically heavier and information-structurally more complex than preverbal subjects, a clear parallel to Old Germanic. The posited change from SOV to OSV in a number of Carib languages would thus occur as follows (where 157a-b are taken from 156a-b):

(157) a. *au se:nei* (Subject-Verb, light, simple)

b. *woi kariʔná ito:to* (Verb-Subject, heavy, complex)



van Gelderen supports the view that extraposition of heavy and complex subjects is the cause and posterior reanalysis and grammaticalization as the unmarked order behind the emergence of OVS order in Carib:

> Derbyshire (1981) provides some evidence for a shift from SOV to OVS in some Carib languages. Carib of Surinam still has SOV but Hixkaryana and Makúsi are moving to OVS [...] He notices that subjects are often (optionally) expressed as afterthoughts, and are also marked on the verb. This could result in a reanalysis of the adjoined subject as an argument (van Gelderen 2011: 362).

Extraposition should not, however, be regarded as the only factor contributing to the shift SOV > OVS in Carib. Derbyshire (1981: 214-215) points out that the loss of subject and object case markers and the subsequent ambiguity between subjects and objects might have been a factor in causing extraposition of subjects to postverbal position. Moreover, the reason why in Carib languages the extraposed element is the subject, rather than the object (as seems to be the case much more frequently) is "because of the close-knit nature of the OV sequence" in the Carib languages, which causes any divergent order, such as postverbal objects or the subject standing in between the object and the verb, to be very rare (ibid.). Similar cases of grammaticalization of subject-final word order as the dominant order may have occurred outside Carib in a number of Austronesian VOS languages such as Fijian or Malagasy from previous Proto-Eastern Oceanic SVO (Dik 1978: 176-177).

6.4. Niger-Congo

Niger-Congo is a linguistic macro-family that comprises around 1,400 languages and is spoken by around 400 million people over large areas of Sub-Saharan Africa, which makes it one of the world's largest linguistic families in number of languages (Olson 2006: 155) and number of speakers (Bendor-Samuel 2006: 631). Although most of the languages of this family have no written history that stretches beyond a hundred years, the sheer number of languages provides a good basis for comparison, resulting in proposals as to the reconstruction of the proto-language since Koelle (1854) and ranging until today (Bendor-Samuel 2006: 631). The reconstructed stage of the language family, Proto-Niger-Congo, is generally assumed to follow SOV order and be left-branching[112] (Hyman 1975: 117, Givón 1979b: 199-224, Williamson 1989: 28, van Gelderen 2011: 358), in spite of the fact that most of the present-day Niger-Congo languages have verb-medial order, except for a few branches such as the Ijoid, Dogon, the Kordofanian language Tegem (Heine 1976) and the Atlantic-Congo language Kisi (Childs 1995), which are consistently verb-final. Thus any divergence from left-branching order should, in principle, and in spite of its frequency of occurrence in the present-day languages, be regarded as an innovation. The reason why such a reconstruction has been laid out in the past decades is that many Niger-Congo languages have at least some degree of left-branching word order, such as Togo Kan (Dogon) (158a) (Heath 2015: 144) or Defaka (Ijoid) (158b) (Jenewari 1983: 24):

(158) a. *íⁿ* *dí:* *dɛ̌ⁿ* *bîn* *kúnì*
I water water-jar in poured
"I poured water into the water jar" (Togo Kan, Dogon)

b. *a* *ebere* *kọ* *a* *okuna* *ḅááma*
the dog subj. the fowl kill
"The dog killed the fowl" (Defaka, Ijoid)

[112] That Proto-Niger-Congo should be reconstructed as SOV is, however, not the only proposal. In this sense, see Heine (1976, 1980: 95-112) and Claudi (1994: 191-231) for a view that Proto-Niger-Congo should be reconstructed as SVO and the changes ensuing the proto-language. More recently, a "mixed" proposal involving SAuxOVO order has been made by Güldemann (2011: 125). In addition, Hyman (1975: 121-123) suggests that a geographic continuum can be observed within Niger-Congo, which would range from most right-branching in the Bantu languages of Central Africa to most left-branching in the Mande languages of West Africa, with the Kwa languages standing in between.

In general terms, many languages of the family allow for varying degrees of extraposed constituents, in a continuum that ranges from considerably left-branching to considerably right-branching. Examples of this are Leggbó (Upper Cross), which has unmarked SVO order but where negative sentences are SOV (159a), exactly like in Kru (Atlantic-Congo) (159b) or Gbari (Atlantic-Congo), where unmarked order is SVO but which presents SOV order with focus particles (159c) or in procedural discourse (159d) (Hyman 1975: 125, Good 2003: 113):

(159) a. *wádum* *sɛ́* *lídzil* *eèdzi*
man the food not-eat
"The man didn't eat food" (Leggbó, Upper Cross)

b. *ɔ́* *sé* *kɔ̀* *tè*
he not rice buy
"He didn't buy rice" (Kru, Atlantic-Congo)

c. *Shegnada* *á* *pà* *gyi* *wo*
Shegnada foc book give him
"Shegnada gave him **a book**"

d. *mi* *ga* *ebí* *lá* *dna* *é* *dobwílo*
I seq child take put-in at silo
"I will put a boy into the silo" (Gbari, Atlantic-Congo)

At this point it is worth mentioning that, in Niger-Congo, negative clauses are historically embedded clauses (Givón 1995: 42-43). Recall Bybee's (2002) claim that embedded clauses are more conservative than main clauses with respect to linguistic change, including word order change. The fact that negated clauses follow SOV order in many SVO Niger-Congo languages thus provides further evidence that Proto-Niger-Congo should be reconstructed as SOV. On the other hand, in other Niger-Congo languages, such as Kpelle (Mande), the order of the major constituents of the clause is a fixed SOV, with every other element following the verb. Such elements include adverbial phrases or oblique case-marked noun phrases (160) (Hyman 1975: 127):

(160) *è* *siŋkâu* ***tèe*** *'kâloŋpó*
he money sent chief-to

"He sent money to the chief" (Kpelle, Mande)

Thus, Leggbó, Gbari and Kpelle can be said to be more right-branching than Togo Kan or Defaka, but more left-branching than most of Niger-Congo SVO languages, such as Yoruba, Ewe or Igbo. The key question, at this point, is how this state of affairs has come to be. In view of the above claim that Proto-Niger-Congo should be reconstructed as SOV and left-branching, a change in rightward direction should then be posited for most Niger-Congo languages, where some languages such as Leggbó or Gbari have remained halfway in the change. If this is assumed to be so, then it would be necessary to analyze how this change must have happened. In this respect, Hyman (1975: 126) notices that, in those cases in which Niger-Congo SVO languages require constituents to precede the verb (161a) (such as in negative or focused environments, as shown above), parts of the preverbal constituent can be extraposed to postverbal position when they belong to new information (161b):

(161) a. *ɔ́* *sé* *súa* *táì* *kɔ́* ***tè***
he not fish and rice buy
"He did not buy fish and rice"

b. *ɔ́* *sé* *súa* ***tè*** *táì* *kɔ́*
he not fish buy and rice
"He did not buy fish **and rice**"

Notice that this is exactly the same thing that happens in Old Indic with multiple-conjunct phrases (Gonda 1959: 7), a parallelism also noticed by Hyman (1975: 143, ft. 5). Something similar occurs with adverbs, which can both precede (162a) or follow (162b) verbs (Hyman 1975: 128):

(162) a. *sumo* *è* *wɛ́ɛ* *wúru* ***tèe***
Sumo he yesterday sticks cut
"Sumo cut sticks yesterday"

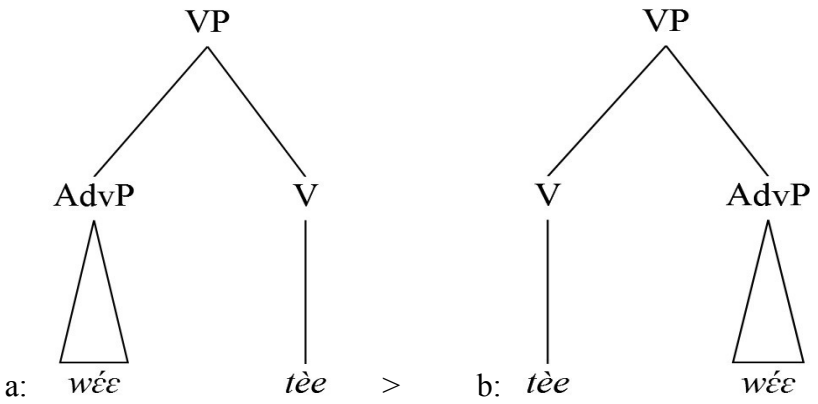
b. *sumo* *è* *wúru* ***tèe*** *wɛ́ɛ*
Sumo he sticks cut yesterday
"Sumo cut sticks yesterday"

In both these cases the second element of the conjunct negated noun phrase and the adverb can be said to have been extraposed. Bearing in mind the existence of those Niger-Congo languages in which the direct object precedes the verb and everything else follows it, such as Kpelle, one could posit that extraposition of such elements can be a driving force in the posited change from left-branching to right-branching word order in Niger-Congo. More specifically, as it has been argued to be the case in Old Germanic and Carib, extraposed elements could have become so frequent that they have been reanalyzed as the unmarked order. Thus the fixation of extraposed elements as the unmarked order can be schematized as follows (where 163a-b are taken from 162a-b):

(163) a. *wέε tèe* (Adverb-Verb, old information)

>

b. *tèe wέε* (Verb-Adverb, new information)



Extraposition should not be regarded, however, as the only cause for a change from left-branching to right-branching word order in Niger-Congo. Other factors such as contact (Hyman 1975: 121-123) or the grammaticalization of serial verbs into adpositions (Givón 1975) also played a role in such a change.

6.5. Sino-Tibetan

The Sino-Tibetan linguistic family is a large family of around 500 languages, which is second only to Indo-European in number of speakers (LaPolla 2015: 45). Even though most Sino-Tibetan languages have no written history, a few, such as Chinese or Tibetan, have been written for about three thousand years (Dong 2014: 6), which allows,

together with internal comparison, for some degree of reconstruction. In this respect, the two largest branches of the family diverge in their present-day word order: whereas Sinitic languages generally follow verb-medial and left-branching nominal word order, Tibeto-Burman languages have consistently left-branching word order (LaPolla 2015: 45). The only exception to this are two small Tibeto-Burman branches, Karen and Bai, which also have verb-medial order (ibid.). The generally assumed reconstruction of Proto-Sino-Tibetan is SOV and left-branching (Wolfenden 1929: 6-9, LaPolla 1994, 2015 among others). Thus any divergent order, such as that of Sinitic, Karen and Bai, should be regarded as an innovation. That is why present-day Chinese SVO should be regarded as the result of a change from SOV to SVO order. In this respect, extraposition of constituents to postverbal position has been argued to be one of the major driving forces of such a change (LaPolla 1994, 2015); an analysis of pragmatic tendencies in some Tibeto-Burman languages can be enlightening in this respect.

Tamang is a language belonging to the Tibeto-Burman branch of the Sino-Tibetan linguistic family that is primarily spoken in Central Nepal by about 750,000 people (Lee 2011: vi). Even though there exist two main varieties of Tamang, namely Eastern and Western Tamang, the language in question will be treated as a unit for the purpose of the study. The Tibeto-Burman languages share a number of features, the most relevant one for the present purposes being that almost all of them present consistently left-branching word order (Dryer 2003: 43). The reason why Tamang is relevant to the present discussion is that this language is a good example of how a "solidly verb-final language" (LaPolla 2015: 52) can nevertheless postpose elements onto postverbal position due to pragmatic motivations, such as focus. If extraposition is assumed to have been the causer of the SOV > SVO change in Sinitic, Tamang and Sino-Tibetan would thus represent a very similar case to that of Old Saxon and the proposed reconstruction of Proto-Germanic. This can be seen in the following examples, where an unmarked, verb-final construction (164a) is contrasted to a marked, constituent-focused verb-medial construction in Tamang (164b) (Lee 2011: 23, LaPolla 2015: 53):

(164) a. *then-dhugu-se* *kan* ***caji***
they rice ate
"They ate the rice"

b. *ken* ***caci*** *the-ce-no*
rice ate he

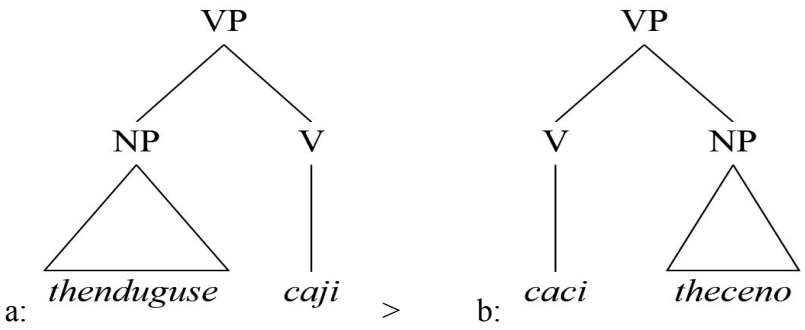
"**He** ate the rice"

The movement of focused elements to postverbal position could be represented as followed, using Dryer's (2009: 186-187) terms (where 165a-b are taken from 164a-b):

(165) a. *<u>thendhuguse</u> caji* (Subject-Verb)

>

b. *caci <u>theceno</u>* (Verb-Subject)



a: b:

This contrast between unmarked verb-final and marked extraposed constructions is not exclusive of Tamang, but can also be observed in other Tibeto-Burman languages such as Manange (Hildebrandt 2004: 110-111) or Kurtöp (Hyslop 2011: 253) as well. If reconstruction of Proto-Tibeto-Burman as verb-final is assumed, then, focus position would then have shifted from immediately preverbal, as in Basque, to postverbal, in those Sino-Tibetan languages that underwent a change in branching direction, as is proposed here to be the case in Old Saxon (Linde 2009: 384-385)[113]. This diachronic development can be seen in the fact that in Old Chinese focus is immediately preverbal (166a) (though only in negative and interrogative constructions, or when the focus is on a contrastive pronoun (LaPolla 1994: 97-98, 2015: 50-51)), whereas in Modern Chinese it seems to be postverbal (166b-c) (Li & Thompson 1975: 171):

(166) a. *ru* *nian* *zai,* *wu* *<u>wo</u>* *tian*
you remember PRT not I told
"Remember, don't forget what **I** told you" (Old Chinese, 5th c. BCE)

[113] Note that this assumption contradicts Li & Thompson's claim that "in Chinese [...] [a] shift from SVO to SOV [is] a diachronic process presently in action" (1975: 166). This latter view, however, has been progressively discarded in more recent literature on the basis of strong arguments to the contrary (Hsu 2009: 45 among others).

b. *tā* *mǔqīn* *zuò* *xiē* *zhēnzhǐ*
his mother do some sewing
"His mother did **some sewing**" (Modern Chinese, 18th c. CE)

c. *haizi* *da-po* *le* *neige* *chuānghu*
child hit-be-broken asp. that window
"The child broke that window" (Modern Chinese, 20th c. CE)

Coupled with the above Tamang examples, these instances would thus illustrate how a postverbal focus position can be responsible for word order change from verb-final to verb-medial and, ultimately, from left-branching to more right-branching.

CHAPTER 7. RECONSTRUCTION COMPARED TO PIDGIN, CREOLE AND MIXED LANGUAGES

The Branching Direction Theory frame does not address creole, pidgin and mixed (PCM) languages, as many other linguistic theories based on word order typology do not either (such as Vennemann's Operator-Operand opposition). One possible reason for this lack of attention is the controversy of the question whether PCM languages form a typologically identifiable class, with positions in the literature standing both for (McWhorter 2000: 790) and against (Lefebvre 2011: 28)[114] this view. Another probable reason is that PCM languages are, in spite of the differences between their substrate and superstrate languages, typologically similar to each other in comparison to other kinds of languages (see below) in the shared absent features: lack of ergativity, referential null pronouns, clitics or fixed syntactic rules such as the verb-second rule. This typological similarity can also be observed in shared present word order features. The majority of PCM languages favor objects following verbs as opposed to preceding them (Michaelis et al. 2013), which means that they are thus not representative of what can be observed in the rest of the world's languages:

[114] The view that refuses pidgin, creole and mixed languages as a typologically separate class usually considers these to replicate the grammatical features of their adstrate languages, thus standing in a linguistic continuum with the respective adstrate language(s) rather than forming a separate group:

> It was shown that the variation among creoles reflects the variation observed among their respective substrate languages, such that creoles largely reproduce the typological features of their substrate languages. This argues that creoles cannot be claimed to constitute an identifiable typological class (Lefebvre 2011: 28).

(167) Number of PCM languages according to word order[115]

Verb-final	SOV: 12 (16%)	OSV: 3 (4%)	Total: 15 (20%)
Verb-medial	SVO: 49 (64%)	OVS: 2 (3%)	Total: 51 (67%)
Verb-initial	VSO: 7 (9%)	VOS: 3 (4%)	Total: 10 (13%)
Free WO: 0 (0%)			

PCM languages are, however, representative of language genesis and may provide insights into universal rules of word order and word order change (Bickerton 1984: 173), which is why they are taken into account in this dissertation. It is due to their similarity in the shared absent features as well as in word order, as shown above, that PCM languages will be treated here as a typologically separate group, thus ascribing to McWhorter's (2000) view.

7.1. Michif

Michif is a mixed language spoken by the Métis, descendants of fur traders of European origin, and Cree women in vast areas of central Canada and northern United States, and more specifically in Alberta, Saskatchewan and Manitoba in Canada and Montana and North Dakota in the U.S. (Bakker 1997: 3). The number of speakers, although it must have been considerably higher at the time of the turn of the 20th century, is currently estimated to be less than a thousand and spoken mostly by elderly people and thus highly endangered, around 700 according to the *Ethnologue* and below 100 by the APiCS. Michif is one of the rare kind of mixed languages of the world, comparable to other mixed languages such as Angloromani or Media Lengua. This means that, even though Michif has the fact in common with pidgins and creole languages that it results from contact among many different varieties, including French, Cree, English, Ojibway, it lacks the substrate/superstrate structure that usually defines pidgins and creoles (Bakker 2003, cf. Prichard & Shwayder 2014: 271). This mixed language is comprised of French nouns and Cree verbs, but its speakers are rarely bilingual in either of these languages (which is why a substrate/superstrate is non-existent). Michif thus combines a lexical noun stock of Indo-European origin with a verbal morphology and structure of

[115] These data have been taken from the *Atlas of pidgin and creole language structures* (APiCS), (Michaelis et al. 2013).

Algic origin. In addition to its rare mixed status, the reason why this language is relevant to the present discussion is that it allows for any possible ordering of the major constituents of the clause as well as for most of the typological traits under discussion. Apparently Michif has preserved much of the freedom of word order of Cree, except for in nominal word order, where the order of French is preferred (168a-b) (Bakker 1997: 9). In spite of this freedom, there is a tendency for the verb to appear in final position, which is possible in Cree but not in French (Rosen 2007: 19):

(168) a. *lɔm* *la* *fam* *ki* *wapamew*
the-man the woman past see-he-her
"The man saw the woman"

b. *la* *fam* *lɔm* *ki* *wapamew*
the woman the-man past see-she-him
"The woman saw the man"

As can be seen in the examples, the grammatical function of the constituents can be determined not only by the ordering of verbal markers (ibid.), but also by word order. Even though verbal word order in this language is essentially as in Cree, that is quite free, and nominal word order essentially like French (Bakker 1997: 87-89), the APiCS claims that, impressionistically, SOV and SVO are the most frequent orders in the available Michif corpus of texts and in elicitation, with around a third (33%) of text frequency as opposed to the rest of orders possible orders, which make up the remaining third[116]. Unfortunately the author is not aware of any studies that revolve around the question of the markedness value in Michif of the different orders of the major clause constituents. Even though prepositions are the most frequent type of adposition in Michif, circum- as well as postpositions also exist (Bakker 1997: 110). Relatives may precede or follow noun phrases (169a-b), the standard of comparison may only follow the noun (169c), and genitives may only precede nouns (169d) (Laverdure & Allard 1983: 87):

(169) a. *li:* *gro:* *pale* *ka:ya:-chik*
the big palace have-who-those
"Those who have big palaces"

[116] A claim that can be read at http://apics-online.info/valuesets/75-1.

b. *enn* *fiy* *ki* *li* *parali:zi:*
a girl who has paralysis
"A girl who has paralysis"

c. *aen* *to:n* *nawat* *mishikitiw* *ashpeehchi* *aen* *mush*
a horsefly more big-is than a fly
"A horsefly is bigger than a fly"

d. *la* *fiy* *soo* *zhwal*
the girl her horse
"The girl's horse"

Thus except for the fact that nominal word order is heavily conditioned by that of French, a mostly right-branching language (Dryer 1998: 289) with rigid word order, Michif word order can be said to be quite similar to the proposed reconstruction of Proto-Germanic word order. On the other hand, due to the above-mentioned freedom of word order that this mixed language displays, it is difficult to determine when and whether a constituent has been extraposed. There exists, however, a morphological marker in Michif, the obviative -(*w*)*a*, whose function is to distinguish between two or more third persons within a clause or part of discourse (Bakker 1997: 88-89). Since the function of the obviative is contrastive, then, it can be said to have something to do with focus. In this respect, it is interesting to notice that when the obviative marker attaches to the noun phrase (since it can attach both to NPs and to the verb (Bakker 1997: 219)), the noun phrase tends to stand in postverbal position (170a-b):

(170) a. *John* *ki:wa:pame:w* *Irene-a*
John he-saw-her Irene-OBV
"John saw Irene (and no one else)"

b. *æ̃* *nɔm* *dã* *lɪ* *bãd* *mu:d* *ki:nlpahe:w*
a man in the crowd of-people he-caused-to-kill-him
Bobby Kennedy-wa
Bobby Kennedy-OBV
"A man in the crowd killed Bobby Kennedy (and no one else)"

Thus even a non-consistently left-branching yet verb-final mixed language that allows for considerable word order freedom like Michif extraposes constituents to a certain

degree as a means to mark contrastive focus. Since this is not a very widespread phenomenon in the language, however, no word order change can be observed, unlike it has been shown to be the case in many of the previously discussed languages.

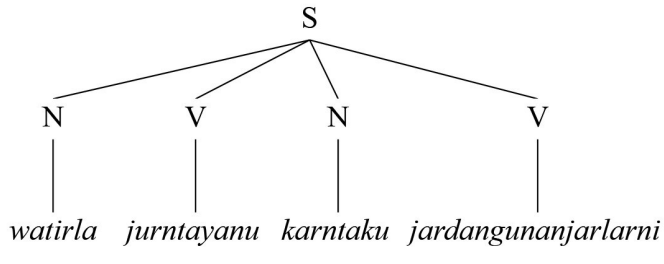
CHAPTER 8. SUMMARY: NON-CONFIGURATIONALITY AND WORD ORDER CHANGE

The discussion in chapter six has shown that early Indo-European languages are characterized by a relatively free word order, which is coupled with a seven- or eight-way nominal case system and a small number of adpositions that can combine with either nouns or verbs. In such a system, spatial relations are usually encoded by morphological means, i.e. by case marking, which produces little need for adpositions and thus explains their scarcity (Hewson & Bubenik 2006: 334-345). In addition, as has been mentioned above null anaphora as well as discontinuous noun and verb phrases are widespread in early Indo-European (König & van der Auwera 1994: 126, Faarlund 2001: 1713 among others). This suggests that Proto-Indo-European should be reconstructed as a non-configurational language. Non-configurationality is usually defined as "a lack of phrase structure or constituency" (Smitherman & Barðdal 2009: 261), i.e. a non-configurational language lacks phrases and/or constituents. In addition, two kinds of non-configurational languages have been distinguished in the literature:

(i) "Pure" non-configurational languages: Those that have completely free word order without distinction of markedness and which lack constituents altogether, a classical example of which would be Warlpiri (Hale 1983: 5-46). In these languages no phrases can be distinguished, nor can any hierarchical relationships between phrases. Because of that, a representation of phrase structure in "pure" non-configurational languages must necessarily be flat. The following Warlpiri example illustrates this (S = clause, Hale et al. 1995: 1442, cf. Legate 2001: 66):

(171) a. *watirla* *jurntayanu* *karntaku* *jardangunanjarlarni*
man went-away woman.DAT while-lying
"The man went away from the woman while she was sleeping"

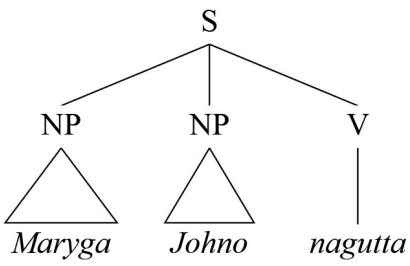
a'.



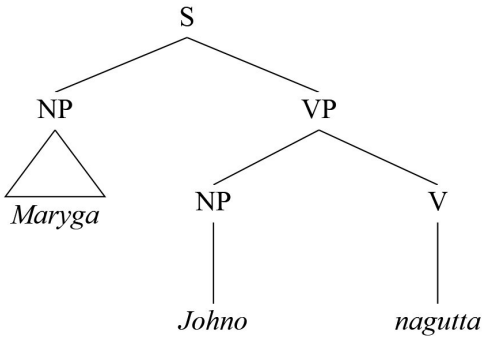
(ii) "Partial" non-configurational languages: those languages that allow for many different word orders with a distinction of markedness and which lack only certain kinds of constituents, such as Japanese, which apparently lacks verb phrases (Dryer 1992: 117). The following Japanese sentence (172a) is an example of "partial" non-configurational language. A non-configurational (172a') and a configurational (172b') representation are provided of (172a). According to the literature on configurationality, (172b') would be impossible, since Japanese lacks verb phrases (S = clause, Saito 1985: 32):

(172) a. *Maryga* *Johno* *nagutta*
Mary.NOM John.ACC hit
"Mary hit John"

a'.



b'.



Based on these assumptions, it is legitimate to try to determine whether a closely related language of the classical Indo-European languages such as Proto-Germanic must have been a non-configurational language as well (Faarlund 2001: 1713). In this sense, the above discussion of genetically and areally unrelated languages that allow for different degrees of freedom of word order can be enlightening. At least a number of observations can be drawn from their analysis:

(i) In languages that follow one specific dominant word order but allow for freedom of word order, marked patterns are not random, but they are usually the result of information-structural factors such as focus, topicalization, narrative discourse, extraposition etc.

(ii) Such languages usually have two means to mark foci: on the one hand, a specific syntactic position fulfills this function. This syntactic position is usually initial position, although immediate preverbal position is also a possibility (Basque, Georgian), in addition to postverbal position (Old Germanic, Old Indic). On the other hand, prosody, be it by means of tone, stress or pitch, is used to mark the focused element. In this latter case, the constituent need not occupy a specific syntactic position in the clause.

(iii) It has been shown how extraposition of phonologically heavy and information-structurally new elements is a frequent phenomenon in both Ancient and Old Germanic. This suggests that the same phenomenon should be reconstructable for Proto-Germanic, and that it might play a significant role in word order change. Other Germanic languages that have not been taken into consideration here, such as Middle Dutch, show the same tendencies (Burridge 1993: 94-95).

(iv) Languages like Basque, Georgian or Tamang illustrate that extraposition of elements to postverbal position as a means to mark information is not a phenomenon exclusive to the Indo-European languages. Other Carib, Niger-Congo and Sino-Tibetan languages also illustrate how if constructions containing an extraposed element become frequent enough, these can be reanalyzed as the unmarked word order, leading to a diachronic change from verb-final to verb-medial order (Hyman 1975, Derbyshire 1981, LaPolla 1994, 2015) and ultimately from left-branching to more right-branching.

(v) It has been shown how a change in the order of the basic constituents of the clause does not necessarily imply a reduction or restriction of the different word order possibilities of a language. In the reconstructed case of Basque, and especially in the attested case of Georgian, the change VO > OV does not imply word order restriction or fixation, as the considerably free word order of both Old and Modern Georgian shows (Harris 2000: 134). This suggests that, even though late Proto-Germanic or early Ancient Germanic must have begun a change in branching direction, the word order freedom observable in Old Saxon and other Old Germanic languages should be regarded as a preserved and thus inherited, rather than innovative, characteristic of Proto-Germanic. This possibility, which may deviate from the assumption that a reconstructed proto-language is an idealization (Mitxelena 1986: 42, Campbell 1998:

146), is observed by Ratkus (2010: 221): "If we stray from a dogmatic understanding of what constitutes a proto-language, we may assume that both word orders are legitimate in early Germanic and represent a very early state of affairs".

Regarding the question of whether Proto-Germanic can be reconstructed as a non-configurational language, then, on the basis of the above data no Ancient or Old Germanic language can be claimed to have completely free word order in any of its stages, therefore the impossibility to reconstruct Proto-Germanic as a "pure" non-configurational language (Burridge 1993: 222, footnote 1). This is in spite of claims to the contrary regarding some of the Old Germanic languages, such as Old Norse-Icelandic (Faarlund 1990: 82-83, 102). Regarding the implications for the Branching Direction Theory of reconstructing Proto-Germanic as a "partial" non-configurational language, Dryer (1992: 117) claims that such languages do not pose a problem to the BDT. According to this author, non-configurational languages of the partial sort do not pose a problem for many of the typological traits accounted for by the Branching Direction Theory, because such languages generally do seem to possess noun phrases, adposition phrases, and clausal constituents (Dryer 1992: 117). A good way to definitively answer the previous question, however, is by applying configurationality diagnostics to all languages discussed above (Hale 1983: 5, Speas 1990: 142-143, Baker 2001: 1437, Luraghi 2010: 212):

Language	"free" word order	discontinuous NPs	null arguments	"rich" case	"rich" agreement
Latin	+	+	+	+	+
A. Greek	+	+	+	+	+
Old Indic	+	+	+	+	+
PGermanic	+	+	+	+	+
Basque	+	-	+	+	+
Georgian	+	+	+	+	+
Carib	-	-	+	+	+
Niger-C.	-	-	-	+	-
Sino-Tib.	-	-	+	+	+
Michif	+	-	-	+	+

Table #31: *Diagnostics for* (*non-*)*configurationality in the discussed languages*.

This classification should, however, be assumed only with great scepticism. The reasons for such a scepticism are (a) that many (non-)configurationality diagnostics positively

apply to languages with relative freedom of word order that are not necessarily non-configurational (such as many Romance languages) and (b) that not all diagnostics are fulfilled by languages that have been described as non-configurational in the literature (such as Japanese). In addition, a number of questions regarding the theory need to be answered regarding the classification in Table #31. A natural question that arises in view of these diagnostics is what exactly is implied by "rich(ness of)" case and agreement, and whether this richness can be quantified. Regarding richness of case-marking, a reasonable line can be drawn between those languages that present only straight and oblique case-marking and those that present at least three distinct cases. Such a diagnostic would be fulfilled by Basque, Georgian and Proto-Germanic, but not by most Niger-Congo languages. Concerning null arguments, a question that needs answering is what degree of null arguments is acceptable so that a language can be classified as non-configurational. Whereas, on the one hand, Basque allows for referential null subjects and direct objects (de Rijk 2008: 205), on the other hand Walkden (2013b) observes that Old English is a partial null subject language that allows for referential null subjects only under certain pragmatic conditions.

Languages such as Old English, Finnish and Hebrew as well as others such as Icelandic, Russian, Marāthī, and Brazilian Portuguese need to be classified as a separate type of null argument language, namely the "partial" null argument language type (Walkden 2013b: 169, see discussion in chapter 3, section d). Similar findings have been made for Old High German, with claims that it is a partial null-subject language (Axel 2007: 326). This is true of Old Swedish as well (Håkansson 2008). These facts lead to think that if Proto-Germanic should be reconstructed as a language that allows for null anaphora, it could only be reconstructed as a "partial" null subject language. If a continuum is drawn between "more" and "less" null-subject, however, the earliest Germanic languages, especially Gothic, are found to be most null-subject (Harbert 2007: 221). In addition, most "partial" null subject languages tend to evolve from previous full null subject languages (Walkden 2014a: 226). This is the case of many of the current "partial" null subject languages, such as Brazilian Portuguese or Hebrew. A further question is what exactly is meant by "free" word order. In line with what has been observed and proposed so far, a language with "freedom" of word order is understood here as a language that has one dominant word order but allows for various marked orders depending on pragmatic and information-structural conditions (i.e. Figure #1 above). In conclusion, the diagnostics for non-configurationality are quite

relative, circular and subject to scepticism. Consequently a discussion on the (non-)configurationality of Proto-Germanic raises many more questions than it answers. That is why this term will be abandoned in favor of the original characterization of Proto-Germanic as a language with dominant near-consistent left-branching traits that allows for pragmatically conditioned freedom of word order.

Regarding the question whether extraposition should be considered a factor contributing to word order change in early Germanic, it has been shown how extraposing constituents to the right of the verb is a very widespread phenomenon in left-branching languages. In many cases, as has been shown to be the case in the history of Carib, Niger-Congo and Sino-Tibetan, this kind of operation, if it becomes sufficiently frequent, can trigger word order change (Hyman 1975, Derbyshire 1981, LaPolla 1995, 2015). Here there is a clear, undeniable parallel to the Old Germanic languages (Wallenberg 2009, Walkden 2014b). In other cases, such as in Basque, Georgian and Michif, however, extraposition of constituents into postverbal position does not necessarily trigger a diachronic change in the basic word order of the language (Bakker 1997, Hualde & Ortiz de Urbina 2008, Skopeteas & Fanselow 2010). The question that arises is why this difference exists among extraposing, verb-final languages (Hock 1982: 91-92). It seems as though in some languages areal and typological forces prevent such a change from happening, as in Georgian (Dryer 1989b, Chirikba 2008). In others, however, no such explanation is available, since for example Basque is a consistently left-branching, extraposing language that has been surrounded by and in intense contact with Indo-European SVO languages like Castilian Spanish, Gascon and French for centuries. Perhaps it is simply a question of how often a language makes use of extraposition, i.e. of frequency, or even of chance: “afterthought patterns [...] occur probably in all languages, without necessarily becoming grammaticalized” (Derbyshire 1981: 216).

Part IV: Conclusions

CHAPTER 9. CONCLUSIONS AND IMPLICATIONS FOR THE LITERATURE

9.1. Proto-Germanic as a near-consistently left-branching language

This dissertation has argued for a reconstruction of Proto-Germanic as a near-consistently left-branching language according to the terms of the Branching Direction Theory (Dryer 1992) on the basis of an analysis of Old Saxon word order data. Additional data from other Old Germanic and Indo-European as well as selected non-Indo-European languages have been used to support this claim. The reconstruction of the proto-stage that the Old Saxon and comparative data support is similar to the one proposed by W. P. Lehmann: the data suggest that Proto-Germanic word order should be reconstructed as nearly, yet not completely, typologically consistent: "I do not assume that it [i.e. Proto-Indo-European] was consistently OV, especially in its later stages" (W. P. Lehmann 1974a: 26). This typological inconsistency does not affect Object-Verb order, which in spite of the co-occurrence of marked orders can be reconstructed as the basic or dominant order of Proto-Germanic (Burridge 1993: 229). The same conclusion was reached recently (Walkden 2014a). Reconstruction of Proto-Germanic word-order as left-branching is moreover based on one key assumption: that subordinate clauses are more conservative with respect to linguistic change than main clauses (Givón 1979a: 259-265, Bybee 2002: 1-17).

The data from Old Saxon and other Old Germanic languages suggest that Proto-Germanic allows for both prepositions and postpositions, as well as for Noun-Relative and Relative-Noun order, without any of the two being reconstructable as the dominant pattern. The data also suggest that Genitive-Noun and Noun-Genitive as well as Adjective-Noun and Noun-Adjective[117] can both be reconstructed for Proto-Germanic, but unlike in the case of adpositions and relative clauses, here the left-branching pattern can be reconstructed as unmarked, the right-branching as marked[118]. In the case of postpositions, these are far more rare than prepositions. In this respect, it is widely assumed in the literature that Proto-Indo-European must have had solely postpositions

[117] This contradicts Smith's (1971: 221) as well as Ratkus's (2010: 188) findings, who conclude that Proto-Germanic follows Noun-Adjective order.

[118] To use Hawkins's (1983: 13) terms, it has been argued here that Proto-Germanic must have allowed for a great deal of "doubling", which goes in line with the idea that this proto-language must have allowed for a great deal of word order freedom.

(Baldi 2009: 44, though see Lightfoot 2002a-b for a contrary view). In this view the Proto-Indo-European-inherited postpositions would have evolved into directional preverbs but still have case-marked the noun, at the loss of which prepositions would have emerged (Smitherman and Barðdal 2009: 254). This would explain why preverbs and postpositions are difficult to distinguish from each other not only in Old Saxon, but also in other early Indo-European languages such as Ancient Greek. As opposed to this view, the earliest widely attested Indo-European language, Old Hittite, presents both prepositions and postpositions (Hoffner & Melchert 2008: 441), as well as prenominal and postnominal relative clauses (Garrett 1994: 29-69). In view of this and coupled with the Old Saxon data, reconstruction of Proto-Germanic word order as consistently left-branching should be reconsidered in favor of near-consistent left-branchingness. This contradicts a number of previous claims, especially W. P. Lehmann (1974b) and Friedrich (1975).

A co-occurrence of left- and right-branching word order can be observed in some of the early Indo-European languages, such as in rigvedic Old Indic, where participial constructions can be considered as equivalent to left-branching relative constructions (Lowe 2015: 117). This suggests that the related Proto-Germanic language is not a consistently left-branching language, against the view initially proposed by early typological work (cf. W. P. Lehmann 1972, Vennemann 1974), but a near-consistent one. Such a state of affairs is also hinted at by Hawkins (1979). The findings of this dissertation contradict, among others, Smith's (1971: 250) claim that Noun-Genitive order should be reconstructed for Proto-Germanic. Beyond the marked-unmarked distinction, the early Germanic data also support the view that in Proto-Germanic word order was largely determined pragmatically. One example for this pragmatic use of word order is that, in the absence of definite articles, the early Germanic languages used word order, for example in possessive constructions, to mark definiteness, as claimed by Ramat (1984: 406). Possessive pronouns followed nouns when these were definite, and preceded them when indefinite. On the other hand, so-called “determinative” adjectives such as **filu* or **managaz* “(very) much, many” followed nouns, whereas all others preceded them. Moreover, the data from Old Saxon, Gothic and the runic inscriptions discussed above suggests that the variation between Adjective-Noun and Noun-Ajective order in early Germanic depends not only on definiteness, the semantic-lexical properties of the adjective as well as its attributive or predicative use, but also on its phonological weight. This would explain why both orders are attested in the earliest

Germanic languages and it would justify the difficulties to reconstruct one or the other order: the ordering of the adjective relative to the noun is a complex matter that is conditioned by many factors (at least four), regardless of typological harmony. Also, genitives could precede or follow nouns, depending on the semantics of the noun (i.e. whether the noun referred to a sacred entity, a relative or to something else). The results do not clarify when adpositions could follow or precede nouns, although it is worth pointing out that in Old Saxon all attested postpositions are complex (i.e. they originate in the combination of two adpositions, for example *an* + *gegin* > *angegin* "in front of, before, against" or *te* + *gegin* (*-es*) > *tegegnes* "in front of, before, against"). This is not the case in other Germanic languages like Old Norse or Old English, where simple adpositions such as *við* "against, toward" or *in* "in(to)" sometimes precede, sometimes follow nouns.

A typological comparison of the reconstructed Proto-Germanic word order has been used to determine its plausibility. In this sense, it must be pointed out that the reconstructed ordering of major constituents (SOV) is the most common order in the world's languages, with numbers around 45% (Dryer & Haspelmath 2013), and that shifts of the kind OV > VO (or, in more general terms, from left- to right-branching word order) are very well documented. This is, of course, not taking information-structural factors, such as pragmatically marked word order, into account. It has also been argued that pragmatically and information-structurally motivated word order operations are largely responsible for the word order variation observed in the Ancient and Old Germanic languages. As a point which is perhaps more important still than synchronic word order variation due to the diachronic repercussions, syntactic operations have been argued to be responsible for word change. These findings support the view that Proto-Germanic should be reconstructed as a language with pragmatically motivated word order:

> In the case of Proto-Germanic [...] the generally held view is that it was a verb-final language where the verb-final pattern was an unmarked neutral structure used in ordinary sentences, the verb-initial pattern was a marked order used for special purposes like commands or expression of emotions, and the verb-second pattern was a Germanic innovation that finally took over as the dominant order (Cichosz 2010: 5-6).

The fact that Proto-Germanic and Ancient Germanic allow for more than one word order must not be regarded as contradicting the findings made in this work, since it is very common for the world's languages to allow for more than one word order. Givón (1976: 175, cf. Burridge 1993: 226) notes that a considerable number of languages that allow for pragmatically controlled word order variation are ex-SOV languages. Therefore, variation in word order in ancient and Old Germanic does not necessarily speak against reconstructing unmarked OV order. Even though the near-consistent explanation suggests that typological comparison or, rather, idealization is not so effective for reconstructing languages, this loss of effectiveness is rendered mute if one takes into account that, among those almost completely consistent left-branching languages, it is most common for Noun-Relative to be the only inconsistency. This can be seen by Dryer's (1992: 109) sample, where 22/30 (73%) of the inconsistent left-branching languages diverge in only the typological trait of Noun-Relative. In other words, Dryer observes that Noun-Relative order is cross-linguistically the preferred order regardless of word order harmonies.

The proposed reconstruction is not without problems and debatable points: important limitations to the claims made in this dissertation are the facts (a) that the runic corpus is too small and the non-attestation of postpositions could be due to chance, and (b) that the Gothic corpus is too heavily influenced by the original Greek so that no postpositions might have been allowed by the translator. Such a state of affairs is not overtly assumed, but suggested, by W. P. Lehmann (2007). The weakness of the hypothesis presented in this dissertation that Proto-Germanic should have had postpositions is that it depends exclusively on statistical chance. Moreover, it has already been mentioned that parts of the Gothic corpus differ from the original Greek. Therefore, in principle it should be expected, if it is assumed that ancient Germanic has postpositions, for these to appear wherever the Gothic translation is not a word-by-word rendering of the original Greek. This is not, however, the case, hence the weakness.

9.2. Extraposition and word order change

The second major claim put forth in this dissertation is that a general shift from left-branching to right-branching should be assumed for late Proto-Germanic or early ancient Germanic. The facts laid out in this dissertation provide support for the claim put forth by W. P. Lehmann (2007: 71) that the earliest documented stages of Germanic

show traces of left-branching syntax, as can be seen in the data from Old Saxon. If the existence of a shift is assumed, then, this shift should be regarded as developing gradually, at rates that increasingly favor the innovative variant (Kroch 2001: 725):

> Language change in general takes place gradually and therefore reflexes of an older stage are still found later in changed environments with the possibility of reanalysing "old" properties with regard to the new conditions (Linde 2009: 384).

Hence synchronic variation should at least in part be regarded as the product of diachronic change:

> Languages do not occur in static or stable states. All languages exhibit some degree of grammatical variation, and they change over time; in fact, much synchronic variation represents language change in progress (Croft 1990:203).

It is thus to be expected that syntactic patterns that correlate with left-branching order coexist in Old Saxon with patterns that correlate with right-branching order due to the change in progress. Hawkins (1979: 620-621) expresses the same idea in terms of change from Object-Verb to Verb-Object order. According to this author, cross-linguistically the innovative Verb-Object order coexists for quite some time with the more conservative Object-Verb. Their frequencies do not, however, remain unchanged, as the innovative pattern gradually gains in frequency and becomes more grammatical and acceptable to the speaker, until it replaces the older pattern as the dominant order. The older pattern either remains as an archaic feature, or disappears (ibid.). The change from OV to VO order of the verb phrase, at least in independent clauses, would thus be part of the larger resettling of the branching direction in Ancient and Old Germanic.

This second major claim is also not without debatable points: in view of the change in early Germanic from left- to right-branching word order, the question arises why genitives and adjectives do not change in the same direction, as they do for example in Romance (Bauer 2006). One possible answer to this question could that, in Germanic, adjectives and genitives fulfill the function of marking definiteness, whereas this is not the case in Romance (Cinque 2010, Lødrup 2011). At a stage in which early Germanic has not yet grammaticalized definite articles, the only way to mark definiteness is by means of word order, i.e. by postposing genitives and adjectives (Ramat 1998). Thus a

change in branching direction like that occurring in Romance cannot occur, or else the only means to mark definiteness would be lost. The same synchronic situation is found, for example, in the present Slavic languages, where dominant verbal word order is VO (Zlatić 2013: 23), but where (with a few exceptions) there are no definite articles, and therefore postposition of adjectives and genitives is used to mark definiteness.

In spite of its debatable points, the shift from left branching to right-branching word order of Proto-Germanic is fairly plausible. It has been shown that, diachronically, the number of word order patterns decreases. This does not mean, however, that the earliest stages, which allow for more freedom, do not favor a specific dominant pattern, as the Old Saxon data suggest. The claim that a shift in word order occurs, however, brings another question: namely what the motivation for such a shift would be. Even though extraposition of heavy elements and of elements carrying new information has been argued to be one of the major forces to drive such a shift, a series of additional factors have been proposed as causers for the shift:

(i) Common drift of genetically related languages (Sapir 1921);
(ii) Areal European influence (Dryer 1989a, Haspelmath 2001b) or "Pan-European Drift" (Hock 1986);
(iii) Fixation of Germanic stress in initial position and consequent morphological changes (Vennemann 1975), including loss of inflectional morphology, which leads to the "grammaticalization" of word order (Kiparsky 1996: 141);
(iv) Cliticization of auxiliary verbs (Faarlund 2010);
(v) Pragmatic extraposition and subsequent reanalysis (Lightfoot 1979, van Kemenade 1987, Burridge 1993, Kiparsky 1996, though see Bies 1996: 35 for an opposing view).

None of these drivers of word order change is uncontroversial. Regarding factor (i), the recent paper by Dunn et al. claims that word order change is exclusively genetically determined (Dunn et al. 2011: 79), something already proposed by Edward Sapir under the concept "drift" (Sapir 1921: 59). Dunn et al.'s (2011) claim does not, however, exclude linguistic change due to areal influence, which brings us to the next point. Factor (ii) involves language contact among the European languages (especially Romance and West Germanic) during the great migrations period and the transition between Antiquity and the early Middle Ages (Haspelmath 2001b: 1507). The dominance of the Frankish Empire over Western Europe during the same period has

also been claimed to be responsible for some common syntactic features in Romance and Germanic (Walkden 2014a: 222-224). In addition morphology loss and particularly loss of agreement, which has been adduced to cause word order change (Vennemann 1975), seems to be frequent under linguistic contact: "reductive contact-induced changes of agreement systems seem to be documented fairly frequently" (Stolz 2015: 272). Thus under this view language contact would only indirectly be responsible for a shift in word order. However, as Kiparsky (1996: 147) points out, a shift in word order seems to have been underway in some Old Germanic languages even before linguistic contact became intensive in the European area. This suggests that, even if contact is considered to be the major word order-shifting factor in general, in this case it cannot be the only one.

Factor (iii), namely fixation of initial Germanic stress in Pre-Proto-Germanic, suggests that a diachronic process would have developed as follows: fixation of mobile Indo-European stress in initial position in Germanic would lead in the long term to phonological reduction of word-final inflectional and derivational markers (i.e. syncope and apocope). This phonological reduction would have lead to ambiguity between the different forms (i.e. syncretism) and would have gradually led to a loss of morphology (Vennemann 1975). Loss of morphological distinctions is considered to be one of the main reasons for a shift toward SVO order:

> The loss of case marking in an SOV language (through phonological reduction) brings about SOV/OSV ambiguities, which are resolved by developing the new basic order SVO. This structure is then the trigger for the other word order changes (Hawkins 1979: 620).

Support for the impact of morphological marking on word order is provided by C. Lehmann (1982):

> Just as any morphological marking of syntactic relations, agreement imparts syntactic autonomy to the agreeing term, it frees this term from the necessity of standing next to the word which it is related to [...]. The dependency of free word order on agreement, which in crosslinguistic comparison is readily suspected, but difficult to prove, is here clearly realized (C. Lehmann 1982: 264-265).

A long-term shift in word order originally caused by prosodic factors would not be unheard of. Donegan & Stampe (1983) explain the typological oppositeness in word order between the related Austroasiatic Munda (South-East India) and Mon-Khmer (Vietnam, Cambodia) language families by means of a shift in stress occurring in Munda from rising to falling (1983: 344). Even though such a correlation between prosody and word order can only be hinted at through reconstruction Lakarra (cf. Lakarra 2005, 2006 and consequent work) proposes something similar for a Proto-Basque shift VO > OV. Therefore, a change in stress such as the one occurring in Proto-Germanic from the Proto-Indo-European pitch stress to Germanic fixed initial stress can well be responsible for changes in word order. Individually, Old Saxon is a relatively heavily syncretizing language among the Germanic family, being one of the earliest languages to eliminate the accusative-dative distinction in first- and second-person personal pronouns[119] (Cathey 2000: 36). In that case and in view of the above arguments, one would expect Old Saxon to synchronically display more right-branching typological traits than the sister Old Germanic languages. However, the data has shown that a considerable degree of variation seems to exist in Old Saxon main clauses. According to W. P. Lehmann's and Vennemann's proposal, then, this variation should be a symptom of the change from left-branching to right-branching order in Old Saxon. See, however, Burridge (1993) against the view of the loss of morphological case-marking being responsible for word order change.

The idea behind factor (iv) is that verbs, especially auxiliary verbs, tend to be phonologically light. Because phonologically light elements tend to attach to the first autonomous word in a sentence, auxiliary verbs tend to do so as well. This is actually a tendency that can be observed in many of the world's languages (Hock 1982: 91). According to this view, in early Germanic auxiliary verbs would have moved from their original clause-final position to attach to the first word of a sentence in second position so often that second position was reanalyzed as their unmarked position in main clauses (Faarlund 2010: 207-208). This proposal fails to explain, however, why cliticization of

[119] Whereas it may be true that the the accusative/dative singular distinction is lost in first- and second-personal pronouns in the individual Germanic dialects, i.e. Old Saxon 1st person sg. acc./dat. *mi*, 2nd pers. sg. acc./dat. *thi* (see also Old Frankish 1st pers. sg. acc./dat. *mi*, 2nd pers. sg. acc./dat. *thi*, as well as *me*, *þe* in some dialects of Old English), this is certainly not true for the first- and second-person accusative/dative dual and plural distinctions. According to García Castillero (2001: 268-269), the fact that one observes Gothic 1st pers. pl. acc./dat. *uns*/*unsis*, dual *ugkis*, 2nd pers. pl. acc./dat. *izwis*, dual *igqis*, Old Icelandic 1st pers. pl. acc./dat. *øss*, dual *okkr*, 2nd pers. pl. acc./dat. *yðr*, dual *ykkr*, Old Frankish *ūs*, *iu*/*io* and so on suggests that the loss of case distinctions in first- and second-person accusative/dative dual and plural pronouns starts already in Proto-Germanic.

light elements being observable in all classical Indo-European languages, the verb-second rule only came into being in Germanic and a few Romance varieties (Anderson 2005: 3-21). In fact, the "cliticization hypothesis" is increasingly being criticized due to its limited explanatory power. For example, Noël (2013: 6) proposes that not stress, but information structure is responsible for the position of words in early Germanic. Therefore, syntactic change is caused not by the influence of stress on word order, but because of "information-structural requirements" (ibid.). According to this view, then, the verb-second rule could not have emerged as a consequence of the position of clitics.

Regarding the fifth and final factor, the data presented in this dissertation has shown that extraposition is a common syntactic operation not only in early Germanic and Indo-European, but also cross-linguistically. The facts laid out here suggest that extraposition creates ambiguous word order patterns, which in some languages tend to be reanalyzed as the unmarked order, leading to word order change (Hyman 1975, Lightfoot 1979, Derbyshire 1981, LaPolla 1995). However, as Kiparsky (1996: 147) points out, such a reanalysis cannot be abrupt as Lightfoot proposes, since as the Old Icelandic data (cf. Hróarsdóttir 2009) has shown the reanalysis does not occur suddenly, but rather stretches across centuries. Moreover, extraposition in left-branching languages is not always the cause for a change in word order (Hock 1982: 91-92). In any case, extraposition can be tentatively reconstructed, based on the data of this dissertation, as a common pragmatic process occurring in Proto-Germanic. Depending on information-structural factors, extraposed, marked elements produce right-branching traits, whereas non-extraposed, unmarked elements preserve left-branching ones. This state of affairs is proposed by Wallenberg (2009: 202-246) and not explicitly laid out, but hinted at, by Walkden (2014a: 231-232) regarding the position of the direct object in declarative main clauses. In addition, extraposition has been observed to be far less frequent in the first attested Indo-European language, Hittite, than it is, for example, in Old Indic (Holland 1980: 95). In addition to indicating that extraposition is an inherited pragmatic operation in Proto-Germanic, this suggests that it is a phenomenon that becomes more frequent across time, which may explain the loss of left-branching order in the later Indo-European languages. At this point it should be pointed out that none of these factors is completely uncontroversial as an explanatory means of the word order shift occurring in Indo-European. The interested reader should take a look at Kiparsky (1996) for an overview and discussion of the factors that may have contributed to a word order shift in the early Indo-European languages, including Proto-Germanic.

To sum up the contributions of the present study, this dissertation has provided additional empirically backed evidence for the reconstruction of Proto-Germanic as a so-called left-branching language. Such a reconstruction has been carried out using both comparative linguistics and typology within an up-to-date linguistic theory, the Branching Direction Theory (Dryer 1992, 1998, 2005, 2009, 2011) that seeks to capture the reality of the world's languages as well as to overcome problems of previous theories, such as how to define the concept of "head" (Zwicky 1985). The reconstruction has been carried out based on empirical analysis of a language that very rarely (Ries 1880, Walkden 2014a) has been used for reconstruction of Proto-Germanic syntax, namely Old Saxon. Moreover, additional evidence has been provided how information-structural factors can contribute to word order change (Hinterhölzl 2009). Finally, in synchronic terms, it has been argued how the Old Saxon data contradict previous claims by Rauch (1992) that the language should be classified as "(X)VSO". The data have shown that the language should rather be classified as an SVO language that allows for a considerable freedom of word order, in line with previous studies, mostly Ries (1880), Ericksson (1997), Linde (2009) and Walkden (2014a). Future research should be concerned with the topics that have been left out of the discussion here, such as the impact in Old Saxon of syntactic complexity on extraposition or the relationship between word order and discontinuous phrases.

References

Aboh, Enoch O. 2004. *The morphosyntax of complement-head sequences. Clause structure and word order patterns in Kwa*. Oxford: Oxford University Press.

Adams, James N. 1976. "A typological approach to Latin word order". *Indogermanische Forschungen*, 81, 70-99.

Agresti, Alan. 1992. "A survey of exact inference for contingency tables". *Statistical Science*, 7, 1, 131-153.

Aikio, Ante. 2012. "An essay on Saami ethnolinguistic prehistory". In Riho Grünthal & Petri Kallio (eds.), *Mémoires de la Société Finno-Ougrienne* 266, *A linguistic map of prehistoric northern Europe*, 63-117. Helsinki: Nabu Press.

Allerton, David J. 1978. "The notion of 'givenness' and its relations to presupposition and to theme". *Lingua* 44, 133-168.

Álvarez, Julio P. 1999. *Diccionario latín-español español-latín*. 4th edition. Mexico DF: Editorial Porrúa.

Andersen, P. K. 1980. "The syntax of comparison in PIE". In Paolo Ramat (ed.), *Linguistic reconstruction and Indo-European syntax*, 225-236. Amsterdam/Philadelphia: John Benjamins.

Andersen, Paul K. 1983. *Word order typology and comparative constructions*. Amsterdam: John Benjamins.

Anderson, Stephen R. 2005. "Verb second, subject clitics, and impersonals in Surmiran (Rumantsch)". *Proceedings of the Berkeley Linguistics Society* 32, 1, 3-21.

Anthony, Lawrence. 2014. *AntConc. A freeware corpus analysis toolkit for concordancing and text analysis*. Available on-line at: [http://www.laurenceanthony.net/software.html]. Newcastle: Newcastle University.

Antonsen, Elmer H. 1975. *A concise grammar of the older runic inscriptions*. Tübingen: Niemeyer.

Antonsen, Elmer H. 2002. *Runes and Germanic linguistics*. New York: Mouton de Gruyter.

Arnett, Carlee. 1997. "Perfect auxiliary selection in the Old Saxon *Heliand*". *American Journal of Germanic Linguistics and Literatures* 9, 23-72.

Arnett, Carlee. & Tonya K. Dewey. 2015. "Motion verbs in Old Saxon with the oblique subject construction: a semantic analysis". *Beiträge zur Geschichte der deutschen Sprache und Literatur* 137, 2, 183-220.

Aske, Jon. 1997. *Basque word order and disorder: principles, variation, and prospects*. PhD dissertation, University of California Berkeley.

Askedal, John O. 2011. "The Germanic languages". In Bernd Kortmann & Johan van der Auwera (eds.), *The languages and linguistics of Europe: a comprehensive guide*, 47-68. Berlin/Boston: Mouton de Gruyter.

Axel, Katrin. 2007. *Studies on Old High German syntax: left sentence periphery, verb placement and verb-second*. Amsterdam/Philadelphia: John Benjamins.

Baker, Mark. C. 2001. *The atoms of language: the mind's hidden rules of grammar*. New York: Basic Books.

Baker, Mark. C. 2003. *Lexical categories: verbs, nouns and adjectives*. Cambridge: Cambridge University Press.

Bakker, Peter. 1997. *A language of our own. The genesis of Michif, the mixed Cree-French language of the Canadian Métis*. Oxford: Oxford University Press.

Bakker, Dik. 1998. "Flexibility and consistency in word order patterns in the languages of Europe". In Anna Siewierska (ed.), *Consituent order in the languages of Europe*, 383-419. Berlin: Mouton de Gruyter.

Baldi, Philip. 2009. *New perspectives on historical Latin syntax*. In Philip Baldi & Pierluigi Cuzzolin (eds.). Volume 1: *Syntax of the sentence*. Berlin/New York: Mouton de Gruyter.

Baldi, Philip & Pierluigi Cuzzolin. 2011. "Syntactic change in the history of Latin: do new perspectives lead to new results?". In Philip Baldi & Pierluigi Cuzzolin (eds.), *New perspectives in historical syntax*. Volume 4: *Complex sentences, grammaticalization, typology*, 865-889. Berlin/Boston: Mouton de Gruyter.

Baltin, Mark R. 2005. "Extraposition, the right roof constraint, result clauses, relative clause extraposition, and PP extraposition". In Martin Everaert & Henk van Riemsdijk (eds.), *The Blackwell syntax companion* 1, 237-271. Oxford: Wiley & Blackwell Publishing Company.

Bare, Katherine P. 2015. *Auxiliary initial alternation in Tohono O'odham: a syntactic analysis of a focus driven phenomenon*. PhD dissertation, University of Arizona.

Barðdal, Jóhanna. 2015. "Syntax and syntactic reconstruction". In Claire Bouwern & Bethwyn Evans (eds.), *The Routledge handbook of historical linguistics*, 343-373. London: Routledge.

Barðdal, Jóhanna & Þórhallur Eyþórsson. 2012. ““Hungering and lusting for women and fleshly delicacies”: reconstructing grammatical relations for Proto-Germanic”. *Transactions of the Philological Society* 110, 3, 363–393.

Barðdal, Jóhanna & Thomas Smitherman. 2013. “The quest for cognates: a reconstruction of oblique subject constructions in Proto-Indo-European”. *Language Dynamics and Change* 3, 1, 28-67.

Barnes, Michael P. 2002. “Head + modifier or modifier + head? Word order in Faroese possessive adjective constructions”. In Anfinnur Johansen, Zakaris Hansen, Jógvan i Lon Jacobsen & Malan Marnersdóttir (eds.), *Eivindarmál. Heiðursrit til Eivind Weyhe á seksti ára degi hansara 25 apríl*, 56-66. Tórshavn: Føroya Fróðskaparfelag.

Barnes, Michael P. 2008. *A new introduction to Old Norse.* Part I: *Grammar*. 3rd edition. Exeter: Short Run Press.

Bauer, Brigitte L. M. 1995. *The emergence and development of SVO patterning in Latin and French: diachronic and psycholinguistic perspectives*. Oxford: Oxford University Press.

Bauer, Brigitte L. M. 2000. *Archaic syntax in Indo-European*. Berlin/New York: Mouton de Gruyter.

Bauer, Brigitte L. M. 2006. “Word order”. In Philip Baldi & Pierluigi Cuzzolin (eds.), *New perspectives on Latin syntax*. Volume 1: *Syntax of the sentence* 1, 241-316. Berlin/New York: Mouton de Gruyter.

Bean, Marian C. 1983. *The development of word order patterns in Old English*. London: Croom Helm.

Behaghel, Otto. 1909. “Beziehungen zwischen Umfang und Reihenfolge von Satzgliedern”. *Indogermanische Forschungen* 25, 110-142.

Behaghel, Otto. 1932. *Deutsche Syntax. Eine geschichtliche Darstellung.* Volume IV: *Wortstellung, Periodenbau*. Heidelberg: Winter.

Behaghel, Otto & Burkhard Taeger. 1996. *Heliand und Genesis*. Tübingen: Niemeyer.

Bellows, Henry A. 1923. *The poetic Edda*. New York: The American-Scandinavian Foundation.

Bendor-Samuel, John T. 2006. “Niger-Congo languages”. In Keith Brown, Anne H. Anderson, Laurie Bauer, Margie Gerns, Graeme Hirst & Jim Miller (eds.), *Encyclopedia of language and linguistics*, 2nd edition, 631-635. Boston: Elsevier.

Bertinetto, Pier M. & Luca Ciucci. 2012. “Parataxis, hypotaxis and para-hypotaxis in the Zamucoan languages”. *Linguistic Discovery* 10, 1, 89-111.

Biberauer, Theresa & Ian Roberts. 2006. “Loss of residual “head final” orders and remnant fronting in Late Middle English”. In Jutta M. Hartmann & László Molnárfi (eds.), *Comparative studies in Germanic syntax: from Afrikaans to Zürich German*, 263-297.

Biberauer, Theresa, Glenda Newton & Michelle Sheehan. 2009. “The final-over-final constraint and predictions for diachronic change”. *Toronto Working Papers in Linguistics* 31, 1-17.

Bichakjian, Bernard H. 1987. “The evolution of word order: a paedomorphic explanation”. In Anna G. Ramat, Onofrio Carruba & Giuliano Bernini (eds.), *Papers from the 7th international conference on historical linguistics*, 87-107. Amsterdam/Philadelphia: John Benjamins.

Bickel, Balthasar. 2013. “Distributional biases in language families”. In Balthasar Bickel, Lenore A. Grenoble, David A. Peterson & Alan Timberlake (eds.), *Language typology and historical contingency: studies in honor of Johanna Nichols*, 415-444. Amsterdam: John Benjamins.

Bickerton, Derek. 1984. “The language bioprogram hypothesis”. *The Behavioral and Brain Sciences* 7, 2, 173-221.

Bies, Ann E. 1996. *Syntax and discourse factors in Early New High German: evidence for verb-final word order*. Master thesis, University of Pennsylvania.

Boeder, Winfried. 1994. “Kartvelische und indogermanische Syntax: Die altgeorgischen Klitika”. In Roland Bielmeier & Reinhard Stempel (eds.), *Indogermanica et Caucasica. Festschrift für Karl Horst Schmidt zum 65. Geburtstag*, 447-471. Berlin/New York: Walter de Gruyter.

Boeder, Winfried. 2005. “The South Caucasian languages”. *Lingua* 115, 5-89.

Braune, Wilhelm. 1894. *Sammlung kurzer Grammatiken germanischer Dialekte*. In Wilhelm Braune (ed.), 4th edition. Halle: Niemeyer.

Braunmüller, Kurt. 1982. *Syntaxtypologische Studien zum Germanischen*. Tübingen: Narr.

Breivik, Leiv E. 1994. “On comparatives in English and other languages”. In Toril Swan, Endre Mørck & Olaf Jansen Westvik (eds.), *Language change and language structure. Older Germanic languages in a comparative perspective*, 51-74. Berlin/New York: Mouton de Gruyter.

Bremmer, Rolf H. Jr. 2009. *An introduction to Old Frisian. History, grammar, reader, glossary*. Amsterdam/Philadelphia: John Benjamins.

Bubenik, Vit. 1991. “Nominal and pronominal objects in Sanskrit and Prakrit”. In Hans H. Hock (ed.), *Studies in Sanskrit syntax. A volume in honor of the centennial of Speijer's Sanskrit Syntax (1886-1986)*, 19-30.

Burridge, Kate. 1993. *Syntactic change in Germanic. Aspects of language change in Germanic with particular reference to Middle Dutch*. Amsterdam/Philadelphia: John Benjamins.

Bury, Dirk. 2005. “Pre-verbal particles in verb-initial languages”. In Andrew Carnie, Heidi Harley & Sheila Dooley (eds.), *Verb first: on the syntax of verb-initial languages*, 135-154. Amsterdam: John Benjamins.

Bybee, Joan. 2002. “Main clauses are innovative, subordinate clauses are conservative. Consequences for the nature of constructions”. In Joan Bybee & Michael Noonan (eds.) *Complex sentences in grammar and discourse: essays in honor of Sandra A. Thompson*, 1-17. Amsterdam: John Benjamins.

Bybee, Joan, Revere Perkins & William Pagliuca. 1994. *The evolution of grammar: tense, aspect and modality in the languages of the world*. Chicago: University of Chicago Press.

Cáceres, Natalia. 2011. *Grammaire fonctionelle-typologique du Ye'kwana*. PhD dissertation, Université Lumière Lyon 2.

Caesar-Fox, Desrey. 2003. *Zauro'nödok Agawaio yau: variants of Akawaio spoken at Waramadong*. PhD dissertation, Rice University.

Campbell, Alistair. 1970. “Verse influences in Old English prose”. In James L. Rosier (ed.), *Philological essays: studies in Old and Middle English language and literature in honour of Herbert Dean Meritt*, 93-98. The Hague: Mouton de Gruyter.

Campbell, Lyle. 1998. *Historical linguistics: an introduction*. Cambridge: MIT Press.

Campbell, Lyle. & Marianne Mithun. 1980. “The priorities and pitfalls of syntactic reconstruction”. *Folia Linguistica Europea* 1, 1, 19-40.

Castillero, Carlos G. (2001). “Zusammenfall von Kasusformen im indogermanischen Personalpronomen”. *Historische Sprachforschung* 114, 2, 259-284.

Cathey, James E. 2000. *Old Saxon*. München: Lincom Publishers.

Cervin, Richard S. 1990. *Word order in Ancient Greek: VSO, SVO, SOV, or all of the above?* PhD dissertation, University of Illinois.

Chafe, Wallace. 1987. “Cognitive constraints and information flow”. In Ross Tomlin (ed.), *Coherence and grounding in discourse: outcome of a symposium*, 21-51. Amsterdam/Philadelphia: John Benjamins.

Chamonikolasová, Jana. 2014. *A concise history of English*. Masarykova Univerzita: Munipress.

Childs, George T. 1995. *A grammar of Kisi, a Southern Atlantic language*. Berlin: Mouton de Gruyter.

Chirikba, Viacheslav. 2008. "The problem of the Caucasian Sprachbund". In Pieter Muysken (ed.), *From linguistic areas to areal linguistics*, 25-94. Amsterdam: John Benjamins.

Chisholm, James A. 2005. *The Eddas: the keys to the mysteries of the north*. Illuminati Books.

Chomsky, Noam. 1957. *Syntactic structures*. The Hague/Paris: Mouton de Gruyter.

Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, Massachussets: MIT Press.

Chomsky, Noam. 1981. *Lectures on government and binding*. Foris Publications.

Chomsky, Noam. 1986. *Knowledge of language: its nature, origin, and use*. New York/Westport/London: Praeger.

Chomsky, Noam. 1988. *Language and problems of knowledge: the Managua lectures*. Cambridge: MIT Press.

Cichosz, Anna. 2010. *The influence of text type on word order of Old Germanic languages. A corpus-based contrastive study of Old English and Old High German*. Frankfurt am Main/Berlin/Bern/Bruxelles/New York/Oxford/Wien: Peter Lang.

Cinque, Guglielmo. 1993. "On the evidence of partial n-movement in the Romance DP". *University of Venice Working Papers in Linguistics* 3, 2, 21-40.

Cinque, Guglielmo. 2010. *The syntax of adjectives. A comparative study*. Cambridge: MIT Press.

Claudi, Ulrike. 1994. "Word order change as category change". In William Pagliuca (ed.), *Perspectives on grammaticalization*, 191-231. Amsterdam: John Benjamins.

van Coetsem, Frans. 1970. "Zur Entwicklung der germanischen Grundsprache". In Ludwig E. Schmitt (ed.), *Kurzer Grundriss der germanischen Philologie bis 1500*, 1-93. Berlin: Walter de Gruyter.

Colman, Fran. 2014. *The grammar of names in Anglo-Saxon England: the linguistics and culture of the Old English onomasticon*. Oxford: Oxford University Press.

Comrie, Bernard. 1981. *Language universals and linguistic typology*. Oxford: Blackwell.

Comrie, Bernard. 1998. “The Indo-European linguistic family: genetic and typological perspectives”. In Anna Giacolone Ramat & Paolo Ramat (eds.), *The Indo-European languages*, 74-97. London/New York: Routledge.

Coniglio, Marco & Iulia Zegrean. 2012. “Splitting up force: evidence from discourse particles”. In Lobke Aelbrecht, Liliane Hageman & Rachel Nye (eds.), *Main clause phenomena: new horizons*, 229-256. Amsterdam: John Benjamins.

Cordes, Gerhard & Ferdinand Holthausen. 1973. *Altniederdeutsches Elementarbuch*. Heidelberg: Winter.

Courtz, Hendrik. 2008. *A Carib grammar and dictionary*. Toronto: Magoria Books.

Croft, William. 1990. *Typology and universals*. Cambridge: Cambridge University Press.

Croft, William. 1991. *Syntactic categories and grammatical relations. The cognitive organization of information*. Chicago/London: University of Chicago Press.

Croft, William. 2003. *Typology and universals*. 2nd edition. Cambridge: Cambridge University Press.

Cuzzolin, Pierluigi. & Gerd Haverling. 2009. “Syntax, sociolinguistics, and literary genres”. In Philip Baldi & Pierluigi Cuzzolin (eds.), *New perspectives on historical Latin syntax*. Volume 1: *Syntax of the sentence*, 19-64. Berlin/New York: Mouton de Gruyter.

de Herdt, Tom & Jozef van Loon. 2004. *The Wulfila project*. Available on-line at http://www.wulfila.be/. Antwerpen: University of Antwerpen.

Delbrück, Berthold. 1878. *Die altindische Wortfolge aus dem Catapathabrāhmaṇa dargestellt*. Halle: Waisenhaus.

Delbrück, Berthold. 1893. *Vergleichende Syntax der indogermanischen Sprachen. Erster Theil*. Strassburg: Trübner.

Delbrück, Berthold. 1909. *Zu den germanischen Relativsätzen*. Lepizig: Teubner.

Delbrück, Berthold. 1911. *Germanische Syntax IV. Zur Stellung des Verbums.* Leipzig: Teubner.

Deligianni, Efrosini. 2011. “Pragmatic factors that determine main constituent order in Greek: a diachronic consideration”. In Eliza Kitis, Nikolaos Lavidas, Nina Topintzi & Tasos Tsangalidis (eds.), *Selected papers from the 19th international symposium on theoretical and applied linguistics*, 163-173. Thessaloniki: Monochromia.

Delsing, Lars-Olof. 1998. “Possession in Germanic”. In Artemis Alexiadou & Chris Wilder (eds.), *Possessors, predicates and movement in the determiner phrase*, 87-108. Amsterdam: John Benjamins.

Delsing, Lars-Olof. 2000. “From OV to VO in Swedish”. In Susan Pintzuk, George Tsoulas & Aanthony Warner (eds.), *Diachronic syntax: models and mechanisms*, 255-274. Oxford: Oxford University Press.

Denison, David. 1993. *English historical syntax*. London: Longman.

Denniston, John D. 1952. *Greek prose style*. Oxford: Clarendon.

Derbyshire, Desmond C. 1981. “A diachronic explanation for the origin of OVS in some Carib languages”. *Journal of Linguistics* 17, 2, 209-220.

Deshpande, Madhav M. 1991. “Pāṇinian syntax and the changing notion of sentence”. In Hans H. Hock (ed.), *Studies in Sanskrit syntax: a volume in honour of the centennial of Speijer's Sanskrit Syntax (1886-1986)*, 31-44.

Devine, Andrew M. & Lawrence D. Stephens. 1994. *The prosody of Greek speech*. Oxford: Oxford University Press.

Devine, Andrew M. & Lawrence D. Stephens. 2000. *Discontinuous syntax. Hyperbaton in Greek*. Oxford: Oxford University Press.

Devine, Andrew M. & Lawrence D. Stephens. 2006. *Latin word order. Structured meaning and information*. Oxford: Oxford University Press.

Dewell, Robert B. 1996. “The separability of German *über*-: a cognitive approach”. In Martin Pütz & René Dirven (eds.), *The construal of space in language and thought*, 109-133. Berlin: Mouton de Gruyter.

Dewey, Tonya K. 2006. *The origins and development of Germanic V2: evidence from alliterative verse*. PhD dissertation, University of California/Berkeley.

Dik, Helma. 1995. *Word order in Ancient Greek*. Amsterdam: Brill.

Dik, Helma. 2007. *Word order in Greek tragic dialogue*. Oxford: Oxford University Press.

Dik, Simon C. 1978. *Functional grammar*. Amsterdam: North Holland.

Dittmer, Arne & Ernst Dittmer. 1998. *Studien zur Wortstellung - Satzgliedstellung in der althochdeutschen Tatianübersetzung*. Göttingen: Vadnenhoeck & Ruprecht.

Donegan, Patricia & David Stampe. 1983. “Rhythm and the holistic organization of language structure”. In John Richardson, Mitchell Marks & Amy Chukerman (eds.), *The interplay of phonology, morphology, and syntax*, 337-353. Chicago: Chicago Linguistic Society.

Dong, Hongyuan. 2014. *A history of the Chinese language*. New York: Routledge.

Dover, Kenneth J. 1960. *Greek word order*. Oxford: Oxford University Press.

Dressler, Wolfgang U. 1969. "Eine textsyntaktische Regel der indogermanischen Wortstellung (Zur Anfangsstellum des Prädikatsverbums)". *Historische Sprachforschung* 83, 1-25.

Dryer, Matthew S. 1989a. "Discourse-governed word order and word order typology". *Belgian Journal of Linguistics* 4, 69-90.

Dyer, Matthew S. 1989b. "Large linguistic areas and language sampling". *Studies in Language* 13, 257-292.

Dryer, Matthew S. 1992. "The Greenbergian word order correlations". *Language* 68, 1, 81-138.

Dryer, Matthew S. 1995. "Frequency and pragmatically unmarked word order". In Pamela A. Downing & Michael Noonan, *Word order discourse*, 105-135. Amsterdam: John Benjamins.

Dryer, Matthew S. 1998. "Aspects of word order in the languages of Europe". In Anna Siewierska (ed.), *Constituent order in the languages of Europe*, 283-319. Berlin: Mouton de Gruyter.

Dryer, Matthew S. 2003. "Word order in Sino-Tibetan languages from a typological and geographical perspective". In Graham Thurgood & Randy J. LaPolla (eds.), *The Sino-Tibetan languages*, 43-56. London: Routledge.

Dryer, Matthew S. 2005. "Order of subject, object and verb". In Martin Haspelmath, Matthew S. Dryer, David Gil, & Bernard Comrie, *The world atlas of language structures*. Oxford University Press.

Dryer, Matthew S. 2006. "Descriptive theories, explanatory theories, and basic linguistic theory". In Felix Ameka, Alan Dench & Nicholas Evans (eds.), *Catching language: the standard challenge of grammar writing*, 207-234. Berlin: Mouton de Gruyter.

Dryer, Matthew S. 2009. "The branching direction theory of word order correlations revisited". In Sergio Scalise, Elisabetta Magni & Antonietta Bisetto (eds.), *Universals of language today*, 185-207. Berlin: Springer.

Dryer, Matthew S. 2011. "The evidence for word order correlations: a response to Dunn, Greenhill, Levinson and Gray's paper in *Nature*". *Linguistic Typology* 15, 335-380.

Dryer, Matthew S. & Martin Haspelmath. 2013. *The world atlas of language structures online*. Leipzig: Max Plack Institute for Evolutionary Anthropology.

Dubenion-Smith, Shannon A. 2010. "Verbal complex phenomena in West Central German: empirical domain and multi-causal account". *Journal of Germanic Linguistics* 22, 2, 99-191.

Du Bois, John W. 1987. "The discourse basis of ergativity". *Language* 63, 805-855.

Dunn, Graham. 1988. "Syntactic word order in Herodotean Greek". *Glotta* 66, 63-79.

Dunn, Michael, Simon J. Greenhill, Stephen C. Levinson & Russell D. Gray. 2011. "Evolved structure of language shows lineage-specific trends in word order universals". *Nature* 79, 79-82.

Ebert, Robert P. 1978. *Historische Syntax des Deutschen*. Stuttgart: Metzler.

Echaide, Ignacio M. 1912. *Sintaxis del idioma euskaro*. Donostia/San Sebastián: J. Baroja e Hijos.

Ehala, Martin. 2006. "The word order of Estonian: implications to universal language". *Journal of Universal Language* 7, 49-89.

Emonds, Joseph E. & Jan T. Faarlund. 2014. *English: the language of the Vikings*. Olomouc: Palacký University.

Erdmann, Oskar H. T. 1886. *Grundzüge der deutschen Syntax nach ihrer geschichtlichen Entwicklung*. Volume 1. Stuttgart: Verlag der J.G. Cotta'schen Buchhandlung. [Reprint Hildesheim 1985, Georg Olms Verlag].

Erdozia, Kepa, Itziar Laka & Antoni Rodriguez-Fornells. 2012. "Processing verb medial word orders in a verb final language". In Peter de Swart & Monique Lamers (eds.), *Case, word order, and prominence. Interacting cues in language production and comprehension*, 217-238. Dordrecht: Springer.

Erickson, Jon. 1997. "Some observations on word order in Old Saxon". In Christa Dürscheid, Karl Heinz Ramers & Monika Schwarz (eds.), *Sprache im Fokus: Festschrift für Heinz Vater zum 65. Geburtstag*, 95-105. Tübingen: Niemeyer.

Euskaltzaindia. 1991. *Euskal gramatika. Lehen urratsak-I*. Bilbo: Euskaltzaindia.

Euskaltzaindia. 2011. *Hitz-ordena. Erabilera estrategikoa*. Bilbo: Euskaltzaindia.

Eusko Jaurlaritza. 2013. *V. Inkesta soziolinguistikoa*. Vitoria-Gasteiz: Eusko Jaurlaritzaren Argitalpen Zerbitzu Nagusia.

Eyþórsson, Þórhallur. 1995. *Verbal syntax in the early Germanic languages*. PhD dissertation, Cornell University.

Eyþórsson, Þórhallur. 1996. “Functional categories, cliticization and word order in the early Germanic Languages”. In Höskuldur Þráinsson, Samuel D. Epstein & Steve Peter (eds.), *Studies in comparative Germanic syntax* 2, 109-139.

Eyþórsson, Þórhallur. 2001. “The syntax of verbs in early runic”. *Working Papers in Scandinavian Syntax* 67, 1-55.

Eyþórsson, Þórhallur. 2011. “Variation in the syntax of the older runic inscriptions”. *Futhark. International Journal of Runic Studies* 2, 27-50.

Faarlund, Jan T. 1990. *Syntactic change: toward a theory of historical syntax*. Berlin: Mouton de Gruyter.

Faarlund, Jan T. 1994. “Old and Middle Scandinavian”. In Ekkehard König & Johan van der Auwera (eds.), *The Germanic languages*, 38-71. London: Routledge.

Faarlund, Jan T. 2001. “From Ancient Germanic to Modern Germanic”. In Martin Haspelmath, Ekkehard König, Wulf Oesterreicher & Wolfgang Raible (eds.), *Language typology and language universals*. Volume 2, 1706-1719. Berlin: Walter de Gruyter.

Faarlund, Jan T. 2002. “Syntactic development from Ancient Nordic to Old Nordic”. In *The nordic languages. An international handbook of the history of the North Germanic languages* 1, 729-732. Berlin: Mouton de Gruyter.

Faarlund, Jan T. 2004. *The syntax of Old Norse: with a survey of the inflectional morphology and a complete bibliography*. Oxford: Oxford University Press.

Faarlund, Jan T. 2010. “Word order”. In Silvia Luraghi & Vit Bubenik (eds.), *The continuum companion to historical linguistics*, 201-211. London/New York: Continuum International Publishing Group.

Fanselow, Gisbert & Caroline Féry. 2006. *Prosodic and morphosyntactic aspects of discontinuous noun phrases: a comparative perspective*. PhD dissertation, University of Potsdam.

Ferraresi, Gisella. 1997. *Word order and phrase structure in Gothic*. PhD dissertation, University of Stuttgart.

Ferraresi, Gisella. 2005. *Word order and phrase structure in Gothic. A comparative study*. Leuven: Peeters.

Fischer, Susann. 2010. *Word-order change as a source of grammaticalisation*. Amsterdam/Philadelphia: John Benjamins.

Fischer, Olga, Ans van Kemenade, Willem Koopman & Wim van der Wurff. 2000. *The syntax of early English*. Cambridge: Cambridge University Press.

Fisher, Ronald A. 1922. “On the interpretation of χ^2 from contingency tables, and the calculation of p”. *Journal of the Royal Statistical Society* 85, 87-94.

Fleischer, Jürg. 2004. “A typology of relative clauses in German dialects”. In Bernd Kortmann (ed.), *Dialectology meets typology: dialect grammar from a cross-linguistic perspective*, 211-244. Berlin: Mouton de Gruyter.

Fontana, Josep M. 1993. *Phrase structure and the syntax of clticis in the history of Spanish*. Disertation, University of Pennsilvania.

Fourquet, Jean. 1938. *L'ordre des éléments de la phrase en germanique ancien. Étude de syntaxe de position*. Paris: Les Belles Letres.

Fox, Anthony. 1995. *Linguistic reconstruction: an introduction to theory and method*. Oxford: Oxford University Press.

Fraser, Bruce L. 1999. *Word order, focus, and clause linking in Greek tragic poetry*. PhD dissertation, Cambridge University.

Friedrich, Paul. 1975. *Proto-Indo-European syntax. The order of meaningful elements*. Butte: Montana College of mineral Sciences.

Frisk, Hjalmar. 1932. *Studien zur griechischen Wortstellung*. Göteborg: Elanders.

Gallée, Johan H. 1910. *Altsächsische Grammatik*. Halle: Niemeyer.

Gallée, Johan H. & Heinrich Tiefenbach. 1993. *Altsächsische Grammatik*. Tübingen: Niemeyer.

Garrett, Andrew J. 1994. “Relative clause syntax in Lycian and Hittite”. *Die Sprache* 36, 29-69.

Gast, Volker & Holger Diessel. 2012. *Clause linkage in cross-linguistic perspective: data-driven approaches to cross-clausal syntax*. Berlin: Mouton de Gruyter.

van Gelderen, Elly. 2011. *The linguistic cycle. Language change and the language faculty*. Oxford: Oxford University Press.

van Gelderen, Elly. 2014. *A history of the English language*. Amsterdam: John Benjamins.

Gerritsen, Marinel. 1984. “Divergent word order developments in Germanic languages: a description and a tentative explanation”. In Jacek Fisiak (ed.), *Historical syntax*, 107-135. Berlin/New York/Amsterdam: Mouton de Gruyter.

Gianollo, Chiara. 2011. “Native syntax and translation effects. Adnominal arguments in the Greek and Latin New Testament”. In Eirik Welo (ed.), *Indo-European syntax and pragmatics: contrastive approaches*, 75-101. Oslo: OSLa.

Gildea, Spike. 2000. “On the genesis of the verb phrase in Cariban languages”. In Spike Gildea (ed.), *Reconstructing grammar: comparative linguistics and grammaticalization*, 65-106. Amsterdam: John Benjamins.

Gippert, Jost, Javier Martínez & Agnes Korn. 2010. *The TITUS project*. Available on-line at [http://titus.uni-frankfurt.de/indexe.htm]. Frankfurt am Main: Johann Wolfgang von Goethe Universität.

Givón, Talmy. 1975. “Serial verbs and syntactic change”. In Charles N. Li (ed.), *Word order and word order change*, 47-111. Austin: University of Texas Press.

Givón, Talmy. 1978. “Negation in language: pragmatics, function, ontology”. In Peter Cole (ed.), *Pragmatics*, 69-112. New York/San Francisco/London: Academic Press.

Givón, Talmy. 1979a. *On understanding grammar*. New York: Academic Press.

Givón, Talmy. 1979b. “Language typology in Africa: a critical review”. *Journal of African Languages and Linguistics* 1, 199-224.

Givón, Talmy. 1983. *Topic continuity in discourse: A quantitative cross-language study*. Amsterdam: John Benjamins.

Givón, Talmy. 1984. *Syntax: a functional-typological introduction*. Volume I. Amsterdam: John Benjamins.

Givón, Talmy. 1990. *Syntax: a functional-typological introduction*. Volume II. Amsterdam: John Benjamins.

Givón, Talmy. 1995. *Functionalism and grammar*. Amsterdam: John Benjamins.

Givón, Talmy. 1999. “Internal reconstruction, on its own”. In Edgar C. Polomé & Carol F. Justus (eds.), *Language change and typological variation: in honor of Winfred P. Lehmann on the occasion of his 83rd birthday*. Volume I: *Language change and phonology*, 86-130. Washington: Institute for the Study of Man.

Givón, Talmy. 2001. *Syntax: an introduction*. Amsterdam: John Benjamins.

Givón, Talmy. 2010. “The adaptative approach to grammar”. In Bernd Heine & Heiko Narrog (eds.), *The Oxford handbook of linguistic analysis*, 27-49. Oxford: Oxford University Press.

Gómez, Ricardo. 1994. “Euskal aditz morfologia eta hitzordena: VSO-tik SOV-ra?”. In Jean-Baptiste Orpustan (ed.), *Actes du colloque international de l'URA 1055 du C.N.R.S.*, 93-114.

Gómez, Ricardo & Koldo Sainz. 1995. “On the origin of the finite forms of the Basque verb”. *Current Issues in Linguistic Theory* 131, 235-274.

Gonda, Jan. 1952. *Remarques sur la place du verbe dans la phrase active et moyenne en langue sanscrite*. Utrecht: Oosthoek.

Gonda, Jan. 1959. "On amplified sentences and similar structures in the Veda". In *Four Studies in the Language of the Veda*, 7-70. 's-Gravenhage: Mouton de Gruyter.

Gonda, Jan. 1966. *A concise elementary grammar of the Sanskrit language*. English translation by Gordon B. Ford Jr. Leiden: E.J. Brill.

Good, Jeff. 2003. "When arguments become adjuncts: Split configurationality in Leggbó". In *Proceedings from the annual meeting of the Chicago Linguistic Society*, 110-129.

Gorrochategui, Joakin. 1984. *Onomástica indígena de Aquitania*. Bilbo: Servicio editorial de la Universidad del País Vasco.

Green, Georgia M. 1976. "Main clause phenomena in subordinate clauses". *Language* 52, 2, 382-397.

Greenberg, Joseph H. 1963. "Some universals of grammar with particular reference to the order of meaningful elements". In Joseph H. Greenberg (ed.), *Universals of human language*, 73-113. Cambridge, Mass: MIT Press.

Greenberg, Joseph H. 1969. "Some methods of dynamic comparison in linguistics". In Jaan Puhvel (ed.), *Substance and structure of language*, 147-203. Berkeley: University of California Press.

Güldemann, Tom. 2011. "Proto-Bantu and Proto-Niger-Congo: macro-areal typology and linguistic reconstruction". In Osamu Hieda, Christa König & Hirosi Nakagawa (eds.), *Geographical typology and linguistic areas*, 109-142. Amsterdam/Philadelphia: John Benjamins.

Gvoznadović, Jadranka. 2016. "Aspects of Indo-European historical syntax in a typological perspective". *Slovo a slovesnost* 77, 416-434.

Håkansson, David. 2008. *Syntaktisk variation och förändring. En studie av subjektslösa satser i fornsvenska*. PhD dissertation, University of Lund.

Haider, Hubert. 2014. "The VO-OV split of Germanic languages: a T3 and V2 production". *Interdisciplinary Journal for Germanic Linguistics and Semiotic Analysis* 19, 1, 57-79.

Haiman, John. 1985. *Natural syntax: iconicity and erosion*. Cambridge: Cambridge University Press.

Hale, Kenneth. 1982. “Preliminary remarks on configurationality”. In James Pustejovsky & Peter Sells (eds.), *Proceedings of the twelfth meeting of the North East Linguistic Society*, 86-96. Amherst: GLSA Publications.

Hale, Kenneth. 1983. “Warlpiri and the grammar of non-configurational languages”. *Natural Language and Linguistic Theory* 1, 5-47.

Hale, Kenneth. 1992. “Basic word order in two ‘free word order’ languages”. In Doris Payne (ed.), *Pragmatics of word order flexibility*, 63-82. Amsterdam: John Benjamins.

Hale, Mark. 1998. “Diachronic syntax”. *Syntax* 1, 1-18.

Halla-aho, Hilla. 2009. *The non-literary Latin letters. A study of their syntax and pragmatics*. Helsinki: The Finnish Society of Sciences and Letters.

Hammarström, Harald. 2015. “The basic word order typology: an exhaustive study”. In *Proceedings of the conference “Diversity in linguistics - retrospect and prospect”*, Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany.

Harbert, Wayne. 2007. *The Germanic languages*. Cambridge: Cambridge University Press.

Harris, Alice C. 2000. “Word order harmonies and word order change in Georgian”. In Rosanna Sornicola, Erich Poppe & Ariel Shisha-Halevy (eds.), *Stability, variation and change of word-order patterns over time*, 133-163. Amsterdam/Philadelphia: John Benjamins.

Harris, Alice C. 2008. “Reconstruction in syntax: reconstruction of patterns”. In Gisela Ferraresi & Maria Goldbach (eds.), *Principles of syntactic reconstruction*, 73-95. Amsterdam: John Benjamins.

Harris, Alice C. & Lyle Campbell. 1995. *Historical syntax in cross-linguistic perspective*. Cambridge: Cambridge University Press.

Hartig, Joachim. 1985. “Soziokulturelle Voraussetzungen und Sprachraum des Altniederdeutschen (Altsachsischen)”. In Werner Besch, Oskar Reichmann & Stefan Sonderegger (eds.), *Sprachgeschichte: Ein Handbuch zur Geschichte der deutschen Sprache und ihrer Erforschung*, 2, 1069-1074. Berlin: Walter de Gruyter.

Haspelmath, Martin. 2001a.“Preface”. In Martin Haspelmath, Armin Burkhardt, Wulf Oesterreicher & Wolfgang Raible (eds.), *Language typology and language universals*. Volume 1, v-xi. Berlin: Walter de Gruyter.

Haspelmath, Martin. 2001b. “The European linguistic area: Standard Average European”. In Martin Haspelmath, Ekkehard König, Wulf Oesterreicher & Wolfgang

Raible (eds.) *Language typology and language universals*. Volume 2, 1492-1510. Berlin: Walter de Gruyter.

Haspelmath, Martin. 2004a. "Coordinating constructions". In Martin Haspelmath (ed.), *Typological Studies in Language* 58, 3-39. Amsterdam: Benjamins.

Haspelmath, Martin. 2004b. "Does linguistic explanation presuppose linguistic description?". In Martin Haspelmath (ed.), *Typological Studies in Language* 28, 554-579. Amsterdam: Benjamins.

Haspelmath, Martin. 2006. "Against markedness (and what to replace it with)". *Journal of Linguistics* 42, 25-70. Cambridge: Cambridge University Press.

Haspelmath, Martin. 2008. "Parametric versus functional explanations of syntactic universals". In Theresa Biberauer (ed.), *The limits of syntactic variation*, 75-107. Amsterdam: Benjamins.

Haspelmath, Martin. 2012. "How to compare major word-classes across the world's languages". In Thomas Graf, Denis Paperno, Anna Szabolcsi & Jos Tellings (eds.), *Theories of everything: in honor of Edward Keenan*, 109-130. Los Angeles: University of Los Angeles California.

Haspelmath, Martin. 2014. "Comparative syntax". In Anre Carnie, Yosuke Sato & Dan Siddiqi (eds.), *The Routledge handbook of syntax*, 490-508. London: Routledge.

Haspelmath, Martin. 2015. "Equative constructions in world-wide perspective". In Yvonne Reis & Martine Vanhoeve (eds.), *Similative and equative constructions: a crosslinguistic perspective*. Amsterdam: Benjamins.

Haspelmath, Martin. & Oda Buchholz. 1998. "Equative and similative constructions in the languages of Europe". In Johan van der Auwera (ed.), *Adverbial constructions in the languages of Europe*, 277-334. Berlin: Mouton de Gruyter.

Haugan, Jens. 2000. *Old Norse word order and information structure*. PhD dissertation, Norwegian University of Science and Technology.

Hawkins, John. A. 1979. "Universals as predictors of word order change". *Language* 55, 3, 618-648.

Hawkins, John. A. 1983. *Word order universals*. New York: Academic Press.

Hawkins, John. A. 1994. *A performance theory of order and constituency*. Cambridge: Cambridge University Press.

Heath, Jeffrey. 2015. *A grammar of Togo Kan (Dogon language family, Mali)*. University of Michigan.

Heine, Bernd. 1976. *A typology of African languages: based on the order of meaningful elements*. Berlin: Dietrich Reimer.

Heine, Bernd. 1980. "Language typology and linguistic reconstruction: the Niger-Congo case". *Journal of African Languages and Linguistics*, 2, 2, 95-112.

Hendrick, Randall. 2012. "Connectivity and definiteness in an English equative construction". In Esther Torrego (ed.), *Of grammar, words, and verses: in honor of Carlos Piera*, 201-216. London: John Benjamins.

Hengeveld, Kees. 1998. "Adverbial clauses in the languages of Europe". In Johan van der Auwera (ed.), *Adverbial constructions in the languages of Europe*, 335-420. Berlin/New York: Mouton de Gruyter.

Hengeveld, Kees, Jan Rijkhoff & Anna Siewierska. 2004. "Parts-of-speech-systems and word order". *Journal of Linguistics* 49, 527-570.

Herman, József. 1997. *Vulgar Latin*. Pennsylvania: Pennsylvania State University Press.

von Heusinger, Klaus, Maienborn, Claudia & Paul Portner. 2011. *Semantics*. *An international handbook of natural language meaning*. Volume 2. Berlin/New York: Mouton de Gruyter.

Hewson, John & Vit Bubenik. 2006. *From case to adposition. The development of configurational syntax in Indo-European languages*. Amsterdam/Philadelphia: John Benjamins.

Hidalgo, Bittor. 1995. *Hitzen ordena euskaraz*. PhD dissertation, University of the Basque Country.

Hildebrandt, Kristine A. 2004. *A grammar and glossary of the Manange language*. PhD dissertation, University of California Santa Barbara.

Himmelmann, Nikolaus P. & Eva Schultze-Berndt. 2005. "Issues in the syntax and semantics of participant-oriented adjuncts: an introduction". In Nikolaus P. Himmelmann & Eva Schultze-Berndt (eds.), *Secondary predication and adverbial modification. The typology of depictives*, 1-68. Oxford: Oxford University Press.

Hinterhölzl, Roland. 2009. "The role of information structure in word order variation and word order change". In Roland Hinterhölzl & Svetlana Petrova (eds.), *Information structure and language change. New approaches to word order variation and change in Germanic*, 45-67. Berlin: Mouton de Gruyter.

Hock, Hans. H. 1975. "Substratum influence on (Rig-Vedic) Sanskrit?". *Studies in the Linguistic Sciences* 5, 2, 76-125.

Hock, Hans. H. 1982. “Aux-cliticization as a motivation for word order change”. *Studies in the Linguistic Sciences* 12, 1, 91-101.

Hock, Hans. H. 1986. *Principles of historical linguistics*. Berlin: Mouton de Gruyter.

Hock, Hans. H. 1991. “On the origin and development of relative clauses in early Germanic, with special emphasis on *Beowulf*”. In Elmer Antonsen & Hans H. Hock (eds.), *Stæfcræft: studies in Germanic linguistics*, 55-89. Amsterdam: John Benjamins.

Hock, Hans. H. 2015. “Some issues in Sanskrit syntax”. In Peter M. Scharf (ed.), *Sanskrit syntax: selected papers presented at the seminar on Sanskrit syntax and discourse structures, 13-15 June 2013, Université Paris Diderot*, 1-52. Providence: The Sanskrit Library.

Hoeksma, Jacob. 1992. “The head parameter in morphology and syntax”. *Language and Cognition* 2, 119-132.

Hoffner, Harry A. & Harold C. Melchert. 2008. *A grammar of the Hittite language,* Part 1: *Reference Grammar*. Winona Lake: Eisenbrauns.

Holland, Gary. 1980. *Problems of word order change in selected Indo-European languages*. PhD dissertation, University of California Berkeley.

Holthausen, Ferdinand. 1921. *Altsächsisches Elementarbuch*. Heidelberg: Winter.

Hopper, Paul. J. 1975. *The syntax of the simple sentence in Proto-Germanic*. The Hague/Paris: Mouton de Gruyter.

Hopper, Paul. J. 1987. “Stability and change in VN/NV alternating languages. A study in pragmatics and linguistic typology”. In Jef Verschueren & Marcella Bartuccelli-Papi (eds.), *The pragmatic perspective*, 455-476. Amsterdam/Philadelphia: John Benjamins.

Hopper, Paul. J. & Elizabeth C. Traugott. 1993. *Grammaticalization*. Cambridge: Cambridge University Press.

Hróarsdóttir, Þorbjörg. 2009. “OV languages: Expression of cues”. In Roland Hinterhölzl & Svetlana Petrova (eds.), *Information structure and language change. New approaches to word order variation and change in Germanic*, 67-90. Berlin/New York: Mouton de Gruyter.

Hsu, Yu-Yin. 2009. “Possessor extraction in Mandarin Chinese”. *University of Pennsylvania Working Papers in Linguistics* 15, 1, 94-104.

Hualde, Jose Ignacio & Jon Ortiz de Urbina. 2003. *A grammar of Basque*. Berlin/New York: Mouton de Gruyter.

Hyman, Larry M. 1975. “On the change from SOV to SVO: evidence from Niger-Congo”. In Charles N. Li (ed.), *Word order and word order change*, 113-147. University of Texas Press.

Hyslop, Gwendolyn. 2011. *A grammar of Kurtöp*. PhD dissertation, University of Oregon.

Jackendoff, Ray. 1977. *X-bar syntax: a study of phrase structure*. Cambridge, Massachussets: MIT Press.

Jeffers, Robert J. 1976. “Syntactic change and syntactic reconstruction”. In William M. Christie Jr. (ed.), *Current progress in historical linguistics: proceedings of the second international conference on historical linguistics*, 1-15. Amsterdam: Mouton de Gruyter.

Jenewari, Charles E. W. 1983. “Defaka: Ijo's closest linguistic relative”. *Delta Series* 2, 1-54. Port Harcourt: University of Port Harcourt Press.

Joitteau, Mélanie. 2009. “A typology of V2 with regard to V1 and second position phenomena: an introduction to the V1/V2 volume”. *Lingua* 120, 2, 197-209.

Jónsson, Eiríkur & Finnur Jónsson. 1896. *Hauksbók*. København: Thiele.

Jun, Sun-Ah, Chad Vicenik & Ingvar Lofstedt. 2007. “Intonational phonology of Georgian”. *UCLA Working Papers in Phonetics* 106, 41-57.

Kalin, Laura. 2014. “The syntax of OVS word order in Hixkaryana”. *Nat Lang Linguist Theory* 32, 1089-1104.

Keenan, Edward L. 1979. “Surface form and logical form”. *Studies in the Linguistic Sciences* 8, 2, 1-41.

van Kemenade, Ans. 1987. *Syntactic case and morphological case in the history of English*. Dordrecht: Foris.

Kiparsky, Paul. 1995. “Indo-European origins of Germanic syntax”. In Adrian Battye & Ian Roberts (eds.), *Clause structure and language change*, 140-169. Oxford: Oxford University Press.

Kiparsky, Paul. 1996. “The shift to head-initial VP in Germanic”. *Studies in comparative Germanic syntax* 2, 140-179. Dordrecht: Kluwer.

Kiparsky, Paul. 2010. “Dvandvas, blocking, and the associative: the bumpy ride from phrase to word”. *Language* 86, 2, 302-331.

Kiss, Katalin É. 2001. “Discourse configurationality”. In Martin Haspelmath, Ekkehard König, Wulf Oesterreicher & Wolfgang Raible (eds.), *Language typology and*

language universals: an international handbook. Volume 2, 1442-1455. Berlin: Walter de Gruyter.

Klein, Jared S. 1992a. "On the independence of Gothic syntax I: interrogativity, complex sentence types, tense, mood, and diathesis". *Journal of Indo-European Studies* 20, 3/4, 339-379.

Klein, Jared S. 1992b. "On the idiomatic nature of the Gothic New Testament: a comparative study of prepositional usage in Gothic and New Testament Greek". *Transactions of the Philological Society* 90, 1, 1-80.

Klimov, Georgij A. 1986. *Vvedenie v kavkazskoe jazykoznanie* [Introduction to Caucasian Linguistics]. Moskva: Nauka.

Klingenberg, Heinz. 1974. "Eucharistischer Runenlöffel aus alamannischer Frühzeit". *Zeitschrift für deutsches Altertum und deutsche Literatur* 103, 81-94.

Koelle, Sigismund W. 1854. *Polyglotta africana*. London: Church Missionary House.

Koopman, Hilda. 1984. *The syntax of verbs: from verb movement rules in the Kru languages to universal grammar*. Dordrecht: Foris Publications.

Kotin, Michail L. 2012. *Gotisch: Im (diachronischen und tyologischen) Vergleich*. Heidelberg: Winter.

Köbler, Gerhard. 2014. *Altsächsisches Wörterbuch*. 5th edition. Available on-line at [www.koeblergerhard.de]

König, Ekkehard & Johan van der Auwera. 1994. *The Germanic languages*. London: Routledge.

Krajewska, Dorota. 2013. "Postnominal relative clauses in historical Basque". In *Proceedings of the 47th annual meeting of the* Societas Linguistica Europea. Poznań: Adam Mickiewicz University. Available on-line at [https://www.academia.edu/4205960/Postnominal_relative_clauses_in_historical_Basque]

Krause, Wolfgang. 1966. *Die Runeninschriften im älteren Futhark*. Göttingen: Vandenhoeck and Ruprecht.

Krause, Wolfgang. 1971. *Die Sprache der urnordischen Runeninschiften*. Heidelberg: Winter.

Kroch, Anthony. 2001. "Syntactic change". In Mark Baltin & Chris Collins (eds.), *Handbook of contemporary syntactic theory*, 699-729. Oxford: Blackwell.

Kuhn, Hans. 1933. "Zur Wortstellung und Betonung im altgermanischen." *Beiträge zur Geschichte der deutschen Sprache und Literatur* 57, 1–109.

Kulkarni, Amba, Preeti Shukla, Pavankumar Satuluri & Devanand Shukl. 2015. "How free is 'free' word order in Sanskrit?". In In Peter M. Scharf (ed.), *Sanskrit syntax: selected papers presented at the seminar on Sanskrit syntax and discourse structures, 13-15 June 2013, Université Paris Diderot*, 269-304. Providence: The Sanskrit Library.

Kuno, Susumu. 1972. "Functional sentence perspective - a case study from Japanese and English". *Linguistic Inquiry* 3, 269-320.

Lafitte, Pierre. 1944. *Grammaire basque: navarro-labourdin littéraire*. Bayonne: Le Livre.

Laka, Itziar. 1996. *A brief grammar of Euskara, the Basque language*. University of the Basque Country.

Lakarra, Joseba A. 2005. "Prolegómenos a la reconstrucción de segundo grado y al análisis del cambio tipológico en (proto)vasco". *Acta Palaeohispanica IX*, *Palaeohispanica* 5, 407-470.

Lakarra, Joseba A. 2006. "Notas sobre iniciales, cambio tipológico y prehistoria del verbo vasco". *Anuario del seminario de filología vasca «Julio Urquijo»* 15, 1, 561-622.

Lakarra, Joseba A. 2008. "Vida con/y libertad: sobre una coordinación arcaica y la autenticidad de «Urthubiako alaba»". *Anuario del seminario de filología vasca «Julio Urquijo»* 17, 1, 83-100.

Lambrecht, Knud. 1994. *Information structure and sentence form: topic, focus, and the mental representations of discourse referents*. Cambridge: Cambridge University Press.

van Langendonck, Willy. 2007a. *Theory and typology of proper names*. Berlin/New York: Mouton de Gruyter.

van Langendonck, Willy. 2007b. "Iconicity". In Dirk Geeraerts & Hubert Cuykens (eds.), *The Oxford handbook of cognitive linguistics*, 394-420. Oxford: Oxford University Press.

LaPolla, Randy J. 1994. "On the change to verb-medial order in Proto-Chinese: evidence from Tibeto-Burman". In Hajime Kitamura, Tatsuo Nishida, & Yasuhiko Nagano (eds.), *Current issues in Sino-Tibetan linguistics*, 98-104. Osaka: National Museum of Ethnology.

LaPolla, Randy J. 2002. “Problems of methodology and explanation in word order universals research”. In Pan Wuyun (ed.), *Languages and cultures of the east*, 204-237. Shanghai: Dongfang Chuban Zhongxin.

LaPolla, Randy J. 2015. “Sino-Tibetan syntax”. In William S-Y. Wang & Chaofen Sun (eds.), *The Oxford handbook of Chinese linguistics*, 45-57. Oxford: Oxford University Press.

Larrarte, Jose M. 1983. “Izen sintagma mugagabea Tartasen “Ontsa hiltzeko bidea”-n”. *Euskera: Euskaltzaindiaren lanak eta agiriak* 28, 1, 221-241.

Larson, Richard K. 1988. “On the double object construction”. *Linguistic Inquiry* 19, 3, 335-391.

Larson, Richard K. 1998. “Events and modification in nominals”. *Proceedings from semantics and linguistic theory* 8, 145-168. Ithaca: Cornell University.

Laughren, Mary. 1984. “Some focus strategies in Warlpiri”. Paper presented to the annual meeting of the *Australian Linguistics Society*, Alice Springs.

Laverdure, Patline & Ida R. Allard. 1983. “Turtle Mountain Chippewa Cree”. In John C. Crawford (ed.), *The Michif dictionary*. Winnipeg: Pemmican Publications.

Lee, Sung-Woo. 2011. *Eastern Tamang grammar sketch*. Master thesis, Graduate Institute of Applied Linguistics.

Lefebvre, Claire. 2011. “The problem of the typological classification of creoles”. In *Creoles, their substrates, and language typology*, 3-36.

Legate, Julie A. 2001. “The configurational structure of a nonconfigurational language”. *Linguistic Variation Yearbook* 1, 63-99.

Lehmann, Christian. 1982. *Thoughts on grammaticalization. A programmatic sketch*. Köln: Institut für Sprachwissenschaft der Kölner Universität.

Lehmann, Christian. 1984. *Der Relativsatz: Typologie seiner Strukturen, Theorie seiner Funktionen, Kompendium seiner Grammatik*. Tübingen: Narr.

Lehmann, Christian. 1988. “Towards a typology of clause linkage”. In John Haiman & Sandra Thompson (eds.), *Clause combining in grammar and discourse*, 181-226. Amsterdam: John Benjamins.

Lehmann, Christian. 1992. “Word order change by grammaticalization”. In Marinel Gerritsen & Dieter Stein (eds.), *Internal and external factors in syntactic change*, 395-416. Berlin: Mouton de Gruyter.

Lehmann, Winfred P. 1971. “Indo-European languages”. *Encyclopaedia Americana* 15, 72-76.

Lehmann, Winfred P. 1972. “Proto-Germanic syntax”. In Frans van Coetsem & Herbert L. Kufner (eds.), *Toward a grammar of Proto-Germanic*, 239-268. Tübingen: Niemeyer.

Lehmann, Winfred P. 1973. “A structural principle of language and its implications”. *Language* 49, 1, 47-66.

Lehmann, Winfred P. 1974a. *Proto-Indo-European syntax*. Austin: University of Texas Press.

Lehmann, Winfred P. 1974b. “On some German and Germanic OV compounds”. In Ulrich Engel & Paul Grebe (eds.), *Sprachsystem und Sprachgebrauch: Festschrift für Hugo Moser*, 206-215. Düsseldorf: Schwann.

Lehmann, Winfred P. 1978. *Syntactic typology*. Austin: University of Texas Press.

Lehmann, Winfred P. 1993. *Theoretical bases of Indo-European linguistics*. London: Routledge.

Lehmann, Winfred P. 1999. “Towards a history of early Indo-European”. *Diachronica* 16, 1, 65-95.

Lehmann, Winfred P. 2005. “Gothic and the reconstruction of Proto-Germanic”. In Ekkehard König & Johan van der Auwera (eds.), *The Germanic languages*, 19–38. London: Routledge.

Lehmann, Winfred P. 2007. *A grammar of Proto-Germanic*. Edited online by Jonatham Slocum. Austin, Texas: University of Texas at Austin.

Lehman, Winfred P. & Undirapola Ratanajoti 1975. “Typological syntactical characteristics of the Śatapathabrāhmaṇa”. *Journal of Indo-European Studies* 3, 147-159.

Li, Charles N. & Sandra A. Thompson. 1975. “The semantic function of word order: a case study in Mandarin”. In Charles N. Li (ed.), *Proceedings of the conference on word order and word order change*, 163-195. Austin/London: University of Texas Press.

Li, Charles N. & Sandra A. Thompson. 1976. “Subject and topic: a new typology of language”. In Charles N. Li (ed.), *subject and topic*, 457-461. Austin: University of Texas Press.

Lightfoot, David W. 1979. *Principles of diachronic syntax*. Cambridge: Cambridge University Press.

Lightfoot, David W. 1991. *How to set parameters: arguments from language change*. Cambridge, Massachussets: MIT Press.

Lightfoot, David W. 2002a. “Myths and the prehistory of grammars”. *Journal of Linguistics* 38, 113-136.

Lightfoot, David W. 2002b. “More myths”. *Journal of Linguistics* 38, 619-626.

Linde, Sonja. 2009. “Aspects of word order and information structure in Old Saxon”. In Roland Hinterhölzl & Svetlana Petrova (eds.), *Information structure and language change: new approaches to word order variation in Germanic*, 367-389. Berlin: Mouton de Gruyter.

Lippert, Jörg. 1974. *Beiträge zur Technik und Syntax althochdeutscher Übersetzungen unter besonderer Berücksichtigung der Isidorgruppe und des althocheutschen Tatian*. München: Fink.

Looijenga, Jantina H. 1997. *Runes around the North Sea and on the continent AD 150-700; texts & contexts*. PhD dissertation, University of Groningen.

Loepfe, Alfred. 1940. *Die Wortstellung im griechischen Sprachsatz* (*erklärt an Stücken aus Platon und Menander*). PhD dissertation, University of Freiburg.

Lowe, John J. 2015. *Participles in Rigvedic Sanskrit*. Oxford: Oxford University Press.

Lødrup, Helge. 2011. “Norwegian possessive pronouns: phrases, words or suffixes?”. In Miriam Butt & Tracy Holloway King (eds.), *Proceedings of the 11th Lexical-Functional Grammar conference*, 383-403. Standford: CSLI Publications.

Luraghi, Silvia. 1995. “The pragmatics of verb initial sentences in some ancient Indo-European languages”. In Pamela Downing & Michael Noonan (eds.), *Word order in discourse*, 355-386. Amsterdam/Philadelphia: John Benjamins.

Luraghi, Silvia. 2010. “The rise (and possible downfall) of configurationality”. In Silvia Luraghi & Vit Bubenik (eds.), *Continuum companion to historical linguistics*, 212-229. London/New York: Continuum.

Macdonell, Arthur A. 1916. *A Vedic grammar for students*. Oxford: Oxford University Press.

Macdonell, Arthur A. 1927. *A Sanskrit grammar for students*. Third edition. Oxford: Oxford University Press.

Macleod, Morgan. 2011. *The perfect in Old English and Old Saxon: the synchronic and diachronic correspondence of form and meaning*. PhD dissertation, St. John's College.

Magni, Elisabetta. 2009. “The evolution of Latin word (dis)order”. In Sergio Scalise, Elisabetta Magni & Antonietta Bisetto (eds.), *Universals of language today*, 225-251. Berlin: Springer.

Marchand, James W. 1973. *The sounds and phonemes of Wulfila's Gothic*. The Hague/Paris: Mouton de Gruyter.

Marold, Edith & Christiane Zimmermann. 2008. *Runenprojekt Kiel*. Available on-line at [http://www.runenprojekt.uni-kiel.de/]. Kiel: Christian-Albrechts-Universität.

Marouzeau, Jules. 1922. *L'ordre des mots dans la phrase latine.* Volume 1*: Les groupes nominaux*. Paris: Société de linguistique de Paris.

Masica, Colin P. 1993. *The Indo-Aryan languages*. Cambridge: Cambridge University Press.

Matsuda, Kenjirô. 1998. "On the conservatism of embedded clauses". *Theoretical and applied linguistics at Kobe Shoin* 1, 1-13.

McCawley, James D. 1970. "English as a VSO language". *Language* 46, 286-299.

McKnight, George H. 1897. "The primitive Teutonic order of words". *Journal of Germanic Philology* 1, 136-219. Boston/Leipzig: Norwood Press.

McWhorter, John H. 2000. *The missing Spanish creoles: recovering the birth of plantation contact languages*. Berkeley/Los Angeles/London. University of California Press.

Meillet, Antoine. 1917. *Caractères généraux des langues germaniques*. Paris: Hachette.

Meillet, Antoine. 1937. *Inroduction à l'étude des langues indo-européennes*. Paris: Klincksieck.

Meira, Sergio. 1999. *A grammar of Tiriyó*. PhD dissertation, Rice University.

von Mengden, Ferdinand. 2008. "Reconstructing complex structures. A typological perspective". In Gisela Ferraresi & Maria Goldbach (eds.), *Principles of syntactic reconstruction*, 97-120. Amsterdam: John Benjamins.

Metlen, Michael. 1933. "What a Greek interlinear of the Gothic Bible text can teach us". *Journal of English and Germanic Philology*, 32, 4, 530-548.

Metzing, Dieter & Saba A. Teserra. 2009. "Conjunctive coordination in Amharic: some typological approaches". In Johannes Helmbrecht, Yoko Nishina, Yong-Min Shin Stavros Skopeteas & Elisabeth Verhoeven (eds.), *Form and function in language research: papers in honour of Christian Lehmann*, 283-300. Berlin/New York: Mouton de Gruyter.

Michaelis, Maria, Philippe Maurer, Martin Haspelmath & Magnus Huber. 2013. *The atlas of pidgin and creole language structures*. Oxford: Oxford University Press.

Mitchell, Bruce. 1985. *Old English syntax.* Volume II. Oxford: Clarendon Press.

Mitchell, Bruce. & Fred C. Robinson. 2003. *A guide to Old English*. Oxford: Blackwell.

Mitxelena, Koldo. 1986. *Lenguas y protolenguas*. Salamanca: Ediciones Universidad de Salamanca.

Mithun, Marianne. 1988. "The grammaticization of coordination". In John Haiman & Sandra Thompson (eds.), *Clause combining in grammar and discourse*, 331-359. Amsterdam: John Benjamins.

Mithun, Marianne. 1992. "Is basic word order universal?". In Doris L. Payne (ed.), *Pragmatics of word order flexibility*, 15-62. Amsterdam/Philadelphia: John Benjamins.

Mosel, Ulrike & Even Hovdhaugen. 1992. *Samoan reference grammar*. Oslo: Scandinavian University Press.

Müller, Stefan. 2016. *Grammatical theory: from transformational grammar to constraint-based approaches*. Berlin: Language Science Press.

Neeleman, Ad, Elena Titov, Hans van de Koot & Reiko Vermeulen (2009): "A syntactic typology of topic, focus and contrast". *Studies in Generative Linguistics* 100, 15-51. Brussels: Mouton de Gruyter.

Neidorf, Leonard. 2014. *The dating of* Beowulf*: a reassessment*. Cambridge: D. S. Brewer.

Nichols, Johanna. 1986. "Head-marking and dependent-marking grammar". *Language* 62, 56-119.

Nichols, Johanna. 2003. "Diversity and stability in language". In Bryan D. Joseph & Richard D. Janda (eds.), *The handbook of historical linguistics*, 283-310. Oxford: Blackwell.

Nichols, Johanna. 2011. *Ingush grammar*. Berkeley: University of California Press.

Nielsen, Hans F. 2000. *The early runic language of Scandinavia*. Heidelberg: Winter.

Nielsen, Hans F. 2006. "The early runic inscriptions and Germanic historical linguistics". In Marie Stoklund, Michael Lerche Nielsen, Bente Holmberg & Gillian Fellows-Jensen (eds.), *Runes and their secrets: studies in runology*, 247-269. Copenhagen: Museum Tusculanum.

Noël, Patrizia. 2013. "On the loss of high-frequency function words". *Journal of Germanic Linguistics* 25, 1, 1-36.

Nordström, Jackie. 2010. *Modality and subordinators*. Amsterdam/Philadelphia: John Benjamins.

Nübling, Damaris, Antje Dammel, Janet Duke & Renata Szczepaniak. 2013. *Historische Sprachwissenschaft des Deutschen. Eine Einführung in die Prinzipien des Sprachwandels*. 4th edition. Tübingen: Narr.

Olson, Kenneth S. 2006. "On Niger-Congo classification". In Howard I. Aronson, Donald L. Dyer, Victor A. Friedman Daniela S. Hristova & Jerrold M. Sadock (eds.), *The bill question*, 153-190. Bloomington: Slavica.

Opitz, Stephan. 1977. *Südgermanische Runeninschriften im älteren Futhark aus der Merowingerzeit*. Kirchzarten/Freiburg: Karl Schneider.

Orel, Vladimir. 2003. *A handbook of Germanic etymology*. Leiden/Boston: Brill.

Ortiz de Urbina, Jon. 1989. *Parameters in the grammar of Basque*. Dordrecht: Foris.

Osa, Eusebio U. 1990. *Euskararen hitzordena. Komunikazio zereginaren arauera*. Leioa: Servicio Editorial de la Universidad del País Vasco-Euskal Herriko Unibertsitateren Argitalpen Zerbitzua.

Owen, Jonathan, Robin Dodsworth & Trent Rockwood. 2009. "Subject-verb order in spoken Arabic: morpholexical and event-based factors". In *Language Variation and Change* 21, 1-29.

Øystein, Imerslund H. 2009. *Word order in Old English and Middle English subordinate clauses*. PhD dissertation, University of Bergen.

Øystein, Imerslund H. 2014. "On the use of data in historical linguistics: word order in early English subordinate clauses". *English Language and Linguistics* 19, 1, 83-106.

Pagliarulo, Giuseppe. 2006. "On the alleged functions of word order in Wulfilian Gothic". *Journal of Indo-European Studies* 34, 3/4, 437-450.

Partee, Barbara & Vladimir Borschev. 2000. "Genitives, relational nouns, and the argument-modifier distinction". *ZAS Papers in Linguistics* 17, 177-201.

Paul, Hermann. 1920. *Prinzipien der Sprachgeschichte*. 5th edition. Halle: Niemeyer.

Perridon, Harry & Petra Sleeman. 2011. "The noun phrase in Germanic and Romance. Common developments and differences". In Petra Sleeman & Harry Perridon (eds.), *The noun phrase in Romance and Germanic. Structure, variation, and change*, 1-21. Amsterdam: John Benjamins.

Peters, Fritz. 1886. *Der Satzbau im Heliand in seiner Bedeutung für die Entscheidung der Frage, ob Volksgedicht oder Kunstgedicht*. Schwerin: Bärensprungsche Hofbuchdruckerei.

Petersen, Hjalmar. 2011. "The convergence process between Faroese and Faro-Danish". *Nordic Journal of Linguistics* 34, 1, 5-28.

Petrova, Svetlana. 2009. “Information structure and word order variation in the Old High German Tatian”. In Roland Hinterhölzl & Svetlana Petrova (eds.), *Information structure and language change. New approaches to word order variation and change in Germanic*, 251-280. Berlin/New York: Mouton de Gruyter.

Petrova, Svetlana & Michael Solf. 2009. “On the methods of information-structural analysis in historical texts. A case study on Old High German”. In Roland Hinterhölzl & Svetlana Petrova (eds.), *Information structure and language change. New approaches to word order variation and change in Germanic*, 121-160. Berlin/New York: Mouton de Gruyter.

Pinker, Steven. 1994. *The language instinct*. London: Penguin Books.

Pinkster, Harm. 1988. *Lateinische Syntax und Semantik*. Tübingen: A. Francke.

Pinkster, Harm. 2015. *The Oxford Latin syntax*. Volume 1: *The Simple Clause*. Oxford: Oxford University Press.

Pintzuk, Susan. 1996. “Old English verb-complement word order and the change from OV to VO”. *York Papers in Linguistics* 17, 241-264.

Pintzuk, Susan & Eric Haeberli. 1998. “Structural variation in Old English root clauses”. *Language Variation and Change* 20, 367-407.

Pintzuk, Susan & Ann Taylor. 2006. “The loss of OV order in the history of English”. In Ans van Kemenade & Bettelou Los (eds.), *The handbook of the history of English*, 249-278. Oxford: Blackwell.

Pompei, Anna. 2011. “Relative clauses”. In Philip Baldi & Pierluigi Cuzzolin (eds.), *New perspectives on historical Latin syntax. Complex sentences, grammaticalization, typology*, 4, 427-548. Berlin/Boston: Mouton de Gruyter.

Prideaux, Gary D. 1993. “Subordination and information distribution in oral and written narratives”. *Pragmatics and cognition* 1, 51-69.

Price, Timothy B. 2010. *The Old Saxon Leipzig Heliand manuscript fragment (MS L): new evidence concerning Luther, the poet, and Ottonian heritage*. PhD dissertation, University of California Berkeley.

Prichard, Hilary & Kobey Shwayder. 2014. “Against a split phonology of Michif”. In *U. Penn Working Papers in Linguistics* 20, 1, 271-280.

Primus, Béatrice. 2001. “Word order typology“. In Martin Haspelmath, Ekkehard König, Wulf Oesterreicher & Wolfgang Raible (eds.) *Language typology and language universals*. Volume 2, 855-873. Berlin: Walter de Gruyter.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik. 1985. *A comprehensive grammar of the English language*. Harlow: Pearson Education.

Radford, Andrew. 1990. *Syntactic theory and the acquisition of English syntax*. Oxford: Blackwell.

Radford, Andrew. 1997. *Syntactic theory and the structure of English*. Cambridge: Cambridge University Press.

Rajendran, Chettiarthodi. 1988. "Position of particles and predicatives in Sanskrit word order". *Sri Venkateswara University Oriental Journal*, 2, 1, 113-118.

Ramat, Paolo. 1984. "'Es war ein König in Thule (...), Dem sterbend seine Buhle...': on the rise and transformation(s) of morphosyntactic categories". In Jacek Fisiak (ed.), *Historical syntax*, 393-416. Berlin/New York: Motun de Gruyter.

Ramat, Paolo. 1987. *Linguistic typology*. Berlin: Mouton de Gruyter.

Ramat, Paolo. 1998. "The Germanic languages". In Anna Giacalone Ramat & Paolo Ramat (eds.). In *The Indo-European languages*, 380-414. London: Routledge.

Rappaport, Gilbert C. 2004. "The Syntax of possessors in the nominal phrase: drawing the lines and deriving the forms". In Ji-Yung Kim, Barbara Partee & Yuri Lander (eds.), *University of Massachussets occasional papers* 2, 243-261. Amherst: Graduate Linguistic Student Association Publications.

Ratkus, Artūras. 2010. *The adjective inflection in Gothic and early Germanic: structure and development*. PhD dissertation, Trinity College.

Rauch, Irmengard. 1985. "Syntax des Altniederdeutschen (Altsächsischen)". In Werner Besch, Oskar Reichmann & Stefan Sonderegger (eds.), *Sprachgeschichte: Ein Handbuch zur Geschichte der deutschen Sprache und ihrer Erforschung*, 1, 2, 1089-1093. Berlin: Walter de Gruyter.

Rauch, Irmengard. 1992. *The Old Saxon language: grammar, epic narrative, linguistic interference*. New York: Peter Lang Publishing.

Rauch, Irmengard. 2003. *The Gothic language. Grammar, genetic provenance and typology, readings*. New York: Peter Lang Publishing, Inc.

Rauch, Irmengard. 2006. "The newly found Leipzig *Heliand* fragment". *Interdisciplinary Journal for Germanic Linguistics and Semiotic Analysis* 11, 1, 1-17.

Rebuschi, Georges. 1987. "Sujeto, ergatividad y (no-) configuracionalidad; lugar del euskara en la tipología generativa". In Pello Salaburu (ed.), *Euskal morfosintaxia eta fonologia: eztabaida gaiak*, 9-56. Bilbo: Euskal Herriko Unibertsitatea.

Rebuschi, Georges. 2009. “On the polysemy of the suffix -ke in the history of Northern Basque”. *Anuario del seminario de filología vasca «Julio Urquijo»* 43, 1/2, 745-768.

Reguero-Ugarte, Urtzi. 2013. “Word order”. In Mikel Martínez-Areta (ed.), *Basque and Proto-Basque. Language-internal and typological approaches to linguistic reconstruction*, 429-485. Frankfurt am Main: Peter Lang.

Ries, John. 1880. *Die Stellung von Subject und Prädicatsverbum im Hêliand, nebst einem Anhang metrischer Excurse*. Strassburg: Trübner.

de Rijk, Rudolf P. G. 1969. “Is Basque an SOV language?”. *Fontes Linguae Vasconum* 3, 319-351. [Reprinted in de Rijk 1998: 421-433]

de Rijk, Rudolf P. G. 2008. *Standard Basque. A progressive grammar.* Volume 1*: The grammar*. Cambridge/London: MIT Press.

Rijkhoff, Jan. 2004. *The noun phrase*. Oxford: Oxford University Press.

Ringe, Don. 2006. *A linguistic history of English.* Volume I: *From Proto-Indo-European to Proto-Germanic*. Oxford: Oxford University Press.

Roberts, Ian G. 1993. *Verbs and diachronic syntax: a comparative history of English and French*. Dordrecht: Kluwer.

Rosen, Nicole. 2007. *Domains in Michif phonology*. PhD dissertation, University of Toronto.

Ross, John R. 1967. *Constraints on variables in syntax*. PhD dissertation, Massachussets Institute of Technology.

Saito, Mamoru. 1985. *Some asymmetries in Japanese and their theoretical implications*. PhD dissertation, Massachusetts Institute of Technology.

Sanders, Willy. 1985. “Die Textsorten des Altniederdeutschen”. In Werner Besch, Anne Betten, Oskar Reichmann & Stefan Sonderegger (eds.), *Sprachgeschichte. Ein Handbuch zur Geschichte der deutschen Sprache und ihrer Erforschung* 2, 1103-1109. Berlin: Walter de Gruyter.

Šaniʒe, Ak'ak'i. 1942. “*Mde* tandelubis genezisisatvis” [On the origin of the adposition *mde*]. In *Sakartvelos SSR mecnierebata ak'ademiis moambe* 3, 4, 367-371.

Sapir, Edward. 1921. *Language: an introduction to the study of speech*. New York: Harcourt.

Sapp, Christopher. 2014. “Word order in the OHG right periphery and its Indo-European origins”. *Germanic Linguistics Annual Conference* 20, Purdue University.

Sasse, Hans-Jürgen. 1981. ““Basic word order” and functional perspective in Boni”. *Folia Linguistica* 15, 3/4, 253-290.

Schallert, Oliver. 2006. *Hybride OV/VO-Systeme und syntaktischer Wandel zu OV und VO in den germanischen Sprachen*. Master's thesis, University of Salzburg.

Schallert, Oliver. 2007. "Die Stellung von Verben und Objekten in der rechten Peripherie: OV- und VO- Strukturen im Althochdeutschen". *Moderne Sprachen* 51, 2, 17-107.

Scharf, Peter, Anuja Ajotikar, Sampada Savardekar & Pawan Goyal. 2015. "Distinctive features of poetic syntax: preliminary results". In Peter M. Scharf (ed.), *Sanskrit syntax: selected papers presented at the seminar on Sanskrit syntax and discourse structures, 13-15 June 2013, Université Paris Diderot*, 305-324. Providence: The Sanskrit Library.

Schäufele, Steven. 1991. "Verb-medial clauses in Vedic: some theoretical implications". In Hans H. Hock (ed.), *Studies in Sanskrit syntax: a volume in honor of the centennial of Speijer's Sanskrit Syntax, 1886-1986*, 177-196. Delhi: Motilal Benarsidass.

Seebold, Elmar. 1990. "Die Inschrift B von Westeremden und die friesischen Runen". In *Aspects of Old Frisian philology*/*Amsterdamer Beiträge zur älteren Germanistik* 31/32, 408-427.

Sharp, Randall M. 1985. *A model of grammar based on principles of government and binding*. PhD dissertation, University of British Columbia.

Siemund, Peter. 2001. "Interrogative constructions". In Martin Haspelmath, Ekkehard König, Wulf Oesterreicher & Wolfgang Raible (eds.) *Language typology and language universals*. Volume 2, 1011-1028. Berlin: Walter de Gruyter.

Sievers, Eduard. 1878. *Heliand. Titelauflage vermehrt um das Prager Fragment des Heliand und die Vaticanischen Fragmente von Heliand und Genesis*. Halle: Buchhandlung des Waisenhauses.

Sigurðsson, Halldór A. 1988. "From OV to VO: evidence from Old Icelandic". *Working Papers in Scandinavian Syntax* 34, 1-41.

Simpson, Adrew. 2005. "Pro-drop patterns and analyticity". In *Notes from the Linguistic Society of America* 222.

Skopeteas, Stavros, Caroline Féry & Rusudan Asatiani. 2009. "Word order and intonation in Georgian". *Lingua* 119, 102-127.

Skopeteas, Stavros & Gisbert Fanselow. 2010. "Focus in Georgian and the expression of contrast". *Lingua* 120, 6, 1370-1391.

Small, George W. 1923. *The comparison of inequality: the semantics and syntax of the comparative particle in English*. Baltimore: John Hopkins University Press.

Small, George W. 1929. *The Germanic case of comparison, with a special study of English*. Philadelphia: Linguistic Society of America.

Smith, Jesse R. 1971. *Word order in the older Germanic dialects*. PhD dissertation, University of Illinois. Ann Arbor: University Microfilms.

Smitherman, Thomas & Jóhanna Barðdal. 2009. "Typological changes in the evolution of Indo-European syntax?". *Diachronica* 26, 2, 253-273. Amsterdam: John Benjamins.

Song, Jae J. 2001. *Linguistic typology: morphology and syntax*. Harlow: Longman.

Sornicola, Rosanna. 2006. "Interaction of syntactic and pragmatic factors on basic word order in the languages of Europe". In Giuliano Bernini & Marcia L. Schwartz (eds.), *Pragmatic organization of discourse in the languages of Europe*, 357-544. Berlin/New York: Mouton de Gruyter.

Speas, Margaret. 1990. *Phrase structure in natural language*. Dordrecht: Kluwer Academic Publishers.

Speijer, Jakob S. 1988. *Sanskrit syntax*. Third edition. Delhi: Motilal Banarsidass Publishers.

Spevak, Olga. 2010. *Constituent order in classical Latin prose*. Amsterdam: Benjamins.

Stassen, Leon. 1985. *Comparison and universal grammar*. Oxford: Blackwell.

Stockwell, Robert P. 1977. "Motivations for exbraciation in Old English". In Charles Li (ed.), *Mechanisms of syntactic change*, 394-421. Austin: University of Texas Press.

Stockwell, Robert P. & Donka Minkova. 1991. "Subordination and word order change in the history of English". In Dieter Kastovsky (ed.), *Historical English syntax*, 367-408. Berlin/New York: Mouton de Gruyter..

Stolz, Thomas. 2015. "Adjective-noun agreement in language contact: loss, realignment, and innovation". In Francesco Gardani, Peter Arkadiev & Nino Amiridze (eds.), *Borrowed morphology*, 269-301. Berlin/Boston: Mouton de Gruyter.

Storto, Luciana R. 2003. "Interaction between verb movement and agreement in Karitiana". *Revista Letras* 60, 411-433.

Streitberg, Wilhelm A. 1919. *Die Gotische Bibel. Erster Teil: Der gotische Text und seine griechische Vorlage*. Heidelberg: Winter.

Sturtevant, Edgar H. 1947. *An introduction to linguistic science*. New Haven: Yale University Press.

Sundquist, John D. 2006. “Syntactic variation in the history of Norwegian and the decline of XV word order”. *Diachronica* 23, 6, 105-141.

Szczepaniak, Renata. 2007. *Der phonologisch-typologische Wandel des Deutschen von einer Silben- zu einer Wortsprache*. Berlin/New York: Mouton de Gruyter.

Szczepaniak, Renata. 2010. “Jespersen's cycle in German from the phonological perspective of syllable and word languages”. In Anne Breitbarth, Christopher Lucas, Sheila Watts & David Willis (eds.), *Linguistik aktuell/Linguistics today* 159, 321-334.

Szczepaniak, Renata. 2012. “Lautwandel verstehen. Vom Nutzen der Typologie von Silben- und Wortsprachen für die historische und die synchrone germanistische Linguistik”. In Péter Maitz (ed.), *Historische Sprachwissenschaft. Erkenntnisinteressen, Grundlagenprobleme, Desiderate*, 85-104. Boston: Mouton de Gruyter.

Szczepaniak, Renata. 2015. “Syntaktische Einheitenbildung - typologisch und diachron betrachtet”. In Christa Dürscheid & Jan Georg Schneider (eds.), *Handbuch Satz, Äußerung, Schema*, 104-124. Berlin/Boston: Walter de Gruyter.

Tamašauskaitė, Žieda. 2013. “Gothic word order patterns as attested in the Gothic Gospel of Luke”. *Sustainable Multilingualism* 3, 64-76.

Tavares, Petronila d. S. 2005. *A grammar of Wayana*. PhD dissertation, Rice University.

Taylor, Ann. 1994. “The change from SOV to SVO in Ancient Greek”. *Language Variation and Change* 6, 1-37.

Taylor, Ann, Anthony Warner, Susan Pintzuk & Frank Beths. 2003. *The York-Toronto-Helsinki parsed corpus of Old English*. York: University of York.

Thompson, Sandra. 1978. “Modern English from a typological point of view: some implications of the function of word order”. *Linguistische Berichte* 54, 19-35.

Tiefenbach, Heinrich. 2010. *Altsächsisches Handwörterbuch. A concise Old Saxon dictionary*. Berlin/New York: Walter de Gruyter.

Tomanetz, Karl. 1879. *Die Relativsätze bei den althochdeutschen Übersetzern des 8. und 9. Jahrhunderts*. Wien: Carl Gerolds Sohn.

Tomlin, Russell S. 1985. “Foreground-background information and the syntax of subordination”. *Text and Talk* 5, 1-2, 85-122.

Tomlin, Russell S. 1986. *Basic word order. Functional principles*. London/New York: Routledge.

Trask, Robert L. 1977. “Historical syntax and Basque verbal morphology: two hypotheses”. In W. A. Douglass, Richard W. Etulain & William H. Jacobsen (eds.), *Anglo-American contributions to Basque studies: essays in honor of Jon Bilbao*, 203-217. Reno: Desert Research Institute Publications.

Trask, Robert L. 1997. *The history of Basque*. London: Routledge.

Trask, Robert L. 1998. “The typological position of Basque: then and now”. *Language Sciences* 20, 1, 313-324.

Travis, Lisa. 1984. *Parameters and effects of word order variation*. PhD dissertation, Massachussets Institute of Technology.

Trudgill, Peter. 2009. “Sociolinguistic typology and complexification”. In Geoffrey Sampson, David Gil & Peter Trudgill (eds.), *Language complexity as an evolving variable*, 97-108. Oxford: Oxford University Press.

Tuite, Kevin. 1999. “The myth of the Caucasian Sprachbund”. *Lingua* 108, 1-26.

Tuite, Kevin. 2004. “Early Georgian”. In Roger D. Woodward (ed.), *Cambridge encyclopedia of the world's ancient languages*, 949-969. Cambridge: Cambridge University Press.

Van Valin, Robert D. Jr. 2005. *Exploring the syntax-semantics interface*. Cambridge: Cambridge University Press.

Vanelli, Laura, Lorenzo Renzi & Paola Benincà. 1985. “Typologie des pronoms sujets dans les langues romanes”. In *Actes du XVIIème congrès international de linguistique et philologie romane* 3, 163-176. Aix: Université de Provence.

Väänänen, Veikko. 1985. *Introduction au latin vulgaire*. 2nd ed. of the 3rd French edition (= *troisième édition revue et augmentée*). Spanish translation by Manuel Carrión. Madrid: Gredos.

Vennemann, Theo. 1973. “Explanation in syntax”. *Syntax and semantics* 2, 1-50.

Vennemann, Theo. 1974. “Language type and word order”. *Acta Universitas Carolinae, Philologica 5, Linguistica Generalica* 1, 219-229.

Vennemann, Theo. 1975. “An explanation of drift“. In Charles N. Li (ed.), *Word order and word order change*, 269-305. Austin: University of Texas Press.

Vennemann, Theo. 1984. “Verb second, verb late, and the brace construction in Germanic: A discussion“. In Jacek Fisiak (ed.), *Historical syntax*, 627-636. Berlin: Mouton de Gruyter.

Versloot, Arjen P. & Elżbieta Adamczyk. 2016. “Geography and dialects in Old Saxon: river basin communication networks and the distributional patterns of Ingwaeonic

features in Old Saxon". In J. Hines & N. Ijssenagger (eds.), *Across the North Sea*. Suffolk: Boydell & Brewer.

Villasante, Luis. 1980. *Sintaxis de la oración simple*. Oñate: Editorial Franciscana.

Vogt, Hans. 1971. *Grammaire de la langue géorgienne*. Limoges: A. Bontemps.

Wackernagel, Jakob. 1892. "Über ein Gesetz der indo-germanischen Wortstellung". *Indogermanische Forschungen* 1, 333-436.

Wadstein, Elis. 1899. *Kleinere altsächsische Sprachdenkmäler. Mit Anmerkungen und Glossar*. Norden/Leipzig: Soltau Verlag.

Walkden, George. 2011. *HeliCoPTER v 1.0: Heliand corpus, a partially tagged Excel resource*. Available on-line at [http://personalpages.manchester.ac.uk/staff/george.walkden/helicopter/].

Walkden, George. 2013a. "The status of hwæt in Old English". *English Language and Linguistics* 17, 3, 465-488.

Walkden, George. 2013b. "Null subjects in Old English". *Language Variation and Change* 25, 2, 155-178.

Walkden, George. 2014a. *Syntactic reconstruction and Proto-Germanic*. Oxford: Oxford University Press.

Walkden, George. 2014b. "Object position and heavy noun phrase shift in Old Saxon and beyond". In Kristin Bech & Kristine M. Eide (eds.), *Information structure and word order change in Germanic and Romance languages*, 313-340. Amsterdam: John Benjamins.

Wallenberg, Joel C. 2009. *Antisymmetry and the conservation of c-command: scrambling and phrase structure in synchronic and diachronic perspective*. PhD dissertation, University of Pennsilvania.

Wallenberg, Joel C. 2015. "Antisymmetry and heavy NP shift across Germanic". In Theresa Biberauer & George Walkden (eds.), *Syntax over time: lexical, morphological and information-structural interactions*, 336-349. Oxford: Oxford University Press.

Watkins, Calvert. 1963. "Preliminaries to a historical and comparative analysis of the syntax of the Old Irish verb". *Celtica* 6, 1-49.

Watkins, Calvert. 1964. "Preliminaries to the reconstruction of Indo-European sentence structure". In Horace G. Lunt (ed.), *Proceedings of the IX international congress of linguists*, 1035-1045. The Hague: Mouton de Gruyter.

Watkins, Calvert. 1976. “Toward Proto-Indo-European syntax: problems and pseudoproblems”. In Sanford B. Steever, Carol A. Walker & Salikoko S. Mufwene (eds.), *Proceedings of the Chicago Linguistics Society: papers from the parasession on diachronic syntax*, 305-326. Chicago: Chicago Linguistics Society.

Whaley, Lindsay J. 1997. *Introduction to typology: the unity and diversity of language*. Thousand Oaks, California: Sage.

Whitney, William D. 1885. *The roots, verb-forms, and primary derivatives of the Sanskrit language*. Leipzig: Breitkopf & Härtel.

Wichmann, Søren. 2008. “The emerging field of language dynamics”. *Language and Linguistics Compass* 2, 3, 442-455.

Williamson, Kay. 1989. “Niger-Congo overview”. In John Bendor-Samuel & Rhonda L. Hartell (eds.), *The Niger-Congo languages*, 3-45. Lanham/London: University Press of America.

Willis, David E. 1998. *Syntactic change in Welsh. A study of the loss of verb-second*. Oxford: Clarendon Press.

Winter, Werner. 1984. “Reconstructional comparative linguistics and the reconstruction of the syntax of undocumented stages in the development of languages and language families”. In J. Fisiak (ed.), *Historical syntax*, 613-625. The Hague: Mouton de Gruyter.

Wolfenden, Stuart N. 1929. *Outlines of Tibeto-Burman linguistic morphology*. London: Royal Asiatic Society.

Woodcock, Eric C. 1959. *A new Latin syntax*. London: Methuen.

Wright, Joseph. 1966. *Grammar of the Gothic language and the gospel of St. Mark. Selections from the other gospels and the second epistle to Timothy. With notes and glossary*. 2nd. edition. Oxford at the Clarendon Press, London.

Wunderlich, Hermann & Hans Reis 1924. *Der deutsche Satzbau.* Volume 1, 3, completely revised edition. Stuttgart/Berlin: Cotta.

Yamamoto, Hideki. 1999. “A survey of areal distribution of word order around the world”. *Sprachtypologie und Universalienforschung* 52, 1, 64-77.

Yang, Charles. 2004. “Universal grammar, statistics or both?”. *Trends in Cognitive Sciences* 8, 10, 451-456.

Yang, Charles. 2009. “Population structure and language change”. Unpublished paper.

Yang, Charles. 2010. “Three factors in language variation”. *Lingua* 120, 1160-1177.

Yates, Frank. 1984. “Tests of significance for 2 X 2 contingency tables”. *Journal of the Royal Statistical Society* 147, 3, 426-463.

Yoshioka, Jiro. 1986. “The influence of the Latin version of the Bible on the Gothic version in the case of prepositions”. *Journal of Indo-European Studies* 14, 3/4, 219-229.

Ziemer, Hermann. 1884. *Vergleichende Syntax der indogermanischen Comparation, insbesondere der Comparationscasus der indogermanischen Sprachen und sein Ersatz*. Berlin: Dümmler.

Zlatić, Larisa. 2013. “Definiteness and structure of NPs in Slavic”. In Lilia Schürcks, Anastasia Giannakidou & Urtzi Etxeberria (eds.), *The nominal structure in Slavic and beyond*, 17-38. Berlin/Boston: Mouton de Gruyter.

Zubiri, Ilari & Entzi Zubiri. 2000. *Euskal gramatika osoa*. Bilbo: Didaktiker SA.

Zwart, Jan-Wouter. 2009. “Relevance of typology to minimalist inquiry”. *Lingua* 119, 1589-1606.

Zwicky, Arnold M. 1985. “Heads”. *Journal of Linguistics*, 1-29. Cambridge: Cambridge University Press.