

Univerzita Karlova v Praze

Filozofická fakulta

Ústav srovnávací jazykovědy

Diplomová práce

Mgr. Dita Frantíková

Slovesný supletivismus v Indoevropských jazycích

Verbal suppletion in Indo-European Languages

Praha 2013

Vedoucí práce: Mgr. Jan Bičovský, Ph.D.

Many thanks

to all people who were ready to invest their time and effort in helping me accomplish this work.

Namely I wish to thank Ronald Kim, Alwin Kloekhurst, Melanie Mahl Zahn, Craig Melchert, George-Jean Pinault and Marek Rychtařík for very kindly answering some of my language-related questions.

Without Béla Brogyányi I would have never had access to the literature needed to accomplish the work.

Reiner Lipp spent unbelievable amount of time consulting the reconstructed forms of Proto-Indo-European with me. I am so thankful to him.

Jan Bičovský, the supervisor of my work, has inspired many improvements and has been an example to me in enthusiasm in the topic.

Prohlášení:

Prohlašuji, že jsem tuto diplomovou práci vypracovala samostatně a výhradně s použitím citovaných pramenů, literatury a dalších odborných zdrojů.

V Praze, dne 27. července 2013

.....

Dita Frantíková

Klíčová slova

supletivismus, sloveso, indoevropské jazyky, typologie supletivismu, diachronní lingvistika

Key words

suppletion, verb, Indo-European languages, typology of suppletion, diachronic linguistics

Abstrakt (česky)

Práce Slovesný supletivismus indoevropských sloves se zabývá typologií slovesného supletivismu na podkladě materiálu indoevropských jazyků. Zvláštní zřetel je věnován diachronnímu přístupu. Proto je popisován stav v nejstarších fázích ide. jazyků (u každé z deseti dobře popsaných ide. jazykových větví je vybrán reprezentativní jazyk, u kterého je popsán slovesný systém jazyka a supletivní slovesná paradigmata, která se v něm vyskytují) a rekonstrukce jejich praindoevropských forem. Výstupem je kromě samotných popisných dat z jednotlivých jazykových větví také jejich vyhodnocení, a to formou typologie slovesného supletivismu z hlediska diachronního i synchronního a posouzení dosažených dat ve vztahu k frekvenci, sémantickým polím a Semantic relevance hierarchy. Práce přináší přehled slovesných praindoevropských kořenů v supletivních paradigmatech a jejich vzájemných vztahů.

Abstract (in English):

Typology of verbal suppletion on the ground of Indo-European languages is the focus of the thesis Verbal suppletion in Indo-European languages. The diachronic approach is of special interest. Description of verbal suppletion in the oldest stages of the IE languages and reconstruction of their Proto-Indo-European forms is thus aimed for (for each of the ten well-described IE language branches, one sample language is chosen, and its verbal system and suppletive verbal paradigms are described). Besides the descriptive data from individual language branches, the outcome of the thesis comprises the evaluation of the data by typological means from diachronic and synchronic view-point and its assessment in relation to frequency, semantic fields and Semantic relevance hierarchy. The thesis delivers a review of Proto-Indo-European roots in suppletive paradigms and their mutual relationships.

CONTENTS

1	INTRODUCTION	10
2	GOAL OF THE THESIS	11
3	BIBLIOGRAPHICAL RESOURCES FOR SUPPLETION	12
3.1	MODERN SYNCHRONIC RESEARCH	12
3.2	WORKS ON VERBAL SUPPLETION IN INDIVIDUAL LANGUAGES	13
4	DEFINITIONS	14
4.1	SUPPLETION	14
4.2	PARADIGM	16
4.3	STEM/ROOT	17
4.4	VERBAL ASPECT	18
4.5	REMARKS ON VERBAL SUPPLETION - VESELINOVA	18
5	SEMANTIC RELEVANCE HIERARCHY	19
6	SUPPLETION TYPOLOGY	20
7	RELATIONSHIP OF MORPHOLOGICAL TYPE OF A LANGUAGE AND THE OCCURRENCE OF SUPPLETION	23
8	METHODOLOGY	24
8.1	SAMPLES USED IN THE THESIS	24
8.2	LITERATURE	25
8.3	OUTCOMES – TYPOLOGY, ANALYSIS	25
9	THE INDO-EUROPEAN LANGUAGE FAMILY	26
10	PROTO-INDO-EUROPEAN (PIE)	27
10.1	PIE VERBAL SYSTEM	27
11	CLASSICAL ARMENIAN	28

11.1	ARMENIAN VERBAL SYSTEM	28
11.2	VERBAL SUPPLETION	29
11.3	SUPPLETIVE VERBS.....	30
11.4	NOTE ON VERBS OF BEING IN ARMENIAN.....	31
11.5	SUMMARY	31
12	GOTHIC	33
12.1	GOTHIC VERBAL SYSTEM	33
12.2	SUPPLETIVE VERBS.....	34
12.3	SUMMARY	35
13	GREEK.....	36
13.1	GREEK VERBAL SYSTEM	36
13.2	VERBAL SUPPLETION	37
13.3	SUPPLETIVE VERBS.....	37
13.4	NOTE ON WEAK SUPPLETION.....	42
13.5	NOTE ON DEFECTIVE VERBS	42
13.6	SUMMARY	42
14	HITTITE.....	44
14.1	HITTITE VERBAL SYSTEM	44
14.2	VOICE SUPPLETION.....	45
14.3	SUPPLETIVE VERBS.....	46
14.4	SUPPLETIVE VERBS - DISCUSSION	46
14.5	SUMMARY	46
15	LATIN.....	48
15.1	LATIN VERBAL SYSTEM	48
15.2	SUPPLETIVE VERBS.....	49
15.3	NOTE ON IRREGULARITIES IN THE LATIN VERBAL SYSTEM.....	49
15.4	SUMMARY	50
16	OLD CHURCH SLAVONIC.....	51

16.1	OCS VERBAL SYSTEM.....	51
16.2	SUPPLETIVE VERBS.....	52
16.3	NOTE ON THE ASPECT VERB PAIRS.....	53
16.4	SUMMARY	54
17	OLD ENGLISH.....	55
17.1	OLD ENGLISH VERBAL SYSTEM.....	55
17.2	SUPPLETIVE VERBS.....	56
17.3	SUMMARY	57
18	OLD IRISH	58
18.1	OLD IRISH VERBAL SYSTEM	58
18.2	VERBAL SUPPLETION	59
18.3	SUPPLETIVE VERBS.....	59
18.4	NOTES ON VERBS OF BEING IN OIR.....	62
18.5	SUMMARY	63
19	TOCHARIAN.....	65
19.1	TOCHARIAN VERBAL SYSTEM	65
19.2	VERBAL SUPPLETION	66
19.3	THE IRREGULAR SUBJUNCTIVE	66
19.4	THE IRREGULAR IMPERATIVE.....	67
19.5	THE IRREGULAR IMPERFECT	67
19.6	SUPPLETIVE VERBS.....	67
19.7	NOTE ON TOCHARIAN SUBJUNCTIVE.....	70
19.8	SUMMARY	70
20	VEDIC	72
20.1	VEDIC VERBAL SYSTEM	72
20.2	VERBAL SUPPLETION	73
20.3	SUPPLETIVE VERBS.....	74
20.4	SUMMARY	75
21	SUPPLETIVE VERBAL PARADIGMS - ANALYSIS	76

21.1	FREQUENCY, SEMANTIC FIELDS	83
21.2	MODAL VERBS	85
22	SUPPLETION TYPOLOGY.....	87
23	SEMANTIC RELEVANCE HIERARCHY	91
23.1	VOICE.....	92
23.2	ASPECT.....	92
23.3	TENSE.....	92
23.4	MOOD	93
23.5	AGREEMENT MARKERS.....	93
24	CONCLUSION	94
25	BIBLIOGRAPHY	96
27	ABBREVIATIONS.....	105

1 Introduction

The verbal suppletion can be listed in the number of common grammatical features shared by the languages of the Indo-European language family. On the whole, there are not many suppletive verbs in a single language (no more than three dozen in each of the world's **languages**, according to Greville Corbett (2007), and for the IE languages, the number would be even lower). However, because of their high token frequency, they are encountered in any kind of text or speech situation.

This thesis on verbal suppletion is restricted to the Indo-European languages. The written history of this language family is by far best recorded and explored. With so extensive possibility of reaching historical data, it is a good candidate to throw light on some of the general issues concerning suppletion and encourage further discussion of these phenomena. So far, an overall review of suppletive paradigms and their development has not been published. Methodology and choice of literature are treated in separate chapter (8).

2 Goal of the thesis

The unification of unrelated forms into a single verbal paradigm is a feature found in every language of the IE language family. The questions that immediately arises are *why* and *when*. To answer those, we need to ask ourselves the descriptive questions at first: what is suppletion, what types of suppletion are there, how does it emerge, in what parts of the paradigm.

By examining suppletive paradigms in the 10 well attested branches of the IE language family (the only omitted branch is Albanian where reasonable data can only be gathered on the base of Modern Albanian and modern languages are out of the range of this thesis. Also, the Slavonic suppletive aspect pairs are not included for the lack reasonable classification and lack of *opinio communis* on the matter), I typologize the suppletive verbs and see how the outcomes correlate with the Semantic relevance hierarchy¹. The focus here is on the oldest attested stages of the language branches. One could hardly examine the *why* for verbal suppletion without a diachronic approach and in our case, without comparing the outcomes of the ancestor forms and correlating the development of verbal systems of individual languages with the development of suppletion. Typological types presented in **Chyba! Nenalezen zdroj odkazů.** were used.

¹ Bybee 1985, p. 23

3 Bibliographical Resources for Suppletion

Tens, maybe hundreds of articles and books have been written on different aspects of suppletion. Some of them listed in the bibliography at the end of the thesis. An updated list of works on suppletion is available at the web page of the Surrey morphological group.

In his famous booklet (1899), Hermann Osthoff² describes the reality of *suppletion* with this very term that has since his times become the term for the reality of a well-known language variation. Osthoff discusses the concept of defective systems and prefers to call the relation among its members *suppletion*. Later he classifies suppletion of different word classes, namely verbs, feminine forming, adjectives, numerals and pronouns. Osthoff observes that suppletion is likely to occur in frequently used words and in those that are closer to the speaker in terms of their semantics (s.c. Nachbereich, p. 41) While the first observation is generally accepted, the other, being difficult to grasp descriptively, hasn't so far found supporters.

Suppletion became a highlighted problem after the rise of Natural Morphology Theory led by Andreas Bittner, Otmar Werner, Wolfgang Dressler and others. The theory presumes that the naturalness principle of languages enhances regularization processes and suppletive paradigms are unnatural and are expected to be levelled. In the course of the theory's development, A. Bittner famously discusses that suppletion is a form of morphological naturalness and is regular. The author claims that suppletion cannot be produced on purpose and is not a consequence of token frequency.

3.1 Modern synchronic research

In the last decades, the research of general issues concerning suppletion and its research in individual languages has been carried out. Such works as Bybee's *Morphology: a Study of the Relation between Meaning and Form* and *Evolution of Grammar* and Igor Mel'čuk's *Suppletion*, where he defines and typologizes suppletion, form its theoretical background. The Surrey Morphological Group (Greville Corbett and his colleagues, M. Chumakina, D. Brown, A. Hippisley) created an online Surrey Suppletion Database with samples of suppletive paradigms from over 30 languages of the world. They also continuously update a bibliographical list of literature on suppletion³. Corbett

² Osthoff, Herman, Dr. 1899. *Vom Suppletivwesen der indogermanischen Sprachen*. Heidelberg:

Universitätsbuchdruckerei von J. Horning

³ Marina Chumakina and col., List of 75 annotated bibliographical entries:

is the author of 12 criteria for suppletion typology⁴ as mentioned in the chapter 14 and of other works on suppletion issues.

Another major theoretical and typological work on suppletion was done by Ljuba Veselinova at Stockholm University⁵. Her student Ghazaleh Vafaeian's MA thesis focuses on nominal and adjectival suppletion⁶. Frans Plank from the University of Konstanz has contributed to the ongoing research on suppletion with his works on suppletive stems distributions over inflectional paradigms⁷. Johanna Nichols et al.⁸ in their book on transitivity and detransitivizing languages connect the level of augmentation and transitivity to the number of suppletive paradigms in a language.

3.2 Works on verbal suppletion in individual languages

Valuable monographs on suppletion in individual languages include the Old Irish verb (Veselinovič, 2003), the Homeric Greek verb (Kölligan, 2012), Armenian verb (Wodtko, 2005) and Sanskrit (Desphande, 1992). Chapters on suppletive verbs are found in many grammar books of ancient languages. Some suppletive paradigms were given a special attention, e.g. the verb 'go' (in Old Irish (Schmidt, 2007 and Hamp 1987) and in Italian, French and Spanish (Aski, 1995, also Juge, 1997 together with the verb 'be'), in Gothic (Cowgill, 1960)) and the verb 'be' (in Old Irish (Coigneallaig, 1968), in English (Bammesberger, 2000), in Armenian and other languages) and other verbs. Latin precursors of Romance verbal suppletion are discussed in Rosén, 2000.

http://www3.surrey.ac.uk/LIS/SMG/Suppletion_BIB/WebBibliography.htm

⁴ Corbett, Greville G. 2007. Canonical typology, suppletion, and possible words. *Language*, vol. 83/1 Baltimore: Waverly Press

⁵ Veselinova, Ljuba. 2006. *Suppletion in verb paradigms – bits and pieces of a puzzle*. Amsterdam: John Benjamins, B.V.

⁶ Vafaeian, Ghazaleh. 2010. Breaking paradigms. A typological study of nominal and adjectival suppletion. M.A. Thesis. Stockholm: Stockholms Universitet

⁷ Plank, Frans. 2009.

⁸ Nichols, Johanna. 2004.

4 Definitions

Important terms to define concerning suppletion are *(verbal) suppletion*, *paradigm*, *stem/root*, and *verbal aspect*.

4.1 Suppletion

1. The first one to name the notion of suppletion was Hermann Osthoff, who defined it in his work as follows: “Ich mochte reden vom suppletivwesen der indogermanischen sprachen und beggine mit einer darlegung des sinnes, den ich diesem von mir neugeprägten ausdrück für eine überhaupt noch wenig gewürdigte spracherscheinung unterlege....” Hermann Osthoff, 1899, *Vom Suppletivwesen der indogermanischen Sprachen*
2. “suppletion (*n.*) A term used in morphology to refer to cases where it is not possible to show a relationship between morphemes through a general rule, because the forms involved have different roots. A suppletive is the grammar’s use of an unrelated form (i.e. with a different root) to complete a paradigm, as in the present–past-tense relationship of *go ~ went*, or the comparative form *better* in relation to *good*.

suppletion is category of alternation, referring to a morpheme lacking *any* regular phonological correspondence with other forms in a paradigm, as in *go ~ went*. In syntax, examples of sets of alternants can be seen in the various grammatical categories, such as *tense* (e.g. *present ~ past ~ future*).”

David Crystal, 2008, *A Dictionary of Linguistics and Phonetics*

3. Igor Mel’čuk⁹ presented his definition of suppletion that has been quoted ever since not only by the researchers of the Surrey Morphological Group. It says (abbreviated): “Two minimal segmental signs X and Y of language L are *in a relation of suppletion* (= *suppletive with respect to each other*) if and only if Conditions 1 and 2 are simultaneously satisfied:
 - a. The signifiers of X and Y are not corepresentable.
 - b. The signifieds of X and Y are corepresentable and:
 - i. Either the signifieds (X) and (Y) are identical [(X) = (Y)] and X and Y are allomorphs of the same morpheme [X belongs to {M} & Y belongs to {M}];

⁹ Mel’čuk 2000, p. 512

- ii. or the signifieds (X) and (Y) are not identical and (X) and (Y) are grammatically corepresentable.

Glossary:

L – language

X – minimal segmental sign (i.e. morph, strong megamorph, allomorph) of a language L

Y – minimal segmental sign of a language L

(X) – signified

(Y) – signified

{M}- morpheme

corepresentable - corepresentability of linguistic units X and Y means that one of them can be derived from the other (or both can be derived from a common source, e.g. *laughing* and *laughed* derive from the word *laugh*) by rules of L which put together smaller units constituting X and Y (e.g. the root, suffixes, ending) – thus, two corepresentable units are regularly related (by definition) (which means, they follow grammatical, i.e. inflectional or derivational rules).

regularly - is understood strictly in the sense of related by rules. The rules themselves can be non-standard or non-productive (i.e., restricted to small subclasses of units). The only factor that counts for there to be regularity is the presence of SOME rules. (Capital letters by the author).”

“In other words ¹⁰, the researcher who considers the signs X and Y (of L) as suppletive with respect to each other automatically commits himself to the truth of the following two statements:

- 1) There are no alternations in L to relate the signifiers of X and Y;
- 2) X and Y are forms or are contained in forms of either the same lexical unit (= **lexeme or idiom**) or of two derivationally related lexical units.”

Note: For verbal suppletion in Indo-European languages I choose to follow only the inflectional line (see the paragraph 4.2). This agrees with Corbett’s view¹¹ (see his typology in the

¹⁰ Melčuk 2000, p. 411

¹¹ Corbett, Greville G. 2007. Canonical typology, suppletion, and possible words. *Language*, vol. 83/1 Baltimore: Waverly Press

paragraph below) and is contrary to Meščuk (and Veselinova), whose definition covers also derivational suppletion and thus word pairs such as *father* – *paternal* would in his view be suppletive. However, these two words do not form one inflectional paradigm, but rather two paradigms, one of the words *father*, *fathers*, the other one with *paternal*, *paternally*. (Meščuk himself does not offer examples for verbs.)

Myhill (2001)¹², for example, treats the verbs *say*, *tell*, *ask* as suppletive, since in his analysis they are exponents of the semantic primitive *say*. This case may be called lexical semantics suppletion, and it lies even outside the limits of derivational suppletion. It is not considered in this thesis, either.

Based on the above stated definitions, I define inflectional verbal suppletion of stem as follows: Two forms that belong to one verbal paradigm can be considered to be in a relation of suppletion if their respective stems cannot be derived one from another by grammatical rule(s) of the language and if they are phonologically distant (Note: the grammatical rules need to be productive. They are taken in account even if applicable to low number of words, minimally two).

Based on phonological criteria, **there are verbs that are „strongly“ suppletive** – the two (or more) different stems used in one paradigm are phonologically distant. There are verbal forms within one paradigm that share a phoneme or two but still satisfy the conditions of the definition of suppletion. There are verb pairs such as Armenian *dnem-edi* that share only one phoneme, but might be considered **„weakly“ suppletive at best**, based on the grammatical rules of the language (and so, the decision making of whether the forms are suppletive is always language specific, level of suppletion can only be assessed on a scale and the absolute number of shared phonemes can by no means be the criterion – so also Meščuk 2000.)

4.2 Paradigm

A concept crucial to the notion of suppletion is the framework within which the forms are expected to be regular - the inflectional paradigm. Bybee offers a definition of paradigm where she says: **“A paradigm is a group of inflectionally related words with a common lexical stem.... Paradigm has internal structure; there are relations among words that are not symmetrical.... Paradigms consist of clusters of closely related surface forms, one of which is basic and the other are derived**

¹² Myhill, John. 2001. Suppletion, lexical meaning, semantic primitives, and translation data. *Linguistics* 39.761–802.

from it. The structure on the expression level parallels or diagrams the structure on the semantic level.”¹³ Words formed through derivational processes are not included in the paradigm. Saying that, we are speaking of a scale, not of a clear-cut definition and it is not always possible to make the distinction (e.g. Bybee’s example: *lives, lived, live, living* belong to the same paradigm. Not so the word *livelihood*, which has been formed through derivational rather than inflectional processes).

The decision making of including certain forms to one paradigm is not straightforward in IE languages (e.g. including verbal forms of opposite voice into one paradigm or including verbal nouns). Here I am following Bybee’s (1985) criteria, which are obligatoriness of the process (meaning all words in the category must be marked that way), lexical generality (it applies to all words in the category), lexical specificity and the semantic relevance principle. It means that for example, if not all verbs of a given language necessarily form passives (voice alternation not being grammaticalized, as is the case of e.g. Hittite), the passive forms are to be understood as derivational rather than inflectional forms.

4.3 Stem/root

Verbal suppletion considered in this thesis is a suppletion of verbal root (suppletion of verbal endings and suffixes is not treated). Definition of root/stem provides the basis for choice of suppletive samples. Ben Fortson defines a root in IE languages as “... a morpheme from which semantically related words can be derived. The root itself doesn’t usually exist in an independent form, but carries the semantic core of any word derived from it.” (Fortson 2010, p. 75) A stem is understood as a root enlarged by derivational means. It may also mean a broader category (e.g. *present stem*) which comprises both root presents and presents with roots enlarged by a thematic vowel, reduplication or affixes, which are in the IE languages typically suffixes, rarely affixes and infixes. As we are dealing with one language family and one word category, the notion of stem is not controversial. If other word categories were of concern (e.g. pronouns where differentiating stem and ending is not always possible) or another language family (e.g. Finnish where two stems may be found in one verbal paradigm), broader definition would be needed.

¹³ Bybee 1985, p. 49

4.4 Verbal aspect

In development from PIE to the attested languages, the only feature of the verbal system that has undergone a change from lexical to grammatical category is aspect. In languages where the lexical aspect was transformed into inflectional category, suppletion is more likely to appear.

According to Bybee (1985), “aspect is defined as distinguishing different ways of viewing the internal temporal constituency of a situation ... expressing one or both of the following contrasts: that between a bounded or limited situation and an un-bounded or in-progress situation, and that between an habitually-occurring and a merely continuing situation.”¹⁴ Aspect is most usually 'perfective/imperfective'. Some languages distinguish 'habitual', 'durative', 'continuous' and even more aspectual distinctions can be found. IE languages share the 'perfective/imperfective' distinction which can be expressed inflectionally or lexically. Most often, it can be described as 'completed' versus 'not completed' activity or event. Aspect is exclusively relevant to the verb, leaves the basic meaning of the verb unaffected and does not affect participants.

Kölligan¹⁵ points to the fact that in IE languages where the aspect is not grammaticalized (i.e. it is lexical) we find almost zero suppletion (e.g. Hittite). Where aspect is fully grammaticalized, suppletion is more frequent (Greek, Armenian, Old Irish) or even typical (Slavic).

4.5 Remarks on verbal suppletion - Veselinova¹⁶

Veselinova has studied verbal suppletion (not restricted to the IE languages) with regards to tense, aspect, mood and verbal number. She presents an implicational scale which shows that suppletion is predictable: if a language has tense-aspect suppletion in a lexical verb such as „say“ or „do“, it will often also have a suppletive paradigm for the verbs „be“, „come“ or „go“. The verbs for doing, movement and being may often become auxiliary verbs. Thus she argues that it is motivated for verbs with many functions to be encoded in special ways. Among other valuable outcomes she concludes that verbal suppletion may be a part of a grammaticalization process, as well as a part of a lexicalization process. In addition, following Bybee (1985), she argues that among the verbs suppletive with regards to aspect we often those to which aspect is a relevant notion (motion verbs, as well as verbs such as „say“, „do“ or „see“).

¹⁴ Bybee 1985, p. 152

¹⁵ Kölligan 2010

¹⁶ Veselinova 2006. Vafaeian 2010, p. 14

5 Semantic relevance hierarchy¹⁷

According to Bybee, suppletion is likely to be found in semantically more relevant categories, i.e. aspect and tense, rather than mood or agreement markers. She has investigated the ordering of inflectional affixes with regards to their semantic relevance (Bybee, 1985) and proposes a Semantic Relevance Hierarchy: the more semantically relevant an affix is for the stem, the formally closer it is to the stem. Derivational morphemes, which have obviously a profound effect on the meaning of the stem, are closer to the stem than inflectional ones. In languages that have inflectional markers for voice, aspect, tense and agreement, following hierarchy can be observed:

valence > voice > aspect > tense > mood > agreement (number, person, gender)

Meaning of a lexeme is most influenced by the features on the left of the scale and least influenced by the ones on its right. Valence changing categories may cause lexicalization and so may the voice markers (e.g. Hittite causative *-nu* suffixes, which create a new verb). On the other hand, agreement relates the verb to a syntactic context and is rarely lexicalized.

Contrary to the opinion of the Natural Morphology Theory (chapter 3), Bybee establishes correlation between **word frequency and irregular word forms**. “Highly frequent forms are protected from regularization and in a positive way, since high frequency contributes to the formation of suppletive paradigms.”¹⁸

¹⁷ Bybee 1985, p. 23

¹⁸ Bybee 1985, p. 212

6 Suppletion typology

In diachronic research, causes for development (or even retention) of suppletion can be observed. As this can best be understood as a scale – some causes creating purely meaning related suppletion in paradigms (e.g. aspect distinctions) and on the other side of the scale, causes creating purely form related suppletion in paradigms (e.g. phonological development that affects only single form in the paradigm), there is a need for suppletion development typology. Their correlation with the Semantic Relevance Hierarchy principle will be discussed in the conclusions of this thesis.

Greville Corbett¹⁹ offers synchronic suppletion typology, using 12 criteria that help to distinguish between „more suppletive“ and „less suppletive“, or, in Corbett’s terms, *more canonical suppletion* (the real, absolute, undisputable) as opposed to *less canonical* (the one that is less clear, that could be argued about). (N.B.: “>” means “greater than”)

1. fused exponence > stem

Suppletive form is more canonically suppletive if the stem and the inflectional marking are fused than if the stem takes regular marking.

2. full > partial

Full change in the phonology is more canonically suppletive than a partial change.

3. no overt realization > overt realization

The suppletively related elements are expected to have a phonological form and zero realization is considered as maximally irregular.

4. more variants > fewer variants

Lexeme with more stems is more canonically suppletive than one with fewer.

5. morphological distribution > morphosyntactic distribution

Morphosyntactic determination represents less pure semantic regularity than morphological determination

6. non-alternating > alternating

¹⁹ Corbett 2007, p. 11- 32

7. less relevant features > more relevant features

This criterion deals with the semantic relevant hierarchy stated by Bybee (1985). The most relevant verbal features are voice, aspect, tense, mood, number of subject or object, person agreement.

8. contextual feature > inherent feature

9. more features > fewer features

For instance, third singular present > singular present > present. Where more features are required to specify the cells in which the different stems are found, this lowers the possibility of a semantic distinction and is therefore more canonically suppletive.

10. non-overlapping > non-directional overlapping > directional overlapping

In some paradigms, one form is present in two places in one paradigm or in more than one paradigm. In non-directional overlapping the form is used in more than one paradigm without possibility to say which has taken it from the other. In directional overlapping we see the regular paradigm and one or more forms of it used within another paradigm, which for some reason does not use its regular forms in some instances but rather uses, or borrows, so to speak, the words from the otherwise regular paradigm.

11. no remainders > remainders

In order to obtain for maximal semantic irregularity, having no remainders is considered more canonical. E.g., if some apparently regular forms of a paradigm are used for other purposes.

12. unique > non-unique

Suppletive form is supposed to be maximally irregular in form; therefore if it appears elsewhere in the language, it is considered less unique.

Typological criteria, which take into account diachronic development, are suggested by Bičovský²⁰ and form a base for organizing the outcomes of this thesis. The criteria are listed below and quoted in full-text in **Chyba! Nenalezen zdroj odkazů.**

²⁰ Bičovský, Jan. 2013. *Suppletion development and typology*. Forthcoming

Meaning-related suppletion

1. Suppletion as a lexical residue in an emergent grammatical category.
2. Suppletion resulting from semantic shift.

Paradigm-related suppletion

3. Suppletion as a replacement of missing parts of a paradigm.
4. Suppletion as paradigm merger.
5. Suppletion as the result of exaptative change grammaticalizing derivation or periphrasis as inflection

Suppletion according to word parts

6. Stem suppletion,
7. Ending suppletion.

Form-related suppletion (phenomena related to sound change)

8. Suppletion as a result of sound change.
9. Suppletion as strategy to remedy sound change.

Temporal aspects of suppletion

10. Emergent suppletion, 11) Persistent suppletion.

The degree of suppletion

11. Multiple suppletion.
12. Loan suppletion.
13. Derivative suppletion.

Distribution and paradigmatic geometry

14. Asymmetrical distribution.

7 Relationship of morphological type of a language and the occurrence of suppletion

Among the many ways of typological classification of languages²¹, the morphological typology offers a convenient grouping of languages to isolating, agglutinative, fusional (inflective) and sometimes polysynthetic.

Isolating languages use lexical means to achieve semantic transparency for which the other language types use inflection. Irregularities are found even in isolating languages but as there is no point speaking about a paradigm of a certain lexeme, inflectional suppletion cannot be considered.

Both agglutinative and fusional languages may display verbal suppletion, as the existence of paradigmatic inflection is the prerequisite for the possible presence of such an irregular feature as verbal suppletion.

In these two types, the paradigm is formed in the same way. However, as the agglutinative languages incline to be more regular, they seem to display less suppletion (although, according to my knowledge, no quantifying research has been done in this field so far.)

²¹ Comrie 1981, p. 40

8 Methodology

8.1 Samples used in the thesis

This thesis examines 10 branches of the IE language family. The chapter on each branch opens with a description of its verbal system, followed by a list of suppletive verbs with their etymologies (if known) and notes on their language specific grammatical features relevant for suppletion. The summary in every chapter presents in what forms is found suppletion, in what grammatical categories and how it relates to the verbal system of the language. Discussion of etymologies and usage is also of interest but for the transparency of the text, it is treated in Chybal **Nenalezen zdroj odkazů.**, where detailed comments are given for every suppletive paradigm. Chapters on individual languages are sorted in alphabetical order.

For every branch I chose one of the oldest sufficiently attested languages as a representative language. For Tocharian, I use data from both Tocharian A and Tocharian B. For Celtic languages, Old Irish is examined. For the Germanic language branch, two languages are taken in consideration, Old English and Gothic. The only language able to represent verbal suppletion in the Anatolian branch is Hittite. Vedic is chosen for the Indo-Iranian language branch. The Slavonic languages have their earliest attestation in Old Church Slavonic. Greek forms a language branch of its own and I have examined its stage known as Homeric Greek (reasons for the choice of only this stage are given in chapter 13). Latin, for obvious reasons, is chosen as the representative of the Italic languages. Armenian forms an individual branch of the IE language family and therefore Classical Armenian is examined in a separate chapter.

Having examined every paradigm with regards to the definition of suppletion, the original PIE form was sought. Historical comparative method was used to confirm the reconstructed roots of the parts of the suppletive paradigms. The choice of the representative verbal forms is language-specific, see the table below.

Classical Armenian	3 sg. pres. ind. act.
Gothic	infinitive (or 1 sg. pres. or pret.)
Greek	1 sg. (present, aorist, perfect)
Hittite	stem
Latin	1 sg. (present, perfect act. or pass.)
Old Church Slavonic	infinitive (or 1 sg.)
Old English	infinitive (or 1 sg. pres. or pret.)
Old Irish	3 sg. present or the tense of the suppletive stem
Tocharian	stem

Vedic	stem
-------	------

Table 1 Sample verbal forms used for languages

8.2 Literature

For dead languages, research of primary texts is crucial for gaining information on suppletion. Researchers well acquainted with the texts need to decide whether the words considered as parts of one paradigm truly formed a single paradigm or are only semantically close. As this is a key assessment, I consulted at least one, preferably more sources to confirm the fact that both verbal stems belong to one paradigm.

For all language branches, LIV (2001) was my primary source of etymologies while always at least one etymological dictionary of every branch was examined as well.

8.3 Outcomes – typology, analysis

Having examined all branches, I sorted the suppletive word pairs/groups according to their underlying PIE verbal stem and used typological criteria suggested by Bičovský with relation to the Semantic relevance hierarchy to sort them into groups. In addition, the correlation with frequency and semantic fields is discussed. The relationship of the development of the respective verbal system and the occurrence of suppletion is also commented upon

9 The Indo-European language family

The languages of the IE family with their predecessor - the Proto-Indo-European (PIE, its forms being marked with an asterisk) - are classified into 11 major branches²² (see the chart) - Indo-Iranian, Greek, Italic, Anatolian, Tocharian, Celtic, Germanic, Slavonic, Baltic, Armenian, and Albanian. The oldest written records of an IE language are the Hittite cuneiform tablets of the first half of the 2nd millennium BC.

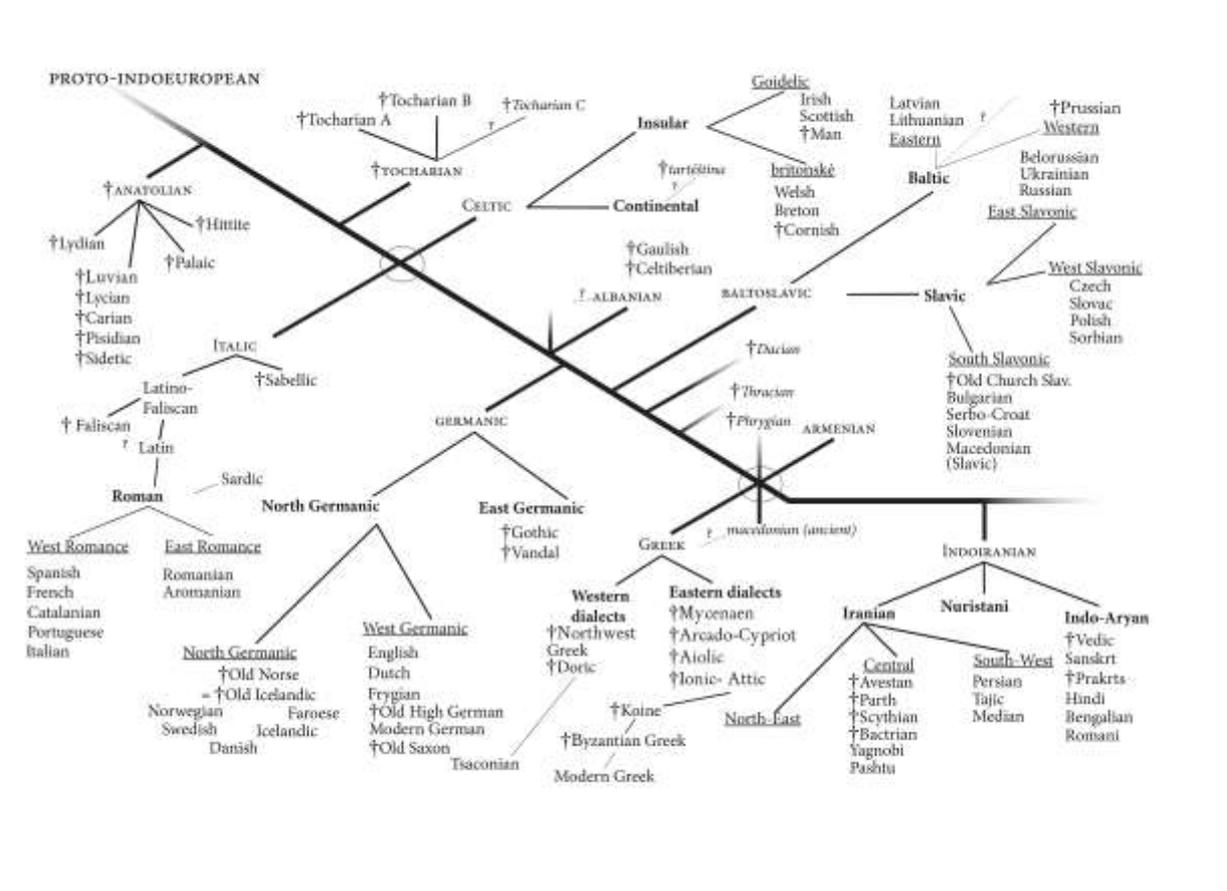


Figure 1 Indo-European Language Family²³

²² Baldi 1989, in *World's major languages*, p. 40

²³ Bičovský 2012, p. 21

10 Proto-Indo-European (PIE)²⁴

10.1 PIE verbal system

voice	active, medio-passive, perfect
mood	indicative, subjunctive, imperative, optative
tense	present, imperfect, aorist, perfect
agreement	
-number	singular, dual, plural
-person	1,2,3

Table 2 Grammatical expressions of verbal categories in finite verbal forms

present stem	present act./MP (takes primary endings), imperfect act./MP (secondary endings), all moods, pres. ptc.
aorist stem	aorist indicative (root, sigmatic, thematic, reduplicated. Takes secondary endings)
perfect stem	perfect (reduplicated, with its own set of personal endings)

Table 3 Verbal stems

<i>*g^wemt</i>	<i>g^wem-</i> root	- <i>t</i> ending (3 sg. aor. ind. act.)
--------------------------	------------------------------	--

Table 4 **Example: PIE verb** „(he) went“

Late PIE verbal morphology expressed synthetically a number of grammatical information. Grammatical tense was not fully developed even in late PIE (and thus some finite verbal forms were compatible with both present and past) and aspect was not fully grammaticalized. Most categories were expressed by endings, in case of the optative and subjunctive with suffixes. Some daughter languages lost the dual (it is preserved on Greek, Slavonic, Tocharian and Ilr.), some of the moods (optative, subjunctive) and the medium. In some instances, the system gained new features, such as future or pluperfect (Greek). Of the non-finite verbal forms, PIE formed non-paradigmatic formations – verbal nouns, participles and verbal adjectives.

²⁴ For grammar review see Fortson 2010, Sihler 1995, Ringe 2006, Szemerényi 1970 and Bičovský 2012.

11 Classical Armenian²⁵

11.1 Armenian verbal system²⁶

voice	active, medio-passive
mood	indicative, subjunctive (may be used in optative and future meaning), imperative (only for 2 pers.)
tense	present, aorist (2 ways of aor. formation, the root aorist in <i>-i</i> (act.)/ <i>-ay</i> (mp) and “weak” aorist in <i>-c'-i</i> (A)/ <i>-c'-ay</i> (MP) used with most verbs)
agreement	
-number	singular, plural
-person	1,2,3

Table 5 Grammatical expressions of verbal categories in finite verbal forms

present stem	indicative, imperfect, pres. subjunctive, pres. imperative, infinitive ²⁷
aorist stem	aorist indicative, aor. subjunctive, aor. imperative and participle

Table 6 Verbal stems²⁸

<i>gam</i>	<i>ga-</i> root	<i>-m</i> ending (1 sg. pres. ind. act.)
------------	-----------------	--

Table 7 Example: Armenian verb „I go“

Of the non-finite forms, Armenian uses an infinitive (built of the present stem) and a participle²⁹ (usually built of the aorist stem). The active and medio-passive voices are insufficiently distinguishable in the present stem, in aorist they differ.

Armenian does not continue the PIE perfect as such but there are some remnants of perfect forms. It still preserves full reduplication and uses augment (being possibly Proto-Armenian augment as a phenomenon inherited from PIE), although not as a temporal sign but mainly to avoid monosyllabic forms.

²⁵ For suppletive verbs and verbal system, see Wodtko (2005). For grammar review, see Godel (1975), Schmidt (2007) and Klingenschmidt (1982), for grammar summary Fortson (2010) and Woodard (2008). For verbs of ‘being’ see Coigneallaig (1968). For etymologies, see LIV (2001) and Martyosyan (2010). For details on suppletive verbs of motion, see Kolligan in Melchert (2012). For *əmpem* ‘drink’, see Praust (1996).

²⁶ Wodtko 2005, p. 105

²⁷ Schmidt R., 2007, p. 134

²⁸ Schmidt R., 2007, p. 132

²⁹ Schmidt R., 2007, p. 152

11.2 Verbal suppletion

Godel³⁰ divides the Armenian verbs into two major classes – regular and irregular. Regular verbs are those in which, given the present form, the aorist stem is predictable. On the contrary, in the group of irregular verbs, the aorist cannot be predicted with regard to the present. In addition, inflectional irregularities may be found in aorists, which are not seen in the present stem inflection. Some paradigms show minor phonological differences insufficient to label them suppletive, such as the reduplicated aorist of *ar̥nem*, *arar-i* (imp sg. *ara*)³¹. Then there is a small number of verbs with some kind of irregularity, besides those in Table 8, it is also *čanač* ‘em/caneay, *yarnem/yareay* (regular but impv. aor. *ari* for *yari**), *tam/etow* and *dnem/ed*)³².

meaning	1. stem/PIE	2. stem /PIE	expected canonical form	1. stem used in	2. stem used in
I take, bring/ took, brought	<i>tanim</i> * <i>deh₃</i> -‘give’ ³³ , from aorist medium (redupl. pres. used in the verb <i>tam</i>)	<i>taray</i> * <i>deh₃</i> -	<i>tanay*</i>	present	aorist
I strike/struck	<i>harkanem</i> * <i>h₃erg</i> -‘umkommen’ ³⁴	<i>hari</i> 3. * <i>per</i> - ³⁵	<i>harki*</i>	present	aorist
I hear/heard	<i>lsem</i> aor. * <i>klu(w)</i> - or a sigm. aor. * <i>klu-n-s</i> ³⁶ of * <i>klew</i> -‘hear’ ³⁷	<i>loway</i> * <i>klew</i> -		present	aorist

Table 8 Examples of irregular paradigms, not included in discussion on suppletion³⁸

The verbs that fulfill the definition of suppletion in Armenian show no phonemic similarities³⁹. All except *linim* are reconstructable for PIE, a fact not typical for Armenian lexicon. Besides **sreb^h*- ‘drank’⁴⁰, Armenian *arbi* (and **g^heh₁*-‘come’, Arm. *gam* and **hes*- ‘be’, Arm. *em* that

³⁰ Godel 1975, p. 50 - 53

³¹ Wodtko 2005, p. 112. The original PIE root was **h₂er*- ‘join, put’ and from its present stem **h₂er-néw/nu*- was built the *ar̥nem* present ‘I make’, while *arari* ‘I made’ was built based on reduplicated aorist, considered a new formation by LIV, built to factitive present.

³² Wodtko 2005, p. 122

³³ LIV 2001, p. 105, note 4. Wodtko 2005, p. 123

³⁴ LIV 2001, p. 301. Wodtko 2005, p. 122. On the contrary Martirosyan 2010, p. 396, who states etymology of the stem **prk-* *ske/o-*, here a thematic imperfect **e-prk-sk-et-*, cognate to Latin *poscō* ‘ask, demand’.

³⁵ LIV 2001, p. 473. Wodtko 2005, p. 122. Klingenschmitt 1982, p. 215

³⁶ Kortland 1996, p. 40 - 41

³⁷ LIV 2001, p. 334, Wodtko 2005, p. 123. Martirosyan 2010, p. 313

³⁸ Wodtko 2005, p. 115

³⁹ Wodtko 2005, p. 117

⁴⁰ Klingenschmitt 1982, p. 272. LIV 2001, p. 587

lack aorist), it is possible to reconstruct a complete PIE paradigm (with regards to present and aorist) for these verbs.⁴¹

11.3 Suppletive verbs

meaning	1. stem/PIE	2. stem/PIE	3.s/PIE	1. stem used in	2./3. stem used in
I eat/I ate	<i>owtem</i> iterative present * <i>ōdeye/o-</i> of * <i>h₁ed-</i> ‘eat’ ⁴²	<i>keray</i> , 3sg. <i>eker</i> * <i>g^werh₃-</i> ‘devour’ ⁴³ , here aorist * <i>e-g^werh₃-</i>		present	aorist (for irregular forms see Chyba! Nenalezen zdroj odkazů.)
I drink/ I drank	<i>ampem</i> thematic reduplicated present * <i>en-in + pi-ph₃-é-</i> of * <i>péh₃(y)-</i> ‘drink’ ⁴⁴	<i>arbi</i> root aorist * <i>srob^heye/o-</i> of * <i>sre/ob^h-</i> ‘sip, drink’ ⁴⁵		present	aorist
I come/ I came/ he came	<i>gam</i> i- reduplicated present * <i>weh₂-(-d^h)-mi^h</i> of * <i>g^heh_r-</i> ‘come’ ⁴⁷	<i>eki</i> root aorist of * <i>g^wah₂-</i> ‘come’ ⁴⁸ or * <i>g^wem-go</i> ⁴⁹	<i>ekn</i> * <i>e-g^wem-t-</i> ‘went’ ⁵⁰ of * <i>g^wem-</i> ‘go’	present	aorist except /3 sg. aorist
I go/ I went	<i>ert’am</i> * <i>per-(si)stah₂</i> , a comp. of the preverb * <i>per</i> and * <i>stah₂-</i> ‘stand up’ ⁵¹ or denom. verb * <i>h₃-sk-ti</i> ⁵² with suffix * <i>-ti</i>	<i>č’ogay/(gnam)</i> (<i>gnam</i> in compounds) ^{53,54} , imperfect of Narten present * <i>k^wyew-nto</i> of * <i>k^wyew-</i> ‘move’		present, imperative (irregular) all aor. forms except ind.	aorist indicative
I have/ I obtained	<i>ownim</i>	<i>kalay</i>		present	aorist

⁴¹ Wodtko 2005, p. 125

⁴² LIV 2001, p. 230. Wodtko 2005, p. 117. Martirosyan 2010, p. 644

⁴³ LIV 2001, p. 211. Schmidt R. 2007, p. 157. Klingenschmitt 1982, p. 279. Wodtko 2005, p. 118. Martirosyan 2010, p. 359

⁴⁴ LIV 2001, p. 462. Wodtko 2005, p. 118. Martirosyan 2010, p. 278

⁴⁵ Klingenschmitt 1982, p. 272. LIV 2001, p. 587. Wodtko 2005, p. 118. Martirosyan 2010, p. 129

⁴⁶ Martirosyan 2010, p. 196

⁴⁷ Klingenschmitt 1982, p. 86. LIV 2001, p. 196. Martirosyan 2010, p. 196

⁴⁸ LIV 2001, p. 205

⁴⁹ Martirosyan 2010, p. 249

⁵⁰ LIV 2001, p. 209. Martirosyan 2010, p. 249

⁵¹ LIV 2001, p. 590 with notes

⁵² Martirosyan 2010, p. 263

⁵³ LIV 2001, p. 394. Martirosyan 2010, p. 547

⁵⁴ When the verb *ert’am* is used together with *zhet/zkni* and has a meaning ‘follow’, it has a suppletive counterpart *gnam* ‘I go’ (which otherwise forms a regular paradigm). *Zhet* and *zkni* are almost synonymous words with the meaning ‘after’. *Ert’a-zhet* is used in the pres., impv. and the subj. aor. while *gna’-zhet* is limited to the ind. aor. Similar is the case when *zkni* is added. However, this connection with a semantics ‘to lust, to follow’ is less sure to allow us speak confidently of a paradigm. (Note: in contrast to this behavior, the paradigm *gam/eki, ekn* does not change with *zhet* and *zkni*.) (Melchert 2012)

	perfect <i>*(se-)sonh₂-</i> ⁵⁵ of <i>*senh₂-</i> ‘obtain’	root aorist <i>*g₁H⁶⁶</i> of <i>*gelH-</i> ‘gain control’			
I am/ he became	<i>em</i> <i>*h₁es-</i> ‘be’ ⁵⁷	<i>etew</i> (aorist of <i>linim</i>) them. root aor. <i>*e-k^wl-e-</i> to of <i>*k^welh₁-</i> ‘turn’ ⁵⁸		present- doesn’t form infinitive	aorist
become/ became	<i>linim</i> no agreement on etymology ⁵⁹	<i>etew</i> <i>*k^welh₁-</i> ‘turn’ ⁶⁰		present, non-ind. aor.	aorist indicative

Table 9 Armenian suppletive verbs

11.4 Note on verbs of being in Armenian

The verbs *e-*, *goy-*, *lini-*, *etani-* represent phases of being (Coigneallaig, 1968) and their paradigms overlap. The pairs *e-*, *goy-*, (used for translating the Gk. NT εἶναι) and *lini-*, *etani-* (used for translating the Gk. NT γενεσθαι) are semantically connected (which is a possible cause for their suppletion) and sometimes found as interchangeable in the texts. They were glossed by Schroder ‘esse’ and ‘existere’. The semantic differentiation of the first pair is difficult. It is always the second verb in the pair that is more marked⁶¹. Similarly complex situation is found in Old Irish (see chapter 18.4).

The defective verb *goy*, *goyr* ‘he is, he was’ etc. has only 3 sg. and pl. forms of the ind. pres., impf. and 3 sg. of subjunctive (considered by Kortland (1992) an outcome of the PIE root **h₁es-*) and has no aorist (for semantic reasons). The verb is used in a way comparable to today’s German ‘es gibt, es ist’.

11.5 Summary

The paradigms with irregular forms, which display only minor phonological differences, are not included in the summary.

Armenian verbal suppletion, as attested in the seven paradigms, rests in the aspectual opposition present - aorist. Two cases (*ert’am/č’ogay*, *linim/etew*) witness to mood suppletion as

⁵⁵ Wodtko 2005, p. 121. LIV 2001, p. 532. Martirosyan 2010, p. 637

⁵⁶ LIV 2001, p. 185

⁵⁷ LIV 2001, p. 241. Wodtko 2005, p. 121. Martirosyan 2010, p. 255

⁵⁸ Wodtko 2005, p. 122. LIV 2001, p. 386. Klingenschmitt 1982, p. 280

⁵⁹ Wodtko 2005, p. 122. Klingenschmitt 1982, p. 164

⁶⁰ Wodtko 2005, p. 122. LIV 2001, p. 386. Klingenschmitt 1982, p. 280

⁶¹ As stated in Coigneallaig (1968) p. 47, the forms of these verbs, which do not occur, remain forms in potencia. They are not „incorrect“, but do not occur for semantic reasons.

except the aorist indicative, all forms are based on the present stem. The person suppletion of the verbs *ekí, ekn*, is a marginal case, as it does not fulfil the criterion of phonological distance.

Three of these suppletive paradigms (*owtem, gam* and *em*) share a common diachronic feature – their aorist stem cannot be reconstructed for the respective root in PIE. The present form *owtem* is considered to have evolved from a perfect stem. For the verb *linim*, the etymology is unknown. All aorist forms (the second members of the above stated word pairs) have evolved from PIE aorists.

Suppletion in Armenian may lie in splitting up formerly regular paradigms of verbs that were semantically close to each other (Wodtko 2005). It is not the case for the copula *em* and possibly *gam* (considered defective even in PIE) and *owtem*, where no root aorist can be reconstructed.

12 Gothic⁶²

12.1 Gothic verbal system

Voice	active, passive (only in present tense) ⁶³
Mood	indicative, optative (sometimes called subjunctive), imperative
Tense	present, preterite
agreement	
-number	singular, dual (no 3. person attested), plural
-person	1,2,3

Table 10 Grammatical expressions of verbal categories in finite verbal forms

present stem	present active and passive, infinitive, pres. ptc.
preterite stem	preterite active, preterite ptc.

Table 11 Verbal stems

<i>gaggiþ</i>	<i>gagg-</i> root	<i>-iþ</i> ending (3 sg. pres. ind. act.)
---------------	-------------------	---

Table 12 Example: Gothic verb „(he) goes“

Gothic is the only Germanic language to preserve a passive conjugation⁶⁴, e. g. *baírada* 'is borne' (see Gk. *φέρεται* and Ved. *bhárate*). Although it is found only in the present tense, it is frequently attested.

The Gothic future was mainly expressed by the present tense forms. Rarely the auxiliaries *skal* 'should', *haban* 'have', *du-ginnan* 'begin' were used to express the future meaning. The imperative is attested only in present forms of the 2. pers. of all three numbers and the 1 pl. optative was used for the imperative meaning although the forms of the 3 sg., pl. impv. exist. Present infinitive, pres. ptc. active and preterite ptc. passive are the three verbal nouns formed in Gothic.

Gothic verbs may be classified according to the way of forming their preterite in relation to the present⁶⁵. They are the so-called strong, weak and irregular ('besondere Bildung'). The strong verbs use no suffix to form the preterite, but rather ablaut of the stem vowel or reduplication or

⁶² For a brief grammar review, see Jasanoff in Woodard (2008). For Gothic grammar, see Braune 2004 (reprint), Krahe (1969), and Bammesberger (1986). For etymologies, see LIV (2001), Lehmann (1986), and Seebold (1970). For notes on verbal system, see Krause's and Slocum's article (2011) at <http://www.utexas.edu/cola/centers/lrc/eieol/gotol-0-X.html>. For etym. of *iddja*, see Schumacher (1998) and Cowgill (1960). See Ringe (2006) for development from IE to Proto-Germanic.

⁶³ Braune 2004, p. 141

⁶⁴ Remnants in other Germanic languages are possibly runic *haite*, ON *heite*, OE *hātte* 'I am called'.

⁶⁵ Braune 2004, p. 143

both⁶⁶, e.g. *nima* 'I take' 1. sg. pres., *nam* 1. sg. pret. The weak verbs form their preterite with a dental suffix, e.g. *nasja* 'I save' 1. sg. pres., *nasida* 'I saved' 1. sg. pret. Among the irregular are counted the preterite-presents (primary verbs with form and inflection of the strong preterite, but use of the present)⁶⁷, the verb *im* 'I am', the verb *wiljau* 'I want' and a small group of verbs with minor irregularities.

12.2 Suppletive verbs

meaning	1. stem/PIE	2. stem/PIE	1. stem used in	2. used in
be	<i>im</i> * <i>hes-</i> 'be', from the root present * <i>hés-/h₁s-</i> ⁶⁸	<i>wisan</i> from the root present * <i>h₂wés-/h₂us-</i> ⁶⁹ of * <i>h₂wes-</i> 'dwell, spend the night'	present	preterite, infv., ptc.
go	<i>gaggan</i> * <i>ǵ^heng^h-</i> 'stride' ⁷⁰ , from the reduplicated present * <i>ǵ^hé-ǵ^hong^h-</i> with loss of reduplication	<i>iddja</i> * <i>hej-</i> 'go', from perfect ⁷¹	present	preterite

Table 13 Gothic suppletive verbs

	indicative	optative	infinite forms
present			
1 sg.	<i>im</i>	<i>sijau</i>	
2 sg.	<i>is</i>	<i>sijais</i>	
3 sg.	<i>ist</i>	<i>sijai</i>	
1 du.	<i>siju</i>		
1 pl.	<i>sijum</i>	<i>sijaima</i>	
2 pl.	<i>sijub</i>	<i>sijaiþ</i>	
3 pl.	<i>sind</i>	<i>sijaina</i>	
preterite	<i>was, wast, was</i> etc.	<i>wēsja</i> etc.	
infinite forms	infinitive <i>wisan</i> , participle <i>wisands</i> (both not based on the preterite but on a verbal noun etymologically related to it)		

Table 14 The paradigm of the verb 'be'

⁶⁶ Reduplication in the preterite is not preserved in any other Germanic language (they normally use vocalic alternation to signal a change in tense). E.g. 3 sg. pret. of *haitan* 'call (by name)' is *haihait*. There are only few examples in other Germanic languages, such as OE *hēt* '(he) called' < *he-ht*, preterite of *hātan* 'name'. In the other Germanic languages, such verbs have shifted to a different strong verb class, e.g. OHG 3 sg. pret. *hiaz* from *heizan* 'be called'.

⁶⁷ Braune 2004, pp. 167

⁶⁸ Lehmann 1986, p. 205. LIV 2001, p. 241

⁶⁹ Lehmann 1986, p. 405. LIV 2001, p. 293

⁷⁰ Lehmann 1986, p. 138. LIV 2001, p. 175

⁷¹ Lehmann 1986, p. 202. LIV 2001, p. 232

12.3 Summary

Gothic is an example of a language with very limited verbal suppletion. It has no grammatical expression of aspect, a fact that triggers suppletion in other languages. The only two suppletive verbal paradigms, *im/wisan* 'be' and *gaggan/iddja* 'go', which use different stems in present and preterite, interestingly haven't developed from aspectually opposite PIE forms but the first from two presents and the other from present plus perfect. Therefore, aspect does not seem to play a role in the paradigm formation. Among the ancient languages of the Germanic language family, the verb 'go' is suppletive only in Gothic and OE. Other Germanic languages form the past tense from the present stem *ganga/i* -, e.g. Olc. *gekk*, OHG *gieng*, OS OFr. *geng*. Even in OE poetry, similar forms, *geong* and *gang*, are found, and a weak preterite *gaggida* is once attested in Gothic text as well (The New Testament, Luke 19, verse 12).

13 Greek⁷²

13.1 Greek verbal system⁷³

aspect	imperfective (present stem), perfective (aorist stem), stative/resultative (perfect) ⁷⁴
voice	active, medio-passive, passive (only fut. and aor.)
mood	indicative, subjunctive (not for fut.), optative, imperative (pres. and aor.)
tense	present, imperfect, future, future perfect, aorist, perfect, plusquamperfect
agreement ⁷⁵	
-number	singular, plural, dual (in active only 2 nd and 3 rd person, in MP rarely the 1 st as well)
-person	1,2,3

Table 15 Grammatical expressions of verbal categories in finite verbal forms

present stem	present indic., imperfect indic., pres. subjunctive, pres. imperative, pres. optative, pres. ptc.+ inf. ,all these forms either in active or medio-passive
future stem	future indic., fut. opt., fut. ptc + inf., besides active and medio-passive it has special passive forms
aorist stem	aorist indic., aor. subjunctive, aor. optative, aor. imperative, aor. ptc. + inf., besides active and medio-passive it has special passive forms
perfect stem	pf. indic., plsqpf. ind., pf. subj., pf. opt., pf. ptc. + inf., all these forms either in active or medio-passive

Table 16 Verbal stems

εἶμι	εἶ- root	-μι ending (1 sg. pres. ind. act.)
------	----------	------------------------------------

Table 17 Example: Greek verb „I go“

Apart from the usual IE suffixal stem formation, Greek uses two prefixes to form a verbal stem: augment and reduplication. The augment expresses past time reference with indicative forms. It is facultative in Homeric Greek and becomes obligatory in Classical prose. The reduplicative *Re-* *RV-* stem is used for perfect stem formation and in some cases for present or aorist as well. The aspectual system is based on the opposition between imperfective forms (present stem) and perfective forms (aorist stem). The perfect stem conveys stative or resultative meaning and therefore pragmatically behaves as an imperfective form. Voice is partly lexically determined: a group of verbs called deponents (or *media tantum*) have only middle morphology. Besides

⁷² See Sihler (1995), Luraghi (2005), Niederle (1973) and Woodard (2008) for grammar reference. See Kölligan (2007) for verbal suppletion in Greek and Létoublon (1985) for suppletive verbs of movement. See LIV (2001), Beekes (2010) and Kölligan (2007) for etymologies.

⁷³ Luraghi 2005, p. 50. Sihler 1995, p. 442. Woodard 2008, p. 14

⁷⁴ The future stem is indifferent to aspect.

⁷⁵ Luraghi 2005, p. 53

participles and infinitives, there are some other non-finite deverbal forms of lesser productivity that are used as verbal adjectives.

13.2 Verbal suppletion

Verbal suppletion is a comparatively frequent phenomenon in Greek. As many as 21 suppletive verbal paradigms are listed by Kölligan⁷⁶, followed by another 10 pairs labelled *weakly suppletive* (see paragraph on weak suppletion below).

According to Kölligan, the basic configuration of Greek suppletion is the contrast of present versus aorist, where the futures and perfect can be based on any of the two (or three) stems. Looking at the later development, the present is the more unstable form in the paradigm. The aorist seems to be the anchor form of the paradigm. When the aorist form is replaced in the course of time, also the suppletion is lost (unlike when there is replacement of a present). The replacement hierarchy in the paradigm can be stated as future/perfect (most unstable) – present – aorist (the most stable)⁷⁷.

As Kölligan in his comprehensive verbal suppletion overview focuses on verbs found in Homer (compared with the situation in Herodotus and in Attic Greek) with only few remarks on future development into Koine, the same frame is used in this chapter. From Homer to Attic, some suppletive paradigms have undergone changes and so fusing these two stages might cause loss of valuable data concerning the development of the language. Homer's material is limited and as such can only provide a sample, not exhaustive evidence of verbal suppletion in his times.

13.3 Suppletive verbs

meaning	1. stem/PIE	2. stem/PIE	3. stem/PIE	1. stem used in	2. /3. s. used in
look forward to, be proud, exult in	ἀγἄλλομαι adjective *ἀγἄλλο maybe derived from ἀγα/μέγα- 'big, great' i.e. *ἀγἄλλο < *mǵh ₂ -lo. ⁷⁸ ← *mǵh ₂ - from *meǵ-h ₂ = μέγα acc. to Beekes ⁷⁹ , it might be a	ἀγλαίεομαι denominal v. derived from the n. ἀγλαῖα 'splendour, beauty' ⁸⁰		present	future

⁷⁶ Kölligan 2007

⁷⁷ Kölligan 2007, p. 398

⁷⁸ Kölligan 2007, p. 46

⁷⁹ Beekes 2010, p. 8

⁸⁰ Kölligan 2007, p. 46. Beekes 2010, p. 13

	denominative of an unattested form *ἀγάλο-				
take, get hold of	αἰρέω *ser- 'take, get hold of' ⁸¹ , from the present *s _r -jé/o- Beekes suggests no etymology for this verb. ⁸²	εἶλον root aorist *sélh _r - / *s _l h _r - ⁸³ of *selh _r - 'take'. Reinterpret. of the 3 sg. aor. *e-selh _r -t > *e-hel-e-(t) as athematic form ⁸⁴ .		present, future, perfect	aorist
eat	ἔδω, ἔσθω, ἐσθίω imperative *h ₁ d-dʰi- 'eat!' ⁸⁵ of *hed- 'eat' ⁸⁶ Related with the athem. pres. *héd- / *héd- are fut. ἔδομαι and thematized ἔδω ⁸⁷ Note: fut. ἔδομαι from subj. *hed-e/o-, pres. ἔδω from 3 pl. ἔδουσι < *ed-onti < *h ₁ d-énti	ἔφαγον from root aorist *bʰág- / *bʰg- ⁸⁸ < *bhag- 'distribute'	βέβρωκα *gʷerh ₃ - 'devour', with generalized weak stem of the perfect *gʷe-gʷórh ₃ - / *gʷe-gʷrh ₃ - ⁸⁹ Note: also related to etymologically corresponding pres. βιβρώσκω	present, future, perfect only in Homer (overlapping suppl. with 3rd stem)	aorist / perfect, aorist, optative
appear, seem, look like, resemble	εἶδομαι from pres. *weid-e/o- 'see, look', med. 'be seen, be looked upon' ← sub. aor. *weid-e/o- 'shall perceive', from root aor. *weid- / *uid- 'perceive' ⁹⁰	ἔοικα *weik- 'enter', here perfect *we-woik- / we-wik- ⁹¹ 'to have entered, have come near' (→ 'resemble')		present, present participle, aorist, aorist participle	perfect
be, become	εἶμι *hes- 'be', from the athematic root present *h ₁ és- / *h ₁ s- ⁹²	ἔγενόμην *genh _r - 'become, be created' ⁹³ , thematized by reanalysis of ἐ-γέν-ε-το < *géne-to < *g _h h _r -to (accent columnization ṚH>VRV) < PIE *g _h h _r -to 3 sg. *e-g _h h _r -to ⁹⁴		present	aorist (+ perfect γέγονα)
fence in,	εἴργω	ἐφραξάμην		present	aorist

⁸¹ Kölligan 2007, p. 65. LIV 2001, p. 535

⁸² Beekes 2010, p. 42

⁸³ LIV 2001, p. 529. Beekes 2010, p. 405 (entry ἔλεῖν)

⁸⁴ Kölligan 2007, p. 65

⁸⁵ Kölligan 2007, p. 77

⁸⁶ Beekes 2010, p. 375

⁸⁷ LIV 2001, p. 230

⁸⁸ Kölligan 2007, p. 78. LIV 2001, p. 65. Beekes 2010, p. 1543 (entry φαεῖν)

⁸⁹ LIV 2001, p. 211. Beekes 2010, p. 213 (entry βιβρώσκω 'to devour')

⁹⁰ Kölligan 2007, p. 82. Beekes 2010, p. 379. LIV 2001, p. 665 ff. with notes 1, 20, 22

⁹¹ Kölligan 2007, p. 83. LIV 2001, p. 669

⁹² Kölligan 2007, p. 122. LIV 2001, p. 241. Beekes 2010, p. 389

⁹³ Kölligan 2007, p. 123. LIV 2001, p. 163. Beekes 2010, p. 273

⁹⁴ Hardarson 1993, p. 167

shut out	* <i>h₂werg-</i> 'sich drehen, sich wenden' ⁹⁵	* <i>φρακ-</i> continues the zero grade of root * <i>b^hrek^w-</i> /* <i>b^hrk^w-</i> 'zusammendrängen' ⁹⁶ , the aor. newly built to post-Homeric pres. <i>φράσσω</i> from * <i>b^hrk^w-jé-</i> . No etym. by Beekes ⁹⁷ .			
draw, tear, draw towards	<i>ἐρώω</i> pres. * <i>wérHu-/urHu-</i> 'draw' (LIV without laryngeal), metathesis of the weak stem to * <i>uruH</i> . ⁹⁸	<i>εἴλωσα</i> s-aorist, see <i>ἔλω</i> <i>ἔσπασα</i> *(<i>s</i>) <i>peh₂-</i> 'draw, set in motion (violently)' ⁹⁹ , from root aor. *(<i>s</i>) <i>péh₂-</i> /*(<i>s</i>) <i>ph₂-</i> , <i>ἔσπασα</i> perhaps an older new form. to the pres. <i>σπάω</i>		present	aorist
draw, pull	<i>ἔλω</i> from pres. * <i>sélk-e/o-</i> < * <i>selk-</i> 'draw' ¹⁰⁰	<i>εἴρῶσα</i> s-aorist, see <i>ἐρώω</i>		present	aorist
come, go	<i>ἔρχομαι</i> root present * <i>h₁érg^h-</i> / * <i>h₁g^h-</i> of * <i>h₁érg^h-</i> 'enter' ¹⁰¹ or present * <i>h₁r-sk-e/o-</i> of * <i>h₁er-</i> 'hingelangen, geraten' (see LIV and Beekes) ¹⁰² .	<i>εἶμι</i> athem. root pres. * <i>h₁éj-</i> / * <i>h₁i-</i> ¹⁰³ of * <i>h₁ej-</i> 'go' <i>ἦλθον</i> thematized root aor. * <i>h₁lud-e-t</i> of * <i>h₁leud^h-</i> 'grow up, come out'		present	present, future/aorist
come, go	<i>βαίνω</i> <i>yod-</i> pres. * <i>g^wanje/o-</i> developed from orig. * <i>g^wh₂-jé/o-</i> of * <i>g^wem-</i> 'go, come' ¹⁰⁴	<i>ἔβην</i> * <i>g^weh₂-</i> 'step on st., enter' ¹⁰⁵ , from its root aor. * <i>g^wéh₂-</i> /* <i>g^wh₂-</i>		present	aorist, perfect
sleep	<i>εὔδω</i> ? * <i>sewd-</i> 'sleep, rest' ¹⁰⁶ ?	<i>ἔδραθον</i> ? * <i>der-</i> 'sleep' or * <i>dreh-</i> ¹⁰⁷ ?		present	aorist
run	<i>θέω</i> * <i>d^hew-</i> 'run' ¹⁰⁸ , from its	<i>τρέχω</i> ? * <i>d^hreg^h-e/o-</i> 'schleppen,		present	present/aorist

⁹⁵ Kölligan 2007, p. 129. LIV 2001, p. 290. Beekes 2010, p. 389

⁹⁶ Kölligan 2007, p. 129. LIV 2001, p. 93

⁹⁷ Beekes 2010, p. 1588

⁹⁸ Kölligan 2007, p. 133. Beekes 2010, p. 467. LIV 1998, p. 625

⁹⁹ Kölligan 2007, p. 133. LIV 1998, p. 523. Beekes 2010, p. 1378

¹⁰⁰ Kölligan 2007, p. 132. LIV 1998, p. 481. Beekes 2010, p. 412

¹⁰¹ LIV 2001, p. 238

¹⁰² Kölligan 2007, p. 153. Beekes 2010, p. 468. LIV 2001, p. 238, 239

¹⁰³ LIV 2001, p. 232. Beekes 2010, p. 388

¹⁰⁴ Kölligan 2007, p. 160. Beekes 2010, p. 192. LIV 2001, p. 209

¹⁰⁵ Kölligan 2007, p. 160. Beekes 2010, p. 192. LIV 2001, p. 205

¹⁰⁶ Kölligan 2007, p. 182

¹⁰⁷ Beekes 2010, p. 304. Kölligan 2007, p. 182. LIV 2001, p. 127

¹⁰⁸ Kölligan 2007, p. 195. LIV 2001, p. 147

	Narten present <i>*dʰéw-</i> / <i>*dʰéw-</i> which was thematized in Greek	ziehen ¹⁰⁹ ἔδραμον root aor. <i>*drém-/*d̥r̥m-</i> of <i>*drem-</i> 'run' ¹¹⁰			
sitzen, setzen	ἵζω/ ἕζομαι redupl. pres. <i>*si-sd-é-</i> of <i>*sed-</i> 'sich setzen' ¹¹¹ . Aor. < aor. <i>*e-sd-</i> , secondarily thematized to <i>*e-sd-e-</i> or from a redupl. aor. <i>*se-sd-</i> (not so Beekes).	ἦμαι <i>*hēs-</i> which is by some analyzed as a reduplicated form <i>*h₁eh₁s-</i> ¹¹² < <i>*h₁es-</i> 'be'		present, aorist	perfect
say	λέγω <i>*leǵ-</i> 'collect, auflesen' ¹¹³ , from present <i>*leǵ-e-</i>	ἔρέω desiderative <i>*werh₁/w₁h₁-se/o-</i> ¹¹⁴ of <i>*werh₁-</i> 'say' εἶπον <i>*wejk^w-e/o-</i> < redupl. aor. <i>*e-we-wk^w-e/o-</i> < <i>*wek^w-</i> 'say' ¹¹⁵ (with labial dissim. <i>*we-wk^w-</i> to <i>*we-jk^w-</i>)		present	future / aorist
see	ὄραω either a root pres. <i>*sér-</i> / <i>*sr-</i> of <i>*ser-</i> 'take heed' ¹¹⁶ or, acc. to Beekes (contra LIV) <i>*wer-</i> 'watch, beobachten'.	εἶδον <i>*weid-</i> 'see, look', from a root aor. <i>*wéid-/*wid-</i> ¹¹⁷		present	aorist
sell	πώλλω <i>*k^welh₁-</i> 'sich umdrehen, sich wenden' ¹¹⁸ , i.e. from caus.-iter. <i>*k^wólh₁-je-</i> in the sense 'trade' ← 'go hence and forth' or from <i>*pel-</i> 'sell'	ἐπράθην ?		present	aorist, perfect
sich stützen	σκήπτομαι, σκηρίπτω	ἑστήριξα		only participle in Homer,	aorist, perfect

¹⁰⁹ Kölligan 2007, p. 195. LIV 2001, p. 154¹¹⁰ Kölligan 2007, p. 196. LIV 2001, p. 128¹¹¹ Kölligan 2007, p. 216. LIV 2001, p. 513. Beekes 2010, p. 376¹¹² Kölligan 2007, p. 214. LIV 2001, p. 232¹¹³ Kölligan 2007, p. 246. LIV 2001, p. 397. Beekes 2010, p. 841¹¹⁴ Kölligan 2007, p. 246. LIV 2001, p. 690¹¹⁵ Kölligan 2007, p. 246. LIV 2001, p. 673. Beekes 2010, p. 389¹¹⁶ Kölligan 2007, p. 279. LIV 2001, p. 534. Beekes 2010, p. 1095¹¹⁷ Kölligan 2007, p. 281. LIV 2001, p. 665¹¹⁸ Kölligan 2007, p. 293. LIV 2001, p. 386. Beekes 2010, p. 1265

				later present	
sit, lie, lay (setzen, sich legen, liegen)	τίθημι *d ^h eh ₁ - 'put, lay down, create' ¹¹⁹ , from the redupl. pres. *d ^h i-d ^h eh ₁ -	κείμαι medial remodelling of the stative parad. of *k ^{éi} - (1 sg. *k ^{éi} -h ₂ a(i)-, 3 sg. *k ^{éi} -e(i)) of *k ^{ei} - 'lie, rest' ¹²⁰		all other forms	perfect passive
lay (suppl. only without pres.)	λέκτο ? *leg ^h -, from its root aorist *lég ^h -/*l ^g ^h - 'sich hinlegen' ¹²¹	κείμαι see above		aorist and future	present and perfect
hit, strike	τύπτω *(s)tewp- 'stossen, hit', from its -je/o- present ¹²² .	παίω *pjeh ₂ - 'hit', from pres. *pjéh ₂ -u-je/o- ¹²³ , from which the s-aorist ἔπαισα was formed secondarily	πατάσσω onomatopoeic? ¹²⁴ πλήσσω maybe *pleh ₂ g- 'hit' ¹²⁵ , from a -jé/o- form, poss. onomat.	present	present / present, future / future / aorist, perfect
bring, carry	φέρω *b ^h er- 'bear, carry' ¹²⁶ , from a thematic present *b ^h ér-e/o-	οἶσω *h ₃ éit- 'mitnehmen' ¹²⁷ , from a desiderative formation *h ₃ éjt-/*h ₃ ít-s-	ἦνεγκον, ἦνεικα, ἦνένοχα έν and PIE *sejk- 'reach' ¹²⁸ or a redup. aor. *he-h ₂ ng ^h -e- ¹²⁹ 'erhalten, take' → PGk. *h ₁ ne-h ₂ ng ^h -e- with "Attic" redup.	present	future / aorist, perfect
buy	ώνεομαι denominal stem to ὄνος 'price' ¹³⁰ , PIE *wosno-, *wesno-	ἐπρίαμεν root aor. *k ^w réih ₂ - / *k ^w rih ₂ - of *k ^w reih ₂ - 'exchange' ¹³¹ , on base of 3 pl. *k ^w rih ₂ -ento → *k ^w ria-nto = Gk. πρία-ντο		present	aorist

Table 18 Greek suppletive verbs

¹¹⁹ Beekes 2010, p. 1482. LIV 2001, p. 136

¹²⁰ Beekes 2010, p. 663. LIV 2001, p. 320

¹²¹ LIV 2001, p. 398

¹²² Kölligan 2007, p. 320. LIV 2001, p. 602. Beekes 2010, p. 1518

¹²³ Kölligan 2007, p. 320. LIV 2001, p. 481. Beekes 2010, p. 1144

¹²⁴ Kölligan 2007, p. 321

¹²⁵ Kölligan 2007, p. 319. LIV 2001, p. 484. Beekes 2010, p. 1210

¹²⁶ Kölligan 2007, p. 336. Beekes 2010, p. 1562. LIV 2001, p. 76

¹²⁷ Kölligan 2007, p. 336. Beekes 2010, p. 1063. LIV 2001, p. 297

¹²⁸ Kölligan 2007, p. 336

¹²⁹ Kölligan 2007, p. 336. LIV 2001, p. 250

¹³⁰ Beekes 2010, p. 1680. LIV 2001, p. 396

¹³¹ Kölligan 2007, p. 343. Beekes 2010, p. 1233. LIV 2001, p. 395

13.4 Note on weak suppletion¹³²

Kölligan in his work on Greek suppletion under the notion *weak suppletion* sums up verbal pairs, which show some form of irregularity, but derive from the same PIE root. The forms have diverged by way of phonological development, which led to the rise of formal differences or which resulted from a unification of primary and secondary stem formations in one paradigm, which thus may not appear to be related to each other. On the other hand, the unrelated forms in s.c. *strongly suppletive* verbs have different PIE ancestors (unlike Corbett who classifies the suppletive paradigms on a scale of canonicity and does not consider diachronic criteria).

Following the definition of suppletion used in this thesis, some of these verbs should most probably be on the roll of suppletive paradigms. However, the decision-making is uneasy. As Kölligan treats them separately, I decide not to include them to the list either. However, as these words fall typologically under the above stated examples (without exception, all ten verbal pairs proposed by Kölligan as weakly suppletive show contrast of present versus aorist form), they would not alter the summary except by outbalancing the statistical number of suppletion occurrence in Greek.

13.5 Note on defective verbs¹³³

There are 716 defective Greek verbs listed and treated by Kölligan. These verbs could potentially form suppletive paradigms, which leaves us with the uncertainty about their total number in Ancient Greek. Some are only presents or only aorists or perfects. Or they can be lexicalized forms with no other parts of inflectional paradigm. For some of them, the missing forms are found in later literature (either, they were not recorded before or they are new formations).

13.6 Summary

There are 21 suppletive verbal paradigms attested in Homeric Greek (besides 10 with label 'weakly suppletive' not included in this summary). 11 of the suppletive paradigms have two distinct verbal stems, 9 have three distinct stems and one has four stems (τύπτω, παίω, πατάσσω, πλήσσω).

Only two paradigms share the same root for present and aorist (ἴζω/ ἐζόμεν and εἶδομαι/ ἐεισάμην).

¹³² Kölligan 2007, p. 345

¹³³ Kölligan 2007, p. 405

20 of the verbal pairs have a simple suppletive relationship between present and aorist. Two paradigms have several presents with a single aorist. Two paradigms have one present and several aorists. Two verbs deliver a suppletive perfect to different paradigms (λέκτο/ κείμαι, τίθημι/κείμαι). Greek offers a good example of a language with an aspect system where suppletion is much more frequent than in purely temporal languages (such as Hittite).

14 Hittite¹³⁴

14.1 Hittite verbal system

voice	active, medio-passive
mood	indicative, imperative
tense	present, preterite
agreement	
-number	singular, plural
-person	1,2,3

Table 19 Grammatical expressions of verbal categories in finite verbal forms

one stem	all tenses and non-finite forms
----------	---------------------------------

Table 20 Verbal stems

<i>ia-an-zi</i>	<i>i</i> -root	-anzi ending (3 pl. pres. ind. act.)
-----------------	----------------	--------------------------------------

Table 21 Example: Hittite verb „(they) go“ (conventional transcription of cuneiform script)

Hittite has two conjugations, the so-called *mi*-¹³⁵ and *hi*-¹³⁶, which have different sets of endings in singular and express the active voice, and the medio-passive, which expresses active, middle or passive¹³⁷. Few verbs inflect for both voices (and so, the distribution of voice is lexical (Luraghi 2009)). Hittite verbs use a single stem (which may undergo ablaut) for all tenses and non-finite forms and so cannot use the dichotomy of stems to express aspectual opposition. Verbs either have root stems or are derived from other verbs by means of affixes (suffixes or nasal infixes, e.g. causatives, statives) or from nouns and adjectives. Modalities are conveyed in Hittite by means of modal particles. In addition, there are “analytic” constructions of participle and verbs “to be” or “to have” that explicitly express the present and past perfect and the future tense.

There are four types of non-finite forms: verbal substantives, infinitives, participles, and so-called supines¹³⁸.

¹³⁴ For overview on Hittite suppletion, see Johannes Friedrich, *Hethitisches Elementarbuch 1*, §256. For detailed search, see Erich Neu, *Interpretation der heth. mediopassiven Verbalformen* (1968), p. 87 and 102. For *tē*-, see Kloekhurst, 2008, entry *tē*-. On imperative *eh*u, see Kloekhurst, p. 233. For comments on imperative of *pai*-, see Melchert – *Grammar of the Hittite language part 1*. Further comments on imperatives are not known to me (besides personal comments by Reiner Lipp). For etymologies see Kloekhurst 2008 and LIV 2001.

¹³⁵ Melchert 2008, p. 187

¹³⁶ Jasanoff 2003

¹³⁷ Melchert 2008, p. 302

¹³⁸ Melchert 2008, p. 185

14.2 Voice suppletion

Three verb pairs project voice suppletion (active versus passive: *dai-/ti-*, *kue(n)-*, *kun-/ak-*, *iye-*, *iya/ki-iš*, *kiš-*). As Neu (1968) concedes under *ki-*, it is often hard to prove that a given instance is truly a passive in the sense of ‘is placed, laid down’ and not ‘lies’. The same problem exists for the other two verbs, since Hittite rarely uses an explicit agent with a finite passive. These three instances are connected with the very limited use of the finite medio-passive in Hittite for the passive. However, as voice is not grammaticalized in Hittite, they will not be considered in the summary of this thesis.

meaning	1. stem (conjugation) /PIE	2. stem (conjugation) /PIE	1. s. used in	2. used in
place, put/lie	<i>dai-/ti</i> ^a (h ₁ i, mi) ¹³⁹ from stem *d ^h eh ₁ - ‘lay, put, sit’, here present forms *d ^h h ₁ -ó-i-ei/d ^h h ₁ -i-énti ¹⁴⁰	<i>ki</i> ^m (MP) from the stem *k éi- ‘lie’, here its stative present formation *k éi-to/*k éi-nto ¹⁴¹	active	passive
kill/die	<i>kue(n)-/kun-/kuwan</i> ^a (h ₁ i, mi) ¹⁴² from present *g ^h én-/ *g ^h é- of *g ^h en- ‘hit’ ¹⁴³	<i>akk</i> ^a (h ₁ i) From perfect *h ₁ e-h ₁ (/s)ók-/ *h ₁ (/s)k- ¹⁴⁴ of *h ₁ ek- ‘die’	active	passive
make/ become	<i>iye-/iya</i> ^a (mi) ¹⁴⁵ ? *HH-yé/d ¹⁴⁶	<i>ki-iš-/kiš</i> ^m (MP) stative present *g ^l éi-s-o-/ *g ^l éi-s-nto- of *g ^l éi-s- ‘sich drehen, sich wenden’ ¹⁴⁷	active	passive

Table 22 Hittite voice suppletion.

Note: by active/passive are not meant the active and passive endings but the usage of the form. The active endings are indicated ‘*ā*’, MP endings being indicated by ‘*m*’ in the upper index at each form.

¹³⁹ Neu, 1968, p. 87

¹⁴⁰ LIV 2001, p. 136. Kloekhurst 2008, p. 931

¹⁴¹ LIV 2001, p. 320. Kloekhurst 2008, p. 548

¹⁴² Neu 1968, p. 102 In his remark on the hapax *kunati* Neu says: „Als Passiv zu *kuen-/kun-* ‘schlagen, töten’ dient gewöhnlich *ak-* ‘sterben’

¹⁴³ LIV 2001, p. 218. Kloekhurst 2008, p. 561

¹⁴⁴ LIV 2001, p. 234. Kloekhurst 2008, p. 202

¹⁴⁵ Friedrich 1960, §256. He compares Hittite ‘kill/die’ to the Greek *apothvésko upo tinos* and ‘lie/put’ to Greek *keimai* and *títhēmi*.

¹⁴⁶ Kloekhurst 2008, p. 442

¹⁴⁷ LIV 2001, p. 184. Kloekhurst 2008, p. 555

14.3 Suppletive verbs

meaning	1. stem (conjugation) /PIE	2. stem (conjugation) /PIE	1. s. used in	2. used in
come/ come!	<i>ue-/uwa</i> ^a (mi) <i>*h₂ou+</i> <i>*h₁éi</i> ¹⁴⁸	<i>eh₁U</i> ¹⁴⁹ <i>*h₁éi+</i> <i>*h₂ou</i> ¹⁵⁰	all other forms	2 sg. imp. act.
go/go!	<i>payi-/pai</i> ^{a151} (mi) <i>*h₁pó+</i> <i>*h₁éi-ti/</i> <i>*h₁i-ént</i> ¹⁵²	<i>i-it/i-itten</i> from pres. <i>*h₁éi-/</i> <i>*h₁i</i> ¹⁵³ of <i>*h₁éi-</i> ‘go’	all other forms	2 sg. imp. act.
say	<i>te-e</i> ^a (mi) from stem <i>*d^heh₁-</i> ‘lay, put, sit, do’, here aorist <i>*d^héh₁-/d^hh₁</i> ¹⁵⁴	<i>ter-/tar</i> ^a (mi) from <i>*ter-</i> ‘speak’, here present <i>*tér-/</i> <i>*t_r</i> ¹⁵⁵	1, 2, 3 sg. pres., 2. pl pres., 2, 3 sg. pret., 2, 3 sg. imp., 2. pl. imp.	1,2,3 pl. pres., 3 pl. pret., 3 pl. imp.

Table 23 Hittite suppletive verbs

14.4 Suppletive verbs - discussion

There is almost no verbal suppletion in Hittite¹⁵⁶. Luraghi (2012) sees suppletion in three verbs that display either causative derivation or causative/anticausative meaning connected with diathesis. These are besides the above mentioned pairs *akk-/kuen-* the pairs *maus-* ‘fall’ (active=middle) with *pessya-* ‘fell’ and *dug-* ‘appear’ (middle) with *tekussai-* ‘show’ (active). The problem of causative/anticausative is not a concern of the present investigation and as these verbs are not a part of one inflectional paradigm (causativity not being a grammatical category in Hittite), it is not treated here in more detail.

14.5 Summary

There is only one example of number suppletion in Hittite, the verb *te-e-/ter-, tar-*, where the usage of the stems in the paradigm partly overlaps. Kloekhurst sees the reason for suppletion in

¹⁴⁸ Kloekhurst 2008, p. 1147

¹⁴⁹ Melchert 2008, p. 209

¹⁵⁰ Kloekhurst 2008, p. 277

¹⁵¹ Melchert 2008, p. 209

¹⁵² LIV 2001, p. 233, in the margin. Kloekhurst 2008, p. 713

¹⁵³ LIV 2001, p. 232

¹⁵⁴ LIV 2001, p. 136. Kloekhurst 2008, p. 990

¹⁵⁵ LIV 2001, p. 630. Kloekhurst 2008, p. 1004

¹⁵⁶ Craig Melchert argued in *Incontri Linguistici* (Melchert 1997, p. 83-29) that a few Hittite and Luvian verbs might reflect a formal aspectual contrast (found in many other IE languages), showing a present stem in *-ye/ya-* (Luvian *-i/ya-*) and no suffix in the preterite, but without having preserved the aspectual contrast as such. He claims that both Hittite and Luvian have verbs, which show two distinct synchronic stems, one with the above-mentioned present suffix and one without. The general distribution is that the former marks the present (indicative) and the latter all other categories. He still (19/6/2012) regards this as merely possible, not proven.

this verb in its (previous) phonological closeness to *dā-/d-* ‘take’ < **deh₃* (see Chyba! Nenalezen zdroj **odkazů**. for details).

There are two examples of mood suppletion: indicative versus imperative, where the verbs are compounds consisting of two parts, which have reversed order and are unverbated. The forms derive from the same root (*ue-*, *uwa-/ehu*, *payi-*, *pai/i-it*, *i-itten*) and the fact that they diverged from one another is caused by regular sound changes.

15 Latin¹⁵⁷

15.1 Latin verbal system¹⁵⁸

voice ¹⁵⁹	active, passive
mood	indicative, subjunctive, imperative
tense	present, future I, future II, perfect, imperfect, plusquamperfect
agreement ¹⁶⁰	
-number	singular, plural
-person	1., 2., 3.

Table 24 Grammatical expressions of verbal categories in finite verbal forms

present stem	4 classes + some irregular. Ind. present, imperfect and future I, subj. pres., subj. impf., pres. inf. – all these forms in both voices. Imperative I, II, ptc. pres. act., gerundive, gerundium. The forms are reached by adding endings and/or suffixes (vocalic for fut. and subj.).
perfect stem	only active forms: ind. perfect, ind. plusquamperfect, ind. fut. II. Subj. pf., subj. plsqpf. Perfect infinitive
supinum stem	only passive forms: ind. pf., ind. plqpf., ind. fut. II., subj. pf., subj. plsqpf., ptc. pf. Inf. fut. act. + pass. ptc. fut. act. Supinum.

Table 25 Verbal stems

<i>eam</i>	<i>e-</i> root	<i>-am</i> ending (1 sg. pres. subj. act.)
------------	----------------	--

Table 26 Example: Latin verb „I would go“

The Latin present stem classes are characterized by different final stem vowels which can be found by removing the final *-re* of the pres. infinitive. The Latin perfect¹⁶¹ continues both PIE perfect and aorist formations. In some verbs, the original resultative meaning of the PIE perfect is retained. The Latin imperfect¹⁶² does not continue the PIE imperfect but is an innovative formation although it describes the meaning of an imperfective action. The Latin futures continue the PIE subjunctive, desiderative and some are formed as innovated phrases. On the other hand, the Latin subjunctive partially continues the PIE optative. In Latin, there are only a few relic non-present stem

¹⁵⁷ See Weiss (2009), Meiser (1998), Sihler (1995), Bammesberger (1984) for verbal system explanation. See LIV (2001), Walde/Hofmann (1982) and de Vaan (2008) for etymologies. See Rosén (2001) for discussion on Latin precursors of Romance verb-stem suppletion (verbs for 'going' and 'being').

¹⁵⁸ Meiser 1998, p. 178. Weiss 2009, p. 399

¹⁵⁹ Lehmann 2011

¹⁶⁰ Luraghi 2005, p. 53

¹⁶¹ Weiss 2009, p. 409

¹⁶² Weiss 2009, p. 414

imperatives. The verbs with active usage that are found formally only in the passive voice are called *passives tantum*. Of non-finite forms¹⁶³, Latin forms the infinitives (present, perfect, future, all with a possible active and passive form), participles, gerundives, gerunds and supine.

15.2 Suppletive verbs

Translation(s)	1. stem/PIE	2. stem/PIE	1. stem used in	2. stem used in
be	<i>sum, esse</i> from pres. <i>*h₁és-/*h_s- < *h₁es-</i> 'be' ¹⁶⁴	<i>fuī, futūrum</i> from aor. <i>*b^hwéh₂-/*b^huh₂- < *b^hwéh₂-</i> 'be, become' ¹⁶⁵	present, infinitive, future	preterite, perfect, participle
carry	<i>ferō, ferre</i> from present <i>*b^hér-e-</i> ¹⁶⁶ < <i>*b^her-</i> 'carry' ¹⁶⁷	<i>tulī</i> (OL <i>tetulī</i>) from perfect <i>*te-tólh₂/t̥h₂- < *telh₂-</i> 'lift' ¹⁶⁸	present	perfect
do/become, be made	<i>faciō</i> from pres. <i>*d^hh₁k-jé-, fēcī</i> 'did' from aor. <i>*d^héh₁k-/*d^hh₁k- < from *d^heh₁k-</i> , an enlarged stem of <i>*d^heh₁-</i> 'put, sit, lay, do' ¹⁶⁹	<i>fiō</i> from <i>-je/-jo</i> present <i>*b^huh₂-jé-</i> ¹⁷⁰ < <i>*b^hh₂u-je/o-</i> ¹⁷¹ of root <i>*b^hwéh₂-</i> 'be, become'	active	passive
want	<i>volō, velle</i> acrost. pres. <i>*wélh₁- / *welh₁- < *welh₁-</i> 'strive after, pursue' ¹⁷²	<i>vīs</i> from root present <i>*weih₁- / *uih₁- < *weih₁-</i> ¹⁷³ 'strive for'	all forms except 2 sg.	2sg.

Table 27 Latin suppletive verbs

15.3 Note on irregularities in the Latin verbal system

A few Latin paradigms surprise us with inflectional irregularities, such as *eō, ire*. The forms in the paradigms show only small degree of phonological distance from the expected form and are outcomes of the same IE stem. An example of such irregularity is the verb *eō, ire, iī/ivī, itum* 'I go, to go, I went/I went, (supine)¹⁷⁴

¹⁶³ Weiss 2009, p. 436. Meiser 1998, p. 225

¹⁶⁴ LIV 2001, p. 241. de Vaan 2008, p. 599. IEW 1959, p. 340. Meiser 1998, p. 221

¹⁶⁵ LIV 2001, p. 98

¹⁶⁶ LIV 2001, p. 76

¹⁶⁷ De Vaan 2008, p. 226. Sihler 1995, p. 542

¹⁶⁸ De Vaan 2008, p. 226. Sihler 1995, p. 542. Sihler 1995, p. 554

¹⁶⁹ De Vaan 2008, p. 198. LIV 2001, p. 139

¹⁷⁰ LIV 2001, p. 98

¹⁷¹ De Vaan 2008, p. 222. Sihler 1995, p. 546

¹⁷² De Vaan 2008, p. 687. LIV 2001, p. 677

¹⁷³ Meiser 1998, p. 224. Sihler 1995, p. 539

¹⁷⁴ Weiss 2009, p. 428. Meiser 1998, p. 222

The 2 sg. *īs* and 3 sg. *it* are regular outcomes of PIE **h₁éi-si* and **h₁éi-ti*. The 1 sg. *eō* and 3 pl. *eunt* are thematic formations (*eō* possibly based on the PIE subjunctive **h₁éi-ō*¹⁷⁵). The imperfect (*ībam*) and the future *ībō* are regular in the context of the Latin system. The verbal stem itself is based on the PIE root present **h₁éi-/*h₁i-* of **h₁ei-* 'go'¹⁷⁶. In Romance the monosyllabic forms tend to be eliminated, thus the Spanish verb *ir* uses some forms of the verb *vādō* 'proceed'.

15.4 Summary

Latin has a small number of irregular verbs that are for the most part remnants of modified athematic presents. Four suppletive verbal paradigms are examined. Two of them, the verbs 'be' and 'carry', display tense suppletion in contrast of present versus perfect tense (Latin perfect is a merger of the PIE aorist and perfect). One of them, the verb *faciō /fīō, fierī, factus sum* 'do/become, be made', is a case of voice suppletion. This is unique example among the IE languages as (except of the Hittite cases, which cannot be proved part of one paradigm) there is not any other such suppletive pair. (Besides one case of perfect passive suppletion in Greek, which is not comparable as it shows no suppletion of voice in other stems, and a suppletion of the passive preterite 3 sg. of the verb 'to go' in Old Irish). The fourth example, the verb *volō, velle/vīs* 'I want, to want/ (you) want' displays person suppletion in the 2 sg. No suppletion is found in 'go' which developed suppletive paradigm only later in the Romance languages. (Note: There are also at least two cases of suppletive verbal nouns in Latin: *ratio* as verbal noun to *putare* and *uia* to *ire*¹⁷⁷.)

¹⁷⁵ Dunkel, G. 1998. On the „Thematization“ of Latin *sum, volo, eo* and *edo* and the System of endings in the IE Subjunctive Active. In: *Mír Curad*. Innsbruck: Innsbrucker Beiträge zur Sprachwissenschaft

¹⁷⁶ Vaan 2008, p. 191. LIV 2001, p. 232

¹⁷⁷ Rosén 2001, p. 270

16 Old Church Slavonic¹⁷⁸

16.1 OCS verbal system¹⁷⁹

voice	active, passive
mood ¹⁸⁰	indicative, subjunctive, imperative
tense	present, future, future perfect (the so-called futurum exactum), aorist, imperfect, perfect and plusquamperfect
agreement	
-number	singular, dual, plural
-person	1., 2., 3.

Table 28 Grammatical expressions of verbal categories in finite verbal forms

present stem	present, imperfect
aorist stem (so-called infinite stem)	aorist, infinitive, imperfect (formed to infinitive base)

Table 29 Verbal stems

<i>uđeuu/iděši/</i>	<i>uđ-</i> root	<i>-euu</i> ending (1 sg. pres. subj. act.)
---------------------	-----------------	---

Table 30 Example: OCS verb „I go“

Both the present and aorist stem can be used to sort the Old Church Slavonic verbs to several categories according to their endings - either 6 types of aorist stems (split into inner groups according to present stem endings) or 5 groups of present stems (split into inner groups according to their aorist endings). Every verb stem belongs to either imperfective or perfective aspect category. Verbal aspect is inherent and every verb can form an aspectual pair. Exceptionally, a verb could be used in both aspects (see paragraph on verbal aspect below).

The present stems are thematic or athematic¹⁸¹, with only five basic athematic verbs – *byti*, *věděti*, *dati*, *jasti*, *iměti* plus their prefixed forms.

The OCS imperfect¹⁸² (which is a Slavonic innovation of uncertain origin built partly on the infinitive, partly on the present stem) may refer to a past event as being a state or a process. The

¹⁷⁸ For grammar details, see Comrie (1993), Arumaa (1985), Večerka (1984, 2002, 2006), Lunt (2001), Aitzetmuller (1991). For irregular (suppletive) verbs, see Koch (1990). For etymologies see LIV (2001), Derksen (2008), Snoj (2003), Rejzek.

¹⁷⁹ Večerka 2006, p. 173. Večerka 1981, p. 120. Comrie 1993, p. 149. Večerka 2002, p. 86, Arumaa 1985, p. 205

¹⁸⁰ Arumaa 1985, p. 320

¹⁸¹ Večerka 2006, p. 174

¹⁸² Večerka 2006, p. 182

aorist functions as a simple past and expresses a past event in its accomplishment. It is mostly formed from perfective verbs, but there are also imperfective aorists.

The imperfective imperfect can be used to describe an ongoing event in the course of which another event happened – the latter would be expressed by a perfective aorist. The imperfective aorist and perfective imperfect may refer to an event that happened at once.

Three OCS aorist forms¹⁸³, which do not differ in function or semantics, are the asigmatic, older sigmatic (most frequent), younger sigmatic (of Slavonic origin).

The perfect relates a preceding event to the speech event¹⁸⁴, or to an event expressed by the present tense; the pluperfect relates a preceding event to an event expressed by either the aorist or the imperfect. There are three periphrastic futures¹⁸⁵, used to express a future event. Forms of the impv. are attested regularly only for the 2nd pers. in all numbers and for the 1st pers. in the du. and pl., and occasionally for the 3rd pers. sg. For other person-number combinations, *da* plus the pres. indic. is preferred. The subjunctive is expressed by the perfect participle plus an auxiliary, which is also used with the infinitive to express the desiderative. As for the infinite verbal forms¹⁸⁶, OCS forms the infinitive, supine and participles.

16.2 Suppletive verbs

meaning	1. stem/PIE	2. stem/PIE	3. stem/PIE	1. s. used in	2. s. used in	3. s. in
be	<i>ѣесmь</i> <i>/jesmь/</i> 'I am' from root pres. <i>*h₁és-</i> <i>/*h₁ṣ-</i> ¹⁸⁷ < <i>*h₁es-be</i> '	<i>сѣmь /sq̑t/</i> 'they are' <i>*h₁es- 'be</i> ¹⁸⁸ , + secondarily introduced end. <i>*-onti</i>	<i>бѣixъ</i> from aor. <i>*b^hwéh₂-</i> <i>/*b^huh₂-</i> ¹⁸⁹ < <i>*b^hweh₂-</i> 'become' <i>бѣдѣ /bǫdǫ/</i> 'I will be' – fut., etym. develop. unclear ¹⁹⁰	present except 3 pl.	3 pl. pres.	all other forms (past, future, infinite forms)

¹⁸³ Večerka 2006, p. 184

¹⁸⁴ Comrie 1993, p. 152

¹⁸⁵ Comrie 1993, p. 154

¹⁸⁶ Večerka 2006, p. 188

¹⁸⁷ LIV 2001, p. 241. Snoj 2003, p. 647. Rejzek 2001, p. 253. Derksen 2008, p. 146

¹⁸⁸ LIV 2001, p. 241

¹⁸⁹ LIV 2001, p. 98. Snoj 2003, p. 43. Rejzek 2001, p. 100

¹⁹⁰ Rejzek 2001, p. 96. LIV 2001, p. 99

to go/ went	<i>umu /iti/</i> from 2 sg. impv. <i>*h₁i-dʰ-i</i> 'go!' < <i>*h₁ej-</i> ¹⁹¹	<i>uьd- /šьd/</i> caus.-iter. form. <i>*sod-éje-</i> < <i>*sod-</i> 'sich setzen' ¹⁹²		present, simple aorist and infinitive	preterite, participle preterite active	
----------------	--	---	--	--	---	--

Table 31 OCS suppletive verbs

1 sg.	<i>ѣсмь</i>	3 pl.	<i>сѣтъ</i>
2 sg.	<i>ѣси</i>	future 1 sg. etc.	<i>бѣдѣ</i>
3 sg.	<i>ѣстъ</i>	imperative 1 sg. etc.	<i>бѣдѣмь</i>
1 du.	<i>ѣсѣ</i>	supinum	<i>бѣитѣ</i>
2 du.	<i>ѣста</i>	infinitive	<i>бѣити</i>
3 du.	<i>ѣсте</i>	participle masc./n.	<i>сѣи, бѣдѣи</i>
1 pl.	<i>ѣсмъ</i>	aorist 1 sg. etc.	<i>бѣихъ</i>
2 pl.	<i>ѣсте</i>	imperfect 1 sg. etc.	<i>*бѣахъ</i>

Table 32 Paradigm of the verb 'be'

1 sg.	<i>идѣ</i>
2 sg.	<i>идеши</i>
supinum	<i>идѣ</i>
infinitive	<i>ити</i>
past participle m./n.	<i>идѣѣ</i>
aorist 3 pl. etc.	<i>идѣхѣмъ</i>
gerund	<i>идѣше</i>

Table 33 Some indicative forms of 'go'

16.3 Note on the aspect verb pairs¹⁹³

Every verb in OCS can form both imperfective and perfective forms. Only few verbs have no opposite aspect pair form. The relationship between the two members of an aspect pair may be that of a prefixed form opposed to a non-prefixed one, of a difference in the verbal classifier, a difference in classifier plus modification of the root or, in rare and uncertain cases, of suppletion, i.e. completely different stems (imperfective *glagola-ti* and perfective *rek-* 'say').

The small number of primary perfective forms has corresponding imperfective forms by addition of a prefix that changes the conjugational class (e.g. imperfective *tvoriti* 'do, make',

¹⁹¹ Derksen 2008, p. 216. Snoj 2003, p. 227. Rejzek 2001, 251. LIV 2001, p. 232

¹⁹² Snoj 2003, p. 207, p. 723. LIV 2001, p. 513. Rejzek 2001, 626

¹⁹³ Comrie 1993, p. 15

perfective *zatvoriti* 'lock up'). When the primary verb is perfective, prefixes usually change both lexical meaning and aspect as in the example above while the prefixed item has imperfective forms with suffixation, change of conjugational class and sometimes with alternation of the root vowel. A number of primary and prefixed forms are distinct only in aspect, the prefixed item being perfective, as in *slyšati, uslyšati* 'hear'. Aspect suppletion is not considered in this thesis, as the grammaticalization of aspect in Slavonic languages is hardly comparable to other IE languages and might be an issue of another study.

16.4 Summary

Verbal suppletion is a rare phenomenon in OCS. Besides aspect suppletion, not considered here, we find only two suppletive verb pairs, 'be' and 'go'. In the verb 'be', one of the stems is used in the present with a special form for the 3 pl., which could be considered suppletive on a synchronic basis, although deriving from the same root. All other forms use the third stem *бѣиѡ*. The fact that the first stem is used in present and aorist is not surprising in OCS as the verbal categories for expressing past events differ from PIE categories – aorist is not necessarily perfective and perfect is not inherently marked for aspect either (otherwise, if we expect the PIE stems **b^hweh₂-* and **hes-* to fall into one paradigm for the reason of covering both aspects in a language, one of them should not be found in both present and aorist).

The verb 'go' uses two different stems of which the first besides the present tense is used also in future, infinitive, imperative, supine and simple aorist. The other stem is used in the preterite.

17 Old English¹⁹⁴

17.1 Old English verbal system

voice	active
mood	indicative, subjunctive, imperative
tense	present, preterite
agreement	
-number	singular, plural
-person	1,2,3

Table 34 Grammatical expressions of verbal categories in finite verbal forms

present stem	present, infinitive
preterite stem	preterite, past participle

Table 35 Verbal stems

<i>gangiþ</i>	<i>gang-</i> root	<i>-iþ</i> ending (3 sg. pres. ind. act.)
---------------	-------------------	---

Table 36 Example: OE verb „(he) goes“

Germanic has the least complex verbal system of all the languages of the IE family¹⁹⁵. Compared to Sanskrit, which may have up to 126 distinct finite forms in one paradigm, the most complex Germanic system, Gothic, has 22, while OE has a maximum of eight. OE has two types of verbs, the so-called weak¹⁹⁶ and strong verbs¹⁹⁷. The weak verb forms its preterite and past participle by adding a dental suffix, the strong verb by changing the stem. Three persons are formally distinguished in the singular of the indicative¹⁹⁸. All plurals and all subjunctive forms use the same form. Besides the active voice, the only remnant of passive form survives in *hätte* ‘is called, was called’: Four parts of the verb with different vowel may be distinguished – the infinitive, the 13 sg. and 123 pl. preterits and the past participle – although some of them may have shared the vowel as well. There are two infinitives, with or without *to*.

¹⁹⁴ See Lass (1998) and Mitchel (1964) and Bammesberger (1986) for grammar review and lists of paradigms. See LIV for etymologies. See Bammesberger (2000) for details on 2 sg., pl. pres. of the verb ‘be’. For etymology of *ēode*, see Schumacher (1998) and Cowgill (1960). See Ringe (2006) for development from IE to Proto-Germanic.

¹⁹⁵ Lass 1998, p. 151

¹⁹⁶ Lass 1998, p. 164

¹⁹⁷ Lass 1998, p. 153

¹⁹⁸ Lass 1998, p. 172

17.2 Suppletive verbs

meaning	1. stem/PIE	2. stem/PIE	3. stem/PIE	4. stem/5. stem	1. stem used in	2./3. stem used in	4./5. stem used in
be	<i>is, sind</i> etc. * <i>hes-</i> ‘be’, from present form ¹⁹⁹	<i>bēon</i> present * <i>b^huh₂-jé-</i> ²⁰⁰ of * <i>b^hweh₂-</i> ‘be, become’	<i>wesan</i> root pres. * <i>h₂wés-</i> / <i>h₂us-</i> ²⁰¹ of * <i>h₂wes-</i> ‘live’	<i>ēom</i> * <i>hes-</i> ‘be’, from present form / <i>ear^t</i> ? * <i>h₃er-</i>	present except impv.	present /preterite and present imperative	1. sg. pres. /2. sg. pres.
go	<i>gān</i> * <i>g^heh₁-</i> ‘come, reach’ ²⁰²	<i>ēode</i> * <i>hej-</i> ‘go’, from the perfect ²⁰³			all other forms	pret. sg. (there is no pret. pl. form)	

Table 37 Old English suppletive verbs

The paradigm of the verb ‘be’²⁰⁴

The paradigm of this verb has several suppletive features, which contrasts with the regularity of the rest of the OE verbal system. The form *ēom* is suppletive with regards to e.g. *sind* on the base of regular sound changes (for etymological comments, see **Chyba! Nenalezen zdroj odkazů.**). Based on the definition of suppletion, the form *ear^t* is also suppletive with regard to the other paradigmatic forms. For clarity, the complete paradigm is given below.

indicative	present	present	preterite
1 sg.	<i>ēom</i>	<i>bēo</i>	<i>wæs</i>
2 sg.	<i>earð</i> / <i>ear^t</i> ²⁰⁵	<i>bist</i>	<i>wære</i>
3 sg.	<i>is</i>	<i>biþ</i>	<i>wæs</i>
pl.	<i>sind(on), sint, (e)aron</i>	<i>bēop</i>	<i>wæron</i>
sg. subjunctive	<i>sīe</i>	<i>bēo</i>	<i>wære</i>
pl. subjunctive	<i>sīen</i>	<i>bēon</i>	<i>wæren</i>
sg. imperative	<i>wes</i>	<i>bēo</i>	
pl. imperative	<i>wesap</i>	<i>bēop</i>	
infinite forms	<i>wesan</i> infinitive		

Table 38 The paradigm of the verb ‘be’²⁰⁶¹⁹⁹ LIV 2001, p. 241²⁰⁰ LIV 2001, p. 83. Lass 1998, p. 171.²⁰¹ LIV 2001, p. 293. Lass 1998, p. 171.²⁰² LIV 2001, p. 196²⁰³ LIV 2001, p. 232. Cowgill 1960, pp. 486. Schumacher 1998, p. 198²⁰⁴ Lass 1998, p. 171²⁰⁵ LIV 2001, p. 300, note 15. a²⁰⁶ Lass 1998, p. 171

17.3 Summary

There are two suppletive verbs in OE, *wesan* 'be' and *gān/ēode* 'go'. The latter uses suppletive stems in the present versus the preterite. The verb for *being* is far more complicated and we find five distinct stems/forms that agree with the definition of suppletion (see also the Old Irish (ch. 18.4) and Armenian (ch. 11.4) verbs of being). In singular present, we are witnessing to person suppletion in 1. and 2. sg. We also find a suppletive second present stem (a fact not encountered elsewhere) and expected suppletive preterite.

The lack of grammatical means for expressing aspectual opposition might be the reason for so limited number of suppletive paradigms.

18 Old Irish²⁰⁷

18.1 Old Irish verbal system

aspect ²⁰⁸	perfective (using particles <i>ro</i> , <i>ad</i> and <i>com</i> , so called “augment”), imperfective
voice ²⁰⁹	active, passive
mood	indicative, imperative, subjunctive
tense	present, preterite, future (+ secondary stems for impf., subj. impf. and fut. II/ cond.), imperfect
agreement	
-number	singular, plural
-person	1,2,3

Table 39 Grammatical expressions of verbal categories in finite verbal forms

primary stems	
- present stem	indicative, imperfect and imperative
- preterite active stem	preterite active
- preterite passive stem ²¹⁰	preterite passive
- future stem	future, conditional (fut. stem + impf. ending)
- subjunctive	present and past subjunctive
secondary stems	
- present + impf. endings	imperfect (expresses habitual or iterative events)
- subjunctive + impf. end.	subjunctive imperfect
- future + impf. endings	future II /conditional

Table 40 Verbal stems

<i>téit</i>	<i>téi-</i> root	<i>t-</i> ending (3 sg. pres. ind. act.)
-------------	------------------	--

Table 41 Example: OIr. Verb „he goes“

Veselinović²¹¹ sees the verbal tense of OIr. as a mixture of tense, aspect and mode. The so-called perfect belongs rather to the aspect category than to the tense category. It is used in an opposition to perfective preterits. The passive is a purely inflectional category and can be formed to any verb, regardless of its transitivity or valence. In PIE, there was no formal distinction between

²⁰⁷ For summary of OIr. grammar, see Forston 2010. For details of OIr. grammar, see Thurneysen (1980) or Kim McCone (1997, chapters on suppletion easily found in the index) or Matasović (2003). For a list of suppletive verbs, see Elvira Veselinović (2003). For etymologies, see LIV (2001) and Matasović (2009) – here referred to as EDP. For more etymologies, see Schumacher 2004. See Ó Corrain (1997) on expressions of 'being'. See Green (1995) for a list of full verbal paradigms. See McCone (1991) for a discussion on the verb 'eat'. See Schmidt (1966) for verbs 'go' and 'come'.

²⁰⁸ McCone 1997, pp. 89. pp. 127

²⁰⁹ Veselinović 2003, p. 34

²¹⁰ McCone 1997, p. 59. Veselinović 2003, p. 35

²¹¹ Veselinović 2003, p. 33

deponent and passive, but in Insular Celtic, the passive developed partially specific endings. The manner in which the five principal inflectional stems are realized formally depends on the further inflectional dichotomy between the so-called 'weak' and 'strong' verbs with a third category of hiatus verbs.

The only verbal form lacking in Old Irish is the infinitive. It is supplied, as is yet the case in the modern Gaelic languages, by the verbal noun.

18.2 Verbal suppletion

Verbal suppletion is a comparatively frequent feature of the Old Irish verb found in all parts of the paradigm. Interestingly, as observed by Veselinovič (2003, p. 78), there are no trends to paradigm levelling at any stage of the language.

18.3 Suppletive verbs

meaning	1. stem/PIE	2. stem/PIE	3.- 6. stem	1. stem used in	2./6. stem used in
is/ there is/ was	<i>at-tá, -tá</i> * <i>steh</i> ₂ - 'stand, sich befinden', LIV: <i>tāu</i> - newly formed essiv ²¹²	<i>fil</i> * <i>wel</i> - 'see', here present * <i>wel-e</i> ²¹³	<i>boí</i> (3 sg. pret) aor. * <i>b^hwéh</i> ₂ -/* <i>b^huh</i> ₂ - or red. pf. * <i>b^he-b^huh</i> ₂ ²¹⁴ of * <i>b^hweh</i> ₂ - 'become' <i>ro·gab</i> present * <i>g^hHb-jé</i> ²¹⁵ of * <i>g^heHb-</i> 'ergreifen, nehmen'	present indicative except when <i>fil</i> - 'there is' is used	neg. pres. ind., impv., relative of v. s. /non-pres. non-ind. /perfective preterite
is/is wont to be	<i>is</i> present * <i>h^és-</i> /* <i>h^s-</i> ²¹⁶ of * <i>h^és-</i> 'be'	<i>biid</i> pres. * <i>b^huh</i> ₂ - <i>jé</i> ²¹⁷ of * <i>b^hweh</i> ₂ - 'become'		present indicative	non-present, non-indicative
I go/goes /went/will go/went	<i>tíagu</i> present * <i>stéjg^h-e</i> ²¹⁹ of * <i>stéjg^h-</i> 'step'	<i>téit</i> ? LIV: present * <i>stí-né-/ng^h-</i> ²²⁰ of * <i>stéjg^h-</i> 'step'	<i>luid/ regaid/ do·cuat/ ·eth</i> * <i>h^leud^h-</i> 'grow', from aor. * <i>h^léud^h-/h^lud^h-</i> ²²¹	present indic. except 3 sg. and 2 pl.	3. sg. ind. pres. /impf. pret. act. /2 sg. pl. impv., fut.

²¹² LIV 2001, p. 590 Schumacher 2004, p. 623

²¹³ Schumacher 2004 p. 669. Veselinovič 2003, p. 92

²¹⁴ LIV 2001, p. 98. Schumacher 2004, p. 241

²¹⁵ Schumacher 2004, p. 318, LIV 2001 p. 195

²¹⁶ LIV 1998, p. 214, Schumacher 2004, p. 295

²¹⁷ LIV 2001, p. 98

²¹⁹ LIV 2001, p. 593. Schumacher 2004, p. 637. EDP 2009, p. 376

²²⁰ Veselinovič 2003, p. 107

²²¹ LIV 1998, p. 221. EDP 2009, p. 247. Matasovič 2003, p. 73

(pfv.)/was gone ²¹⁸			<i>*herǵ^h</i> - 'enter', here present <i>*h₂erǵ^h/*h₂rǵ^h</i> ²²² 1. <i>*wet</i> - 'turn' ²²³ <i>*h₂ej</i> - 'go' ²²⁴		/pfv. pres. and pret., s-subj. /pret. pass.
come/come!	<i>do·tét, táet</i> the same as <i>tíagu</i> , including its suppletive forms	<i>tair</i> ?, might belong to <i>do·airicc</i> derived from <i>*h₂nek</i> - 'reach' ²²⁵		the same suppletive instances as <i>tíagu</i>	2 sg. impv.
come	<i>do·ic</i> present <i>*h₂i-h₂nek</i> -/ <i>h₂nk</i> - ²²⁶ of <i>*h₂nek</i> - 'reach'	<i>do·tét</i> see above		1, 2 sg. pres. ind., 3 sg. impf., 1, 2, sg., 1, 2, pl. pres. subj., 1 sg. 1 pl. pret. subj., 1 sg., 1, 2, 3 pl. fut., 3 sg. 1, 3 pl. condit. Has both act. and pass. forms	all other forms
carries, brings /can carry, can bring	<i>beirid</i> <i>*b^her</i> - 'carry, bring'. Present from <i>*b^hér-e</i> , preterite from s-aorist <i>*bh^{ér}-s</i> ²²⁷	<i>ro·uccai</i> present <i>*h₂i-h₂nek</i> -/ <i>h₂nk</i> - ²²⁸ of <i>*h₂nek</i> - 'reach'		all imperfective forms	all perfective forms
give /could give, gave	<i>do·beir</i> see <i>beirid</i>	<i>*tarta, do·rat</i> LIV: pres. <i>*d₃-doh₃</i> / <i>dh₃</i> - ²²⁹ of <i>*deh₃</i> - 'give'. IEW: <i>*d^heh₃</i> - 'set, lay, do'. ²³⁰		all imperfective forms	all perfective forms
see, saw	<i>ad·cí</i> <i>*k^wej_s</i> - 'perceive' ²³¹	<i>CO·n·accae</i>		all other forms (impv. not attested)	perfective preterite

²¹⁸ The typical PIE stems which we expect to underlie the verbs for 'go, come' in IE languages are the atelic **h₂ej*- and the telic **g^weh₂*-. However, this is not the case for OIr. Although both these stems can be recognized in this language, they do not interfere with the 'go/come' verbs at all. The stem **h₂ej*- is found only in a verbal adjective ending with *-to*- and in the preterite passive of the paradigm of the verb 'go'. The stem **g^weh₂*- is found in the verb *bath* 'died' which uses another five stems in its paradigm.

²²² LIV 1998, p. 212. Schumacher 2004, p. 549. EDP 2009, p. 312

²²³ Schumacher 2004, pp. 676

²²⁴ Schumacher 2004, p. 375. EDP 2009, p. 170

²²⁵ LIV 2001, p. 283, Schumacher 2004, p. 200

²²⁶ LIV 2001, p. 283, Schumacher 2004, p. 200

²²⁷ LIV 2001, p. 75, Schumacher 2004, p. 218

²²⁸ LIV 2001, p. 283, McCone 1991, p. 2

²²⁹ LIV 2001, p. 105. Also EDP 2009, p. 86

²³⁰ IEW 1959, p. 235

²³¹ LIV 1998, p. 340. Schumacher 2004, p. 431. EDP 2009, p. 25, 180

		perfect <i>*de-dórk-</i> / <i>dṛk</i> ²³² of <i>*derk-</i> 'behold, see' (pfv.)			
drinks/ would drink	<i>ibid</i> <i>*peh₃(j)-</i> 'drink', pres. <i>*pi-ph₃-é</i> ²³³	<i>·lú</i> <i>*(s)lewg-</i> 'swallow' ²³⁴		all other forms	3 sg. subjunctive
eat/ate	<i>ithid</i> Veselinovič: <i>*peiH-</i> 'be fett, swell' ²³⁵ McCone, LIV etc.: acrodynamic pres. <i>*héd-/héd</i> ²³⁶ 'eat'	<i>do·fúaid</i> , <i>·dúaid</i> <i>*həd-</i> 'eat', here redupl. pf. <i>*h₂e-</i> <i>hód/h₂d</i> ²³⁷	<i>ithe</i> <i>*pitu-</i> 'nourishing' or <i>*peiH-</i> 'swell' ²³⁸	present except subjunctive	past and subjunctive (impf. pret. not attested) /verbal noun
put, throw /put, throw /would throw, threw-pfv.	<i>fo·ceird</i> ?, LIV: 3. <i>*kerH-</i> 'pour, spill', here pres. <i>*kérH-d^oe</i> ²³⁹	<i>·cuirethar</i> ? LIV: <i>*kerH-</i> , here iterative pres. <i>*kerH-éje</i> ²⁴⁰	<i>ro·lá, ralaē</i> McCone: <i>*h₂leh₂</i> ²⁴¹ LIV: <i>*leh₂-</i> 'let' ²⁴²	all imperfec- tive forms incl. future	all perfective forms/ pft. present, past subj., active pret.
die/died	<i>at·baill</i> pres. <i>*g^wl-né/n₂-h₂</i> ²⁴³ of <i>*g^welh₂</i> 'meet, throw'	<i>at·bath</i> <i>*g^weh₂-</i> 'set foot, step'. LIV: v. adj. <i>*g^wh₂-tō</i> ²⁴⁴		present, impf., pfv. preterite	impf. preterite
guard, protect/ guarded	<i>con·oí, comai</i> pres. <i>*h₂ewH-e</i> ²⁴⁵ of <i>*h₂ewH-</i> 'help' (or <i>*h₂ewH-</i> 'put on')	<i>con·ró-e-tar</i> <i>*hem-</i> 'take', here root aorist <i>*h₂ém-</i> <i>/*hm₂</i> ²⁴⁶		present	pfv. preterite
fall/fell	<i>do·tuit</i> <i>?*(s)tewd-</i> 'hit' ²⁴⁷ or <i>*peth₂-</i> 'fall' (not in LIV) ²⁴⁸	<i>do·ceir</i> <i>*kerh₂-</i> 'break', from aorist <i>*kérh₂-</i> <i>/*k₂rh₂</i> ²⁴⁹		present	preterite
find, get/ found, got	<i>fo·gaib</i>	<i>·fúair</i>		present, future	preterite (incl. passive)

²³² LIV 1998, p. 105. Schumacher 2004, p. 271. EDP 2009, p. 96

²³³ LIV 1998, p. 417. IEW 1959, p. 839. EDP 2009, p. 130

²³⁴ LIV 1998, p. 516. IEW 1959, p. 964

²³⁵ Veselinovič 2003, p. 143

²³⁶ McCone 1991, pp. 3. Schumacher 2004, p. 378. LIV 2001, p. 230

²³⁷ LIV 2001, p. 230. Schumacher 2004, p. 377

²³⁸ Schumacher 2004, p. 379. Not confirmed by LIV under this entry

²³⁹ LIV 2001, p. 353

²⁴⁰ LIV 2001, p. 354

²⁴¹ McCone 1991, p. 33, p. 126

²⁴² LIV 2001, p. 358

²⁴³ LIV 2001, p. 208. Schumacher 2004, p. 211

²⁴⁴ LIV 2001, p. 205

²⁴⁵ LIV 1998, p. 216, not mentioned in Schumacher 2004. EDP 2009, p. 49

²⁴⁶ LIV 1998, p. 209

²⁴⁷ Schumacher 2004, p. 642

²⁴⁸ LIV 2001, p. 429

²⁴⁹ LIV 1998, p. 291. Schumacher 2004, p. 399. EDP 2009, p. 202

	* <i>g^heHb^(h)</i> - 'take', from the present * <i>g^hHb-je</i> - ²⁵⁰	redupl. pf. or aor. * <i>wé-w₁(h₁)-e</i> - ²⁵¹ of * <i>wreh₁</i> - 'find'			pret exception) –
drive /will drive	<i>agaid, ad-aig</i> * <i>h₂eǵ</i> - 'drive', from present * <i>h₂eǵ-e</i> - ²⁵²	<i>eblaid</i> desiderative (?) * <i>pi-p₁h₂-se</i> - ²⁵³ of * <i>pelh₂</i> - 'approach'		all other forms	future, conditional (future II)
take away, steal/took away, stole	<i>gataid</i> ? ²⁵⁴ denominative	<i>duell</i> * <i>pelh₂</i> - 'approach', new formation of an s-aorist ²⁵⁵		all imperfec- tive forms	all perfective forms

Table 42 Old Irish suppletive verbs

There are other cases of irregular verbs but as they are either phonologically close or uncertain, they are not be taken into account in the conclusion but are discussed in detail in the **Chyba! Nenalezen zdroj odkazů.**

18.4 Notes on verbs of being in OIr.²⁵⁶

The verbs for *being* serve both the existential and copular function. In the existential function, where the verb expresses the existence of an entity, it can stand alone as predicate and has a semantic content comparable to other verbs. In other contexts, the verb simply connects the subject with its predicate. Contrary to *attá*, the Irish copula *is* has never had the existential function.

In Early Old Irish there is a strong correlation between the verbs of being and of possession. Formation *ním-thá* meaning 'I have not' is also used in the sense 'I am not'. The verb *gaibid* meaning 'take' in form *ron-gabus* lit. 'I have taken it' presupposes 'I have it', and is also be used as an expression of existence.

The copula *is* and the substantive verb *attá* in the meaning of the copula both use other verbs to supply for tense and mood (which equals to the statement that they are used by other verbs to supply their 3 sg.). Similarly to other IE languages, the suppletive forms are based on the stems **h₁es-*, **b^hweh₂-*, **steh₂-*.

²⁵⁰ LIV 1998, p. 174

²⁵¹ LIV 1998, p. 637

²⁵² LIV 2001, p. 255. Schumacher 2004, p. 189. EDP 2009, p. 27

²⁵³ Veselinovič 2003, p. 160. LIV 1998, p. 423. Schumacher 503. EDP 2009, p. 121

²⁵⁴ Schumacher 2004, p. 681

²⁵⁵ Veselinovič 2003, p. 160. LIV 1998, p. 423. Schumacher 503. EDP 2009, p. 121

²⁵⁶ Ó Corrain. 1997.

There are several other verbs with the notion of being. They are not parts of the paradigms of the copula or the verbal substantive but are defective in their use as 'be'²⁵⁷. These are the verbs *do·coissin*, *-díchsniġedar* and *ad·cumaing*, *do·ánaic* (the latter being forms of the verb *·icc*). The first verb's meaning is 'gain', the other's 'happen'.

18.5 Summary

With the plenitude of sound changes in Celtic languages, many verbal forms have to be considered when dealing with suppletion. Therefore, only suppletion of distinct underlying PIE roots united into one paradigm is considered in this chapter.

16 suppletive verb pairs were examined. Among these 16 pairs we find 8-9 instances of tense suppletion of present versus past and one more where the tense suppletion lies in future versus other forms (details below), four or five instances of mostly aspect suppletion, two cases of a mode (imperative, subjunctive) suppletion.

As for the tense suppletion, three cases display suppletion in the present indicative versus other forms²⁵⁸. One is mixed. Only two cases display full present versus past forms suppletion and one (*ithid*) is a matter of discussion. One case has besides all present forms also the past subjunctive of one stem while the other supplies the rest. With again another verb, it is just the opposite – the present subjunctive belongs to the second stem.

As for the aspect suppletion, three pairs display suppletion without exception in imperfective versus perfective forms. One has a contrast of perfective preterite versus all other forms.

In one case only the future uses different stem, and again in another verb, besides its other suppletive forms (following its simplex), we find 2 sg. impv. suppletion. The last but not least is the verb 'go' which uses 5 or 6 different stems. To sum up, the tense stem suppletion is the most frequent. Aspect suppletion is the second most frequent (not meaning the suppletion of the aspect prefix marker, but of the verbal stem) and the third person suppletion. There are no cases of number suppletion. Mode suppletion, although rare **in the world's languages**²⁵⁹, is found here, connected to person suppletion. The OIr. copula shows a polarity suppletion (different stems used in positive and

²⁵⁷ Veselinovič 2003, p. 100

²⁵⁸ Matasovič 2003, p. 73

²⁵⁹ Bybee 1985

negative propositions). The voice suppletion is attested with one example (passive preterite 3 sg. of the verb 'to go').

19 Tocharian²⁶⁰

19.1 Tocharian verbal system²⁶¹

voice	active, mediopassive
mood	indicative, imperative, optative
tense	present, imperfect, subjunctive, preterite
agreement	
-number	singular, dual (TochB in 3 pres. act./mp., 3 pret. and 2 impv. In TochA in 3 pret. act. and 2 impv.), plural
-person	1,2,3

Table 43 Grammatical expressions of verbal categories in finite verbal forms

present stem ²⁶² (imperfective)	present, imperfect, gerundive I, abstract noun, TochA infinitive, <i>nt</i> -ptc., <i>m</i> -ptc. ²⁶³
subjunctive stem (perfective)	subjunctive/future, optative, gerundive, abstract noun, TochB infinitive
imperative stem	imperative
preterite stem	preterite, preterite ptc.
preterite ptc. stem	pret. ptc., absolutive (deverbal noun)

Table 44 Verbal stems

<i>yam</i>	<i>y</i> -root	- <i>a</i> -thematic vowel - <i>m</i> -ending (3 sg. pres. ind. act.)
------------	----------------	--

Table 45 Example: Tocharian verb „I go“

„In practice, most verbs do not distinguish five separate stems. Especially in TA, most verbs have a single stem for the perfective, imperative, preterite, and pret. ptc., so much so that Sieg, Siegling, and Schulze (1931) classify subjunctive forms under the preterite stem. TB has gone slightly further than TA in creating innovative subjunctive and/or present stems, so more verbs in that language contrast three stems for imperfective, perfective, and preterite.“ (Kim 2012, p. 40). There are

²⁶⁰ See a list of some suppletive pairs in Krause (1952, p. 57, 152, 185. 1960, p. 195-196). There is no comprehensive list to be found anywhere nor information on suppletion in Tocharian. For individual words, see Malzahn (2010) – verbal index in the second part of the book. For etymologies, see LIV and Adams (1999), Etymological dictionary. For details on subjunctive see Peyrot (2010). For extensive discussion of etymology of B *wāy* -/A *wā*- ‘see’ Hilmarsson 1994a. For grammar see (besides Malzahn 2010) Kim 2012, Klingenschmitt 1975 and Pinault 2008.

²⁶¹ Malzahn 2010, p. 23 on. Kim 2012, p. 40.

²⁶² Malzahn 2010, p. 355

²⁶³ Malzahn 2010, p. 495

twelve present classes, ten subjunctive classes, eight preterite classes (plus the 0-preterite class called root preterite as introduced by Malzahn²⁶⁴) and seven imperative classes.

Important notions for Tocharian verb are *grundverb* and *kausativum*²⁶⁵. Many Tocharian verbal roots have two or three sets of paradigms, which differ in valence, where transitives are derived of intransitives and causatives of transitives. The *kausatives* are not necessarily causative and some even have the same meaning as their basic verb and can be less complex. For these reasons the *kausatives* can hardly be referred to as causatives. Malzahn introduces also the term *antigrundverb*²⁶⁶, which is used for special cases of *kausativum*.

Intransitive verbs tend to be either activa tantum or media tantum, while this is not so frequent with transitive verbs. Valence change can be expressed (besides the stem alternation) by voice alternation (usually with transitives). As for non-finite forms²⁶⁷, the gerundive, the privative and the infinitive are attested.

Tocharian presents are based on PIE present stems, preterits from PIE aorists, subjunctives from PIE perfect, imperfect/optative from optative and preterite ptc. stem from PIE perfect ptc.²⁶⁸.

19.2 Verbal suppletion

Although some Tocharian paradigms display irregularities, there is no doubt as to which word pair is suppletive and which is only irregular. For more details on irregularities, see below. The irregular forms also retain high phonological similarity. Not so the suppletive verbs, which have defective paradigms of their own and are semantically interchangeable with the other member of the pair.

19.3 The irregular subjunctive²⁶⁹

In the otherwise regular subjunctive stem paradigms, irregularities are found in accent patterns. The accent causes emergence of variant forms, where an unexpected root vowel comes about. Nevertheless, the rest of the stem remains unaltered.

²⁶⁴ Malzahn 2010, p. 111

²⁶⁵ Malzahn 2010, p. 50

²⁶⁶ in cases where the root has three paradigms and only one of them follows the productive pattern of the *kausative* while the other consists of other forms – this form would be labelled *antigrundverb*

²⁶⁷ Malzahn 2010, p. 49

²⁶⁸ Kim 2012, p. 53

²⁶⁹ Malzahn 2010, p. 293

19.4 The irregular imperative²⁷⁰

The imperatives of ^{AB}*i-* ‘go’ and ^B*klyaus-*/^A*klyos-* ‘hear, listen’ are synchronically irregular. For *i-* the 2 sg. act. is ^B*paš*/^A*piš*. The 2 pl. form of TochB is *pcīso/cisso*, of TochA it is *pic* and another four attested forms. For ^B*klyaus-*/^A*klyos-* we find in TochB 2 sg. *päktyauš*, 2pl. *päktyaušso/pklyausso*, in TochA 2 sg. *päktyoš*, 2 pl. *päktyošas/päktyossū*.

(Note: imperative forms are usually preceded by a particle *pä-* which is mandatory for any imperative form in TochA but can be omitted in TochB, typically with verbs starting in *p*). There is a debate how to explain the final *-š* in the 2 sg. *paš!*/*piš!* and the 2 sg. imperative of ^B*klyaus-*/^A*klyos-* ‘hear, listen’, *päktyauš!*, is discussed by Jasanoff²⁷¹.

The imperatives are synchronically based on the preterite stem (based on PIE aorist) while previously they must have been based on subjunctives²⁷².

19.5 The irregular imperfect²⁷³

Stems ^{AB}*i-* ‘go’ and *nes-*/^A*nas-* ‘be’ form irregular paradigms both in the imperfect and in the case of *nes-* in the subjunctive, which show different stem formations where one would from a synchronic point of view expect forms from the corresponding present stems as usual in Tocharian. The relevant paradigms of TochA and TochB can be drawn from a common Tocharian paradigm. All other attested Toch. imperfects are built from corresponding present stems.

19.6 Suppletive verbs

meaning	1. stem/PIE	2. stem/PIE	3. stem/PIE	1. stem in	2./3. stem in
lead, guide, drive	^{AB} <i>āk-</i> * <i>h₂eǵ-</i> ‘drive’, here thematic present <i>h₂eǵ-</i> <i>e/o</i> . ²⁷⁴	^B <i>wāy-</i> / ^A <i>wā</i> ?* <i>wejh₁-</i> ‘sein Augenmerk richten auf’, new pf. form. ²⁷⁵ or * <i>woj(H)o/eh₂-</i> or		present stem	all other forms

²⁷⁰ Krause 1952, p. 152, Malzahn 2010, p. 509

²⁷¹ Jasanoff 1987

²⁷² Pinault 6.9. 2012

²⁷³ Malzahn 2010, p. 253

²⁷⁴ Hilmarsson 1994, p. 99. LIV 2001, p. 255. Malzahn 2010, p. 520. Adams 1999, p. 36

²⁷⁵ LIV 2001, p. 693, with a question mark

		<i>*hwodh₂jeh₂-</i> ²⁷⁶ or <i>*(we-)</i> <i>wojh₁-</i> ²⁷⁷			
go	^B <i>h₁e-</i> <i>*h₁e-</i> ‘go’, here atematic present <i>*h₁e-</i> ²⁷⁸	^B <i>mäs-</i> <i>*mewsh-</i> ‘aufheben, wegnehmen’ ²⁷⁹ Others: <i>*mews-</i> , here an iterative <i>*mus(-ā)-</i> ²⁸⁰	^B <i>mit-</i> <i>*meith₂-</i> ‘(ex)change’, PIE pf. and essiv ²⁸¹ or <i>*(s)meith₂-</i> ‘let go, send’ ²⁸²	present, subj., impv.	subjunctive, preterite/ pret. pl. (+has its own regular pres. and impv.)
go	^A <i>h₁-</i> dtto	^A <i>kālk-</i> pres of <i>*k^wel-</i> ‘turn, turn oneself’ (PIE aor. in other Toch. verb) ²⁸³ or <i>*k^welh₁-</i> ²⁸⁴		present, impv.	subjunctive, preterite
give	^B <i>ai-/Ae-</i> ²⁸⁵ <i>*h₁aj-</i> ‘give’ ²⁸⁶ Toch. subj. from aor. <i>*h₁āj/</i> <i>*h₁i-</i> or <i>*h₁ej-</i> ‘take, give’ ²⁸⁷	^{AB} <i>wā(s)-</i> 2. <i>*wes-</i> ‘verkaufen’, here from aorist stem <i>*wēs-</i> <i>/*us-</i> ²⁸⁸ or uncertain origin ²⁸⁹	<i>pete</i> Toch. prefix <i>pe</i> + either <i>*dh₃o-</i> or <i>*deh₃-</i> ‘give’ ²⁹⁰	pres. act., subj., pret. ptc (TB)	preterite/ variant of impv.
be	^B <i>nes-/A</i> <i>nas-</i> ²⁹¹ <i>*nes-</i> ‘davonkommen’ (PIE pf. into <i>nesau</i> < <i>*h₁es+no</i> or <i>*h₁(e)no+ s-</i> ‘be here’ ²⁹²	^{AB} <i>tāk-</i> ²⁹³ <i>*steh₂-</i> ‘stand’ ²⁹⁴ LIV: PIE aorist into Toch subj.	^A <i>še-/B</i> <i>sei-</i> from PIE optative <i>*h₁syeh₁-/</i> <i>*h₁sih₁-</i> ²⁹⁵ or <i>*h₁és-</i> ‘be’ ²⁹⁶ <i>māsk-</i>	present	finite subj., pret., pret. ptc. and impv./ impf. stem/ impf. stem
copula	<i>skente</i> ²⁹⁷ <i>*h₁s-sk-e/o-nto-</i> etc. pres. of <i>*h₁es-</i> ²⁹⁸ ,	<i>ste.</i> <i>*sth₂-ó-</i> <i>star.</i> <i>*sth₂-ó-r-</i> , both from <i>*steh₂-</i> ‘stand’ ²⁹⁹		3. pl	3 sg., 2 sg

²⁷⁶ Malzahn 2010, p. 867. Adams 1999, p. 36. Hilmarsson 1994a, p. 99

²⁷⁷ Hilmarsson 1994a, p. 106

²⁷⁸ Malzahn 2010, p. 535. Adams 1999, p. 60. Pinault 2008, p. 637

²⁷⁹ LIV 2001, p. 445

²⁸⁰ Malzahn 2010, p. 764. Adams 1999, p. 60

²⁸¹ LIV 2001, p. 430. Malzahn 2010, p. 769. Adams 1999, p. 461

²⁸² Hackstein 1995, p. 27

²⁸³ Malzahn 2010, p. 562. LIV 2001, p. 386

²⁸⁴ Adams 1999, p. 170 and p. 147

²⁸⁵ Malzahn 2010, p. 543

²⁸⁶ LIV 2001, p. 229.

²⁸⁷ Adams 1999, p. 100

²⁸⁸ LIV 2001, p. 693

²⁸⁹ Adams 1999, p. 101. Malzahn 2010, p. 898

²⁹⁰ Malzahn 2010, p. 533. Adams 1999, p. 58. LIV 2001, p. 105, without Tocharian

²⁹¹ Malzahn 2010, p. 691. LIV 2001, p. 454

²⁹² Adams 1999, p. 345. Pinault 2008, p. 639

²⁹³ Malzahn 2010, p. 639

²⁹⁴ Adams 1999, p. 346. LIV 2001, p. 590. Pinault 2008, p. 640

²⁹⁵ Adams 1999, p. 345

²⁹⁶ LIV 2001, p. 241

²⁹⁷ Malzahn 2010, p. 691. Adams 1999, p. 345. Pinault 2008, p. 641

²⁹⁸ Hackstein 1995, p. 277

²⁹⁹ Adams 1999, p. 348

stand, be situated	^{AB} <i>kály-</i> ³⁰⁰ * <i>klej-</i> ‘sich anlehnen’. Them. pres. ³⁰¹ or * <i>klh₁-je-</i> of the stem * <i>kelh₁-</i> ‘to raise up’ ³⁰²	^{AB} <i>stām-</i> ³⁰³ * <i>steh₂-</i> ‘to stand’ ³⁰⁴ or * <i>stemb^hH-</i> ‘sich stützen’, here aor. stem * <i>stémb^hH-</i> ³⁰⁵		present	subj., pret., pret. ptc., impv. and kausativum
sit	^{AB} <i>šām-</i> ³⁰⁶ ?* <i>sed-</i> ‘to sit down’ ³⁰⁷	^{AB} <i>lām-</i> ³⁰⁸ * <i>h₃lemH-</i> ³⁰⁹ or aor. * <i>lémbH-</i> 2. * <i>lembH-</i> ‘schlaff herabhängen’ ³¹⁰		present	all other forms
give, take, carry	^B <i>pār-</i> ³¹¹ pres. * <i>b^her-e/o-</i> ³¹² of * <i>b^her-</i> ‘carry, bring’	^B <i>ās-</i> ³¹³ Unclear. Perhaps verbalization of the locative particle * <i>ā-</i> ‘near, on, away’ ³¹⁴	^{AB} <i>kām-</i> ‘give, take’ etymology bellow ^B <i>ai-</i> see etymology above	present	subj. inf., impv. (has its own pres.) subj., impv./ pret., pret. ptc./med. subj., opt., inf.
take, carry	^A <i>pār-</i> dtto	^A <i>kām-</i> * <i>ķemh₂-</i> ³¹⁵ or * <i>gem-</i> ‘grasp for’ ³¹⁶ Toch. subj. and pret. from PIE pf.		present	subj., pret., impv., pret. ptc.
eat, consume	^A <i>šuw-</i> pres. of PIE stem * <i>ǵjewH-</i> ‘kauen’ ³¹⁷	^A <i>tāp</i> unknown		present	finite subj. stem, pret. stem, pptc. (impv. not attested)

Table 46 Tocharian A+B suppletive verbs

³⁰⁰ Mahl Zahn 2010, p. 593

³⁰¹ LIV 2001, p. 332. Mahl Zahn 2010, p. 593, who doubts the *thematic* origin. Adams 1999, p. 175

³⁰² Adams 1999, p. 175

³⁰³ Mahl Zahn 2010, p. 959

³⁰⁴ Adams 1999, p. 174

³⁰⁵ LIV 2001, p. 595

³⁰⁶ Mahl Zahn 2010, p. 926

³⁰⁷ LIV 2001, p. 513, without Tocharian. Adams 1999, p. 655

³⁰⁸ Mahl Zahn 2010, p. 845

³⁰⁹ Mahl Zahn 2010, p. 845

³¹⁰ LIV 2001, p. 411, doubted by Mahl Zahn 2010, p. 845. Adams 655, without the final laryngeal

³¹¹ Mahl Zahn 2010, p. 706

³¹² LIV 2001, p. 76. Adams 1999, p. 371

³¹³ Mahl Zahn 2010, p. 533. Adams 1999, p. 58

³¹⁴ Adams 1999, p. 58

³¹⁵ Ringe 1996, p. 35

³¹⁶ LIV 2001, p. 186. Adams 1999, p. 371

³¹⁷ LIV 2001, p. 168

19.7 Note on Tocharian subjunctive³¹⁸

The term Tocharian subjunctive might be misleading in assessing suppletion in this ancient language. Michael Peyrot in his extensive work on the issue of subjunctive³¹⁹ says that it can be broadly viewed as a second present formed from the preterite stem³²⁰. In main clauses, it denotes future tense (which is its major usage), while in sub clauses it has several functions, such as conditionality, iterativity, and finality. Peyrot states that the subjunctive is not modal, not used to express wishes (which is the function of Tocharian optative). Modality is therefore expressed by optative and imperative and in addition by a large set of particles added to verbs. This corresponds with the typical distribution of suppletion in IE languages – in Tocharian we always see the opposition of present and preterite and subjunctive stem can be found on both sides (i.e. either based on the present or on the preterite stem), although more frequently corresponds with the preterite.

19.8 Summary

The suppletion is in Tocharian found in the contrast of present and preterite. There is no special contribution on Tocharian suppletion nor does any researcher comment on it in their work. The personal comment Melanie Malzahn has given me (*per litteras*, on the 3/7/2012) is that she regards those cases as archaisms because they show old present stems of PIE still in present function, whereas old PIE present stems usually turn into subjunctives in Tocharian.

Ten suppletive paradigms are described above. The copula verb *ste*, *skente*, *star* (although the ‘to be’ verb can be used as copula as well) with only 3 attested forms and thus defective is still suppletive. Six of the paradigms show suppletion of present versus other stems -preterite, subjunctive, imperative (verbal pairs ^B*āk*-^B*wāy*, TochA: *āk*-*wā*- ‘lead, guide’; ^{AB}*pār*-^B*ās*-^{AB}*kām*-/*ai*- ‘give, take, carry’; ^B*nes*-^B*tāk*- (TochA *nas*-*tāk*-)/^A*še*-^B*sei*- ‘be’; ^{AB}*kāly*-^{AB}*stām*- ‘stand, be situated’; ^{AB}*šām*-^{AB}*lām*- ‘sit’; ^A*pār*-/^A*kām*- ‘carry, take’). In one of these paradigms we find four different stems (^{AB}*pār*-/^B*ās*-/^{AB}*kām*-/*ai*- ‘give, take, carry’). Although the statement that this is a present versus other forms contrast is not quite precise, one of these stems serves only as present and is based on PIE present stem (*pār*- from PIE **b^her-e/o*).

³¹⁸ Malzahn 2010, p. 265

³¹⁹ Peyrot, Michael. 2010. *The Tocharian Subjunctive*. Leiden: Michael Peyrot

³²⁰ Peyrot 2010, p. 496

Yet another stem is used besides the present also for the imperative (^B*i-*/^B*mäs-* ‘go, set out, come’ (TochA *i-/kälk-*)³²¹/^B*mit-*). This stem displays a very rare number suppletion in the preterite stem. In the tenth pair, the first stem is used in present, subjunctive and preterite participle, whereas the other in preterite and imperative (^B*ai-*/^B*wä(s)-* (TochA *e-/wä(s)-*)/*pete* ‘give’).

The core of Tocharian suppletion lies in the opposition of present and preterite/subjunctive.

³²¹ Krause 1952, p. 185, 1960, p. 196. Malzahn 2010, p. 535, p. 764

20 Vedic³²²

20.1 Vedic verbal system³²³

aspect	only remnants in negative (subjunctive used in imperative function)
voice ³²⁴	active, middle
mood in Vedic	indicative, subjunctive, optative, imperative (only 2 nd and 3 rd pers.) (formed in all tenses besides future – only indic.)
tense ³²⁵	present, imperfect (with augment and second. endings), future, conditional (augmented future), periphrastic future (not in Vedas), aorist (simple, reduplicated, sigmatic), perfect (reduplicated), plusquamperfect (augmented pf.)
agreement	
-number	singular, dual, plural
-person	1,2,3

Table 47 Grammatical expressions of verbal categories in finite verbal forms

present stem	present, imperfect, imperative, optative, base for future and perfect
perfect stem	formed with reduplication of the present stem
aorist stem	aorist, may form pf. and future
future stem	formed with suffigation of the present stem

Table 48 Verbal stems

<i>dhāvati</i>	<i>dhāv</i> - root	- <i>a-ti</i> ending (3 sg. pres. ind. act.)
----------------	--------------------	--

Table 49 Example: Vedic verb „he runs“

The inherited category of the injunctive used the so-called secondary endings and the same stem formation as the corresponding imperfect or aorist forms, but had no augment (as marker of the past). This form was used for extra-temporal constataions or for narration without explicitly stating the temporal level (thereby functioning pragmatically as present or past). The first persons of the imperative are expressed by the subjunctive. To the non-finite forms³²⁶ belong the participles (the present, perfect and future form both act. and middle participles), infinitives and gerunds. There are also four secondary conjugations – the passive, the intensive, the desiderative, the

³²² See Macdonell (1910), Mayrhofer (1978), and Whitney (2003) for Sanskrit grammar reviews. See Desphande (1996) and Osthoff (1899) for suppletive verb pairs. See Casaretto (2002) for 2 of the suppletive verbal pairs (*paśya-dṛś, dhāv-sar*). See LIV (2001) and Mayrhofer (1992) for etymologies.

³²³ Mayrhofer 1978, p. 65

³²⁴ Whitney 2003, p. 200

³²⁵ Whitney 2003, p. 201, Mayrhofer 1978, p. 84

³²⁶ Mayrhofer 1978, p. 95

causative. In these, a conjugation-stem, instead of the simple root, underlies the whole system of inflection.

20.2 Verbal suppletion

Pāṇini, whose grammar work *Astādhyāyī* is the foundational source for exploring Sanskrit grammar, does not mention suppletion³²⁷. In his grammar, he distinguishes between regular and irregular forms of substitution. In search for verbal suppletion in the extensive Vedic and Sanskrit literature, a wide span of time (roughly 1200 – 500 BC) is covered. Therefore, Rigvedic and Atharvavedic attestations are preferred here for the sake of relevancy.

Desphande in his article offers a collection of linguistic usages from Vedic literature. He comments³²⁸ that early usage of verb pairs shows that verbs, which later emerged as suppletive were used alongside each other and were not yet suppletive at an earlier stage (except *as-* and *bhū-*), e.g. the present stem *yaccha*, which in early Vedic belonged to the paradigm of its etymological root *yam*, became suppletive with *dā* in the late Vedic usage.

The situation in Vedic shows³²⁹ that trying to place an inherently stative or imperfective action verb in a paradigm, which demands a notion of completion seems to create an inherent tension, which is resolved by using a semantically close perfective verb in the paradigm. The Vedic verbal stems *as-*, *paśya-*, *yaccha-*, *dhāv-* etc. (except for *as-*) are imperfective expressions while verbal stems *bhū-*, *drś-*, *dā-* and *ṣ-* are perfective.

Some Sanskrit suppletive paradigms seem to go back to the common IE period, others are manifested in early Vedic, and still others are established in late Vedic.³³⁰

There are about 250 defective primary verbs in RV and AV (plus about 115 secondary, mostly denominatives). Out of these, only about 30 verbs are suppletive. The number of defective verbs attested only in the present is far greater than those attested in aorist.

³²⁷ Desphande 1992, p. 18

³²⁸ Desphande 1992, p. 26

³²⁹ Desphande 1992, p. 40

³³⁰ Desphande 1992, p. 44

20.3 Suppletive verbs³³¹

meaning	1. stem	2. stem	1. stem used in	2. stem used in
eat	<i>ad</i> from the present stem <i>héd-</i> / <i>héd</i> ³³² < <i>*h₁ed-</i> 'eat'	<i>jag-dh</i> redupl. pf. <i>*g^{(w)h}e-g^{(w)h}ós-</i> < <i>*g^{(w)hes-}</i> 'eat, devour' ³³³	present, impf.	-ya gerunds and before t-initial affixes with marker K
eat/ate	<i>ad</i> see above	<i>ghas</i> aor. <i>*g^{(w)h}és-/*g^{(w)h}s-</i> ³³⁴ < <i>*g^{(w)hes-}</i> 'eat, devour'	present, impf.	aorist, desiderative forms
hit, kill/hit (past)	<i>han</i> from pres. <i>*g^{wh}én-/*g^{wh}ṇ-</i> ³³⁵ < <i>*g^{wh}en-</i> 'hit'	<i>vadh</i> aor. <i>*wéd^hh₁-/*ud^hh₁-</i> ³³⁶ < <i>*wed^hh₁-</i> 'shove, hit'	present, impf.	optative, fut., aorist
go/went, entered	<i>i/ay</i> from pres. <i>*h₁éj-/*h₁f-</i> ³³⁷ < <i>*h₁ej-</i> 'go'	<i>gā</i> from aor. <i>*g^wéh₂-/*g^wh₂-</i> ³³⁸ < <i>*g^weh₂-</i> 'set foot, enter'	present, impf.	aorist
be/ became	<i>as</i> from pres. <i>*h₁és-/*h₁s-</i> ³³⁹ < <i>*h₁es-</i> 'be'	<i>bhav</i> from aor. <i>*b^hwéh₂-/*b^huh₂-</i> ³⁴⁰ < <i>*b^hweh₂-</i> 'be, become'	present, impf., pf.	aor., desid., fut., passive (before <i>ārdhadhātuka-</i> endings being affixed to the suffixless root)
say, speak/ said	<i>brav</i> from pres. <i>*mléwh₂-/*mluh₂-</i> ³⁴¹ < <i>*mléwh₂-</i> 'say, speak'	<i>vac</i> from redupl. aor. <i>*wé-wk^w-e-</i> and pf. <i>*we-wók^w-</i> ³⁴² < <i>*wekw-</i> 'say'	present, impf.	aorist, perfect, fut. pf. desiderative, passive (before <i>ārdhadhātuka-</i> endings)
say, speak/ say	<i>brav</i> see above	<i>ah</i> <i>*Hed^h-</i> 'say', here redupl. pf. <i>*He-Hód^h/Hd^h-</i> ³⁴³	present, impf.	in certain present ³⁴⁴ forms and perfect
give, offer	<i>dā</i> from reduplicated present <i>*de-doh₃-</i> , also aorist <i>*déh₃-/*dh₃-</i> ³⁴⁵ < <i>*deh₃-</i> 'give'	<i>yacch</i> from present <i>*jm-ské/o-</i> ³⁴⁶ < <i>*jem-</i> 'ausstrecken, hinstrecken, halten'	present (pfctive meaning)	before affixes marked with <i>ś</i> , imperfective meaning aorist subjunctive
run, flow/ ran away	<i>dhāv</i> stem <i>*d^hew-</i> 'run, hurry' ³⁴⁷ , here thematic present <i>*d^hēw-</i> / <i>*d^hēw-</i>	<i>sar</i>	present, impf.	aorist, perfect

³³¹ Ziegler 2012, p. 76. Desphande 1992, p. 26 - 36³³² LIV 2001, p. 230. Mayrhofer 1992, vol. I, p. 61³³³ LIV 2001, p. 198. Mayrhofer 1992, vol. I, p. 514³³⁴ LIV 2001, p. 198. Mayrhofer 1992, vol. I, p. 514³³⁵ LIV 2001, p. 218. Mayrhofer 1992, vol. I, p. 575³³⁶ LIV 2001, p. 660. Mayrhofer 1992, vol. II, p. 496³³⁷ LIV 2001, p. 232. Mayrhofer 1992, vol. I, p. 102³³⁸ LIV 2001, p. 205. Mayrhofer 1992, vol. I, p. 482³³⁹ LIV 2001, p. 241. Mayrhofer 1992, vol. I, p. 144³⁴⁰ LIV 2001, p. 98. Mayrhofer 1992, vol. II, p. 255³⁴¹ LIV 2001, p. 446. Mayrhofer 1992, vol. II, p. 235³⁴² LIV 2001, p. 673. Mayrhofer 1992, vol. II, p. 489³⁴³ LIV 2001, p. 222. Mayrhofer 1992, vol. I, p. 153³⁴⁴ LIV 2001, p. 222³⁴⁵ LIV 2001, p. 105. Mayrhofer 1992, vol. I, p. 713³⁴⁶ LIV 2001, p. 312. Mayrhofer 1992, vol. II, p. 399³⁴⁷ Casaretto 2002, p. 53. LIV 2001, p. 147. Mayrhofer 1992, vol. II, p. 782

		*se/- 'sich losschnellen' ³⁴⁸ here aorist *sél-/ *sṭ- and perfect *se-sól/sṭ-		
look, watch/ see, notice	<i>paś</i> pres. *spék-je-, (also exist aor. and iter. of this root) <*spek- 'watch, look' ³⁴⁹	<i>darś</i> aor. *dérk-/ *dṛk- and pf. *de-dork-/ *dṛk- < *derk-'see, notice' ³⁵⁰	present, impf.	aorist, perfect

Table 50 Vedic suppletive verbs

20.4 Summary

Verbal suppletion as attested and recognized in Vedic texts lies purely in the contrast of the present stem versus other forms. All the ten treated suppletive paradigms are suppletive with regards to tense. However, suppletion has not been in focus of interest of Sanskrit scholars. Little literature is available on the topic and information is usually limited to a paragraph in a grammar book, which lists the well-known irregular paradigms. The researchers have not explicitly commented on possibilities of aspect, mode or person suppletion in Vedic or Sanskrit. The only partial exception is the well-known pair *brū-/āh-*, where the verbal stem *āh* stands in suppletive relationship to *brū* also in some forms of the present. The issue of the multiple presents in Vedic (treated by Ulrike Joachim in her 1980 monograph), not treated in this chapter, is also of interest and might be worthy of further study concerning suppletion.

³⁴⁸ Casaretto 2002, p. 53. LIV 2001, p. 527. Mayrhofer 1992, vol. II, p. 705

³⁴⁹ Casaretto 2002, p. 45. LIV 2001, p. 575. Mayrhofer 1992, vol. II, p. 107

³⁵⁰ Casaretto 2002, p. 45. LIV 2001, p. 122. Mayrhofer 1992, vol. I, p. 704

21 Suppletive verbal paradigms - analysis

The number of PIE roots examined in the samples of 10 language branches is approximately 92 (see Table 51. Reconstructed forms with question mark are not agreed upon by the scholars to be the ancestor forms of the corresponding verbs. More etymological details can be found in the chapters on individual languages and in **Chyba! Nenalezen zdroj odkazů.**)

PIE root	Translation	Used in	In paradigm with	Lexeme + translation	Usage
*b ^h ag-	'distribute'	Greek	*h ₁ ed- *g ^w erh ₃ -	ἔφαγον 'eat'	aorist
*b ^h er-	'carry, bring'	Tocharian	*k ₁ emh ₂ - or *gem- *h ₁ aj-	^B pār- 'carry, bring'	present
		Greek	*sejk- *h ₃ eit-	φέρω 'bring, carry'	present
		Latin	*telh ₂ -	ferō, ferre 'carry'	present
		Old Irish	*h ₂ nek-	beirid 'carry, bring'	all imperfective forms
		Old Irish	*deh ₃ -	do·beir 'give'	all imperfective forms
*b ^h rek ^w -	'zusammendrängen'	Greek	*h ₂ werg-	ἐφραξάμην 'fence in, shut out'	aorist
*b ^h weh ₂ -	'become'	Latin	*hes-	fū, futūrum 'be'	preterite, perfect, participle
		Latin	*d ^h eh ^l -	fīō 'do'	passive
		OCS	*hes-	бѣхъ 'be'	all forms except present
		Old English	*hes- *h ₂ wes-	bēon 'be'	present
		Old Irish	*steh ₂ - *g ^h eHb- *wel-	boí 'be' (3 sg. pret form)	non-present, non-indicative
		Old Irish	*hes-	biid 'be'	non-present, non-indicative
		Vedic	*hes-	bhav ^{be}	aorist, perfect, desiderative, passive
*deh ₃ -	'give'	Vedic	*jem-	dā 'give'	present, perfective
		Old Irish	*b ^h er-	·tarta, do·rat 'give'	all perfective forms
		Tocharian	*h ₁ aj- *wes-	pete 'give!'	variant of imperative
*derk ^l -	'behold, see'	Old Irish	*k ^w ejs-	CO·n·accāe 'see'	perfective preterite

		Vedic	*spek-	<i>dars</i> 'to watch, look'	aorist, perfect
*d ^h eh ₁ -	'put, lay down, sit, do, create'	Greek	*kei-	τιθημι 'sit, lie, lay'	all forms except perfect passive
		Hittite	*ter-	<i>te-e</i> ^a 'say'	sg. pres., pret., imp. 2pl. ind., imp.
		Latin	*b ^h weh ₂ -	<i>faciō</i> 'do'	active
*d ^h ew-	'run, hurry'	Greek	*drem- ? *d ^h reg ^h -	ῥέω 'run'	present
		Vedic	*sel-	<i>dhāv</i> 'run, flow'	present
? *d ^h reg ^h -	'schleppen, ziehen'	Greek	*d ^h ew- *drem-	τρέχω 'run'	present
*drem-	'run'	Greek	*d ^h ew- ? *d ^h reg ^h -	ῥεῖραμον 'run'	aorist
*gelH-	'gain control'	Armenian	*senh ₂ -	<i>kalay</i> 'have'	aorist
*ġen _h -	'become, be created'	Greek	*hies-	ἐγενόμην 'be'	aorist (+ perfect)
*ġ ^h eng ^h -	'stride'	Gothic	*hiej-	<i>gaggan</i> 'go'	present
*ġjewH-	'kauen'	Tocharian	?	^A <i>śuw</i> 'eat, consume'	present
*ġ ^h eh ₁ -	'come, reach'	Armenian	*ġ ^w ah ₂ - *ġ ^w em-	<i>gam</i> 'come'	present
		Old English	*hiej-	<i>gān</i> 'go'	all forms except preterite sg.
*ġ ^h eHb-	'take, ergreifen'	Old Irish	*steh ₂ - *b ^h weh ₂ - *wel-	<i>ro·gab</i> 'be'	perfective preterite
*ġ ^h eHb ^(h) -	'take'	Old Irish	*wreh ₁ -	<i>fō·gaib</i> 'find, get'	present, future
*ġ ^w ah ₂ -	'come'	Armenian	*ġ ^h eh ₁ - *ġ ^w em-	<i>eki</i> 'come'	aorist
*ġ ^w eh ₂ -	'step on st., enter, set foot'	Greek	*ġ ^w em-	ἔβην 'go, come'	aorist, perfect
		Vedic	*hiej-	<i>gā</i> ⁹⁰	aorist
		Old Irish	*ġ ^w elh ₁ -	<i>at·bath</i> 'die'	impf. preterite
*ġ ^w elh ₁ -	'meet, throw'	Old Irish	*ġ ^w eh ₂ -	<i>at·baill</i> 'die'	present, perfective preterite
*ġ ^w em-	'go'	Armenian	*ġ ^h eh ₁ - *ġ ^w ah ₂ -	<i>ekn</i> 'come'	3 sg. aorist
		Greek	*ġ ^w eh ₂ -	βαίνω 'go, come'	present
*ġ ^w erh ₃ -	'devour'	Armenian	*hied-	<i>keray</i> 'eat'	aorist
		Greek	*bhag- *hied-	βέβρωκα 'eat'	perfect, aorist, optative
*ġ ^w en-	'hit'	Hittite	*hek-	<i>kue(n)</i> -' kill'	active
		Vedic	*wed ^h h ₁ -	<i>han</i> 'hit'	present
*ġ ^(w) es-	'eat, fressen'	Vedic	*hied-	<i>jag-dh, ghas</i> 'eat'	aorist, desiderative, -ya gerunds and before t-initial affixes with marker K

*h ₁ aj-	'give'	Tocharian	*wes- *deh ₃ -	^B ai-/ ^A e- 'give'	present, subjunctive, preterite ptc.
		Tocharian	*b ^h er- *kemh ₂ -or *gem-	^B ai-/ ^A e- 'carry, bring'	middle subj., opt. and inf.
*h ₁ ed-	'bite'	Armenian	*g ^w erh ₃ -	owtem 'eat'	present
		Greek	*b ^h ag- *g ^w erh ₃ -	ἔδω, ἔσθω, ἐσθίω 'eat'	present, future, perfect
		Vedic	*g ^{(w)h} es-	ad ^{eat}	present
*h ₁ ej-	'go'	Tocharian	*mewsh- *mejth ₂ -	^B i- 'go'	present, subjunctive
		Tocharian	*k ^w el-	^B i- 'go'	present
		Gothic	*g ^h eng ^h -	iddja 'go'	preterite
		Greek	*h ₁ leud ^h -	εἶμι 'come, go'	present, future
		OCS	*sod-	iti 'go'	present, simple aorist and infinitive
		Old English	*g ^h eh ₁ -	ēode 'go'	preterite sg.
		Old Irish	*stejg ^h - *h ₁ leud ^h - *h ₁ erġ ^h - *wet-	·eth 'go'	passive preterite
		Vedic	*g ^w eh ₂ -	i/ay 'go'	present
*h ₁ ek-	'die'	Hittite	*g ^w en-	akk- 'die'	passive
*h ₁ em-	'take'	Old Irish	*h ₁ ewh-	con·ró·e·tar 'guard, protect'	perfective preterite
*h ₁ erġ ^h -	'enter'	Greek	*h ₁ ej- *h ₁ leud ^h -	ἔρχομαι 'come, go'	present
		Old Irish	*stejg ^h - *h ₁ leud ^h - *h ₁ ej- *wet-	regaid 'go'	2 sg. pl. impv., future
*h ₁ es-	'be'	Armenian	*k ^w elh ₁ -	em 'be, become'	present
		Gothic	*h ₂ wes-	im 'be'	present
		Greek	*g ^{en} h ₁ -	εἶμι 'be'	present
		Greek	*sed-	ἥμαι 'sich setzen, sitzen'	perfect
		Latin	*b ^h weh ₂ -	sum, esse 'be'	present, infinitive, future
		OCS	*b ^h weh ₂ -	jesmь 'be'	present
		Old English	*b ^h weh ₂ - *h ₂ wes-	ēom, eart, sind 'be'	present exc. imperative
		Old Irish	*b ^h weh ₂ -	is 'be'	present
		Tocharian	- (defective)	ste, skente, star - 'is, are'	3 sg. pl., 2 sg.
		Vedic	*b ^h weh ₂ -	as 'be'	present
		Tocharian	*nes- *steh ₂ -	^A še-/ ^B šet- 'be'	imperfect
*h ₁ ewh-	'help'	Old Irish	*h ₁ em-	con·ol, comai 'guard, protect'	present

* <i>h₁leud^h</i> -	'grow up, come out'	Greek	* <i>h₁ej-</i>	ἦλθον 'come, go'	aorist
		Old Irish	* <i>stejg^h</i> - * <i>herg^h</i> - * <i>wet-</i> * <i>h₁ej-</i>	<i>luid</i> 'go'	impf. pret. act.
* <i>h₂eg-</i>	'drive'	Tocharian	?* <i>wejh₁₋</i>	^{AB} <i>āk</i> - 'lead, guide, drive'	present
		Old Irish	* <i>pelh₂₋</i>	<i>agaid, ad-aig</i> 'drive'	all forms except future and conditional
* <i>h₂nek-</i>	'reach'	Old Irish	* <i>stejg^h</i> -	<i>do-ic</i> 'come'	12 sg. pres. indic., 3 sg. impf., 12sg.12pl. pres. subj., 1sg.1pl. past subj., 1sg.123pl. future, 3sg.13pl. condit.
		Old Irish	* <i>b^her-</i>	<i>ro-uccai</i> 'carry, bring'	all perfective forms
* <i>h₂werg-</i>	'sich drehen, sich wenden'	Greek	* <i>b^hrek^{w-}</i>	εἴργω 'fence in, shut out'	present
* <i>h₂wes-</i>	'live'	Gothic	* <i>h₁es-</i>	<i>wisan</i> 'be'	preterite
		Old English	* <i>h₁es-</i> * <i>b^hweh₂₋</i>	<i>wesan</i> 'be'	preterite and present impv.
* <i>h₃eit-</i>	'mitnehmen'	Greek	* <i>b^her-</i> * <i>sejk-</i>	οἴσω 'bear, carry'	future
* <i>Hed^h</i> -	'say'	Vedic	* <i>wek^{w-}</i> -e- * <i>mlewh₂₋</i>	<i>ah</i> 'say, speak'	in certain present forms and perfect
* <i>jem-</i>	'ausstrecken, hinstrecken, halten, zusammenhalten'	Vedic	* <i>deh₃₋</i>	<i>yacch</i> 'give'	present, imperfective, before affixes marked with <i>ś</i> ., aorist subjunctive
* <i>kéi-</i>	'lie, rest'	Greek	* <i>d^heh₁₋</i>	κεῖμαι 'sit, lie, lay'	perfect passive
		Greek	?* <i>leg^h</i> -	κεῖμαι 'lay'	present, perfect
* <i>kemh₂₋</i> or * <i>gem-</i>	'grasp for'	Tocharian	* <i>b^her-</i> * <i>h₁aj-</i>	^A <i>kām</i> - carry, bring'	preterite (in TA subj., pret., impv., pret. ptc.)
* <i>kerh₂₋</i>	'break'	Old Irish	?* <i>(s)tewd-</i> (or * <i>peth₁₋</i> 'fall'?)	<i>do-ceir</i> 'fall'	preterite
* <i>k₁ej-</i>	'sich anlehnen'	Tocharian	* <i>steh₂₋</i> (or * <i>stemb^hH-</i> ?)	^{AB} <i>kāly</i> - 'stand, be situated'	present
?* <i>kerH-</i>	'to pour, spill'	Old Irish	* <i>leh₁₋</i>	<i>fō-ceird</i> , <i>·cuirethar</i> 'put, throw'	all forms except pft. pres. and past subj. and act. preterite

* <i>k^wejs-</i>	'perceive'	Old Irish	* <i>derk-</i>	<i>ad-cí</i> 'see'	all forms except perfective preterite
* <i>k^welh₁-</i>	'turn'	Tocharian	* <i>hej-</i>	^A <i>kālk-</i>	preterite, subjunctive
		Armenian	* <i>hes-</i>	<i>etew</i> 'become'	aurist
		Greek	?	<i>πωλέω</i> 'sell'	present
* <i>k^wreih₂-</i>	'exchange'	Greek	* <i>wosno-</i> , * <i>wesno-</i> (noun, "price")	<i>ἐπρίαμεν</i> 'buy'	aurist
* <i>k^wyew-</i>	'move'	Armenian	* <i>stah₂-</i>	<i>ճ'ogay/ (gnam)</i> 'go'	aurist except aor. subj. and imperative
* <i>leg-</i>	'collect, auflesen'	Greek	* <i>werh₁-</i> * <i>wek^w-</i>	<i>λέγω</i> ^{say}	present
? * <i>leg^h-</i>	'sich hinlegen'	Greek	* <i>kei-</i>	<i>λέκτο</i> 'lay'	aurist, future
* <i>leh₁-</i>	'let'	Old Irish	? * <i>kerH-</i>	<i>ro-lá, ·ralae</i> 'put, throw'	pft. pres. and past subj. and act. preterite
* <i>lembH-</i>	'schlaff herabhängen'	Tocharian	* <i>sed-</i>	^{AB} <i>lām-</i> 'sit'	all except present
* <i>mejth₂-</i>	'change, exchange'	Tocharian	* <i>hej-</i> * <i>mewsh-</i>	^B <i>mit-</i> 'go'	preterite plural
* <i>mewsh-</i>	'aufheben, wegnehmen'	Tocharian	* <i>hej-</i> * <i>mejth₂-</i>	^B <i>mäs-</i> 'go'	preterite, subjunctive
* <i>mlewh₂-</i>	'say, speak'	Vedic	* <i>wek^w-e-</i> * <i>Hed^h-</i>	<i>brav</i> 'say, speak'	present
* <i>nes-</i>	'davonkommen'	Tocharian	* <i>steh₂-</i> * <i>hes-</i>	^B <i>nes-</i> / ^A <i>nas-</i> 'be'	present
* <i>peh₃(j)-</i>	'drink'	Old Irish	* <i>(s)lewg-</i>	<i>ibid</i> 'drink'	all forms except 3 sg. subjunctive
		Armenian	* <i>sre/ob^h-</i>	<i>əmpem</i> 'drink'	present
* <i>pelh₂-</i>	'approach'	Old Irish	* <i>h₂eg-</i>	<i>eblaid</i> 'drive'	future, future II (conditional)
		Old Irish	?	<i>du-ell</i> 'take away, steal'	all perfective forms
* <i>pjeh₂-</i>	'hit'	Greek	* <i>(s)tewp-</i>	<i>παίω</i> 'strike, hit'	present, future, aorist, perfect
* <i>sed-</i>	'sich setzen'	Greek	* <i>hes-</i>	<i>ἴζω/ ἐζόμην</i> 'sich setzen, sitzen'	present, aorist
		Tocharian	* <i>lembH-</i>	^{AB} <i>šām-</i> 'to sit'	present
* <i>sejk-</i>	'erreichen'	Greek	* <i>h₂eit-</i> * <i>b^her-</i>	<i>ἤνεγκον, ἤνεικα, ἠνένοχα</i> 'bear, carry'	aurist, perfect
* <i>sel-</i>	'sich losschnellen'	Vedic	* <i>d^hew-</i>	<i>sar</i> 'run, flow'	aurist, perfect
* <i>selh₁-</i>	'take'	Greek	* <i>ser-</i>	<i>εἶλον</i> 'take, get hold of'	aurist
* <i>selk-</i>	'draw'	Greek	* <i>uruH-</i>	<i>εἶλκυσα</i> 'draw, tear'	aurist
		Greek	* <i>uruH-</i>	<i>ἔλω</i> 'draw, tear'	present
* <i>senh₂-</i>	'obtain'	Armenian	* <i>gelH-</i>	<i>ownim</i> 'have'	present

*ser-	'take, get hold of'	Greek	*selh ₁ -	αἰρέω 'take, get hold of'	present, future, perfect
*(s)lewǵ-	'swallow'	Old Irish	*peh ₃ (j)-	·lú 'drink'	3 sg. subjunctive
*sod-	'sich setzen'	OCS	*h ₁ ej-	šdъ 'go'	preterite, participle preterite active
*spek-	'to watch, look'	Vedic	*derk-	paś 'to watch, look'	present
*sre/ob ^h -	'sip, drink'	Armenian	*péh ₃ (y)-	arbi 'drink'	aorist
*stah ₂ -	'stand up'	Armenian	*k ^w yew-	ert am 'go'	present, aorist subj. and impv.
*steh ₂ -	'stand'	Tocharian	*nes - *hes -	^{AB} tāk - 'be'	subjunctive, preterite, impv.
		Old Irish	*g ^h eHb- *wel- *b ^h weh ₂ -	at-tá 'be'	posit. present ind.
? (or *stemb ^h H- 'sich stützen?')		Tocharian	*klej-	^{AB} stām- 'stand, be situated'	subjunctive, preterite, imperative and kausativum
*stejg ^h -	'step'	Old Irish	*h ₁ leud ^h - *herǵ ^h - *wet- *h ₁ ej-	tíagu 'go'	present ind. except 3 sg., 2 pl.
		Old Irish	*h ₂ nek-	do-tét 'come'	all except 12 sg. pres. indic., 3 sg. impf., 12sg.12pl. pres. subj., 1sg.1pl. past subj., 1sg.123pl. fut., 3sg.13pl. condit.
*(s)tewd- (or *peth ₁ - 'fall?')	'hit'	Old Irish	*kerh ₂ -	do-tuit 'fall'	
		Greek	*p ₁ eh ₂ -	τύπτω 'strike, hit'	present
	'lift'	Latin	*b ^h er-	tulī 'carry'	perfect
*ter-	'speak'	Hittite	*d ^h eh ₁ -	ter-/tar. ^a 'say'	pl. pres., 3pl. pret., 3pl. imp.
*uruH-	'draw'	Greek	*selk-	έρύω 'draw, tear'	present
		Greek	*selk-	εἴρυσσά 'draw, tear'	aorist
*wed ^h h ₁ -	'hit'	Vedic	*g ^{wh} en-	vadh 'hit'	aorist, optative
*weid-	'see, look'	Greek	*weik-	εἶδομαι 'appear, seem, look like'	present, aorist
		Greek	*wer-	εἶδον 'see'	aorist
*weih ₁ -	'sein Augenmerk richten auf'	Latin	*welh ₁ -	vīs 'want'	2 sg.
?*wejh ₁ -	'sein Augenmerk richten auf'	Tocharian	*h ₂ eǵ-	^B wāy -/ ^A wā - 'lead, guide, drive'	all except present

*weik-	'enter'	Greek	*weid-	ἔοικα 'appear, seem, look like'	perfect
*wek ^w -	'say'	Greek	*leǵ- *werh ₁ -	εἶπον 'say'	aorist
			*mlewh ₂ - *Hed ^h -	vac 'say, speak'	aorist, perfect, desiderative, passive
*wel-	'see'	Old Irish	*steh ₂ - *b ^h weh ₂ - *ǵ ^h eHb-	fil 'be' (3 sg. pres form)	negat. pres. ind.
*welh ₁ -	'strive after, pursue'	Latin	*weih ₁ -	volō, velle 'want'	all forms except 2 sg.
*wer-	'watch, beobachten'	Greek	*weid-	ὄραω 'see'	present
*werh ₁ -	'say'	Greek	*leǵ- *wek ^w -	ἔρέω 'say'	future
*wes-	'verkaufen'	Tocharian	*h ₁ aj- *deh ₃ -	^{AB} wā(s)- 'give'	preterite
*wet-	'turn'	Old Irish	*steǵ ^h - *h ₁ leud ^h - *herǵ ^h - *hej-	do·cuat 'go'	pfv. present and preterite, s-subjunctive
*wreh ₁ -	'find'	Old Irish	*ǵ ^h eHb ^(h) -	·fúair 'find'	preterite (incl. pass. pret. – exception)

Table 52 PIE verbal roots found in IE suppletive paradigms

All branches without exception use the verb **h₁es-* 'be' for the expression of the meaning of existence in present stem (see Table). It combines in most cases (5 times) with the stem **b^hweh₂-* 'become'. In Armenian it combines with **k^welh₁-* 'turn', in Germanic languages with the stem *h₂wes-* 'live', in Greek with **ǵenh₁-* 'become, be created', and in Tocharian with **steh₂-* 'stand' and **nes-* 'davonkommen' or is defective as a copula. In Greek it is also used in the meaning of 'sit' with the root **sed-*.

The second most frequent root is **h₁ej-* 'go', found in eight instances. It is always used in the meaning 'go'. In four branches, it is used in present tense, in two in past. It combines in one paradigm with twelve distinct PIE stems.

The third most frequent stem is **b^hweh₂-* 'become', always used in non-present contexts. Five times it is combined with **h₁es-* in the meaning 'be', in Old Irish it is a part of more complicated paradigm together with **steh₂-*, **ǵ^heHb-* and **wel-*, and in the meaning of 'do' in Latin *fiō* combined with the root **d^heh₁-*.

The PIE root **b^her-* 'carry, bring' is found in five distinct paradigms, every time combined with different root. It is always used in present and in Old Irish also in other imperfective contexts.

It retains the meaning ‘carry, bring’ and in Old Irish also bears the meaning ‘give’. The stem **d^heh₁-* ‘put, lay down, sit, do, create’ is found four times, in active contexts, and it combines with stems **kei-*, **ter-* and **b^hweh₂-*. It is used in meanings ‘sit, lie, lay’, ‘put’, ‘say’ and ‘do’.

There are another four PIE roots that are found in three different language branches. All the other stems (i.e. another 83 stems) are found only once or twice.

PIE root	translation	number of suppletive paradigms
<i>*b^her-</i>	‘carry, bring’	5
<i>*b^hweh₂-</i>	‘become’	7
<i>*deh₃-</i>	‘give’	3
<i>*d^heh₁-</i>	‘put, lay down, sit, do, create’	4
<i>*hej-</i>	‘go’	8
<i>*hes-</i>	‘be’	11
<i>*hed-</i>	‘bite’	3
<i>*k^welh₁-</i>	‘turn’	3
<i>*steh₂-</i>	‘stand’	3

Table 53 Roots which are found more than twice in suppletive verbal paradigms of the daughter languages

21.1 Frequency, semantic fields

The correlation between irregular inflected forms and frequency is well-known. According to Bybee, highly frequent forms are learned by rote memorization and stored and processed as unanalysed units, which prevents them from regularization (Bybee 1985, p. 212). Based on this principle, we expect to find the suppletive paradigms of ancient IE languages among the most frequent verbs, such as the verbs of existence, motion, giving and taking. Also, they are expected to bear general meanings and incline to grammaticalization in the course of time.

As a simple example, I chose a modern IE language (Czech) and the list of verbs as they appear in Czech language corpus according to their frequency³⁵¹: *be, have, say, can, must* (among the first 200 most frequent words), *go, know, stand, begin, want, do (make), get, see, think* (among the next 200 words) and *give, let*.

Out of the first 16 most frequent Czech verbs according to their meanings, 9 of them are found among the suppletive verbal paradigms of ancient IE languages. And out of the five most frequent, it is only the modal verbs that do not form suppletive paradigms.

³⁵¹ *Český národní korpus: Srovnávací frekvenční seznamy*. Ústav Českého národního korpusu FF UK, Praha 2010. Dostupné z [www: http://ucnk.ff.cuni.cz/srovnani10.php](http://ucnk.ff.cuni.cz/srovnani10.php)

This comparison shows us with some degree of probability that the suppletive paradigms tend to belong to the most frequent verbs. Had we the frequency lists of ancient languages' corpora, some of the verbs that do not correspond to the modern most frequent ones might appear among the frequently used, such as verbs for *eating* or *dying*. The reason might turn out to be also the genre used for frequency counts.

Czech verbs sorted by frequency (from most frequent, found among the first 450 most frequent words)	Verbal meanings as they appear in suppletive verbal paradigms (v. with comparable semantics in the brackets)
be <i>byť</i>	be
have <i>mít</i>	have
can <i>moci</i>	-
say <i>řici</i> (impf. říkat is the 13th most frequent verb)	say (speak)
must <i>muset</i>	-
want <i>chtít</i>	want
go <i>jít</i> (<i>přijít</i> is the 15th most frequent verb)	go (run, come)
know <i>vědět</i>	-
stand <i>stát</i>	- (lie, sit)
give <i>dát</i>	give (put, place)
begin <i>začít</i>	-
see <i>vidět</i>	see (watch, look)
get <i>dostat</i>	-
do (make) <i>dělat</i> , (impf. <i>udělat</i>) ³⁵²	do (make)
think <i>myslet</i>	
let <i>nechat</i>	
-	live, die
-	eat, drink
-	carry, bring
-	fall
-	guard
-	lead, drive, pull
-	strike
-	fence in
-	throw

Table 54 Frequency list of Czech corpus compared to suppletive verbal paradigms

Besides frequency, the semantics is another candidate for a suppletion trigger. Splitting the verbs to semantic fields suggested for IE languages by Carl D. Buck³⁵³ is a simple correlation test

³⁵² The verb *lze* which counts among the 20 most frequent and has the meaning „is possible“ is not included as it is defective and has only the 3sg. form and so its paradigm cannot be examined from the suppletion view point

³⁵³ Buck, Carl Darling. 1949. *A Dictionary of Selected Synonyms in the Principal Indo-European Languages*. Chicago-London: The University of Chicago Press.

(definition of semantic field given by Brinton is as follows: “A semantic field denotes a segment of a reality symbolized by a set of related words. The words in a semantic field share a common semantic property”³⁵⁴). Based on Buck’s list, verbal roots of suppletive paradigms are sorted below. Out of his 22 major semantic categories, the studied suppletive verbs can be found in 11 of them. Some of the stems retained their original meaning, typically ‘be, become’, ‘go’, ‘say’ and other, while for some of them, their semantics has shifted, e.g. in the verb ‘eat’, where the original meaning of the verb besides ‘eat’ could have been ‘nourish’, ‘bite’, ‘distribute’ or ‘devour’. The suppletive verbal paradigms of daughter languages cover the following semantic fields:

semantic field	meaning of PIE stem
Body parts and functions	live, die, to kill
Food and drink	eat, drink
Physical acts and materials	do, carry, fall, guard, lead (guide), drive, bring, fence in, pull, strike, (hit)
Motion and transportation	go, run, come, throw, drive
Possession and trade	have, take, give, steal, buy, sell
Sense perceptions	see, watch, look
Mind and thought	want, appear (seem)
Language and music	say, speak
Spatial relations	put, place, sit, lie, lay
Warfare, hunting	fight
Expressions of being	be, become

Table 55 PIE stems of verbs that enter suppletive paradigms of daughter languages sorted by semantic fields

Suppletive verbal pairs summed up in the Table 55 seem to express general ideas. We do not find verbs with specific meanings such as e.g. *fish*, *knit*, *sprinkle* or *decorate*. There does not seem to be specific semantic field in which we should look for suppletive verbs. Their meaning as such does not seem to unify them.

21.2 Modal verbs

Interestingly, as seen in the Table 55, verbs which express the notion ‘can, may, must’ do not form suppletive paradigms, although they are high on frequency lists in modern languages and also tend to generalize their meaning and grammaticalize to other functions, enlarging their usage in their original meaning.

³⁵⁴ Brinton, Laurel. 2010. *The structure of modern English: a linguistic introduction*, p. 112. John Benjamins

The reason could be that the meanings of ‘can, may, must’ was expressed by other means in ancient languages.

In Latin, for example, the meaning of ‘must’ was expressed by different means: e.g. by gerundium: *mihi moriendum est* ‘I must die’ (impersonal, the subject in dative), by gerundivum: *liber est legendus* ‘the book must be read’ (for transitive verbs) and by *necesse est* + Acl, for example *necesse est me tacere* ‘I must be silent’ or *legi iubetur* ‘has to be read’ where *iubeo* means ‘command’, so as if the phrase was formed of words ‘is commanded to be read’. The meaning ‘can’ was carried by the verb *possum, posse, potui*. In case that a single verb was needed, *debeo, debere, debui, debitus* was used, with its original meaning ‘I owe’ → ‘I must’.

In Greek, the notion ‘can’ could be expressed by the verb δύναμαι, but often impersonal or compound expressions were used: *διδίος τείμι* ‘I am able’, *δύνατος εἶμι* ‘I have the power to’, *ἔσται/ἔξεσται...* mainly in the beginning of the clause + dative, e.g. *ἔσται μοι εὐδαιμονεῖν* ‘it is possible that I do well’, *ἔχω* + inf. ‘Must’ was again expressed by different means, e.g. *δεῖ* + Acl – *δεῖ με σιωπᾶν* ‘I must be silent’, *ἀνάγκη ἐστί* ‘it is important (that)’, *χρή* + Acl and by other means.

Either the conditions for emergence of suppletion have faded by the time when the verbs for *must* and *can* were becoming generalized in their meaning and used more frequently or it has to do with their stative semantics (it is not possible to use them in perfective way and there might be no need for an aspect-based paradigm merger).

In connection to this, we see that paradigm levelling is not an issue in IE languages, at least not in the most frequent and general words as verbs for *being* and *going*. This could imply (and might be an issue of further study) that emergence of suppletion was a result of specific conditions that have not been repeated in the course of IE languages history and that there are still present mechanisms that preserve suppletive paradigms in the languages from levelling, at the same time not permitting (or not enhancing) newly formed verbal paradigms to be built on an irregular basis.

22 Suppletion typology

Following Bičovský (2013, see **Chyba! Nenalezen zdroj odkazů.**), five distinct causes of emergence of suppletion can be found. In addition, suppletive words can be sorted according to word parts, sound change phenomena, temporal aspects, degree of suppletion and source of suppletive forms. Distribution of suppletive forms in the paradigm is another interesting factor. In examining the emergence of suppletion, the following causes are found:

Meaning-related suppletion.

- 1) Suppletion as a lexical residue in an emergent grammatical category.
- 2) Suppletion resulting from semantic shift.

Paradigm-related suppletion.

- 3) Suppletion as a replacement of missing parts of a paradigm.
- 4) Suppletion as paradigm merger.
- 5) Suppletion as the result of exaptative change grammaticalizing derivation or periphrasis as inflection.

Regarding the suppletive verbs examined in this thesis, we can assess at best two points in time: the state of the Proto-Language and the language situation from the time in which it was preserved, often covering not very long period. Therefore, the causes of the suppletion emergence lie deep in the history and can only partly be uncovered.

It seems that a good reason for suppletion emergence in some paradigms was the inherent imperfectivity or perfectivity of the PIE root. When the system of expressing time and aspect underwent changes, we see that some languages developed grammatical means that can express perfectivity and imperfectivity. Where there existed perfective and imperfective lexical pairs, at least some seem to have merged into one paradigm. In situations where more verbs with similar semantics are used to describe actions or states, their merger is more likely.

In verbal systems where the verb is not capable of inflecting or adding affixes for perfectivity or imperfectivity, such as Hittite, suppletion is virtually none. In languages where the verbal system enables using a stem in both perfective and imperfective meaning (Greek), suppletion is much more frequent (paradigm merger (4)).

In some verbs (e.g. Armenian verbs for *being*) we see that the verb has its own regular paradigm and also is a part of a suppletive paradigm. Here we could expect the reason for suppletion being a *replacement of missing parts of a paradigm* (3) by forms of one of the verbs, which still continues to be used grammatically regularly.

No case of *suppletion as the result of exaptive change grammaticalizing derivation or periphrasis as inflection* (5) is found.

Some of the verbal suppletive paradigms must have emerged through a *semantic shift* (2) as they were semantically close words that gradually fell into one paradigm (i. e., they became semantically identical). The fact that the merger was gradual can be traced on examples of Sanskrit or Greek verbs where in the oldest stages we see the verbs that later formed a suppletive paradigm still functioning distinctly, although with very close semantics.

Suppletion according to word parts

6) Stem suppletion.

7) Ending suppletion.

Root/stem suppletion has been of an interest in this thesis and is the most frequent kind of suppletion in verbal paradigms. However, cases of suffix “suppletion” are found in Tocharian in expressing the medium or active where the original stem of three verbs takes different endings (näk-/päk-/tsäk /nkäs-/pkäs-/tskäs-) and possibly elsewhere.

Form-related suppletion (phenomena related to sound change)

8) Suppletion as a result of sound change.

9) Suppletion as strategy to remedy sound change.

Form-related suppletion resulting from a sound change is an outcome of regular or irregular phonological development in the language where the forms start to differ to such an extent that they cannot be synchronically viewed as inflected from a common base by regular means of the language - compare Czech *chodit-šel* “go”. Examples of sound change-triggered suppletion are besides other languages many in Greek, where there seem to be about ten such paradigms.

Temporal aspects of suppletion

10) Emergent suppletion.

Greek and Vedic provide interesting source for studying the emergence of suppletion. In early Saṃhitas, except *as-/bhū-* 'be', all other suppletive verbal pairs are not yet fully developed as parts of one paradigm. They appear to be separate verbs in the early attestations, though close in meaning. (e.g. the forms *dā* and *yaccha*, later members of one paradigm, are attested to be used in additive manner³⁵⁵.)

11) Persistent suppletion.

Suppletion can be retained in paradigms although the suppletive forms as such change (i.e. one stem replaces other in one part of the paradigm). A famous example is the Old English *gān - éode* 'go', later replaced by today's *go – went*, where the second part of the paradigm was replaced by a word which originally had had its own regular paradigm. More examples can be found in IE languages, e.g. in Greek, where suppletion lies in contrast of present versus aorist stem. When the aorist form is replaced in the course of time, often also the suppletion is lost (see more in the chapter on Greek). Not so when the present is replaced, as we see in the paradigm of *ἔδω, ἔσθω, ἐσθίω / ἔφαγον / βέβρωκα* 'eat', where the stem *ἔδω* was in Koiné times replaced by *τρώγω* and has remained in the language until this day.

I suppose there is a combination of factors for persistent suppletion, which needs to be a topic of further study.

The degree of suppletion.

12) Multiple suppletion.

If more than 2 different forms are found in one paradigm, we speak of multiple suppletion. Although most suppletive verbal paradigms of the sample IE languages have two forms, multiple suppletion is not a rare phenomenon. In Old Irish verb 'go' we find as many as 5 stems forming a single paradigm. The same is true for Old English 'be'. In two instances – in Tocharian verb for 'carry, bring' and Old Irish verb for 'be', four distinct stems were combined into one paradigm. Also several cases of treble suppletion are found.

³⁵⁵ Desphande 1992, p. 44

The source of the suppletive form(s).

Bičovský (2013) mentions three types of sources of suppletive forms: “first the default, archetypal type, an etymologically unrelated form in the lexicon, next derivative alternatives either present or created with available derivative mechanisms, and finally the result of language contact and mixing of lexicon”. For IE verbs, the first source is the most influential.

13) Loan suppletion.

This phenomenon does not seem to be attested in verbal suppletive paradigms, according to our present knowledge.

14) Derivative suppletion.

No such suppletion is treated while focusing on inflectional/paradigmatic suppletion.

Distribution and paradigmatic geometry

15) Asymmetrical distribution.

In most cases of the sample suppletive paradigms in IE languages, there are two stems involved, one of them used in present and the other in other parts of the paradigm. As the verbal systems of the languages differ, it can be aorist, preterite, future or subjunctive (Tocharian). Besides that, we find the distinction of active versus passive where the distribution of the stems is also even.

In several cases, only some slots in the paradigm use different verbal stem (e.g. Latin *volō, velle*, where one stem uses all forms except 2 sg. (*vis*)). There are two cases in Hittite where one of the stems uses all forms except 2 sg. imp. act. The Greek stem *τιθημι* is used in all forms except perfect passive where we find *κεῖμαι*. More uneven suppletive paradigms are found in Old Irish: the case when only the future uses a different stem (typically, future uses the same stem as the present) and a verb which besides other suppletive stems (following its simplex) displays also 2 sg. imperative suppletion.

23 Semantic relevance hierarchy

Bybee in her Semantic Relevance Hierarchy (see the chapter) suggests a scale along which the most relevant features for suppletion can be described, on the left being the ones most relevant to the verbal meaning and on the right the ones least relevant to the verbal meaning (thus supposed to create suppletive paradigms only for formal reasons, not for meaning-based reasons).

valence > voice > aspect > tense > mood > agreement (number, person, gender)

Following this scale, assessment of the development of verbal system is given in Table 56. Valence is omitted as it involves a wider syntactic context, not just verbal morphology³⁵⁶. The strong influence of valence change typically triggers emergence of a new lexeme (see e.g. Hittite causative suffix *-nu*, which forms new lexemes that do not interfere with the original verb's paradigm).

	Toch	Oir.	OE	Got.	Hitt.	Arm.	Ved.	OCS	Latin	Greek
Voice	A, M	A, P	A	A, P	A, M	A, M, P (aor.)	A, M, P	A	A, P	A, M, P aor., fut.
Aspect	lexic	gram	lexic	lexic	lexic	gram	gram	gram	lexic	gram
Tense	pres., impf, pret.	pres., fut., pret.	pres., pret.	pres., pret.	pres., pret.	pres., aor.	pres., impf, pf., plspf., aor., fut.	pres., fut., aor, impf., pf., plspf.	pres., pf., impf, fut.	pres., aor., impf., pf., plspf., fut.
Mood	- subj.	+ fut. II	- opt.	- subj.	- subj. - opt.	- opt.	0	- opt.	-opt.	0
Number	0	- du	- du	0	- du	- du	0	0	- du	0
Person	0	0	0	0	0	0	0	0	0	0
No. of suppletive verbs	10	18	2	2	3*	7	10	2	4	21

Table 56 Verbal categories in IE language branches

* in Hittite, the 3 cases of suppletion are imperative (2x) and person suppletion.

+ stands for new development in the category

- stands for loss of a feature in the category

0 stands for no changes in the category

23.1 Voice

Active voice has been retained in all IE branches while the original mediopassive and perfect/stative has been remodelled in different ways. As outcome we find on the extreme sides of the scale on one hand only active voice in Old English and Old Church Slavonic and on the other hand active, medium and passive in Greek and Vedic.

Voice suppletion of active versus passive is rare but present. Not including the Hittite paradigms (as voice is not fully grammaticalized in Hittite), it is found in one case in Latin, in the verb *faciō /fiō, fierī, factus sum* 'do', and in two cases in Vedic, the verbs 'be' and 'say' (because of special character of Old Irish passive preterite, it is not included here) and in one perfect passive case in Greek. Voice suppletion can obviously not be found in Germanic languages and in OCS.

23.2 Aspect

Aspect (imperfective versus perfective) remained lexical in some of the branches while grammaticalized in others (see Table). In languages, where it remained lexical, we expect to find almost no cases of suppletion and on the contrary, where aspect is grammaticalized, suppletion might be expected. The only branch to display suppletive relationship in aspect alone is OIr. in verbs *do·beir/·tarta, beirid/ro·uccai, fo·ceird/·cuirethar* and *gataid/ du·ell* (four pairs out of total 18). Besides Old Irish, aspect suppletion is inherently present in Greek suppletive paradigms (present versus aorist stem) and in Vedic. Slavonic languages have developed very specific way of expressing aspect where every verb has the capability of forming a pair of opposite aspect. These forms are built on rather irregular basis and some might be called suppletive.

23.3 Tense

Aspect has in some languages been grammaticalized through tense system development.

When referring to past events, some languages reduced the expression possibilities to a single (so called preterite) tense – Hittite, Old English, Gothic, Armenian (aorist). Some languages differentiate between aorist and imperfect in past (Vedic, Greek, OCS) while Latin and Tocharian have preterite and imperfect. Not all branches developed future.

No boarder line can be drawn between the languages with regards to amount of suppletion. The suppletive relationship of two lexemes that form one paradigm is by far most frequent in the distinction present versus other verbal forms, typically past. Present forms bearing the imperfective

semantics and past (aorist) forms bearing the perfective semantics seem to merge into one paradigm in all branches of IE languages except Hittite. Tense suppletion is thus the most frequent in IE languages having arisen from aspect differences of the verbal stems.

23.4 Mood

Mood seems to play little role in forming suppletive paradigms. Only in Hittite and Old Irish we find cases where suppletive distinction is found only in mood (there are other instances of suppletive imperative forms but within cases of other suppletive stems' relationship). In Hittite we find suppletive imperative forms in two verbs – 'go' and 'come'. In Irish we find suppletive conditional (future II) forms in verb *agaid, ad·aig/ eblaid* 'drive'. Suppletion in subjunctive is found in Tocharian (NB: subjunctive in Toch continues PIE perfect) and Old Irish.

23.5 Agreement markers

System of agreement markers (person and number) shows little alteration from PIE to the attested phases of IE languages. There was no change in expressing person and out of three numbers, dual is the one to disappear soon.

Suppletion in agreement markers is rare in IE languages, with such cases as OIr. *tíagu/ téit* 'go' which uses altogether six distinct stems in one paradigm and *do·ic* 'come', *·lú* 'drink', Armenian *ekn* which is a suppletive 3 sg. aorist form, OCS *сѣтъ /sqt'* 'they are' that serves as a suppletive 3 pl., and Latin *vīs* 'want'. Number suppletion (sg. vs. pl.) is found in Hittite *te-e-/tar* 'say' (in present stem) and in Tocharian B *mäs-/ B mit-* 'go' (in preterite stem). OE verb of being has 5 distinct forms that can be called suppletive.

24 Conclusion

Suppletive verbal paradigms are found in language sample of every branch of IE languages (Albanian was omitted for the reason of its late attestation and low degree of comparability with other ancient IE languages but also there suppletive relationship of present versus aorist is a well-known feature).

Hittite shows a specific situation of temporal language where perfectivity and imperfectivity could only be expressed by lexical means. Besides one number suppletion case (sg. versus plural present), in Hittite we only find two suppletive paradigms with imperative suppletion which use the same original stem and only differ in position of added particle, which under the influence of regular sound change brought up the suppletive forms. In the branches with only two suppletive verbal pairs, these are always verbs 'be' and 'go' (Germanic languages, Slavonic). However, among the languages of the Germanic language family, the verb 'go' is suppletive only in Gothic and Old English, which were chosen as sample languages in this thesis. Other Germanic languages form the past tense from the present stem *ganga/i* -, e.g. Olc. *gekk*, OHG *gieng*, OS OFr. *geng*.

In most cases, the opposition of use of two (or more) stems in one verbal paradigm lies in contrast present versus other paradigmatic tense slots, usually aorist, preterite or perfect³⁵⁷. In rare cases, voice suppletion is found, mood suppletion (imperatives in Hittite, Old Irish), perfective x imperfective forms regardless of tense (Old Irish). In Latin and Old Irish, we also find cases of person suppletion. Number suppletion (sg. versus pl.) is found besides Hittite (one case, in present) and Old English 'be' also in Tocharian (one case, in preterite stem). Greek, a language very rich in verbal suppletion (with 21 suppletive verbal paradigms), also shows the core of suppletion in the contrast of present versus aorist where the future and perfect can be based on any of the two (or three) stems.

About 92 PIE verbal roots were found that form base for stems in daughter languages. The root **h₁es-* 'be' is found in all branches, followed by the root **h₁ej-* 'go' found in 8 paradigms. Another 7 roots are used in more than two language branches and the rest of the roots is found once or twice.

As far as semantics is concerned, suppletive verbs do not seem to belong to any specific semantic field.

³⁵⁷ The labels „aorist“, „perfect“ etc. in daughter languages do not necessarily correspond to the PIE categories from which they have developed and so it can be that either aorist or perfect can be based on aorist, imperfect might be a new formation (Latin, OCS) and not the inherited category etc. The category „preterite“ bears usually the meaning of past time and without a historical reconstruction we cannot tell its origin.

When comparing the most frequent verbs used in modern IE language to the list of suppletive verbs, the suppletive verbs almost match the first 13 verbs, while interestingly, the verbs *must* and *can* are missing. One of the reasons why these verbs do not form suppletive paradigms might be the fact that they were not in frequent use in ancient languages and the meaning for *must* and *can* was expressed by other means.

In suppletion typology, paradigm-related suppletion is the most observed case in IE languages. We might have to do with change in the verbal system from PIE to daughter languages with grammaticalizing the ways of expressing tense and aspect and thus triggering emergence of suppletive paradigms. Their further development, changes, possible levelling or retention are interesting topics that deserve further study.

25 Bibliography

- Adams, Douglas, Q. 1988. *Tocharian historical phonology and morphology*. New Haven, Connecticut
- Adams, Douglas, Q. 1999. *A dictionary of Tocharian B*. Amsterdam – Atlanta, GA
- Ahlqvist, Anders. 1993. The Old Irish Imperfect Indicative. In: *Comparative-historical Linguistics, vol. 97*, Bela Brogyanyi and Reiner Lipp (eds). Amsterdam: John Benjamins Publishing Company
- Aitzetmuller, Rudolf. 1991. *Altbulgarische Grammatik als Einführung in die Slavische Sprachwissenschaft*. 2nd ed. Freiburg: U. W. Weiher
- Aski, Janice M. 1995. Verbal suppletion: an analysis of Italian, French and Spanish *to go*. In: *Linguistics* 33. 403 – 432
- Arumaa, Peeter. 1985. *Urslavische Grammatik III. band, Formenlehre*. Heidelberg: Carl Winter Universitätsverlag
- Bammesberger, Alfred. 2000. Altenglish *earth* ' (thou) *art*. In: *125 Jahre Indogermanistik inGraz, p. 11-19*. Graz: Leykam
- Bammesberger, Alfred. 1986. *Der Aufbau des germanischen Verbalsystems*. Heidelberg: Carl Winter
- Bartoň, Tomáš et al. 2009. *Statistika češtiny*. Praha: Lidové noviny: Ústav národního korpusu
- Beekes, Robert. 1988. *A Grammar of Gatha-Avestan*. Leiden: Brill
- Beekes, Robert. 2010. *Etymological Dictionary of Greek*. Leiden, Boston: Brill
- Bičovský, Jan. 2012. *Stručná mluvnice praindoevropštiny*. Praha: Filozofická fakulta Univerzity Karlovy.
- Bittner, Andreas. 1988. Zum Suppletion im Konzept der natürlichen Morphologie. In: *ZPSK* and 41. Berlin: Akademie – Verlag Berlin
- Bittner, Andreas. 1988. Regulare Irregularitäten. In: *Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung* 41:1(1988), 416 – 425. Berlin: Akademie Verlag
- Bobaljik, Jonathan David. 2011. *Universals in Comparative Morphology - Suppletion, superlatives, and the structure of words*. Draft-manuscript.
- Bonami, Olivier, G. Boyé. 2002. *Suppletion and dependency in inflectional morphology*. Université Rennes, Composition de l'Equipe.
- Braune, Wilhelm, Heidermanns. 2004. *Gotische Grammatik*. Reprint. Tübingen: Max Meyer

Verlag

Buck, Carl Darling. 1949. *A Dictionary of Selected Synonyms in the Principal Indo-European Languages*. Chicago-London: The University of Chicago Press.

Bybee, Joan, Revere Perkins, William Pagliuca. 1994. *Evolution of Grammar*. Chicago: The University of Chicago Press

Casaretto, A. 2002. Defektivität und Suppletion im vedischen Verbalsystem: ved. **paś:darś**, **drav:drā** und **dhāv:sar**. In: *Historische Sprachforschung*, p. 35-55. Göttingen: Vandenhoeck und Ruprecht

Coigneallaig, M.Ó. 1968. On verbs of being in classical Armenian. In: *The verb "be" and its synonyms. Part 3*. Dordrecht Holland: D. Reidel publishing company.

Comrie, Bernard. 1981. *Language universals and typology*. Chicago-Oxford: University of Chicago Press.

Comrie, Bernard, Greville Corbett. 1993. *The Slavonic Languages*. London, New York Routledge.

Comrie, Bernard, ed. 1989. *The world's major languages*. New York, Oxford: Oxford University Press.

Corbett, Greville G. 2009. Suppletion: typology, markedness, complexity. In: Steinkrüger, Patrick O. and Manfred Krifka (eds). *On Inflection. Trends in Linguistics. Studies and Monographs 184*. 25-40. Berlin: Mouton de Gruyter

Corbett, Greville G. 2003. *A typology of suppletion: the evidence from Slavonic*. <http://hdl.handle.net/1905/26>

Corbett, Greville G. 2007. Canonical typology, suppletion, and possible words. *Language*, vol. 83/1 Baltimore: Waverly Press

Cowgill, Warren. 1960. Gothic *iddja* and Old English *ēode*. In: *Language* 36/1060. Baltimore: Waverly Press.

Croft, William. 1993. *Typology and universals*. Cambridge: Cambridge University Press.

Crystal, David. 2008. *A Dictionary of Linguistics and Phonetics*. Oxford: Blackwell publishing

Dahl, Eystein. 2010. *Time, Tense and Aspect in Early Vedic Grammar*. Leiden: Brill

Desphande, Madhav M. 1992. Justification for Verb-Root Suppletion in Sanskrit. In: *Historische Sprachforschung*, 105. Göttingen und Zürich: Vandenhoeck und Ruprecht

Derksen, Rick. 2008. *Etymological Dictionary of the Slavic Inherited Lexicon*. Leiden, Boston: Brill.

Dressler, Wolfgang. 1985. Suppletion in word-formation. In: *Trends in Linguistics. Historical*

- Semantics*. 97 – 112. Berlin: Mouton Publishers
- Doctor, Raiomond. 2004. *The Avesta: A lexico-statistical Analysis*. Leiden, Téhéran, Liege: Peeters
- Fertig, David. 1998. Suppletion, natural morphology and diagrammaticity. In: *Linguistics* 36-6, 1065 – 1091. New York: Walter de Gruyter
- Friedrich, J. 1960. *Hethitisches Elementarbuch, 1. Teil*. Heidelberg: Carl Winter Universitätsverlag
- Fortson, Benjamin W. 2010. *Indo-European Language and Culture. An Introduction*. Blackwell Publishing
- Godel, Robert. 1975. *An introduction to the study of classical Armenian*. Wiesbaden: Dr. Ludwig Reichert Verlag
- Green, Anthony. 1995. *Old Irish Verbs and Vocabulary*. Somerville: Cascadilla Press
- Hackstein, Olav. 1995. *Untersuchungen zu den sigmatischen Präsensstambildungen des Tocharischen*. Göttingen: Vandenhoeck und Ruprecht
- Hamp, Eric P. 1987. Oir. *tab(a)ir-* 'brings', *taít-* 'comes'. In: *Festschrift for Henry Hoenigswald*. Tübingen: Gunter Narr Verlag
- Hardarson, Jón Axel. 1993. *Studien zum Urindogermanischen Wurzelarist*. Innsbruck: Institut für vergleichende Sprachwissenschaft
- Hippisley, A. 2004. Suppletion. Frequency, categories and distribution of stems. In: *Studies in Language* 28:2, 387–418. Baltimore: Waverly Press
- Hippisley, A. 2001. *Suppletion, frequency and lexical storage*. University of Kentucky. Linguistics Faculty Publications. Paper 1
- Hippisley, Andrew, Marina Chumakina, Greville Corbett. 2004. Frequency, categories and distribution of stems. In: *Studies in Language* 28:2 (2004), 387–418. London: John Benjamins Publishers
- Hilmarsson, Jorundur. 1996. *Materials for a Tocharian Historical and Etymological Dictionary*. Reykjavík: Málvísindastofnun Háskóla Íslands
- Hilmarsson, Jörundur. 1994a. Tocharian B *wāyā*, A *wā*. In: *Iranian and Indo-European Studies*. Praha: enigma corporation
- Hilmarsson, Jorundur (ed). 1994b. *Tocharisch*. Akten der Fachtagung der id. Gesellschaft Berlin 1990. Reykjavík: Skákprent

- Hoffmann, Karl. B. Forssman. 2004. *Avestische Laut- und Flexionslehre*. Innsbruck: Institut für Sprachen und Literaturen der Universität Innsbruck
- Hoffner, Harry, Jr., Craig Melchert. 2008. *A Grammar of the Hittite Language*. Winona Lake, Indiana: Eisenbrauns
- Hopper, Paul J., Elizabeth Closs Traugott. 2004. *Grammaticalization*. Cambridge: Cambridge University Press
- Hudson, Richard. 2000. *l amn´t. In: *Language* 76/2000, p. 297 – 323. Baltimore: Waverly Press
- Humbach, Helmut. 1991. *The Gáthás of Zarathushtra and the Other Old Avestan Texts. Part 1 and 2*. Heidelberg: Carl Winter Universitätsverlag
- Jassanoff, Jay H. 2003. *Hittite and the Indo-European Verb*. New York: Oxford University Press
- Jassanoff, Jay H. 2008. Gothic. In: *The Languages of Ancient Europe*, ed. Woodard R. Cambridge: Cambridge University Press.
- Juge, Matthew. 1997. *On the rise of suppletion in verbal paradigms*. Paper read on: UC Berkeley Fall 1997 Analogy Seminar
- Kim, Ronald. 2012. *Introduction to Tocharian*. Handout for lectures at Charles University, Prague
- Kiparsky, Valentin. 1967. *Russische historische Grammatik*. Heidelberg: Carl Winter Universitätsverlag
- Klingenschmitt, Gert. 1982. *Das Altarmenische Verbum*. Wiesbaden: Dr. Ludwig Reichert Verlag
- Klingenschmitt, Gert. 1975. „Tocharisch und Urindogermanisch“, Flexion und Wortbildung. In: *Akten der V. Fachtagung der Indogermanischen Gesellschaft, September 1973*, hg.v. Helmut Rix. Wiesbaden: Reichert, 148-163
- Kloekhurst, A. 2008. *Etymological Dictionary of the Hittite Inherited Lexicon*. Leiden: Brill.
- Koch, Christoph. 1990. *Das morphologische System des Altkirchslavischen verbums I., II.* München: Wilhelm Fink Verlag
- Kölligan, Daniel. 2012. Patterns of suppletion in classical Armenian: The case of motion verbs. In: *Melchert, Craig, ed. The Indo-European Verb. Proceedings of the Conference of the Society for IE Studies, Los Angeles, 2010*. Wiesbaden: Reichert Verlag
- Kölligan, Daniel. 2007. *Suppletion und Defektivität im griechischen Verbum*. Bremen: Hempen Verlag
- Kortland, Frederik. 2003. *Armeniaca: Comparative notes*. Michigan: Caravan Books

- Kortland, Frederik. 1996. The Proto-Armenian Verbal System. In: *Proceedings of the Fifth Conference on Armenian Linguistics*. Delmar: Caravan Books
- Krahe, Hans. Wolfgang Meid. 1969. *Germanistische Sprachwissenschaft. II. Formenlehre*. Sechste Auflage. Berlin: De Gruyter
- Krause, Thomas. 1960. *Tocharisches Elementarbuch*. Heidelberg: Carl Winter Universitätsverlag
- Krause, Thomas. 1952. *Westtocharische Gramatik*. Heidelberg: Carl Winter Universitätsverlag
- Kümmel, M.R. 2008. *Einführung in das Tocharische*. Material zum Wintersemester 2009/2009, Freiburg Universität
- Lass, Roger. 1994. *Old English. A historical linguistic companion*. Cambridge: University Press
- Létoublon, Françoise. 1985. *Il allait, pareil a la nuit. Les verbes de mouvement en grec: supplétisme et aspect verbal*. Paris: Klincksieck
- LIV2: Helmut Rix and Martin Kummel, eds. 2001. *Lexikon der indogermanischen Verben*. Wiesbaden: Reichert.
- Lovegren, Jesse. 2012. Suppletive (?) tonal alternations in Munken nouns. In: *LSA Meeting Extended Abstracts 2012*. Washington
- Lunt, G. Horace. 2001. *Old Church Slavonic Grammar*. Berlin: Mouton de Gruyter
- Luraghi, Silvia. 2005. *Ancient Greek*. Muenchen: LINCOM GmbH
- Luraghi, Silvia. 2012. Basic valency orientation and the middle voice in Hittite. In: *Studies in Language 36/1*, p. 1–32. Amsterdam: John Benjamins
- Luraghi, Silvia. 2010. Transitivity, intransitivity and diathesis in Hittite. In: *Indoeuropejsko jezikoznanje i klasičeskaja filologija XIV*. Sankt Peterburg: Nauka
- Maiden, Martin. 2002. Sound change, morphemic structure and the rise of suppletion in the Romance verb. Paper presented at the *Surrey Linguistics Circle*, University of Surrey
- Malzahn, Melanie. 2010. *The Tocharian verbal System*. In series: Brill's Studies in Indo-European Languages and Linguistics. Leiden, Boston: Brill
- Markey, T. L. 1985. On suppletion. In: Baldi, P.H. (ed). *Diachronica*, Volume II. International Journal for Historical Linguistics. Vol. 2. Hildesheim: Georg Olms Verlag
- Martirosyan, K. Hrach. 2010. *Etymological Dictionary of the Armenian Inherited Lexicon*. Leiden, Boston: Brill.
- Matasovič, Ranko. 2003. *Kratka gramatika staroirskog jezika*. Zagreb: Filozofsky fakultet

- Mayrhofer, Manfred. 1978. *Sanskrit-Grammatik*. Berlin, New York: Walter de Gruyter
- Mayrhofer, Manfred. 1992. *Etymologisches Wörterbuch des Altindoarischen*. Heidelberg: Carl Winter Verlag
- McCone, Kim. 1997. *The early Irish Verb*. Naas: An Sagart
- McCone, Kim. 1991. Oir. –*ic* ‘reaches’, *ithid* ‘eats’, *rigid* ‘stretches’ and the PIE Narten present in Celtic. In: *Ériu*, vol. XLII. Dublin: Royal Irish Academy.
- Macdonell, Arthur. 1910. *Vedic Grammar*. Strassburg: Trübner
- Meiser, G. 1998. *Historische Laut- und Formenlehre der lateinischen Sprache*. Darmstadt: Wissenschaftliche Buchgesellschaft
- Meiser, G. 2009. Zur Typologie der indogermanischen Mediums. In: *Protolanguage and prehistory*, p. 318 - 333. Wiesbaden: Reichert Verlag
- Melchert, Craig. 1997. Traces of a pie. aspectual contrast in Anatolian?. In: *Incontri linguistici, 20/1997*. Pisa: Instituti editoriali e poligrafici internazionali
- Melcher, Craig. 2008. *Grammar of the Hittite language, part 1*. Winona Lake, Indiana: Eisenbrauns
- Mel'čuk, Igor. 2006. *Aspects of the theory of morphology*. Suppletion 405 – 446. Berlin, Mouton de Gruyter
- Mel'čuk, Igor. 2000. Suppletion. Morphology. In: *An International Handbook on Inflection and Word-Formation 1*, ed. by Geert Booij, Christian Lehmann, and Joachim Mugdan, 510-524. Berlin, New York: Mouton de Gruyter
- Mitchell Bruce. 1964. *A guide to Old English*. Reprint 1995. Cambridge, Massachusetts: Blackwell
- Neu, Erich. 1968. Interpretation der hetitischen mediopassiven Verbalformen. In: *Studien zu den Bogazkoy-Texten*. Weisbaden: Otto Harrassowitz.
- Nichols, Johanna et al. 2004. Transitivity and detransitivizing languages in: *Linguistic Typology* 8:149 – 211
- Niederle, Jindřich. V. Niederle, L. Varcl. 1973. *Mluvnice řeckého jazyka*. Praha: SPN
- Nielsen, Hans Frede. 2000. *The Early Runic Language of Scandinavia*. Studies in Germanic Dialect Geography. Heidelberg: Universitätsverlag C. Winter
- Oettinger, Norbert. 2002. *Die Stammbildung des Hethitischen Verbums*. Nachdruck. Dresden: Verlag der TU Dresden.
- Ó Corráin, Ailbhe. 1997. On the syntax and semantics of expressions of being in Early Irish. In:

Zeitschrift für celtische Philologie 49-50, p. 631 - 642. Niemeyer.

- Orel, Vladimír. 2000. *A concise historical grammar of the Albanian Language*. Leiden: Brill
- Osthoff, Herman, Dr. 1899. *Vom Suppletivwesen der indogermanischen Sprachen*. Heidelberg: Universitätsbuchdruckerei von J. Horning
- Pedersen, Holger. 1913. *Vergleichende Grammatik der keltischen Sprachen*. Göttingen
- Peyrot, Michael. 2010. *The Tocharian Subjunctive*. Leiden: Michael Peyrot
- Pinault, Georges-Jean. 2008. *Chrestomathie Tokharienne*. Leuven-Paris: Peeters
- Plank, Frans. 1994. Homonymy vs. Suppletion: A Riddle (and how it happens to be solved in ...) In: *Eurotyp Working Papers VII/23*. Konstanz
- Plank, F. 2009. *Patterns of suppletion and the temporal nature of constraints on linguistic diversity*.
http://ling.uni-konstanz.de/pages/home/plank/for_download/presentations_2/27_FP_Patterns_of_suppletion_ii11.pdf
- Pokorný, Julius. 1959. *Indogermanisches Etymologisches Wörterbuch*. Bern und München: Francke Verlag
- Praust, Karl. 1996. Armenish əmpem- 'trinke'. In: *Die Sprache* 38, p. 184-200.
- Ringe, Donald A. 2006. *From Proto-Indo-European to Proto-Germanic*. Oxford: Oxford University Press
- Ronneberger-Sibold, Elke. 1988. Entstehung von Suppletion und Natürliche Morphologie. In: *ZPSK* 41/1988. Berlin: Akademie Verlag
- Rose, Sarah. The origin and meaning of the first person singular consonantal markers of the Hittite hi/mi conjugations. In: *Grammatical Change in Indo-European Languages*. 2009
Amsterdam: John Benjamins Publishing
- Rosén, Hannah. 2000. Preclassical and Classical Latin precursors of romance verb-stem suppletion. In: *Indogermanische Forschungen*. Berlin: Walter de Gruyter
- Rudes, Blair A. 2009. On the nature of verbal suppletion. In: *Linguistics*, volume 18, i. 18, p. 655 - 676
- Seebold, Elmar. 1970. *Vergleichendes und etymologisches Wörterbuch der germanischen starken Verben*. Paris: Mouton
- Schmidt, Karl Horst. 1966. *Zum Suppletivismus der Verba „gehen“ und „kommen“ im Altirischen*. Munich: Kitzinger
- Schmidt, Rudiger. 2007. *Grammatik des Klassisch-armenischen mit sprachvergleichenden*

- Erläuterungen*. Innsbruck: Akaprint.
- Schumacher, Stefan. 2004. *Die Keltischen Primärverben*. Ein vergleichendes, etymologisches und morphologisches Lexikon. Innsbruck: Wolfgang Meid.
- Schumacher, Stefan. 1998. Eine alte Crux, eine neue Hypothese: gotisch *iddja*, altenglisch *ēode*. In: *Die Sprache*, 40/1998, p. 179 – 201. Wien: Harrassowitz Verlag.
- Schwarze, Christoph. 1970. Suppletion und Alternanz im Französischen. In: *Linguistische Berichte* 6. Konstanz:
- Sihler, Andrew L. 1995. *New comparative grammar of Greek and Latin*. Oxford: Oxford University Press
- Strunk, Klaus. 1977. Überlegungen zu Defektivität und Suppletion im Griechischen und Indogermanischen. In: *Glotta*, LV. band. Göttingen: Vandenhoeck und Ruprecht
- Strunk, Klaus. 1994. Relative Chronology and Indo-European Verb-System: The Case of Present- and Aorist- Stem. In: *The Journal of Indo-European Studies*, vol.22. Washington
- Szemerényi, Oswald. 2005. *Einführung in die vergleichende Sprachwissenschaft*, 4th issue. Darmstadt: Wissenschaftliche Buchgesellschaft
- Thurneysen, Rudolf. 1980. *A Grammar of Old Irish*. Dublin: DIAS
- Vafaeian, Ghazaleh. 2010. *Breaking paradigms. A typological study of nominal and adjectival suppletion*. M.A. Thesis. Stockholm: Stockholms Universitet
- Vaan, Michiel, de. 2008. *Etymological Dictionary of Latin and the Other Italic Languages*. Leiden: Brill
- Večerka, Radoslav. 1984. *Staroslověnština*. Praha: SPN
- Večerka, Radoslav. 2002. *Základy slovanské filologie a staroslověnštiny*. Brno: Masarykova univerzita
- Večerka, Radoslav. 2006. *Staroslověnština v kontextu slovanských jazyků*. Olomouc-Praha: Euroslavica
- Veselinova, Ljuba. 2006. *Suppletion in verb paradigms – bits and pieces of a puzzle*. Amsterdam: John Benjamins, B.V.
- Veselinovič, Elvira M. 2003. *Suppletion im irischen Verb*. Hamburg: Verlag Dr. Kovač in Hamburg
- Weiss, Michael. 2009. *Historical and Comparative Grammar of Latin*. New York: Beech Stave Press

- Werner, Otmar. 1977. Suppletivewesen durch Lautwandel. In: *Akten der 2. Salzburger Frühlingstagung für Linguistik*. Tübingen: TBL Verlag Gunter Narr
- Whitney, William, D. 2003. *Sanskrit Grammar*. Reprint of 3rd edition, 1896, Boston. Mineola, New York: Dover publications, Inc.
- Wodtko, Dagmar. 2005. On verbal suppletion in classical Armenian. In: *Annual of Armenian linguistics* 24 – 25: 105 – 133
- Woodard, Roger. 2008. *The ancient languages of Europe*. Cambridge: University press
- Woodard, Roger. 2008. *The ancient languages of Asia Minor*. Cambridge: University press
- Wurzel, Wolfgang U. 1990. Gedanken zu Suppletion und Natürlichkeit. In: *ZPSK* 43/1990. Berlin: Akademie Verlag

Online resources

Surrey morphological group. 2012. *List of 75 annotated bibliographical entries on suppletion*.

http://www3.surrey.ac.uk/LIS/SMG/Suppletion_BIB/WebBibliography.htm

Chumakina M., Corbett G., Brown, D., Hippisley A. 2012. *The Surrey Suppletion Database*.

<http://www.smg.surrey.ac.uk/Suppletion/>

Krause, T., Jonathan Slocum. 2011. *Gothic online*.

<http://www.utexas.edu/cola/centers/lrc/eieol/gotol-0-X.html>

Thomson, K., Jonathan Slocum. 2012. *Ancient Sanskrit Online*.

<http://www.utexas.edu/cola/centers/lrc/eieol/vedol-0-X.html>

Český národní korpus: Srovnávací frekvenční seznamy. Ústav Českého národního korpusu FF UK, Praha 2010. Dostupné z www: <http://ucnk.ff.cuni.cz/srovnani10.php>

27 Abbreviations

abl. ablative

acc. accusative

act. active

aor. aorist

Av. Avestan

BS Balto-Slavic

cpd. compound

dat. dative

dial. dialectal

du. dual

fem. feminine

fut. future

gen. genitive

Gk. Greek

Gmc. Germanic

Goth. Gothic

Hitt. Hittite

IE Indo-European

ind. indicative

inf. infinitive

inst. instrumental

intr. intransitive

impf. imperfect, imperfective

impv. imperative

Lat. Latin

Lith. Lithuanian

loc. locative

masc. masculine

ME Middle English

MHG Middle High German
Mlr. Middle Irish
ModIr. Modern Irish
ModHG Modern High German
mp. mediopassive
N noun
neut. neuter
nom. nominative
O object
obl. oblique
OCS Old Church Slavonic
OE Old English
OF Old Frisian
OHG Old High German
OIr. Old Irish
ON Old Norse
opt. optative
OS Old Saxon
pass. passive
pf. perfect
pfv. perfective
PGmc Proto-Germanic
PIE Proto-Indo-European
pl. plural
plupf. plusquamperfect
prep. preposition
pres. present
pret. preterite
ptc. participle
sg. singular

Skrt Sanskrit

Sl. Slavic

subj. subjunctive

Toch. Tocharian

V verb

Ved. Vedic

voc. vocative

1, 2, 3 1st, 2nd, 3rd person

Symbols

* reconstructed form, not attested in texts

>, < outcome of or developed into

→← replaced by another derivation, analogically changed, other irregular changes

? the possible reconstructed form is unclear