

UNIVERSITY OF CALIFORNIA

Los Angeles

Verbal Reduplication in Anatolian

A dissertation submitted in partial satisfaction

of the requirements for the degree

Doctor of Philosophy in Indo-European Studies

by

Timothy Richard Dempsey

2015



ABSTRACT OF THE DISSERTATION

Verbal Reduplication in Anatolian

by

Timothy Richard Dempsey

Doctor of Philosophy in Indo-European Studies

University of California, Los Angeles, 2015

Professor H. Craig Melchert, Chair

Scholars have long suspected that the verbal reduplication patterns reflected in the Anatolian languages encode typologically expected imperfectivity and iconic expressivism. At the same time, Indo-Europeanists have looked to the Anatolian languages for relics of archaic reduplicated categories of marked semantics and shape. This dissertation provides a comprehensive examination of the forms and functions of the various Anatolian reduplicated verbs attested in the Hittite, Luvian, and Lycian languages. Following a typological survey to establish what exactly the “expected” semantics of reduplication in a verb are, the study then provides sketches for the semantics of all known Hittite, Luvian, and Lycian reduplicated verbs

of sufficient attestation to do so. I then examine the formal history of all attested Anatolian reduplicated verbs, projecting their preforms as far back as able, and divide them according to their reduplicative patterns, commenting on the relative productivity of each. In the end, typologically trivial partial copy vowel reduplication proves to be the most productive pattern of verbal reduplication in the Anatolian languages, commonly used with habitual, durative, iterative, and other universally expected imperfective nuances. The same semantics obtain in the more marginal but also productive /i/-reduplication, a formal pattern inherited from Proto-Indo-European. Similarly inherited /e/-reduplication persists in some forms, with the same semantics seen in other partial reduplicative patterns in Anatolian. The majority of “expressive” reduplicated verbs are unpaired synchronically with a base stem, and frequently show full root reduplication. There are a handful of “intensive” reduplicated verbs with full root reduplication and a “linking” /i/, which may or may not be parallel to Vedic intensives of similar shape. The evidence overwhelmingly proves that the accent was firmly on the reduplicant in every category. A number of interesting facts emerge in the exploration of the Anatolian data. We see perhaps the emergence of new reduplicative categories in Hittite *asās-* / *ases-* and Lycian *ppuwe-*, while the distribution of Anatolian /i/-reduplication and the phonological history of /e/-reduplication has implications for the reconstruction of the Proto-Indo-European verbal system.

The dissertation of Timothy R. Dempsey is approved.

Stephanie J. Watkins

Brent H. Vine

Vyacheslav Ivanov

H. Craig Melchert, Committee Chair

University of California, Los Angeles

2015

To my grandparents, Jim and Ida,  
whose love of learning lives on in their family.

## Table of Contents

Chapter 1.	Introduction
1.1.	Goals and Organization
1.2.	Establishing Terminology
1.3.	The Proto-Indo-European Context
1.3.1.	PIE Verbal Categories
1.3.2.	The PIE Perfect and Anatolian
1.3.3.	Reconciling PIE /i/- and /e/-reduplicating Presents
Chapter 2.	The Typology of Verbal Reduplication
2.1.	Preliminary Remarks
	The Universal Typology of Verbal Reduplication:
2.2.	The Semantics of Reduplicated Verbs: A Brief Survey
2.3.	Cases of the Expected Iconicity/Pluractionality of Reduplication in the Verb
2.3.1.+	Case Studies
2.4.	Unexpected or Less Transparently Iconic Instances of Verbal Reduplication
2.4.1.+	Case Studies
2.5.	The Reduplicant's Shape: Possible Connections in Form to Function?

## 2.5.1.+ Types of Reduplication, Their Functions and Shapes

The Areal Typology of Verbal Reduplication:

## 2.6. The Semantics of Ancient Near Eastern Verbal Reduplication

### 2.6.1. Akkadian (Old Babylonian)

### 2.6.2. Hattic

### 2.6.3. Hurrian

### 2.6.4. Egyptian (Old Egyptian and Coptic)

### 2.6.5. Areal Summary

## Chapter 3. Reduplicated Verbs in Hittite Part 1: Paired Synchronic Stems

### 3. Preliminary Remarks

#### 3.1.+ Individual Stem Studies

#### 3.23. Hittite Reduplicative Semantics Thus Far

## Chapter 4. Reduplicated Verbs in Hittite Part 2: Unpaired Verbal Stems (and Some Denominatives)

### 4. Preliminary Remarks

#### 4.1.+ Individual Stem Studies

#### 4.23. Summary of the Semantics of Hittite Unpaired Reduplicated Stems

Chapter 5. The Reduplicated Verb in Luvo-Lycian

5. Preliminary Remarks

5.1. Luvian

5.1.1.+ Individual Stem Studies

5.1.14. Miscellany

5.2. Lycian

5.2.1. *pije-* “to give”

5.2.2. Miscellany

5.3. Concluding Remarks

Chapter 6. Reconstructing the Anatolian Reduplicated Verb

6.1. Organizational and Operational Principles; Preliminary Conclusions

6.2. Homovocalic Reduplication

6.2.1.+ Individual Stem Studies

6.2.29. Miscellany

6.3. Heterovocalic Reduplication

6.3.1.+ Individual Stem Studies

6.4. /i/-Reduplication (Ci-CC-)

6.4.1.+ Individual Stem Studies

6.5. Full Root Reduplication

6.5.1.+ Individual Stem Studies

6.6. Full Root “Intensive” Reduplication

6.6.1.+ Individual Stem Studies

6.7. Uncategorized Reduplication

6.7.1. Lyc. *ppuwe-* “to write, inscribe”

6.7.2. Hitt. *waltiwalktiske-* “(?)” & *partipartiske-* “(?)”

6.7.3. Hitt. *tatrah-* “to incite” & *paprah-* “to defile”

Chapter 7. Conclusions

7.1. The Function of Anatolian Verbal Reduplication

7.2. The Form of Anatolian Verbal Reduplication

Bibliography

## List of Abbreviations

### Grammatical:

sg.	=	singular	ptc.	=	participle
pl.	=	plural	inf.	=	infinitive
1	=	1 <sup>st</sup> person	ind.	=	indicative mood
2	=	2 <sup>nd</sup> person	impv.	=	imperative mood
3	=	3 <sup>rd</sup> person	act.	=	active voice
pres.	=	present tense	mid.	=	middle voice
pret.	=	preterite tense	m-p.	=	medio-passive

### Linguistic:

Hitt.	=	Hittite	Goth.	=	Gothic
CLuv.	=	Cuneiform Luvian	OE	=	Old English
HLuv.	=	Hieroglyphic Luvian	OHG	=	Old High German
Lyc.	=	Lycian	OSax.	=	Old Saxon
PIE	=	Proto-Indo-European	ON	=	Old Norse
PA	=	Proto-Anatolian	Alb.	=	Albanian
Ved.	=	Vedic Sanskrit	Arm.	=	Armenian
Skt.	=	Sanskrit	TochA/B	=	Tocharian A/B
Hom.	=	Homeric Greek	YAv./OAv.	=	Young/Old Avestan
Gk.	=	Greek	OCS	=	Old Church Slavonic
OLat.	=	Old Latin	Lith.	=	Lithuanian
Lat.	=	Latin	Olr.	=	Old Irish

### Bibliographical:

LIV <sup>2</sup>	=	<i>Lexikon der Indogermanischen Verben</i> , 2 <sup>nd</sup> ed.
CHD	=	<i>The Chicago Hittite Dictionary</i>
eCHD	=	<i>The Electronic CHD</i> (online)

- HW = *Hethitisches Wörterbuch*, 2<sup>nd</sup> ed.  
 MSS = *Münchener Studien zur Sprachwissenschaft*  
 CLL = *Cuneiform Luvian Lexicon* (Melchert 1993)  
 DLL = *A Dictionary of the Lycian Language* (Melchert 2004)

The following pertain to the cataloguing, reading, and relative chronologies of the Hittite texts.

The relative age of the scripts, or ductus, which are identified by the palaeographic evolution and inventory of the cuneiform signs, among other considerations, is the most important factor in dating manuscripts. Content, lexical and grammatical change, and textual comparison are further used to help identify the language period of the composition: Old Hittite (ca. 1650-1450 BCE), Middle Hittite (ca. 1450-1350 BCE), New Hittite (1350-1190 BCE). N.b. simply listing OS implies Old Hittite, and NH alone implies New Script.

- |    |   |                |           |   |                                  |
|----|---|----------------|-----------|---|----------------------------------|
| OS | = | Old Script     | (...)     | = | omissible part of Hittite word   |
| MS | = | Middle Script  | [...]     | = | material lost in a text break    |
| NS | = | New Script     | [...(…)…] | = | material restored form duplicate |
| OH | = | Old Hittite    | <…>       | = | accidentally omitted by scribe   |
| MH | = | Middle Hittite | <<…>>     | = | to be omitted.                   |
| NH | = | New Hittite    | x         | = | illegible sign                   |
| Ro | = | recto          |           |   |                                  |
| Vo | = | verso          |           |   |                                  |

Hittite Cuneiform Editions:

- KUB = Keilschrifturkunden aus Boghazköi  
KBo = Keilschrifttexte aus Boghazköi  
IBoT = Istanbul arkeoloji müzelerinde bulunan Boğazköy tableteri 1-4  
VBoT = Verstreute Boghazköi-Texte (Goetze 1930)  
ABoT = Ankara arkeoloji müzesinde bulunan Boğazköy tableteri  
HKM = Maşat tablets cited by the cuneiform edition Alp 1991

## Acknowledgments

I am happy here to have the opportunity to express my boundless gratitude to all whose help has contributed to the completion of the present work. I am very thankful to both Prof. A. Richard Diebold, Jr. and his daughter, Mrs. Deborah Diebold de Naveja, whose funding has allowed me to dedicate myself to the writing of the thesis presented here, the culmination of my study with the A. Richard Diebold, Jr. Chair of Indo-European Studies at UCLA, Prof. H. Craig Melchert. I am therefore doubly indebted to Prof. Diebold, both for his financial support, and the endowment that permitted students of the Program of Indo-European Studies at UCLA, such as myself, to benefit from Prof. Melchert's tutelage. As is clear from the multitude of references within, the present investigation is beholden to the scholarship of many eminent philologists and linguists, for whose work I am grateful and for whom I have nothing but respect. I especially want to thank Prof. Jay Jasanoff of Harvard and Prof. H. Craig Melchert for allowing me to use works-in-progress of theirs to better the arguments I have presented. Any errors or misrepresentations thereof are wholly my own. I am further obliged to Prof. Melchert for permitting me the use of his personal corpora files, from which much of the primary source

material, where not otherwise marked, has been taken. I wish to publically thank my teachers Profs. Stephanie W. Jamison, Brent Vine, Calvert Watkins, and Vyacheslav Ivanov, who have all instilled in me a great enthusiasm for comparative linguistics and the languages they have tutored me in, and most importantly, taught me what sort of questions are worth asking, and how we should go about answering them. I am uniquely obliged to Prof. Lisi Oliver of Louisiana State University, who first acquainted me with Proto-Indo-European, and pushed me to pursue its study. My respect and affection for all of my teachers cannot be sufficiently expressed. Above all, I am forever indebted to my advisor and teacher Prof. H. Craig Melchert, without whose support and patience the present work would not have been possible. His experience, suggestions, and encouragement spurred my work to be better than it otherwise could have been—even by our disagreements was the quality of work improved. It is to him that I owe my introduction to the Anatolian languages, a gift I can never truly repay.

## BIOGRAPHICAL SKETCH

Timothy R. Dempsey received the Bachelor of Arts in English Literature, the Bachelor of Arts in History, and the Bachelor of Arts in International Studies (Concentration in Asia) from Louisiana State University in 2005. He was a recipient of a research assistantship from the UCLA Center for Medieval and Renaissance Studies in the academic year 2010-11. He also received awards from the A. Richard Diebold, Jr. Chair Fund in 2013-2014, and 2015. In the summers of 2010 and 2011 he taught the Introduction to Historical Linguistics course at UCLA. At the 222<sup>nd</sup> Annual Meeting of the American Oriental Society in Boston, 2012, he presented a talk entitled “*Negna*: the Hittite Word for Brother”.

## Chapter 1. Introduction

1.1. Reduplication, the morphological process by which phonological material of a word root or stem is copied and affixed onto the edge (typically the onset) to create new grammatical distinctions, is a relatively common cross-linguistic phenomenon, and is well-attested throughout the Indo-European language family, including Anatolian. Based on the strength of the evidence in the daughter languages, reduplicated verbal categories are also reconstructed for the proto-language. The definition above is purposely limited, given the full range of what is labeled “reduplication” in modern linguistic theory, ranging from the syntactic to the semantic, from the purely phonologically driven to the rarer types of morphological copying (cf. Inkelas & Zoll 2005, vs. a definition more in line with what we use here, Rubino 2005). In what follows, we will confine our investigation to patterns of verbal reduplication as attested in the Anatolian languages Hittite, Luvian (Cuneiform and Hieroglyphic), and Lycian. There has been one such study on the reduplicated verb in Hittite, Van Brock’s *Les thèmes verbaux à redoublement du hittite et le verbe indo-européen* (RHA 1964: 119-165), but it is both more limited in scope and length, and very much out-of-date. Our focus is first and foremost on the synchronic picture: how the Anatolian languages formed reduplicated verb stems and for what functional purposes.

What facts then emerge from the Anatolian evidence may or may not shed light on the diachronic status of verbal categories in Proto-Indo-European (PIE). I will address where necessary whether an Anatolian form does or does not reflect an expected PIE preform (e.g. the status of Hitt. *wewakki* “to ask for, demand”), but shall for the most part note points of interest and leave it up to readers to make up their minds regarding the picture for the proto-language.

Our aim is to produce a definitive account of the nature of the Anatolian reduplicated verb, for which I will now lay out in the introduction a chapter outline as a guide and give my rationale to the approach. We begin our study in Chapter 2 with a survey of verbal reduplication cross-linguistically, looking for the most common meanings that verbal reduplication encodes. This will allow us to situate Anatolian verbal reduplication in the broader typology, and enable us to identify any marked, i.e. peculiar or unexpected, structures that could be the result of innovation or inheritance of an archaic marked category. We then proceed to the extant Hittite passages that can reveal something of the functional use of reduplication in the language, separating our examination into reduplicated stems which pair with a synchronic base stem (Chapter 3), and then looking at those which do not show a base, whether as a result of loss, lexicalization, reduplicative iconicity, or accident of attestation (Chapter 4). Following Hittite, we will then

survey the attestations of the reduplicated verb in Luvian and Lycian (Chapter 5). Given the small size of the Luvian and especially the Lycian corpora relative to Hittite, all attestations will be dealt with in a single Luvo-Lycian chapter; Cuneiform and Hieroglyphic varieties of the Luvian language are treated together. Having then established the functional categories of the Anatolian reduplicated verb, which will be shown to be typologically expected, we shall finally in Chapter 6 categorize and review the formal facts for each attested reduplicated verb in the three languages. As the purpose is to create a unified picture for Anatolian, all verbs will be organized according to type and not language; it is this chapter that will likely be of the greatest interest to the Indo-Europeanist. A brief conclusion will summarize our results.

1.2. It is conceivable that our study will appeal to audiences with an interest in both the linguistic and the philological. While the facts of Anatolian absolve us from choosing a more theoretical framework of reduplication as is found in much modern reduplication literature (cf. Frampton 2009, Inkelas & Zoll 2005) and instead allow us to employ the traditional structural approach used by many Indo-Europeanists in our formal chapter, it is hoped that our study will appeal equally to readers with an interest solely in the interpretation of the reduplicated verb within Anatolian, as well as the historical linguist. When we launch into the attestations and

usage of the reduplicated verb in Anatolian, we will operate with a set of functional definitions and synonyms surrounding verbal semantics that need to first be defined here in the interests of clarity.

There exists a wide range of terms employed in the study of verbal semantics. While the proliferation is aimed at describing nuance in meaning, there often exists overlap to varying degrees, e.g. the repetitive and the frequentative both refer to repeated action, while differentiation of the progressive aspect (ongoing action with a focus on the action) from the continuous (ongoing action with respect to the state of the subject) may be ambiguous depending on the language. As such, some distinctions work well only for languages that explicitly grammatically code for them, e.g. Chinese marks a distinction between the aforementioned progressive and continuous aspects; nevertheless the terms themselves are sometimes used outside of such cases as (near) synonyms. Verbal aspect, simply put, describes how an action, event, or state (predicates) relates to time. We speak of both lexical and grammatical aspect, the latter encoded either syntactically or morphologically by a language, the former an inherent property of the verbal root. Lexical aspect, sometimes called Aktionsart after the German, exhibits a basic distinction between the telic, predicates with an

endpoint, e.g. “I realized”, and the atelic, those without, e.g. “ I walked” (states, which continue unabated unless new action is introduced, are inherently atelic, e.g. “I’m hungry”). Telicity may be changed depending on various syntactic arguments employed in a phrase—Aktionsart simply refers to what is encoded in the mental lexicon for the root. The most fundamental dichotomy in grammatical aspect is between the perfective, action as a unitary and bounded event, “I did it”, versus the imperfective, action that is given some sort of structure, “I did it over and over; I am doing it; I do it all the time”. As the examples illustrate, verbal aspect is a separate category from tense, though the perfective aspect is necessarily excluded from the present tense, which by its nature is not easily delimited. Relevant to our discussion of Indo-European is the resultative aspect, which describes an attained state following an action, e.g. “wiped clean”; this is typically given as the force of the PIE “perfect” category, which notably shows reduplication. Please note that English by nature often uses periphrastic constructions to express aspect that other languages encode morphologically, hence many of our illustrations. For much fuller discussions of verbal aspect, including the categories of achievement, accomplishment, activity, and semelfactive, as well as the syntactic interface, cf. Comrie (1976), Erteschik-Shir & Rapoport (2005); for the Indo-European verbal system and issues surrounding its reconstruction, cf. Weiss (2011: 375-379), Sihler (1995: 442-453; 564-568), Jasanoff (2003).

In our survey of the typology of verbal reduplication we will frequently encounter, and in our survey of Anatolian, frequently use many of, the following terms to describe verbal aspect, here (forcibly) illustrated with “do” to highlight distinctions: progressive “is doing”, repetitive “do again and again”, iterative “do in steps”, durative “keeps on doing”, habitual “does all the time”, intensive “do a lot”, diminutive “do a little; do bit by bit” (note that the latter shades into the iterative as well), distributive “do to this and this; this and this do” (object-, subject-), inceptive or inchoative “starts to do”. Wherever we speak of the pluractional, we speak of some sort of plurality in the verb, whether of subject, object or action; this may encompass distributive (subject and object), repetitive, and in some cases iterative action, depending on how it is conceived. The chapter on typology will both offer a fuller introduction to the topic and amply illustrate the usage of the terminology. The more idiosyncratic categories not touched on above will become clearer in the entries to the relevant languages. On a final note, the cross-linguistic survey will also demonstrate the unsurprising observation that it is phonological copy reduplication that is the most common and typologically trivial pattern of verbal reduplication, and reduplication with fixed segmentism the more marked.

1.3.1. For those readers with an interest in historical linguistics, and specifically Indo-European, we will briefly survey the pertinent issues surrounding the PIE reduplicated verb vis-à-vis Anatolian, so as to better frame what is to come. Much of what follows will be relevant in the formal chapter.

Though in reconstructed Indo-European the verbal category known as the “perfect” is the reduplicated class par excellence, it is not the only such type utilizing this marking; reduplication as a stem-forming contrast was widespread in Indo-European. There are potentially all of the following formations involving reduplication, though n.b. not everyone necessarily agrees with all forms as listed in the *Lexikon der Indogermanischen Verben* (LIV<sup>2</sup>): /e/-reduplicated athematic presents, \*dʰé-dʰoh<sub>1</sub>- / dʰé-dʰh<sub>1</sub>- (e.g. Skt. *dádḥāti* “(s)he puts”); /i/-reduplicated athematic presents, \*sti-stéh<sub>2</sub>-/sti-sth<sub>2</sub>- (e.g. Lat. *sistō* “I stand”; Hitt. *mimmai* “(s)he refuses”); /i/-reduplicated thematic presents, \*si-sd-é/ó- (e.g. Skt. *sīdati* “(s)he sits”); /e/-reduplicated thematic aorists, \*wé-wkʷ-e/o- (e.g. Gk. εἶπε, Skt. *ávocat* “(s)he spoke”); the perfect, \*bʰe-bʰóidʰ-/bʰe-bʰidʰ- (e.g. Gk. πέποιθα “(s)he trusted”; Skt. *jagāma* “I(s)he came”); reduplicated desideratives, \*wi-wŋ-(H)-sé/ó- (e.g. Skt. *vívāsatī* “(s)he would like to win”; OIr. *-gigius* “will kill”); and reduplicated intensives (sometimes found with “linking” /i/),

*\*k<sup>w</sup>ér-(i)-k<sup>w</sup>or-/k<sup>w</sup>ér-(i)-k<sup>w</sup>r-* (e.g. Skt. *kárikṛ-* “keeps on doing”; Hitt. *wariwar-* “burn up”). To be clear, the LIV<sup>2</sup> and Schaefer (1994) do not project the “linking” /i/ of the intensive back to PIE, and it is likely an independent creation in Hittite and Vedic, cf. 6.6. for further discussion. As we can see, one reconstructs a number of formations for PIE utilizing reduplication, though it should be noted that there are in fact serious questions as to the existence of some of these patterns, at least for so-called “high node” PIE (the stage prior to the branching off of Anatolian). For example, the number of secure examples of an inherited reduplicated aorist is particularly sparse, the above exemplar being the best of a handful, to which Beckwith (1994) adds another (Gk. ἠῦρον ~ OIr. *-fuar* “I found”). There are no obvious reflexes of this pattern in Anatolian. Perhaps some Tocharian forms can be interpreted as inherited reduplicated aorists (cf. Willi 2007: 34ff.), in which case we can push back the formation at least to a period pre-dating the Tocharian split, if we subscribe to an idealized model of successive departures from a unified PIE linguistic community, or posit a distinct Indo-Hittite stage prior to a PIE(+Tocharian) era. For Anatolian though, given Jay Jasanoff’s landmark *Hittite and the Indo-European Verb* (2003), the question of the perfect looms large.

1.3.2. The status of the perfect is among the most persistent and vexing issues surrounding Anatolian and the Indo-European verb, well-established for what we now term “classical” Proto-Indo-European, that is, the model we reconstructed prior to the discovery of both Anatolian and Tocharian in the 20<sup>th</sup> century. The reconstructed PIE perfect shows reduplication and a distinct Ce-CóC- ablaut structure, as shown by a representative model, *\*le-lóik<sup>w</sup>-h<sub>2</sub>e*, which is best borne out, *mutatis mutandis*, by its Greek descendent λέλοιπα “I left”. Although Anatolian does have a variety of reduplicated verb types, very few, if any, seem to fit this pattern. As we shall see at the conclusion of this study, the ablaut may obtain in a handful of Hittite reduplicated forms, but the accent, a feature of equal importance to the ablaut and reduplication, does not.

Remarkably, the scholarly community remains intractably divided over the point after many years of debate. Eichner (1975), Risch (1975), et al. have contended that Anatolian did in fact inherit the classical perfect, but then “de-reduplicated” it in a process roughly analogous to the history of the category in Germanic (which contributed to the remodeling of the entire preterite in that branch—see Ringe 2006: 184ff.; Jasanoff 2007), yielding the so-called Hittite *hi-* conjugation so intimately bound up in the question. The reader will notice that the exemplar given above has a 1<sup>st</sup> sg. ending in *\*-h<sub>2</sub>e*, the very same forerunner of the 1<sup>st</sup> sg. *-hi* in the Hittite

*hi-* conjugation endings, the crux of the problem in reconciling the Anatolian category and reduplicated classic PIE perfect. Eichner, in keeping with the Schwundhypothese, holds that reduplication was lost as a marker of the perfect, both contributing to and reinforcing a series of losses of categories and contrasts within the developing Anatolian verbal system (1975: 100). He clearly believes that the *hi-* conjugation corresponds directly with the IE perfect (ibid. 75), though “die Perfektreduktion war generell beseitigt” (ibid. 86). Further connected to the status of the de-reduplication hypothesis is the one PIE perfect stem reconstructed without reduplication, *\*wóid-e* “(s)he knows”, resultative of a root *\*weid-* “to see”, whose lack of reduplication Jasanoff argues was an innovation of PIE date (2003: 228-233; Jasanoff has since modified his views regarding this verb (see Jasanoff 2012)).

Cowgill (1979: 32), while allowing for the possibility of a derivation of the *hi-* conjugation from the perfect based on correspondence in form alone, does not find Eichner’s argument persuasive, primarily because the disconnect in function and distribution of the traditional IE perfect and the Anatolian *hi-* conjugation is too great in his view to plausibly derive the latter from the former. Furthermore, he enlists inner-IE typology to discredit the notion that the perfect would acquire a preterite function to which new presents would be created simply by adding

primary endings to the stem and/or de-reduplication, a scenario he finds “incredible” (ibid. 31).

Rather, Cowgill proposes a type of nominal verb as the source for both the *hi*-conjugation and the classical perfect, a form existing at a time when IE had no verbal aspect (for which he also avails himself of typological parallels) (ibid. 33ff.). This scenario allows him to completely avoid the issue of de-reduplication, as that hallmark of the classical IE perfect arises after the Anatolian split. What reduplicated forms exist in Anatolian can easily be derived imperfectives analogous to IE presents of the type *dádhāti*, albeit from a process post-dating the advent of the *hi*-conjugation, which in his view was originally created to provide imperfective aspect to roots with telic Aktionsart (ibid. 36).

In somewhat similar fashion, Hajnal (1999) and Oettinger (2001) both feel that the classical perfect is an innovation of “core” Indo-European, that is, the proto-language after Anatolian had split off. Hajnal begins with the premise of a (somewhat, though theoretically necessarily, unclearly defined) “Protoperfekt” for the proto-language (1999: 13), which has lost its original function at that stage, and goes on to develop along different avenues in Anatolian and Restindogermanisch after they have split off from one another. Hajnal finds parallelism semantically on the one hand between reduplicated *hi*-verbs and the intensive, and on the

other, the development of the reduplicated perfect in Greek and Indo-Iranian and the intensive through their secondary resultative Aktionsart (ibid. 19). In either case, the fate of the “Protoperfekt” is closely influenced by the intensive in each instance, though neither is a fully formed category as such at a “core” PIE date. This scenario necessitates a three stage diachrony in the way we look at PIE (PIE, post-Anatolian PIE, and a pre-PIE stage in which the “Protoperfekt” would have been more unified), not unlike that needed by Jasanoff. Oettinger’s account has a “Vor-spätindogermanisch” reduplicated  $h_2e$ - present with iterative semantics that in Anatolian either loses its reduplication or gets secondarily renewed (for instance with /i/-reduplication) in every case other than *wewakki* (2001: 82). The same present type goes on to become the classical perfect and intensive in the later proto-language (although it should be noted that the intensive as we have it normally involves more than just CV-reduplication; cf. Schaefer 1994, and our Anatolian intensives in the formal chapter). For both Hajnal and Oettinger, however, the accent does not match what our Hittite evidence will show, and given the marked nature of the Ce-CóC- template, this is important.

Still others share the earlier views of Jay Jasanoff, who originally maintained that Anatolian did indeed inherit the classical perfect (1994: 156-157) and kept it as was (for a time at least),

hence none of the non-reduplicated forms of the *hi-* conjugation can be the perfect. Many scholars are encumbered by their own theories of larger scope when approaching the question of the perfect in Anatolian, looking to cherry-pick forms in support of frameworks that go well beyond Anatolian itself. For instance, Jasanoff's contention (2003: 11), and one of the underpinnings for his larger theory on the Indo-European verb in its earlier incarnation, rested chiefly on one verb form, *wewakki*. He further supported his case for a PIE pluperfect, otherwise chiefly dependent upon Indo-Iranian forms, with the Middle Hittite 3rd sg. preterite of this verb, *wewakta* (ibid. 37). As of writing, Jasanoff has heavily revised his account of the history of the IE perfect, and abandoned his earlier views on *wewakki* (to appear, 16-17), which he now concedes was an iterative present to *wek(k)-*, as per Oettinger (2006: 38-39). However, much like Oettinger and Hajnal, he still holds to inclusion of intensive semantics in the reduplicant of the ancestral perfect (ibid. 29). I have included the brief synopsis of his previous views above in spite of revision, as they remain influential as his new approach gains traction, and inform many scholars' views on the material we will analyze in this study.

Many do not seek to understand all the Anatolian evidence on its own terms, as it were. As these disparate views make clear, the definitive answer to the question of whether Anatolian

possessed the classical perfect has the potential to impact both our model for the break-up of the proto-language as well as the entire theoretical framework of the Indo-European verb.

Again, though, our own conclusions are concerned chiefly with the synchronic status of the Anatolian reduplicated verb.

1.3.3. Finally, there is now an important (re-)emerging theory regarding the two reduplicated categories of athematic presents reconstructed for PIE, here given with strong ~ weak stem variants, \*Cé-Ce/oC- ~ \*Cé-CC- and \*Ci-Cé/oC- ~ \* Ci-CC-' (the root ablaut varying according to one's theoretical predilection). Hill & Frotscher (2012), reviving attempts made by Watkins (1969: 36) and Rasmussen (1997: 252ff.), have now offered their own account for subsuming both types under a single forerunner, on the strength of the evidence in Vedic, which has retained both categories. Relics of accentuation in verbs like 1<sup>st</sup> sg. ind. act. *bíbharmi* "I bear" ~ 1<sup>st</sup> pl. ind. act. *bibhṛmási* "we bear", and of apophony in lexemes synchronically split from each other like 3<sup>rd</sup> sg. ind. act. *jáhāti* "(s)he leaves (trans.)" ~ 3<sup>rd</sup> sg. ind. mid. *jíhīte* "(s)he goes away", furnish the core of their arguments. Of particular interest to the entire topic of reduplication in PIE are their "unresolved questions" at the conclusion of the article (ibid. 112). For a different tack with the same goal, Sandell (2011: 248-252) gives greater weight to forms like *bibhárti*,

which Hill & Frotscher regard as the innovation, and abandons the idea that Vedic accent always reflects a PIE full-grade (/e/), arguing that the synchronically more frequent *bibharti* is the result of a (pre-) Vedic accent shift. For him, PIE /i/-vocalism may be the result of anaptyxis in a zero-grade reduplicant (ibid. 250). There remain, of course, other possibilities for the origin of the /i/-reduplicant, if we are to collapse the models into one pre-paradigm, including root-driven phonological changes to an underlying /e/, generalization of /i/ from roots of the shape \*CeyC-, or even a stem distribution \*Cé-Ce/oC- ~ \*Ci-CC-'. When dealing with diachronic changes on a time scale such as PIE presents, one can only make best guesses. The uniformitarian principle cuts both ways: it can be used to fill out and bolster arguments for reconstructed categories, but also suggests that any stage of PIE, be it “high node”, “core”, or anything in between, also exhibited the synchronic irregularities, innovations, and nonce creations all human languages do. We shall return to the “single paradigm” argument again at the conclusion of the formal chapter, where I am inclined to follow the idea that these two types of reduplicated athematic presents in PIE were originally one, and that for reasons of analogic leveling or reanalysis, some of the daughter languages chose to either select one template and repair inconsistencies (leading to fixed segmentism), i.e. Greek /i/-reduplication, or to split the allomorphs based on the shape of the verbal root, the approach taken by Anatolian, as our

evidence will suggest. For further bibliography on the reduplicated categories of reconstructed PIE, refer to the citations throughout 1.3. I make no claims to being exhaustive here, as the topic is not our focus, the above simply being a brief introduction to the debate meant to better frame the diachronic issues underlying reduplication in Anatolian, to which, following our typological survey, we now turn.

## Chapter 2. The Typology of Verbal Reduplication

2.1. As a widely attested linguistic phenomenon, the breadth of literature on reduplication is enormous. Rubino (2005) discusses just how widespread reduplication is both geographically and genetically, while noting that “Western Europe is one area where reduplication does not play a role in the morphology” (ibid. 23). However, as he points out for Greek, this was not always the case, and further, among related non-European languages such as the Iranian group and Western European-based creoles, reduplication is common (ibid. 22-24). We will make no attempt here to give a comprehensive overview of the study of reduplication in all its variants, but will focus on what a few illustrative surveys and studies of verbal reduplication in different languages can tell us about what is to be considered typical and what can be considered remarkable (if anything) in our Anatolian cases. This chapter will follow two major subdivisions, the first, a look at the universal typology of verbal reduplication drawing samples from around the world, the second, an examination of the areal cases of the phenomenon, looking at how the neighbors of Anatolian do verbal reduplication. Each of these subdivisions is further broken down into a section on the semantics and another on the formal shape of the reduplication.

## The Universal Typology of Verbal Reduplication

### 2.2. The Semantics of Reduplicated Verbs: A Brief Survey

First it must be said that reduplication is among the most basic processes of word formation, as anyone with a young child can tell you. Nominal reduplication is characteristic of Lallwörter—think “dada”, “papa”, “mama”, and similar baby-talk forms which also blur the boundary between noun and verb in illustrating a child’s most basic needs, i.e. “peepee”, “poopoo”, “nomnom”.

Many scholars do not explicitly connect the productiveness of reduplication processes in adult language to baby-talk in their studies, with Leroy & Morgenstern finding that “very few links have been made between theoretical treatments of reduplication in general linguistics, and reduplication in child language” (2005: 475). Some do this because they believe such a genesis is obvious, some because they distinguish the adult variant as an independent recreation of iconic speech, but the expressive power cannot be denied as a factor in the creation and/or recreation of reduplication in language. The trick for us is in nailing down how we describe what exactly is the nuance or nuances that verbal reduplication expresses. Can we identify a basic semantic meaning, a fundament that is subsequently built upon, expanded or modified as the

process becomes gradually more and more morphologized in adult speech? And is that kernel still recognizable in those forms which seem the farthest from it? At first blush it seems that the answer to the most basic meaning of verbal reduplication is repetition, of course! To better evaluate the assumption, it remains for us to very briefly examine the origins, extent and limits upon the sound symbolism of reduplication.

Repetition as a sound phenomenon is an attention-getter, acting to draw our focus to the word by playing on our ears. It is the most basic of patterns, its power confined not only to the speech of young children as they build their language faculty, but its widespread use in fully-formed languages also testifying to the enduring effect on the human mind. Gil remarks on the range of repetition's uses in speech, from overcoming background noise to hawking wares (2005: 34). Strictly speaking, this kind of communicative reinforcement is a property of syntactic repetition rather than morphological reduplication, as Gil is explicit in pointing out while attempting to discern the nuances between the two in his study of the isolating language of Riau Indonesian. As he rightly notes, however, in isolating languages, where the ability to identify words and word boundaries is often complicated, identifying "instances of iteration as involving either repetition or reduplication" is difficult (ibid. 33). The crucial point here emerges when one

compares Gil's observation with the early development of repetition/reduplication in child language. In their case study, Leroy & Morgenstern observed that the child's earliest use of reduplication is quantitatively greatest when interacting with his mother (2005: 481, 484).

What's important for the interaction is the salience of the repeated phonological sequence when the child "wants to attract and keep his mother's attention" (ibid. 481). To my mind this salience is what accounts for the prominence of reduplication in human language, as reinforced by extragrammatical (onomatopoetic and animal sounds) and quasi-extragrammatical (child language) influences. On the one hand, child language is consistently renewed (at least among parents) as evidenced by "motherese", e.g. Fr. *boumboum* referring to the heart, and even "mama" itself; on the other, onomatopoetic nouns and verbs are reduplicated by virtue of their mimetic aims, the recognition of patterns in "animal speech" (Eng. "cuckoo"; Fr. *le bibi* "chick"; Ger. *wauwau* "bow-wow, dog"), and spontaneous natural sound occurrences (Polish *kap-kap* "dripping water"; Eng. "tick tock"). The ear-catching nature of reduplication is thus employed by each of us as infants as we begin to form our grammars, in an exchange many of us return to as parents, and continually observed in nature; it should come as no surprise this salience is co-opted into our morphologies.

In evaluating the semantic core of reduplication, repetition certainly fits the bill for the Lallwörter given above; what's more habitual than "peepee", "poopoo", or "nomnom"? Aside from the mimetic nature of many animal and echo words which are clearly repetitive (or symbolic, e.g. Ger. *Zickzack* "zigzag", cf. *Zacke* "peak, spike, jag" (Dressler et al. 2005: 457) the iconic pluractionality of reduplication is firmly rooted in child language. Leroy & Morgenstern observed a young child's spontaneous use of reduplication for the enumeration of a plurality of objects, where, against the same child's use of repetition as an attention-getter (above), reduplication clearly had an iconic quality (2005: 485). What we find when examining instances of verbal reduplication in languages around the world does indeed appear to be a meaning somehow identifiable with repeated, habitual, ongoing action, duration or plurality, and this is what you will most often read when introduced to reduplication in verbs. This situation, although mostly true, is often overstated, though if we were to limit ourselves to this short list Dressler et al. find no non-iconic uses of reduplication in child language (2005: 468). Any perusal of the literature will note both the variety and the vagueness of the terms often used to describe the semantic force of reduplication. Cusic stands as a representative list of the pluractional semantic functions associated with reduplication that may be characterized as more-or-less iconic: repetitiveness, repeated occasions or events, persistent consequences, habitual agency, distributed quality,

inchoativity, cumulative result, intensity, plurality of sites of action, duration, continuity, conation, distribution, celerativity/retardivity, augmentation, and diminution (Cusic 1981, in Haji-Abdolhosseini et al. 2002: 482). This list is somewhat idealized, a few members of which require some mental steps to arrive at. Blust (1998: 29) speaks of a “cline of iconicity leading from semantically transparent functions... to others for which no sensory motivation is apparent,” citing the Rukai and Tagalog use of partial reduplication for future or contemplated event as just such an example. Certainly iconicity is not apparent in every reduplicated form, and whether it has been obscured by historical change or is totally absent cannot always be determined. More marked exceptions to an easily identifiable underlying repetition do exist, most notably for those of us involved in the study of Indo-European the reduplicated form signifying an ongoing resultant state known as the “perfect”. It is for this reason we must undertake a quick survey of various meanings and nuances expressed by verbal reduplication. In what follows we will organize around regional or language family criteria for tidiness. It should be noted that as most of the studies from which much of the following is taken are primarily focused on the formal aspects of reduplication and not the semantics, there are in places both differences in the jargon and glosses which may not seem to flow from the base meaning as elegantly as hoped. I have done my best to normalize the former, but as it would for the latter be onerous indeed to

recheck all of the information against the various lexica which exist (where they do), we must take the authors at their word.

### 2.3. Cases of the Expected Iconicity/Pluractionality of Reduplication in the Verb

2.3.1. We begin for organizational purposes with Austronesian, a family well-represented and studied with respect to its reduplicative processes. Bontok (Central Philippines) verbal reduplication can be heavy-syllable progressive, *ʔik.kan* “to do” > *ʔik-ʔik.kan* “is doing”, *lə. 'bək* “to pound” > *ləb-lə. 'bək* “is pounding” (Thurgood 1997: 137), *gu. 'wad* “serve rice with a spatula” > *gug-ʔu. 'wad* “is serving rice with a spatula” (ibid. 139); disyllabic-root repetitive, *sag.ni* “to dance (women)” > *sag.ni-sag.ni* “keep on dancing (women)”, *ʔa.nap* “to look for fish” > *ʔa.na-ʔa.nap* “keep on looking for fish”, *pat.tuŋ* “play the gong” > *pat.tu-pat.tuŋ* “keep on playing the gong” (ibid. 140); or light-syllable intensive: *ka. 'ma.ŋan* “to hurry” > *ka-ka. 'ma.ŋan* “to hurry a lot”, *lay. 'dən* “to like” > *la-lay. 'dən* “to like very much” (ibid. 141). The related Ilokano (Northern Philippines) exhibits a heavy syllable (CVC, CV:) reduplication expressing progressive aspect in verbs: *trabaho* “to work” > *trab-trabaho* “is working”, *sangit* “to cry” > *sanj-sangit* “is crying”, *dait* “to sew” > *daa-daʔit* “is sewing” (Frampton 2009: 99).

2.3.2 Siraya (West Formosan), now extinct, possessed an abundance of reduplicative processes, among which is the familiar array. We find disyllabic-root reduplication expressing iterativity (Adelaar 2000: 39): *ni-pa-rako-raku ki rungwal* “tossed by waves”, *aley ka pa-ile-ilix-ey nein t̃ni-än* “in order to serve him”; distributive action (ibid. 39): *ka ru siki-s’kix ki rima t̃n ma-ĩ-vavaw ki Patatäutäuxən t̃n* “and stretching out his hand over his disciples”, *ka ru ni-ma-dingi-dingi, ni-lupux ki əməd ki ra-rawey ka tu Bethlehem* “and he ordered (his men) to kill all children in Bethlehem”; habitual action (ibid. 40): *ni-ma-patey ta neni ka ni-k̃i-k̃iim nein ta vati ki Rawey* “those who looked for the souls of children have died”, *ti mamang ka aku-tangira ki ä-ĩlingi-lingix, h-m-ĩlingix-a-ato* “he who has ears to hear, let him hear”. In Siraya *Ca*-reduplication (with fixed reduplication vowel) may express progressive verbal aspect, among others (including state) (ibid. 42ff.): *kading-u-kame, ka ma-pa-patey-k̃iṯa* “save us, we perish”, *tu i-ra-rik’d-ən-hu, ti-bulu-a ki vungo-ho* “when you fast, anoint your head”.

2.3.3. Thao (Northern Formosan) displays full reduplication in the verb, disyllabic as above and monosyllabic, expressing repetitive and continuative aspect (Chang 1998: 280): /fariw/ “to buy” > *fari-fariw* “to go shopping; shop around”, /ribuq/ “to stir, mix” > *m-ribu-ribuq* “to keep on stirring”, /talha/ “to wait” > *mi-talha-talha* “to wait and wait”, /cpiq/ “to whip, beat” > *cpi-cpiq* “to

whip repeatedly”, /kan/ “to eat” > *pa-ka-kan* “to feed repeatedly”. Thao also utilizes the widespread *Ca*-reduplication found in Austronesian, overlapping semantically with the previous pattern (note that many examples here have an inherited lexical reduplication) (ibid. 282):

/kar.kar/ “to chew” > *k-m-a-ka-karkar* “to chew repeatedly”, /hur.hur/ “barking (noun)” > *ma-ha-hurhur* “to bark repeatedly”, *man-hit.hit* “to shiver” > *man-ha-hithit* “to shiver repeatedly”, *pa-lhi.nu.na* “to talk, speak” > *ma-lha-lhinuna* “to speak often”, /ca.pul/ “to sweep” > *c-m-a-capu* “to keep sweeping”. Roots appear to be marked lexically for which reduplication they will take, though some roots accept both (ibid. 283): *ca-c-um-piq* “to keep swatting or beating”, *ma-capu-capu* “will sweep and sweep” (cf. above), /kirac/ “light, luminosity” > *pish-kira-kirac* “to send out sparks, of a crackling fire”, *mi-ka-kirac* “to keep building up a fire by adding fuel”. Finally, a third productive pattern of rightward reduplication exists in Thao, also expressing repetitive-continuative aspect in verbs (ibid. 284): /qri.u/ “to steal” > *q-un-riu-riu* “to steal constantly, habitually”, /shna.ra/ “to ignite, catch fire” > *pa-shnara-nara* “to burn something repeatedly”, /ag.qtu/ “to contemplate” > *m-agqtu-qtu* “to think over; mull over”, /ki.ka.lhi/ “to ask” > *ma-kikalhi-kalhi* “to ask around”.

2.3.4. Zeitoun, et al. (1996) present a thorough account of tense, aspect, and modality in nine Formosan languages, a number of which marshal reduplication in a manner consistent with what we have discussed above. Progressive aspect is marked by reduplication in Paiwan, Bunun, Rukai, and Puyuma. While Puyuma partial reduplication denotes the progressive alone, *mə-la-laub-ku qa ənay* “I am boiling water” (Nanwang Puyuma) (ibid. 46), Bunun partial reduplication presents both a progressive and iterative reading, *ma-m-aʔun ʔuvað-aʔ tai* “the child is eating taro/eats taro continuously” (Isbukun Bunun). Similarly, Paiwan and Rukai disyllabic reduplication can be read progressive or habitually, *k<əm>əʔə-kəʔəm ti palan tai kalalu kati cəmədas* “P. is beating/(often) beats K. and C.” (Stimul Paiwan), *w-a-tubi-tubi ka ʔulai* “the child is crying/(often) cries” (Budai Rukai) (ibid. 46).

2.3.5. A similar study of Torau (Northwest Solomonian, Western Oceanic) tense, aspect, and modality by Palmer (2007) attempts to elucidate the very complex interplay of the three categories, and in particular how imperfective aspect and its readings are delineated in the language through the use of markers and reduplication. The details need not concern us at this stage; suffice it to say for our purposes that Torau reduplication is employed in concert with other interdependent elements to express some nuance of imperfective aspect. The author,

following a dichotomy of active (activity, accomplishment, achievement verbs (ibid. 514-5)) vs. stative verbs (stative, procedural, psych, postural verbs (ibid. 512-3)), notes that the *sa-* imperfective marker with reduplication marks habitual or progressive aspect with telic verbs of unmarked realis (ibid. 515 (verb tables), 516): *Pita ta soo~sobii=sa-la* “Peter is always walking” (ibid. 502). The *e-* imperfective marker with reduplication marks progressive inchoative/inceptive aspect with activity verbs (in most contexts), and habitual aspect with experiencer/psych verbs in some contexts (ibid. 513 (verb tables), 516): *Pita ma-to gee~geesi=e-la* “Peter was becoming big”.

2.3.6. In contrast, Mokilese (Micronesian, Oceanic) displays a more straightforward use of heavy syllable reduplication to express progressive aspect: *pɔdɔk* “to plant” > *pɔdpɔdɔk* “planting”, *wia* “to do” > *wiwwia* “doing”, *sɔɔɔɔk* “to tear” > *sɔɔsɔɔɔk* “tearing”, *andip* “to spit” > *andandip* “spitting”, *onop* “to prepare” > *onnonop* “preparing” (Blevins 1996: 523). The related Kusaiean (Micronesian, Oceanic) exhibits an iterative or repetitive quality with heavy syllable reduplication ((C)VC) (hyphens added), *kulus* “to peel” > *kul-kulus* “to peel bit by bit”, *kipat* “to fall” > *kip-kipat* “to fall gradually”, *pişik* “to flick” > *piş-pişik* “to flick repeatedly”, *ewɿ* “to lift” > *ew-ewɿ* “to lift little by little”, *olan* “to open” > *ol-olan* “to open again and again”, and an intensive

light reduplication, *kɔu* “grouchy” > *kɔ-kɔu* “rather grouchy”, *moul* “alive” > *mo-moul* “not completely dead”, *foul* “smell” > *fo-foul* “to emit smell” (Raimy 2000: 132).

2.3.7. Beginning our look at reduplication in some languages of the Americas, Garrett (2001)

details the use and genesis of two Yurok (Algonquian, Algic) verbal categories falling in the

realm of pluractionality. Only one concerns us, the “repetitive”, which makes use of

reduplication to express “an action... repeated a number of times in a relatively short time” (ibid.

227), a category that “views a series of actions as a single undifferentiated event” (ibid. 286), in

contrast to the un-reduplicated, infixing “intensive” which is used to describe multiple events,

such as involve habitual action. Cases of Yurok “repetitive” bimoraic ((C)CVC, CVCV, CV:)

reduplication follow: *moʔohkeloyt* “to make into a ball” > *mo:moʔohkeloyt* “to make several balls”

(ibid. 271), *loʔmoh* “to pummel” > *loʔmolomoh* “to pummel repeatedly, knead”, *ckem* “to count”

> *ckemckem* “to make small tattoo marks”, *k<sup>w</sup>JyJwJk* “I whistle once” > *k<sup>w</sup>Jyk<sup>w</sup>Jyurowok* “I whistle

a song”, *mJk<sup>w</sup>Jʃ* “peak” > *mJk<sup>w</sup>JmJk<sup>w</sup>Jʃ* “series of peaks, mountain chain” (ibid. 272).

2.3.8. Most reduplicated verbs in Ojibwa are repetitive, *ba-bīmwā'tagwātā* “let us play the game

of shooting at the stick!” (vs. simplex shooting at it once), *o-pa-pa'kitāogo* “receiving a flogging

by (his companions)” (i.e. “being repeatedly struck”) (Malone 1997: 439-40); continuative, *pā-pimusawat* “when walking about”, *kā-gīgito tā-tibātcimaṭ* “kept on talking, he was spinning stories” (ibid. 440); distributive, *kīkat-ai-yagōtōmin* “(our clothes) we will hang up”, *wā-wundā nimak* “from whence blow the winds” (i.e. from each of the cardinal directions) (ibid. 440-1); or intensive, *ai-yāngwāmimigut* “told by (his wife) to be (ever) so careful”, *nā-nagatawāndank* “while he was in deep thought” (ibid. 441-2). There is also evidence of an inceptive function of verbal reduplication, similar to some instances of the Torau reduplicative complex (cf. 2.3.5.): *äji-ma-maḍwäskāg* “got to creaking”, *sā-sāgītōtä* “just beginning... to crawl forth”, *äji-kā-kīkitō wat* “they began to converse” (ibid. 445). Careful reading of Malone’s examples also reveals an almost ever present progressive aspect to these inceptives as well, which we also encounter with Torau.

2.3.9. Macaulay (1993) reports a rightward root reduplication for Karuk (Hokan), expressing either repetition, intensification, or plural object (distributive): *mit* “to pop” > *mítmit* “to pop repeatedly” (64), *pačup* “to kiss” > *pačúpčup* “to kiss repeatedly”, *pasčip* “to be wet” > *pasčípčip* “to be soaking wet”, *ʔáxuh* “to cough” > *ʔaxuhʔáxuh* “to have tuberculosis”, *iθxup* “to lie covering”

> *iθxúpuxup* “to cover many things”, *páarak* “to separate with a wedge” > *parákrak* “to split logs with wedges” (ibid. 71-2).

2.3.10. As shown by Harley and Leyva (2009) Hiaki/Yaqui (Uto-Aztecan) utilizes a variety of allomorphs in reduplication, most often a default light syllable (CV) (ibid. 238), but also a heavy closed syllable (CVC) (ibid. 244), disyllabic root reduplicant (ibid. 241), gemination as reduplication (C<sub>1</sub>VC<sub>2</sub>C<sub>2</sub>-) (ibid. 248), and a hybrid light syllable + gemination (C<sub>1</sub>VC<sub>1</sub>C<sub>1</sub>-) (ibid. 249). There exists no specific semantics tied to a particular variant, rather they are true allomorphs determined either lexically or by the morphophonology of the verb stem (ibid. 251). Hiaki reduplication, then, expresses one of three primary meanings: habitual, *uu yoeme kuchii-m bwa-bwawite* “the man sharpens knives”, *aapo pahkowa-u hiva kit-kitte* “she only makes dough at fiestas”, *nee hiva uka soto’o-ta hunum move-movekta* “I always put the pot there, upside down”, *nee hiva hunum soto’i-po aa=kommonia* “I always soak it in that pot”, *uu miisi hiva kari-po kik-kivake* “the cat always comes into the house” (ibid. 252-3); progressive/iterative, *u uusi wakavak-ta bwa’a-ka-u e-e’ete* “the child is burping the wakabaki that he ate”, *uu hamut vaka-ta cham-chamta* “the woman is mashing the bamboo”, *uu yeni’ichi kia hala-halahte* “the smoker is breathing with great difficulty”, *vempo hunum hoh-hoteka-su, sahak* “they were

starting to sit there and then they finally left” (ibid. 253-4); and emphatic with negative imperatives, *kat=ee hunum ke-keka* “don’t stand there!”, *kat=ee hunuka kutu-ta kot-kotta* “don’t break that lumber!”, *kat=ee aa kamu-kamukta* “don’t hold it in your mouth!”, *kat uusi-ta mahhau-tua* “don’t frighten the child!”, *kat a’avo am kik-kiima* “don’t bring them in here!” (ibid. 253).

Exceptionally, a small number of Hiaki verbs require reduplication with plural subjects (ibid. 254): *aapo koche* “he’s sleeping” vs. *vempo ko-koche* “they’re sleeping”.

2.3.11. Tzeltal (Mayan) exhibits rightward partial (of a variety of shapes not bearing on meaning) and full reduplication expressing what Berlin (1963) describes as “intensification of process” (ibid. 214), but which seems to mean intensive, iterative, habitual action, progressive aspect or state from the data he provides (hyphens here added for clarity): *-nit* “to push it” > *-nit-it-an* “to push it rapidly in a curvy, crooked path”, *-haš* “to feel it with the palm of the hand” > *-haš-aš-an* “to feel it, continually, with the palm of the hand”, *-p’uy* “to grind it between fingers” > *-p’uy-uy-an* “to rapidly grind items between fingers”, *-pik* “to touch it lightly” > *-pik-pik* “to touch it lightly, repeatedly”, *-low* “to stab it with a knife” > *-low-low* “to make continual stabs with a knife”, *-suh* “to urge it done” > *-suh-suh* “to continue to urge that it be done”, *-ʔal* “to talk (about it)” > *-ʔal-ʔal* “to tell it repeatedly”, *-čih* “to shake it” > *-čih-čī-n* “to sift it vigorously”, *-c’al* “to make it ready for

carrying (i.e. cargo)” > *-c'al-c'an* “to continue carrying cargo”, *-peč* “to flatten it” > *-peč-pu* “to flatten it out”, *-b'ah* “to strike with a hammer” > *-b'ah-b'u* “to strike repeatedly with a hammer”, *\*nih* (cf. *-nihan* “to drop the head down” > *š-nih-ih-et* “(walking about), head downwards, in a crouched position”, *\*tuč* (cf. *-tuhčan* “to stand it vertically on end”) > *š-tuč-uč-et* “(walking about) tallest person in a crowd” (ibid. 214-5).

2.3.12. Chumash heavy syllable (CVC) reduplication carries intensive, distributive, repetitive or continuative semantics (Frampton 2009: 83): *s-kitwon* “it comes out” > *s-kit-kitwon* “it is coming out”, *k-ni-č"eq* “I tear it” > *k-ni-č"eq-č"eq* “I’m tearing it up”, *s-ikuk* “he chops, hacks” > *sik-s-ikuk* “he is chopping, hacking”, *s-iš-expeč* > *s-i-šex-š-expeč* “they two are singing”, *k-su-towič* “I’m doing it” > *k-šut-šu-towič* “I’m doing it fast” (Applegate 1972, 1976, in Frampton 2009: 83).

2.3.13. For the most part, we will examine the semantics of reduplication in African languages below, since a particular type often exemplified in these languages, the “unintensive”/diminutive, is not obviously pluractional upon first impression (especially if we consider the intensive to occupy a spot in that range). The diminutive reading may be a development of a frequentative meaning “do X here and there” > “do X a little.” Another possibility would tie the diminutivizing

effect of this type of reduplication to the iconic human diminutive—infant speech. From there outgrowths such as found in Tigre (2.4.4.) might come more naturally. All that being said, we have a few cases here that match the “expected” semantics of reduplication. One such instance is Yao (Bantu) total reduplication of the verb stem, used to give the verb a repetitive meaning: *ku-téléka* “to cook” > *ku-téléka-teleka* “to cook repeatedly”, *ku-wómbóka* “to save” > *ku-wómbóka-womboka* “to save repeatedly”, *ku-súlúmunda* “to sift (flour)” > *ku-súlúmunda-sulumunda* “to sift (flour) repeatedly” (Downing 2005: 91).

2.3.14. Harari (Ethiopian Semitic) uses internal reduplication in its “frequentative” verb form to mark intensive or repetitive action: *kətəf-a* “chop” > *kitatəf-a* “chop a lot”, *k’əbəl-a* “decrease” > *k’ibabəl-a* “decrease greatly”, *wək’ət’-a* “wrestle, fight” > *wik’ak’ət’-a* “wrestle, fight a lot”, *lak’ət’-a* “mix” > *lik’ak’ət’-a* “mix a lot” (Rose 2003: 110). The closely related Amharic, however, displays a broader range of meanings in its “frequentative”: intensive, *səbbər-* “break” > *səbabbər-* “shatter in pieces”; repetitive/frequentative, *ləmməd-* “get used to” > *ləmamməd-* “rehearse”; habitual, *ləwwət’-* “change” > *ləwawwət’-* “change constantly”; distributive, *kəffəl-* “divide” > *kəfaffəl-* “cut in pieces”; and n.b. infrequentative, *mətt’a-* “come” > *mət’att’a-* “come off and on”, as well as “attenuated action”, *ləkk’əm-* “gather” > *lək’akk’əm-* “peck up, gather up” (ibid. 111).

2.3.15. Finally, a quick detour to Europe and Hungarian (Ugric, Uralic), which reduplicates the preverb of the stem to express iterative or frequentative semantics not of the root alone, but of the particular meaning of the preverb + verb: *el-fúj* “blow out” > *el-el-fújta* “blow out many times”, *vissza-vissza-vágyom* “I frequently long to be back”, *bele-bele-néz* “he occasionally looks into it” (Piñon 1991, in Inkelas & Zoll 2005: 28).

## 2.4. Unexpected or Less Transparently Iconic Instances of Verbal Reduplication

2.4.1. The study of Formosan reduplication by Zeitoun, et al. (1996) illustrates uses of verbal reduplication beyond the progressive aspect discussed above (cf. 2.3.4.). The future is expressed by partial reduplication with or without certain focus affixes in Mayrinax Atayal, Amis, and Puyuma: *ta-tutiŋ-un=cu* “will beat me”, *ha-hihip-an* “will kiss”, *ba-Ø-baiq* “will give” (Mayrinax Atayal 3<sup>rd</sup>. sg.) (37); *ta-tayra* “about to go”, *ma-mi-kilim* “is going to look”, *pa-paluʔ-ən* “will beat” (Changpin Amis 3<sup>rd</sup>. sg.); *ʔa-ʔəkəl-ku* “I will drink”, *ku-na-niwan-ay* “I will/want to sell” (Nanwang Puyuma) (ibid. 38).

2.4.2. In an interesting case pointed out by Harley and Leyva (2009), Hiaki reduplication, which otherwise signifies habitual or progressive aspect (cf. 2.3.9.), interacts with a few verbs of stative Aktionsart and the Hiaki *-k* past perfective suffix to produce “change-of-state” semantics. When reduplicated these stative verbs can take the *-k* suffix, which otherwise is incompatible (as it marks a completed event) with the habitual and progressive meaning of Hiaki reduplication. Reduplication of these verbs essentially alters the stative verb into “an accomplishment indicating an event of change into the state denoted by the unreduplicated verb” (ibid. 255): *ama ne a ta-ta’a-k* “over there, I got/came to know him” < *ta’a* “know”, *u’u uusi o-’omte-k* “the child got/became angry” < *omte* “angry”, *u’u uusi uka chu’u-ta o-’omta-k* “the child scolded that dog” < *omta* “angry at”.

2.4.3. While Ojibwa (Algonquian, Algic) exhibits an expected range of pluractional semantics in its verbal reduplication (cf. 2.3.8.), it also possesses a peculiarly nuanced “handicaptive” (Malone 1997). While interesting, the “handicaptive” is by no means productive; only two examples of verbal reduplication used for this type are to be found in Malone’s corpus, *anīn-dcā -dcāgisä* “I am lame”, and *pā-’pasaganāndiwag* “they [turtles] had their shells cracked”. All other occurrences are nouns, e.g. *pā-pō’kwawä* “hunchback” (ibid. 443). I am inclined to agree with

Malone that encoding these handicaps with reduplication may have its basis in mimesis, perhaps a mocking imitation of the steps of the lame (ibid. 443).

2.4.4. Above (cf. 2.3.14) we discussed Ethiopian Semitic “frequentatives” following Rose (2003), noting that, for the most part, this shared category’s internal reduplication still adheres to the expected semantics examined thus far. There were, however, two examples of Amharic reduplication that didn’t quite fit in, an infrequentative, *mətt’a*- “come” > *mət’att’a*- “come off and on”, as well as “attenuated action” usage, *ləkk’əm*- “gather” > *lək’akk’əm*- “peck up, gather up” (ibid. 3). The main focus of Rose’s article is on another Ethiopian Semitic language’s “frequentative” idiosyncrasy. In Tigre, the “frequentative” consistently denotes diminutive action, not the usual variety of Harari or Amharic seen above: *gərf-a*: “whip” > *gəra:rəf-a*: “whip a little”, *kətb-a*: “write” > *kəta:təb-a*: “to write a little”, *məzz-a*: “give responsibility” > *məza:zəz-a*: “give a little responsibility” (ibid. 3). In Tigre, it is the unreduplicated “intensive” that instead shows the pluractional semantics of the Harari and Amharic reduplicated “frequentative”: *ga:rəf-a*: “whip many people”, *ka:təb-a*: “write repetitively”, *da:gəm-a*: “tell many stories” < *dəgm-a*: “tell, relate” vs. “frequentative” *dəga:gəm-a*: “tell stories occasionally” (ibid. 2). While the “frequentative” and its usual semantics in other Ethiopian Semitic languages like Tigrinya and Chaha restrict it from

stative verbs, Tigre, as might be expected with its apparent semantic shift, has no such limits:

*mot-a*: “die” > *məya:yəf-a*: “pretend to die, be pathetic” (one thinks of melodramatic English “I

die a little”), *nəknək-a*: “shake in hysterics” > *nəkəna:nək-a*: “shake a little” (ibid. 5). One

fascinating quality of the Tigre diminutivizing “frequentative” is its unique ability to iterate

attenuation to an increasing degree by multiplying the reduplicant—in all other Ethiopian Semitic

languages double reduplication involves separate morphemes: *dəgm-a*: “tell, relate” >

*dəga:gəm-a*: “tell stories occasionally” > *dəga:ga:gəm-a*: “tell stories very occasionally” >

*dəga:ga:ga:gəm-a*: “tell stories infrequently” (ibid. 5).

2.4.5. Swati (Nguni, Bantu, Niger-Congo) uses disyllabic foot reduplication to signify the

corresponding diminutive of a simplex verb (Kiyomi & Davis 1992) (in all cases the diminutive

may be glossed ~”VERB a little”): *dlala* “play” > *dlaladlala*, *gotjwa* “be bent” > *gotjwagotjwa*,

*lingisa* “resemble” > *lingilingisa*, *dlisana* “cause each other to eat” > *dlisadlisana*, *elapha* “cure” >

*elaphalapha*, *elashwa* “be cured” > *elashwalashwa*, *etayela* “be accustomed to” > *etayetayela*,

*osa* “roast” > *osayosa*, *oma* “become dry” > *omayoma*, *dla* “eat” > *dlayidla*, *na* “rain” > *nayina*

(118). There seems to be no restriction by the Aktionsart class of the verb, as might be

expected of a diminutive (cf. Tigre above).

2.4.6. Frampton (2009) describes two instances of what he calls “unintensive” reduplication in African languages, the semantics of which appear to be indistinguishable from the “diminutive” we have discussed thus far. Kíhehe (Bena-Kinga, Bantu, Niger-Congo) is one such language (note *ku-* is an infinitival prefix): *kuceénga* “to build” > *ku-ceenga-ceénga* “to build a bit”, *kulima* “to cultivate” > *ku-lima-lima* “to cultivate a bit”, *kwiita* “to pour” > *kwiita-kwiita* “to pour a bit”, *kwiimbila* “to sing” > *kwiimbila-kwiimbila* “to sing a bit” (ibid. 81, following Odden & Odden 1985).

The other Frampton cites is Ndebele (Nguni, Bantu, Niger-Congo) (*uku-* is the nonfinite prefix, *zi-* an object agreement prefix, *-el-* an applicative suffix): *uku-zi-nambith-el-a* “to taste for” > *ukuzi-nambi-nambitha* “to taste here and there for”, *uku-zi-lim-el-a* “to cultivate for” > *ukuzi-lime/a-limela* “to cultivate a bit for”, *uku-zi-dl-el-a* “to eat for” > *ukuzi-dlela-dlela* (among other forms for this particular verb) “to peck at for” (ibid. 118, following Sibanda 2004). It is plausible, then, that the apparent semantic shift of the Tigre “frequentative” towards a diminutive could be attributed to African areal influence, given the Bantu evidence.

## 2.5. The Reduplicant's Shape: Possible Connections in Form to Function?

2.5.1. In making the transition from our look at semantics to shape, it will be important to note whether or not any particular semantic nuance is linked to any specific shape of the stem. This section will review a number of cases examined above in terms of the semantic-morphological interface of the respective reduplication processes and see if there exists any evidence for a typological tendency to link shape to meaning. To be clear, we are not concerned with the various theoretical frameworks used to describe and predict surface output for any given form in any given language—that is well beyond the scope of this dissertation, which aims solely to catalog, describe, and plot the history of Anatolian verbal reduplication, not to apply any predictive apparatus to the data. We will continue to speak in broad descriptive parameters of partial ~ full, internal ~ edge, rightward ~ leftward, monomoraic ~ bimoraic, light ~ heavy, fixed segmentism ~ faithful copy, and clitic ~ affix. We will not get bogged down in exceptions and special cases but adhere to the most general and productive patterns here surveyed. As the greater variety in criteria involves the morphophonology of the reduplicant, we shall organize what follows by semantic distinction, with the caveat that pluractional semantics often show much overlap (which, incidentally, foreshadows our outcome).

2.5.1. Let us begin with a survey of the reduplication types we find associated with ongoing, progressive aspect. Bontok (Central Philippines) and Ilokano (Northern Philippines) both express their progressive by means of faithful, heavy syllable, partial reduplication (cf. 2.3.1.): Bontok *təl.gəy* “to vibrate” > *təl-təl.gəy* “is vibrating” (Thurgood 1997: 140), Ilokano *takder* “stand” > *tak-takder* “be standing” (Kiyomi & Davis 1992: 114). Mokilese (Oceanic) also uses a (more or less) faithful, heavy syllable, partial reduplicant to denote the progressive (cf. 2.3.6.): *m<sup>w</sup>iŋe* “eat” > *m<sup>w</sup>iŋm<sup>w</sup>iŋe* “eating” (Blevins 1996: 523).

2.5.2. Austronesian *Cə*-reduplication (partial, light syllable reduplication with fixed vowel) may express the progressive in Siraya (West Formosan) (cf. 2.3.2.), *ka tu da-diri-ən tīn* “and when he was sowing...” (Adelaar 2000: 43), and Thao (Northern Formosan): *makit-pa-pariqpiq* “to fart continuously” (though the repetitive-continuative-progressive lines are blurred in Thao, cf. 2.3.3.) (Chang 1998: 282).

2.5.3. Among other Formosan languages (cf. 2.3.4.) Puyuma uses partial light syllable reduplication for the progressive, *mə-la-laub-ku qa ənay* “I am boiling water”, while the same morpheme marks progressive or iterative semantics in Bunun, *ma-m-aʔun ʔuvað-aʔ tai* “the

child is eating taro/eats taro continuously” (Zeitoun et al. 1996: 46). Paiwan and Rukai, two other Formosan languages, use disyllabic reduplication for progressive and habitual both (cf. 2.3.4. for exx.). The details of Torau (Oceanic) reduplication semantics are complex, as mentioned above (2.3.5.), but its partial, faithful reduplicant can express the progressive and habitual with some sentence markers and verbal Aktionsarten, and progressive inchoative/inceptives with others.

2.5.4. Hiaki (Uto-Aztecan) also uses reduplication for its progressive/continuative: *uu hamut totoi kava-m bwa-bwaata* “the woman is mixing the porridge” (Harley & Leyva 2009: 251).

Crucially, however, as is clear from the examples given in 2.3.10., “there is no correlation between reduplicant shape and its semantic effect; any shape may produce any of the characteristic semantic effects of reduplication,” and as emerges from the more detailed presentation in Harley & Leyva, “the different reduplicant shapes are morphophonologically conditioned allomorphs of the basic RED morpheme” (ibid. 271). Tzeltal (Mayan) rightward reduplicants (partial and full, faithful and with fixed segmentism, with and without affixes, cf. 2.3.11. for exx.) likewise has no apparent restriction on semantic force to reduplicant.

2.5.5. The difficulties of Chumash reduplication (cf. 2.3.12.) have been analyzed under numerous theoretical frameworks (McCarthy & Prince 1995, Inkelas & Zoll 2000, Frampton 2009), but as stated before, the impediments to any one predictive apparatus are beyond our scope. Since I cannot entirely resist summarizing this particularly fascinating situation, suffice it to say that the Chumash VP concatenates a heavy syllable reduplicative morpheme with a number of agreement and other prefixes. With agreement prefixes (e.g. *s-*), the order is determined by the necessity of producing a CVC template for the reduplicant, the upshot being a prefix that would otherwise precede RED (*s-kitwon* “it comes out” > *s-kit-kitwon* “it is coming out”) instead precedes an onsetless verbal root in order to provide the reduplicant an onset: *s-ikuk* “he chops, hacks” > *sik-s-ikuk* “he is chopping, hacking”. The picture is complicated with the introduction of other grammatical prefixes (e.g. *iš-*, *su-*) which may occur between the agreement prefixes and the root. These may end up “split” by the reduplicative scheme to furnish an onset to the root, *s-iš-expeč* > *s-i-šex-š-expeč* “they two are singing”, or provide the bulk of the template, with an existing root onset being relegated to the RED coda, *k-su-towič* “I’m doing it” > *k-šut-šu-towič* “I’m doing it fast”. We will content ourselves with noting that this behavior is both prosodically more typical of a clitic than the strict affixes we have seen in the

majority of our languages here, and that the details have no bearing on which semantics are encoded, which in these examples is progressive.

2.5.6. Picking any pluractional nuance to compare forms under yields us the same results as our progressive~continuative sample set above and, given overlap, repeating the format for each reading will unnecessarily grow the chapter, so allow me to simply point out a few contrasts of reduplicant shape with shared semantics between languages and invite the reader to compare the examples given above throughout section 2.4. The habitual is expressed in Siraya by disyllabic-root reduplication (cf. 2.3.2.), but Amharic uses internal light syllable reduplication with fixed vowel (cf. 2.3.14.), whereas Yurok (cf. 2.3.7.) uses an infix to mark the habitual, using bimoraic reduplication for the repetitive instead. Bontok (cf. 2.3.1.) and Mokilese (cf. 2.3.6.) use light syllable reduplication for the intensive, but Tigre (cf. 2.4.4.) utilizes an infixing morpheme in place of reduplication, which is used for the diminutive, yet the related Amharic (cf. 2.3.14.) reduplicative morpheme expresses both intensive and habitual action. Finally, note that repetitives are encoded by Bontok disyllabic root (cf. 2.3.1.), Kusaiean heavy syllable (cf. 2.3.6), Yurok bimoraic (disyllabic or heavy syllable, determined by the structure of

the base (Garrett 2001: 271), cf. 2.3.7.), Yao total reduplication of the verb stem (cf. 2.3.13.), and Harari internal light reduplication with fixed vowel (cf. 2.3.14.).

2.5.7. It is to be expected that the same principle obtains in the rarer semantic readings of verbal reduplication, but given said rarity, we do not have a compelling number of contrasts to illustrate the point.

2.5.8. Having ended this short typological safari of verbal reduplication and its associated semantics in a number of the world's languages, I believe it safe to say that the evidence does not support any connection of form to meaning beyond the most generic iconicity that is associated with reduplication as early as child language. Although this result was almost a foregone conclusion due to the general linguistic principle of the arbitrariness of the sign, the degree of iconicity inherent in reduplication nonetheless warranted a brief examination, as iconicity is mitigating upon strict arbitrariness. All phonological variants and most of the semantic outgrowths observed are for the most part easily understood and natural enough. As we have seen, a few languages determine their reduplicants' form by the phonological shape of the stem, or lexically, to which no semantic restrictions then adhere among the possibilities.

Many, however, morphologize their reduplicants, assigning each a restricted semantic function. Neither situation is at all surprising. One interesting impression the survey does leave us with is that reduplication with a fixed vowel is not at all as common as copy vowel reduplication; this too might have been expected, but it will be relevant and important to our examination of Indo-European reduplication. While our examination of the universal typology leads us to a conclusion which defines the broadest limits upon reduplication to be expected of our Anatolian evidence, we shall now investigate the areal typology and its reduplicative patterns, both as a continuation of our universal typology, and to determine whether or not any neighboring languages can be plausibly said to have exercised an influence upon the development of Anatolian verbal reduplication.

### The Areal Typology of Verbal Reduplication

Having briefly surveyed a number of languages from around the globe in building a picture of the semantics associated with verbal reduplication, as well as the common shapes of the concomitant reduplicants, we shall undertake the same for the Near Eastern neighbors of the Anatolian languages, as space and material allow.

## 2.6. The Semantics of Ancient Near Eastern Verbal Reduplication

2.6.1. Akkadian, the *lingua franca* before, during and after the Hittite ascendancy, is arguably the most important language with the most widespread usage in the ancient Near East, famously the chosen language of trade and diplomacy between Hittites, Egyptians, Mesopotamians and the lesser powers of the region. It is important to note here that while it was the Middle Assyrian dialect of Akkadian that served as the *lingua franca* of the Amarna period, we shall be examining the better known Old Babylonian stage of the language which remained a persistent and highly influential literary style of myth, history, religious and scientific texts. An Eastern Semitic language, Akkadian is characterized by the archetypical trilateral root common to the Semitic family. Many of the verbal semantic categories that we find associated with reduplication elsewhere, e.g. imperfective aspect, durative, habitual action, are expressed by the “durative” tense in Akkadian, which also marks the simple future, present, and potential action: *warassa ana kaspim inaddin* “she will sell her slave” (future); *ṭuppašu ikannak* “he is sealing the tablet” (present imperfective); *inaddin* “he was/is/will be giving” (durative); *inaddin* “he used to give, he gives, he will give (customarily) (habitual); *inaddin* “he may/might/could/can/should/would give” (modal) (Huehnergard 2005: 98-9).

The doubling of the middle radical is a characteristic marker of the G durative (Grundstamm, i.e. base form) over and against the G preterite, which has a punctual, perfective aspect and is usually read as a simple past, i.e. *iddin* “he/she gave” < *\*indin* (inf. *nadānum* (with *n*-assimilation)) vs. the non-punctual range of the G durative *inaddin* above (ibid. 19). We can view the gemination of the second radical as a form of reduplication (cf. Hiaki, 2.3.10.), the locus of which is to be expected when compared to the cases of internal reduplication in the Ethiopic Semitic languages we have observed above (cf. 2.3.14. & 2.4.4., though note the reduplicant vowel). The other Akkadian verb class that uses a doubled middle radical, the D stem, does so in all its forms, “durative” and preterite alike. As such the punctual/non-punctual contrast associated with the gemination in the G stem forms is not found here, though among other meanings the D stem does express action done upon plural objects, i.e. *ālšu anaqqar* (1 sg. G durative) “I will tear down his city” vs. *ālānīšunu unaqqar* “I will tear down their cities” (1 sg. D durative) (ibid. 256).

Among other meanings we have frequently seen associated with reduplication, iterativity, repeated, continuous, and habitual action are expressed by infixation of *-tan-*, in for example, the Gtn stem preterite *ittaddin* “he/she gave over and over”; see also, *ištatakkān* “she has

placed repeatedly”, *limtaḥḥarū* “they (m) should each receive” (distributive), *irtabbi* “he grew greater and greater”, *iṣṣeneḥḥer* “it gets smaller and smaller”, *itaššûm* “to bear continuously, i.e. to support, provide for someone” (ibid. 409-12). However, note here that not only does infixation characterize this category, but we also get gemination of the middle radical again.

There are yet a few rarer forms of unambiguously reduplicated verbs in Akkadian that fall under the label “R stem” (for “reduplicated”). Most of these forms show reduplication of the third radical, e.g. *namušušum* “to die”, *šahururum* “to be(come) completely inactive, paralyzed (with fear)”, *šaqululum* “to become suspended, hang”, *šaqumumum* “to become completely still, silent”, but by the Old Babylonian period this type is no longer productive and these are being reanalyzed as different stem types (ibid. 464). While Huehnergard states that the R stem “connotes an intensification of the meaning of the root”, there also seems to be a stative quality to the all the examples he cites (ibid. 464). Finally, there are a small number of “Dtr” forms, or Dt stem verbs with reduplicated middle radicals, that seem to encode the reflexive and reciprocal of the D stem: *nuttamamma* “we will adjure one another” (durative, *tamûm*), *ša ... nuktalallimu* “which...we showed to one another” (preterite, *kullumum*), *ūtelelli* “it raised itself” (preterite, *utlellûm*) (ibid. 465).

2.6.2 Hattic was the language spoken by the pre-Hittite inhabitants of Hatti (ultimately the source of our name for the Hittites), the heartland of the Old Hittite Kingdom in central Anatolia. As such it is primarily attested in Hittite texts in various loanwords, toponyms, ritual language, etc. and frequently referenced in Hittite religious texts, usually along the lines of “the priest says the following in Hattic”; preserved Hattic sentences are rare. Hattic is an agglutinative language, whose verbal roots consist of one to three syllables. What we have of Hattic testifies solely to a full reduplication. Though a number of reduplicated nouns survive, *ḫaluḫalu* “bolt”, *munamuna* “cornerstone(s)”, *pakkupaku* “hammer”, *šepšep* “shoe(s)” (Soysal 2004: 178), only one reduplicated verbal root is attested, *karkar* “scrape, scratch; bury”, to which Soysal plausibly attributes an iterative value matching the Hittite denominative verb *hahhariya-* “rake” (ibid. 187; 285) (although if the Hittite source is in fact denominative this also has an element of the plural subject, i.e. multiple prongs).

2.6.3. Hurrian, the Hurro-Urartian language of the Mitanni empire, is first attested by the Mitanni letter from Amarna, but, due no doubt to the Hittite predilection for adopting the gods and rituals of conquered peoples (the Mitanni fell to the Hittites around 1360 B.C.E.), predominantly by the Hittite-Hurrian bilingual texts from Hattusa. Hurrian is an ergative,

agglutinative language with primarily monosyllabic roots. Both verbal and nominal morphology are characterized by “morpheme chains” of suffixes and clitics attached in a specific order to the right of the root. Verbal reduplication is limited, Giorgieri (2000: 194) stating that, “raramente sono attestate radici con raddoppiamento,” of which he only gives two examples, the verbal roots *firvir-* “liberate” and *keligel-* “elevate”.

2.6.4. Egyptian is here included in the areal section purely based on geography, though given both Egypt’s distance from Anatolia and the use of Akkadian as the *lingua franca* of diplomacy and trade it is unlikely to have had an impact anywhere as immediate or pervasive as the above three languages. Although Late Egyptian is most likely the form of the language that any Anatolian speaker might have encountered at the height of interaction, we shall here briefly survey the Old Egyptian and Coptic periods, recently treated by Bendjaballah & Reingtes (2009), allowing us to see a glimpse of diachronic change in an areal case of verbal reduplication.

Old Egyptian (3000-2000 BCE), represented chiefly by the Pyramid Texts and “Autobiographies” (Loprieno 1995: 5), exhibits three reduplicating stem formations: the pluractional, the imperfective, and the prospective passive, in order of productivity (Bendjaballah & Reingtes

2009: 135). While in principle full stem reduplication such as found in some pluractionals (*wn-wn* “to sway to and fro”, *wʔħ-wʔħ* “to last forever”) cannot positively be identified as initial or final, given all other evidence, Egyptian reduplication appears to be rightward and stem-final.

The pluractional stems given by Bendjaballah & Reingtes (139-141) show primarily iterative and intensive semantics, though they note the class also expresses “multiple” action (137).

Remarkably, reduplication may be partial or total, copy one, two, or all three consonants of the root, but always appears to copy from the edge first, i.e. no  $C_1C_2C_3-C_2$  reduplication (stems ending in yod (which may or may not be reduplicated) belong to the “weak” category): *ng* “to cackle” > *ng-n* “to cackle”, *fx* “to release” > *fx-x* “to release entirely”, *wn* “to hasten” > *wn-wn* “to sway to and fro”, *ʔw* “to be long” > *ʔw-ʔw* “to be very long”, *snb* “to be healthy” > *snb-b* “to converse”, *dbn* “to surround” > *dbn-bn* “to encircle”, *nħr* “to delight” > *nħr-nħr* “to rejoice”, *xbj* “to jump” > *xb-x* “to creep”, *xtj* “to go back” > *xt-xt* “to fall back”, *nkj* “to copulate” > *nkj-kj* “to make pregnant” (139-140). Also noteworthy is that one root may display multiple pluractional stems, with no detectable contrast, in apparent free functional distribution (140): *nk* “to cut off” > *nk-nk*, *nk-k*, *nk-n* “to hurt”; *hnj* “to praise” > *hn-hn*, *hn-n*, *hnj-nj* “to rejoice”; *dbn* “to go around” >

*dbn-dbn, dbn-bn* “to go around and around”. Semantics are not the primary concern of Bendjaballah & Reingtes, but let us make note of the force of reduplication their glosses suggest. In some instances there is no apparent change in meaning (*ng-n* “to cackle”); others appear repetitive, e.g. *wn* “to hasten” > *wn-wn* “to sway to and fro”; others intensive, e.g. *nħr* “to delight” > *nħr-nħr* “to rejoice”; some diminutive, e.g. *xbj* “to jump” > *xb-x* “to creep”; at least one shows a stative base made into an activity verb, e.g. *snb* “to be healthy” > *snb-b* “to converse” (one imagines a reciprocal exchange of “salve!” leading to banter); and one other appears to have a resultative force, e.g. *nkj* “to copulate” > *nkj-kj* “to make pregnant”. In short, the semantic range is as free within the confines of expected meaning, as the formalism is in distribution.

The imperfective stem is restricted to weak verbs, i.e. those with final yod, and in all cases the gemination of the second root consonant replaces said yod (ibid. 140): *hz.j* > *hzz* “is praising”, *jn.j* > *jnn* “is bringing”, *pr.j* > *prr* “is coming”. We won’t get into the details here, but Bendjaballah & Reingtes make the case that the final yod is a stem affix and not part of the root, and thus the imperfective formation represents reduplication filling the stem slot occupied by the yod, rather than assimilation.

Finally, Old Egyptian's least productive reduplicating class is the prospective passive, showing reduplication of the final root consonant of strong verbs: *bf* > *bff* "will be spat out", *wn* > *wnn* "will be opened", *xm* > *xmm* "will not be known", *rxs* > *rxss* "will be slaughtered", *jwr* > *jwrr* "will be conceived", *dbḥ* "> *dbḥḥ* "will be requested" (ibid. 143).

For Coptic, Bendjaballah & Reingtes note that only the pluractional formation survives into that era, as a frozen lexical formation, the prospective passive being pushed out already in the Old Egyptian period under pressure from two more productive morphological passives (ibid. 147).

Old Egyptian pluractionals in Coptic no longer have corresponding base stems, and thus unsurprisingly no longer show pluractional semantics—they have in effect replaced their simplex stems.

Another Coptic reduplicating formation involves the inchoative verbs, which are inchoative in the "absolute state" (one of three Coptic categories that is eventive, describing dynamic change over time), and resultative in the stative (the Coptic category generally read as an adjectival passive (ibid. 148)), and is restricted to biliteral roots of size, quality, and color (ibid. 150). It is the absolute state that shows rightward reduplication of the final consonant (here paired with the

stative for contrast): *hmom*, *fmom* “to become hot” ~ *hem* “to be hot”, *kmom* “to become black” ~ *kem* “to be black”, *kinon* “to become soft, weak” ~ *kien* “to be soft, weak”. Interestingly, Coptic inchoatives of this type represent a diachronic shift to an aspectual contrast from what were originally Old and Middle Egyptian pluractionals to “adjectival” verbs with no apparent difference in meaning from their corresponding simplex (and in free variation with said base): *fm*, *fm-m*, *fm-fm* “to be (very) hot”; *km*, *km-m* “to be black”; *gn*, *gn-n* “to be weak” (ibid. 151). So in the one instance, Coptic got rid of reduplicative contrast in the frozen pluractionals, but in another introduced an aspectual opposition where none previously existed for the historic pluractionals of a restricted set of verbs.

Finally, the class of “medial geminate” verbs in Coptic is in the absolute state diachronically descended from the Old Egyptian reduplicated imperfective, but shows key morphological differences we won’t delve into here. Suffice to say it no longer retains the aspectual contrast of old (Old Egyptian imperfective > Coptic absolute state ~ stative): *pr* “is coming” > *prre* ~ *pore* “to come forth”; *tr* “is trembling” > *trre* ~ *trejow* “to be afraid”; *sbb* “is circumcizing” > *sbbe* ~ *sβew(t)* “to circumcise”; *mrr* “is loving” > *mrrre* “to love” (ibid. 152).

2.6.5. Of the languages we have examined above, for which we know or are probably assured of direct contact with Anatolian speakers, we find no surprises from the expected semantics of reduplication established by our more universal survey. Akkadian, the *lingua franca* of the region, used reduplication to encode imperfectivity, durativity, habitual behavior, pluractionality and intensity. The only more marked senses found were the future tense and modal uses, which could be secondary, and the resultative (among R stem examples). The latter, which is marginal in Akkadian, will be of interest for a handful of Anatolian examples as well, where it is also rare (see Chapter 6, and recall the resultative aspect of the PIE perfect). Our Hattic and Hurrian evidence is woefully limited, but what we do have doesn't contradict the generalizations we've made thus far. Finally, Egyptian, the major regional language least likely to have had a pervasive influence on Anatolian speech, shows only one highly marked reduplicative category, the prospective passive, which is however unproductive even in the oldest attestations of the language. Coptic, the last descendant of Egyptian, created an expected reduplicative semantic contrast, in the form of inchoatives, from stems which, though following Old Egyptian pluractional stem shape, showed no such contrast in their earlier forms. The latter case speaks to the strong motivation to find a degree of iconicity in reduplication. Ultimately, while the functions of reduplication in the languages the Hittites were in contact with fall into the expected

range of reduplicative semantics we have seen in this chapter, the shapes of Egyptian and Akkadian (perhaps unsurprisingly, given the evidence from other Afro-Asiatic languages examined in our survey), are very different from the predominantly leftward, partial copy vowel reduplication that we shall see as we begin to survey Hittite verbal reduplication in the following chapter. As for the native Anatolian languages Hittite borrowed from, Hattic and Hurrian, we do not have sufficient evidence for either to assume that instances of Hittite full root reduplication were anything other than independent creations.

### Chapter 3. Reduplicated Verbs in Hittite Part 1: Paired Synchronic Stems

3. We will begin our examination of Hittite reduplicated verbs by first examining attestations of those that pair synchronically with an unreduplicated counterpart, in the hopes that these will both be less likely to have developed a lexicalized meaning, and more likely to show contrast. As one might imagine, there exist a few factors that will limit the picture we are able to paint. First, those reduplicated stems that exist synchronically with their base form and differ in any semantically significant way are naturally fewer in number than the quantity of reduplicated stems as a whole. Second, very few which do occur are attested in any great number. Finally, many of the attestations are of limited quality, a not insignificant amount being merely fragments—an expected result of the accidents of preservation. Such examples' usefulness is often severely hampered by the lack of context, reducing our analysis to pure speculation at times. I will be careful to be explicit when this is the case, so as not to appear to attribute undue importance where unwarranted. I will not remark at length on the formal issues arising from unexpected forms, but shall save those for a later chapter, and focus below solely on the sense and reading. I follow the terminological guidelines laid out in the introduction for clarity's sake. Since semantics is all that concerns us for now, the following entries are laid out in alphabetical

order for convenience. In each case I will first illustrate usage of the base verb, then that of the reduplicated stem. With these caveats in mind, let us proceed.

### 3.1. *ARK*- “To Mount (Sexually), Copulate”

#### 3.1.1. KUB 41.8 iv 29 (MH/NS) Ritual

UDU.A.LUM UDU.SÍG+MUNUS-*ya arga nu=za armahhi*

“The ram mounts the ewe, and she becomes pregnant.”

#### IBoT 2.96 v 11-19 (OH/NS) Ritual Fragment

LUGAL-*us 2-anki ta karzanas nāi*<sup>LÚ</sup>ALAN.ZU<sub>9</sub> *ahā halzāi* [<sup>L</sup>]<sup>Ú</sup>*palwatallas palwaizzi*

[       ] *arkiskanzi* [    ]*x-nan walhannieskanzi* [<sup>LÚ</sup>ALAN.ZU<sub>9</sub>] *ahā halzāi*

[<sup>LÚ</sup>*palwatallas p*] *alwaizzi* ...

“The king (twists it, i.e. the white wool) twice and winds (it) around the *karzan*.

The performer shouts ‘aha!’; the clapper claps. [                    ] they (i.e. they royal couple)

copulate. They play a [                    ]. The performer shouts ‘aha!’; the clapper claps.”

(trans. following Melchert 2002: 405)

### 3.1.2. *ararkiske-*

KUB 11.25 iii 19-24 (OH/NS) Ritual Fragment (ibid. 404)

*kuitman=ma* LUGAL MUNUS.LUGAL *ararkiskanzi*<sup>GIŠ.d</sup>INANNA.ĤI.A GAL=*ma* SÌR<sup>RU</sup>

LÚ.MEŠ *palwatallēs palwiskanz[i] mān zinnanzi*<sup>GIŠ.d</sup>INANNA.ĤI.A *karussiyanuanzi*

“While the king and queen copulate, (they play) large lyres. They sing. The clappers

clap. When they are finished, they silence the lyres ...”

(trans. emending Melchert 2002: 404)

If we accept the meaning of “to copulate” for *ark-* in this ritual involving the royal couple, as Melchert 2002 convincingly argues, it is no great stretch to understand an iterative-durative meaning to the act itself. Since we understand “mount” for the base form as per KBo 10.45 above, with *-ske-* imparting a meaning “repeatedly mount” > “copulate”, then it appears *ararkiskanzi* is double-marked. Formally, this is our first example of a reduplicated stem double-marked with *-ske-*, signifying an iterative-durative. As *-ske-* is in and of itself the imperfective aspect marker *par excellence* in Hittite, this and any forms where we find both reduplication and *-ske-* in union will not help us in establishing just what aspectual (or syntactic) force reduplication may have generally imparted; it simply allows us to keep an imperfective meaning in play. We shall see this situation again, and although purely speculative, it remains plausible to imagine that the Aktionsart imparted by the reduplication might be reinforced by the synchronically productive morpheme.

### 3.2. AS-/ES- “To Sit”

#### 3.2.1. KBo 20.10+25.59 11-12 (OH/OS) (text with Neu 1980: 131)

*ta* LUGAL-*un* *suppiahhi* *w[a]tar* 3=*ŠU*

*isparnuzi* *malti* LUGAL-*us* MUNUS.LUGAL-*as* *esanda*

“(Then) he purifies the king. He scatters water three times and recites,  
and the king and queen sit down.”

KBo 3.4 i 5 (NH) Annals of *Muršili*

<sup>m</sup>*Arnuandas=ma=za=kan* ŠEŠ=YA ANA <sup>GIŠ</sup>GU.ZA ŠA ABI=*ŠU* *esat*

“Arnuwanda, my brother, sat down on the throne of his father.”

The base verb refers to a single act of sitting down, using the medio-passive in OH, and the medio-passive plus reflexive in NH.

### 3.2.2. *asas-/ases-*

KBo 3.22 Vo 49-50 (OH) *Anitta* Text

*kuis ammel āppan LUGAL-us kisari nu<sup>URU</sup> Hattusan āppa asāsi*

“Whoever becomes king after me and resettles Hattusa.” (trans. Puhvel 1984: 208)

KBo 6.26 iv 2-3 (OS/NH) Laws

*kūnn=a takiya URU-ri kūnn=a takiya [UR]U-ri asesanzi*

“They settle one in one town, the other in another town.” (ibid.)

On the surface, there isn't too much to say about *asas-/ases-* other than to call attention to the transitive valency of the reduplicated stem versus the intransitive base *as-/es-*, "sit". But the verb clearly isn't iterative, repetitive, pluractional, or anything else we might expect from reduplicant typology. Instead it appears to be causative, resulting in its object being placed into a state of being "seated, settled". We will have cause to further discuss the effect the reduplicated stem has in taking additional arguments against the base verb when we take up *titti-* "install" below in 3.19.2. To this end, there are potentially interesting extensions of the reduplicated stem given below.

KBo 17.1 i 6 (OH/OS) Royal Ritual

*partaunit=us LUGAL-un MUNUS.LUGAL-ann=a asaskezzi*

"With the wing he is signaling for the king and queen to be seated."

(lit. "With the wing he is seating the king and queen.")

I believe it unlikely that the reduplicant expresses any pluractionality, as we're only dealing with a pair of objects. If *asas-* is causative in force, then the *-ske-* is really adding an imperfective sense (versus elsewhere where it appears to be reinforcing an already existing one, cf. 3.1.2.).

A potential wrinkle in the translation is due to the fact that the signaling occurs while the royal couple is spitting, so a progressive reading seems odd. Perhaps an inceptive, “(and) he begins to seat the king and queen with the wing (i.e. by flapping the wing)” is better.

KUB 14.3 iii 68-69 (NH) *Tawagalawa* Letter

*nu=wa=tta kueda[n]i ped[i] asisanumi*

“In the place where I make you settle (down).” (trans. following Puhvel 1984: 210)

KBo 11.1 Ro 26 (NH) Prayer of *Muwattalli* to *Tešub* of *Kummani*

*kinun=a=za kuitman KUR-TAM asesanuskemi*

“But now while I am settling the country.”

In the first instance, the *nu*-causative doesn't seem to add anything to the meaning; cf. KBo 6.26 iv 2-3 above. Puhvel's use of “make” in the translation seems an attempt to make an explicit rendering of the productive causative morpheme. One could just as easily say, “in the place where I settle you”. The second example of a *nu*-extension confirms any lack of appreciable nuance with regards to the morpheme here, though *-ske-* adds a true progressive sense in the temporal clause (cf. KBo 17.1 above). One wonders if the addition of *-nu-* is a reinforcement/renewal of causative semantics in much the same way that *-ske-* is used to renew or reinforce imperfective semantics in many of our examples (starting with 3.1.2.; cf. also *pahsnu-* alongside *pahs-* “to protect”, with no apparent difference in meaning or usage).

3.3. HALI(YA)- “To Kneel”

3.3.1. KUB 10.11 ii 15-16 (OH/NS)

*n=asta LUGAL-us INA É dIŠKUR anda paizzi n=as ANA DINGIR-LIM UŠKEN ta hāliya*

“Der König geht in den Tempel des Wettergottes, vor dem Gott verneigt er sich und kniet nieder.” (trans. Neu 1968: 34)

KUB 14.15 iv 28-29 (NH) Annals of *Muršili*

*n=as=mu uet GÌR.MEŠ-as kattān haliyattat*

“She came and knelt at (lit. under) my feet.”

KUB 5.6 ii 50-51 (NH) oracular inquiry

*kuitman=ma apūs<sup>URU</sup> Zithara dUTU šl=ma ka-a-e[-a] INA UD III<sup>KAM</sup> hāliskattari*

“Während aber jene in der Stadt Z. sind, soll die Majestät auch hier an drei Tagen niederknien?” (trans. Neu 1968: 35)

### 3.3.2. *halihla(i)-*

KBo 3.34 ii 20-21 (OH/NS) Palace Chronicle

*marsanza=wa=zik LUGAL-un=wa=z mekki halihlatti*

“You are a hypocrite, you keep making much obeisance to the king.”

(trans. Puhvel 1991: 31-32)

Here we have one of our best examples for an iterative-durative meaning of the reduplicated

stem without a “reinforcing” *-ske-* morpheme like we saw in 3.1.2 for *ararkiskanzi*. Since

*halihla(i)-* characterizes what makes the individual a “hypocrite,” it might also be said to be

habitual in this instance. What’s interesting, however, is the transitive syntax of our clause, as

Neu (1968: 33-34) points out. He literally “kneels the king,” a meaning and valency better conveyed by German *beknien*.

KUB 33.86 iii 6-8 (pre-NH/NS) *Hedammu* Myth

(text Siegelová 1971: 58)

*memiskezi=at*<sup>d</sup>IŠTAR-*is halihl[ai*

*ANA*<sup>MUŠ</sup>*hedammu n=[a]n meminit wa-x [*

*[ni]nganuskezz[i ]*

"(While) she is saying it (preceding speech), Ištar is bowing[...]before Hedammu and intoxicating him with words [and/like...]." (trans. Melchert)

One of our more diagnostic environments is the appearance of *ske*-verbs in clauses coordinated with our reduplicated stems. KUB 33.86 nicely frames reduplicated *halihlai* with *memiskezi* and *ning(a)nuskezzi*. The meaning fits well, as Ištar here is putting on her charms and seducing the

monster, an act not immediately accomplished. As such, this passage likely constitutes our best evidence for reduplication used in a progressive sense.

KUB 26.86 iii 1-5 (NH) Plague Prayer of *Muršili*

[ *m]ān INA ŠÀ KUR<sup>URU</sup> Ha[tti*

*[ak]kiskettari nu=za x[*

*[AN]A dIŠKUR<sup>URU</sup> Hatti EN=YA [*

*[ap]atta sēr ēssahhi nu=tta*

*[h]alihliskemi nu duddu hal[zi-<sup>o</sup>*

“Since there is much dying in the land of Hatti, for that I keep making [a plea] to the Stormgod of Hatti, my lord, and keep making obeisance to you and call[ing] for mercy.”

(trans. Melchert)

As in KUB 26.86, we have yet more examples for this verb’s reduplicated stem in combination with *-ske-*: KBo 31.81: 6-8 prayer fragment (?/MS): *nu!=za ammuk halihliskemi* MUNUS.LUGAL

[ ] / *nu=za<sup>f</sup>Lalantiwashas=ma halihli[iskezzi] / nu=za wēs halihliskeuwani*, “I keep making obeisance, the queen [...] L. keeps making obeisance, we keep making obeisance.” As per our previous discussion in 3.1.2., this supports an imperfective sense but does not prove it for the reduplicant; ditto for KBo 7.28 + 8.92 below, although coordinated with *mukiskezzi*.

KBo 7.28+8.92 Ro 3-5 (MH?/MS) Prayer to the Sungoddess of the Earth

*dūwa[ddu taknās]<sup>d</sup>UTU-i kāsā=ḍdu=za LUGAL-us mukiskezz[i*

*nu=za x-[ ]-i ser=sit darāi DINGIR-LAM=ddu=za iēt [*

*ḥ<sup>?</sup>-e-w[a-al-la-an<sup>?</sup>] IŠBAT<sup>?</sup> taknās halihlis<kat>tari*

“Mercy, o Sun-goddess [of the Netherworld]! The king herewith induces you personally and [...] he exerts oneself on his behalf(?). He worshipped you the god. [...] he caught. He kneels down to the earth.” (cf. Singer 2002: 22)

Finally, we have *n=at=san hassī halihliyandāri*, “they kneel at the hearth,” in KUB 29.1 iv 1 (OH/NS) temple construction ritual; [*halij*]hlatteni in KBo 3.23 Vo. 13 (OH/NS); and in

*Madduwatta*, KUB 14.1 Vo 10 (MH/MS): [*nu=wa-r=a-an=kán ku-e-mi ...*]x *ha-li-ih-la-i*, but as their function cannot be discerned from the context, we will file them away for our formal discussion.

### 3.4. *ISDUWA*- "To Become Evident"

#### 3.4.1. KUB 30.10 Vo 19 (pre-NH/MS) Prayer of *Kantuzzili*

*nu=mu=ssan ser assul natta isduwari*

"For me well being is not made manifest."

KUB 23.11 iii 7-8 (MH/NS) Annals of *Tuthaliya*

*n=as=mu* DINGIR.MEŠ *parā piyer nu=smas=(s)ta uttar arha isduwati*

*n=us=kan hasper<sup>1</sup>Kukkulinn=a=kan kuinner*

“The gods handed them over to me, and the plot was exposed on them,  
and they destroyed them, and they slew K.” (trans. Puhvel 1984: 483)

### 3.4.2. *isdusdus(ske)-*

KBo 52.85+KUB 43.58 ii 51-54 (MH/MS) Purification Ritual

(text and translation after Strauß 2006: 337 & 347)

*nu=smas=kan assul dusgaraz ŠA [ ... ]*

*n=a[ sta ] IŠTU É.Ĥ[ ] .A DINGIR.MEŠ É.LUGAL=ya p[(arā)]*

*du[ sgaran ] nass=a memias GIŠ <sup>d</sup>INANNA-as g[alg(altūriyas)]*

*[ ha ] [(lugas)] isdusduskettaru n[a<sup>2</sup>- ... ]*

“Euch Wohlergehen (und) Freude [

Aus den Tempeln und dem Palast

soll immer wieder das Wort der Freude

(und) die Botschaft des Ištar-Instruments erschallen!”

While the base verb is telic in the same way as, e.g. Eng. “realize”, in the above example the context makes clear the repetitive nature of the action, as well-being and joy is sounded here and there. The verb itself is yet another example of the doubly-marked type.

The remainder of the forms are broken, often at the same place: KUB 40.23: 12, [*is-d*]u-us-du-us-k[e-...]; KBo 23.90 i 7, *is-du-us-du-us*[-ke-...]; KUB 59.44 Ro. 12-13, [*n=*]a-as-ta ke-e-ez URU-az ar-ha [...] / *du-us-ga-ra-za is-du-us-du-us-k*[e-...], “Out of this town [...] / Joy will?/must? be proclaimed” (trans. following Kloekhorst 2008: 419).

### 3.5. KIS- “To Happen; To Become”

#### 3.5.1. KBo 3.4 ii 50 (NH) Annals of *Muršili*

*mahhan=ma hameshanza kisasat*

“Als (es) aber Frühjahr wurde.” (trans. Neu 1968: 93)

Whereas we use the impersonal “when it became spring,” the Hittite is more literally rendered “when spring happened.”

KUB 34.24+ iv 5-6 (NH) Deeds of *Šuppiluliuma*

*nu*<sup>URU</sup> *Zizzilippi hullanzais kizat*

“Und in der Stadt Z. entstand Kampf (kam es zum Kampf).” (trans. Neu 1968: 93)

KBo 6.2 ii 12 (OH/OS) Laws

*zik=wa UR.BAR.RA-as kizat*

“You have become (a) wolf.”

The above examples solidly demonstrate an underlying telicity to this verb.

### 3.5.2. *kikkis-*

KBo 3.67 ii 8-9 (OH/NS) Edict of *Telipinu*

*mān<sup>m</sup> Hantīliss=a!* (LÜŠU.GI-[*ahta*(*t n=as* DINGIR-LI)*M-is*] *kikkissūwan dāis*

“But when H. became an old man and began to die.”

This is a gem of an example in making a case for an overall imperfective aspect of the reduplicant. Here we have in an Old Hittite text the inchoative/voluntative construction *dai-* “to put” / *tiya-* “to step” (usage of the former more common in older texts) + supine. As per Hoffner/Melchert (2008: 338), the stem of the supine is almost always an overtly marked imperfective (*-ske-* or *-anni-*). With no *-ske-* to muddy the waters, we can safely conclude this is in fact the force of the reduplicated stem here. The absence of *-ske-* in the stem cannot be attributed to the Obligatory Contour Principle, since we also have, for example, Hitt. *gankiske-*, iterative to *gank-* “to hang”, and *kunkiskantari*, *kunnikunkisketta* (below 3.7.) to *kunk-* “to shake, rock”.

KUB 14.8 Vo. 10-13 (restored after KUB 14.11 iii 25-29) (NH) Plague Prayer

(rev. H. Craig Melchert)

ḫIŠKUR<sup>URU</sup> *Hať[(ti) BELÍ=YA DINGIR.MEŠ (BE)JLU<sup>MEŠ</sup>=YA kikkistāri*

[(QATAM)]MA *wasteskanzi*

*nu ABU=YA=ya [(wastas)] nu=[(kan ŠJA ḫIŠKUR<sup>URU</sup> Hatti EN=YA*

*[(mem)]iyan zāis*

*ammuk=ma ŪL kuitki [wa]sdahhun nu kikki[(st)āri QATAMMA*

*ŠA ABU=ŠU=kan wastul ANA DUMU=ŠU ari*

“O Stormgod of Hatti, my Lord, o gods, my Lords it (always) happens thus: (people) sin.

My father also sinned; he transgressed the word of the Storm-god of Hatti, my Lord.

But /haven’t sinned at all. It (always) happens thus:

the sin of the father falls upon the son.” (lit. “reaches the son”)

(trans. following Melchert; cf. Singer 2002: 59)

The reading of *kikkistari* in this Plague Prayer excerpt is clearly habitual. It is always the case that things go down thus (viz. “shit happens”), *despite* the fact that Mursili hasn’t done anything wrong. Of interest to us is the coordinated *-ske-* version of “to sin” likewise in the habitual sense “people always sin.” The bit of gnomic wisdom at the end of the passage is fitting—though not marked for it here, gnomic statements are yet another function of *-ske-* (Hoffner/Melchert 2008: 321).

KUB 5.1 iii 48-49 (NH) Oracular Inquiry

*unius=za=kan kuēs Ù.MEŠ HUL-lus uskezzi IZKIM.HI.A=ya=za*

*arpuwanta kikkistari DINGIR.MEŠ ANA KASKAL<sup>URU</sup> Tanizila*

*MÈ-as arpan uskatteni*

“(was) jene bösen Träume (angeht), die er dauernd sieht, und (was jene) unheilvollen Zeichen (betrifft), (die) dauernd geschehen, seht ihr, Götter, für den Zug nach T. Unheil für die Schlacht (Gen.)?”

(trans. Neu 1968: 90)

Once again we have an example of the reduplicated stem flanked by *ske*-verbs in adjacent clauses. The first, *uskezzi*, “he keeps seeing”, is repetitive, i.e. the dreams keep happening, and likewise the ominous signs keep occurring (*kikkistari*). The second, *uskatteni*, “are y’all seeing,” is more likely progressive.

IBoT 1.33 1-4 (NH) Oracular Inquiry

*eni=za kuit* IZKIM.ĤI.A ĤUL.ĤI.A INA<sup>URU</sup> *Kummahi kikkistat*

*nu=za apattan<sub>x</sub> kuit* EGIR-an ĤUL DÙ-at *kinun=ma=za namma kuit*

IZKIM.ĤI.A Ĥ[UL.]ĤI.A *kikkistari ŠA* SAG.DU<sup>d</sup>UTU-ŠI ĤUL *isehhiskanzi*

“Because those evil signs kept happening in K., because on that account evil afterwards happened, since now evil signs keep happening again, are they revealing evil for the person of His Majesty?”

(trans. Melchert)

More collocation with *ske*-forms is what characterizes this passage as well, here likewise repetitive in nature, unsurprising given the similarity in topics between the texts.

KUB 30.65+ iii 8-9 (NH) Tablet Catalogue

II ṬUPPU I[NIM<sup>m/f</sup> ... *mān* UN-*s*]i IŠTU DINGIR-LIM *nasma* DUMU.LÚ.U<sub>19</sub>.LU

*hatu<sub>1</sub>ki<sub>1</sub>* [*iszi* (-)] [*ē<sub>1</sub>ssai* *kuit n=at=ssi ŪL kikkestarti*]

“Zwei Tafeln: W[ort des/der ... Wenn einem Mensche]n wegen eines Gottes  
oder eines (anderen) Menschen

etwas Furchtbares ge[schieht... was er] auch immer mache, es gelingt ihm nicht,”

(text and trans. Dardano 2006: 164-5)

Finally we have an imperfective marker other than *-ske-* coordinated with our reduplicated stem, namely, *-ssa-*, which functionally overlaps the former suffix in all cases (Hoffner/Melchert 2008: 318ff.). In this instance *ēssai*, the imperfective of *iya-* “to do, make”, lies within a relative clause

embedded in the protasis, with *kikkestari* lying in the apodosis of the conditional clause (as best as can be made out from the broken context).

KBo 24.124 Ro 12-13 (NS) Oracular Inquiry

*kī kue* ḪUL-*wa* ANA <sup>d</sup>UTU-ŠI *kikkistari*

[*n=at=ssij*] IŠTU É <sup>m</sup>Nakarsiyandu *kikkistari*

“The ills that befall His Majesty, befall him from the house of N.”

(trans. Puhvel 1997: 197)

A repetitive meaning fits here, but is unprovable (cf. KUB 5.1 & IBoT 1.33, above).

KBo 3.1 ii 36-39 (OH/NS) *Telipinu* Edict

LUGAL-*us=san hantezziyas=pat* DUMU.LUGAL DUMU-*RU kikk*[(*is*)]*taru*

*takku* DUMU.LU[GAL]

*hantezzis NU.GÁL nu kuis tān pēdas DUMU-RU nu LUGAL-us apās*

*kisaru mān DUMU.LUGAL=ma DUMU.NITA NU.GÁL nu kuis DUMU.SAL hantezzis*

*nu=ssi=ssan<sup>LÚ</sup> antiyantan appāndu nu LUGAL-us apās kisa[(ru)]*

“Let the very first male child of the king (always) become king.

If there is no firstborn prince, then whichever son is next in position, let that one

become king. But if there is no male child of the king, then whichever princess is

firstborn, let them take up her husband, and let that one become king.”

Though impossible to prove, I would argue here that the reduplicated stem of *kis-* signifies an extension of the habitual, namely what is customary, i.e. it is the custom that the firstborn male child of the king succeed to the throne. What follows that general statement is a series of conditionals utilizing, by contrast, the simplex (underlyingly telic, as you'll recall from 3.5.1.) to signify that in the unexpected/undesired case in which the firstborn cannot succeed to the kingship, then X will happen instead. It is therefore understood that this does not subvert in any way the customary usage to which the succession reverts after these conditions are fulfilled.

3.6. *KUER(S)*- “To Cut”

3.6.1. KBo 14.18: 10 (NH) Deeds of *Šuppiliuma*

[ ]x=*an IŠBAT n=an=kan SAG.DU=SÚ kuerta*

“... he seized him and he cut his head (off).”

KUB 14.3 iv 49-51 (NH) *Tawagalawa* Letter

SAG.DU-*an kurandu mān=ma=[tta? ... ]x*

*nu=kan apūn UN-an SAG.DU-an [*

*kuin kuranzi*

“... let them cut (off) the head. But when ... (and) the head of

that man ... which they will cut (off) ...”

### 3.6.2. *kuk(k)urs-*

All the attestations of *kuk(k)urs-* seem to only take persons or their body parts as objects. This would suggest that this stem became lexicalized early on with the meaning “to mutilate” (quite plausibly arising from an intensive or repetitive sense). As such, I will save our discussion for the section on synchronically isolated reduplicated stems.

### 3.6.3. *kuwakuwarske-*

KBo 11.11 i 3-7 (NS) Ritual of *Uruwanda* against Witchcraft

*n=asta*<sup>UZU</sup>SA ANA GI *anda huittahhari nu=ssan hamenkeskemi namma=an*

*arha kuwakuwar<as>kemi n=an=san happini pessieskemi sēr=a=ssan kissan*

*memieskemi*

“I pull the sinew inside a reed and tie (it), further I cut it off and throw it in the firepit,

and over it I speak thus ...” (trans. Puhvel 1997: 235)

As per Kloekhorst (2008: 491), the base of this hapax reflects the regular outcome of a *\*k<sup>w</sup>rs-ské/o-*, i.e. *kuwarske-* should be the normal iterative of the root. While from a diachronic perspective it would appear to be a heavy reduplicant, synchronically it matches the grade of the root. We will have further cause to discuss this and similar forms of this root in the formal section. For now, let us point out both the double-marking (with *-ske-*) of our reduplicated stem, as well as the two *-ske-* verbs which frame it. The ritual context easily lends itself to a repetitive interpretation of “slice”.

### 3.7. *KUNK-* “To Shake, Rock”

#### 3.7.1. KUB 14.10 iv 19-20 (NH) Plague Prayer

*nu=kan*<sup>URUDU</sup>ZI.KIN.BAR-*as*<sup>GIŠ</sup>*sarpaz kunkuweni*

“We are dangling from the point of a needle (and let the gods then have mercy on Hatti).” (trans. CHD Š: 288)

KUB 33.93 iii 12-14 (?/NS)

[<sup>o</sup>*Kumar*]bis=za a[sij]DUMU.NÍTA-an *duskiskeuwan dā[is n]=an kunkeskeuwan d[āis]*

“Kumarbi began to rejoice in that son and began to dandle him.”

The CHD translation makes it clear that the active base verb is intransitive in KUB 14.10, an interpretation superseding Puhvel’s (1997: 248) previous reading, “we shake (copper) spikes from the (wooden) harrow.” Here, the simplex has the sense of Eng. “dangle from/be on tenterhooks”. This however confuses the issue, as KUB 33.93 is clearly transitive, and much of the other evidence is of no help. The exact object of KBo 20.82 ii 14 (NS) [L]UGAL SAL.LUGAL *kunkuskinun*, is indeterminable, as we could restore anything before the break, which seems desirable considering the unlikelihood an official would jostle the king and queen. The sense of the base verb participle in KUB 7.10 i 6 *AŠRU=wa=kan karū anda kungan* (cf. Puhvel 1997: 249) and duplicates remains undetermined as well. But as toggling transitivity is not among the functions of *-ske-*, we must provisionally conclude that the intransitive use in the proverbial

expression, attested only in the Plague Prayers, is innovative for a medio-passive. Of people, a sense of “fidget” for the base may be what’s behind the medio-passive (reading an inceptive *-ske-*):

KUB 29.1 iii 41-44 (OH/NH) Foundation Ritual

*nu=san* DINGIR.MEŠ *esantari nu=za=an É-as* BELU.MEŠ-TIM LUGAL-*us*

SAL.LUGAL-*s=a* DAM.MEŠ *pahhuwarses esantari n=at=za=kan sāsas mahhan*

*kunkiskantari*

“The gods are seated. Then the houselords, king and queen, and the secondary wives are seated, and they begin to fidget like *sāsas* (some sort of animal).”

### 3.7.2. *kun(n)ikunk-*

KBo 10.24 iii 9-10 (OH?/NS) KI.LAM Festival

*lamniy=as seszi ta=as=za kunnikunkisketta*

“The *k*-tree lies still for awhile, then it begins to sway (viz. in the breeze).”

Though *kunnikunk-* does resemble the intensives Hitt. *wariwar-* and Skt. *ganīgam-* in shape, since the syntax is parallel to KUB 29.1 iii 44 above, I am inclined to read KBo 10.24 iii 10 the same way, pace Puhvel’s intensive passive (1997: 249), “it [viz. a *kapnuessar*] lies still for awhile; then it is shaken vigorously.” The force of the reduplicated stem then is most likely repetitive, i.e. “sways back and forth”. It should be noted, however, that if *kunnikunk-* does indeed match *wariwar-* and *ganīgam-*, a repetitive reading may still be available for the “intensive”. For the Sanskrit *ganīgam-*, Schaefer (1994: 113) remarks that, “an beiden Belegstellen zeigt das Intensivum repetitive Funktion.” Given the lexical semantics of intransitive “came”, this is hardly surprising; and since the CHD has established that the base

verb *kunk-* is likewise intransitive, I think then that the semantics alone should not bar grouping

*kunnikunk-* with *wariwar-*.

3.8. *LAH(H)U-*, *LAH(H)UWA-* “To Pour, Empty; To (Over)flow (intrans.)”

3.8.1. KBo 17.1 i 16-17 (OH/OS) Ritual for the Royal Couple

*[(ta=at)] hurtiya[(li)]ya lāhui MUNUS.LUGAL -s=a 3=ŠU aīs=set*

*[(ā)]rri n=at hurtiyaliya lāhui*

“(And) he pours it (the water) into the *h.* vessel. The queen washes her mouth three times, and she pours it into the *h.* vessel.”

KBo 5.2 i 53-54 (MH?/NS) *Ammihatna* Ritual (text Strauß 2006: 222)

*[nu<sup>LÚ</sup>AZU] 2 DUG MĒ dāi n=asta wātar 7=ŠU anda*

*[sunna]ji parā=ya=kan ÍD-i anda 7=ŠU lāhui*

“Then the AZU-priest takes two water cups. He fills water into (them) seven times.

And he also pours (them) into (the) river seven times.”

### 3.8.2. *lilahuwa-* & *lilhuwai-*

For purposes of divining the functional aspect of reduplicated *lahhu-*, *lahhuwai-*, we shall treat these stems together. While it is possible that there did exist two different reduplicated stems at some point, it seems more likely that the rarer *lilahuwa-* is a spelling variant to the better attested *lilhuwai-*; cf. *wa-al-ah-zi* and rarer *wa-la-ah-zi*. However, given *li-la-ak-ki* we must leave open the possibility of the existence of */lilaxW-/* next to */lilxW-/* and delay this decision until the section on shape.

KBo 15.37 v 8-11 (MH/NS) (+ dupl. KBo 25.176 iv 5-8 (NS)) *Hišuwā* Festival

LU SANGA=*ma=kan IŠTU* GÌR.GÁN KÙ.BABBAR GEŠTIN *haniskizzi=pat* (var.

*hānieskizzi=pat*)

*n=as=san katta damēdas* (var. *tamēdas*) ANA GAL.ḪI.A *lelhūwai*

“The priest keeps dipping up wine from a silver bowl and pouring it out into other cups”

(trans. eCHD)

This example from the *Hišuwā* Festival proves the most useful. We have a *-ske-* imperfective *haniskizzi* “dip” coordinated with our reduplicated *lelhūwai* “pour”. While the attachment of the particularizing *-pat* on the first verb phrase (which of course governs the coordinated second verb phrase as well) might simply mean “also”, here it more than likely serves to draw attention to the repetition of the action indicated (Hoffner/Melchert 2008: 385-386). The action described is explicitly distributive as well. These elements taken together give us a rather solid imperfective complex.

KBo 32.14 iii 17-19 (MH?/MS) (Hurro-Hittite Bilingual)

... *n=an=za PANI BELÍ=ŠU isiyahḫuwanzi tarhuer*

*nu IGI.DU<sub>8</sub><sup>HLA</sup> kue pasisket n=at PANI BELI=ŠU*

*lilhuwan*

*dais*

“Ihn vermochte man vor seinem Herrn anzuzeigen. Und welche Abgaben  
er verschluckt hatte, die began er vor seinem Herrn hinzugießen.”

(text and trans. Neu 1996: 85)

“And they were able to to denounce him before his lord. And the payments which he  
had been swallowing, he began to pour those (out) before his lord.”

Though this example is not demonstrably Old Hittite, we can fruitfully compare the supine  
construction here with that of KBo 3.67 ii 9 *kikkissūwan dais* “began to die.” You will recall that  
the inchoative-signifying supine construction almost always occurs with the supine of an overtly  
marked imperfective stem. Furthermore, the past inchoative here is coordinated with a *ske*-verb  
in the preceding relative clause!

KBo 15.69 i 13-15...20-21 (MH/NS) *Hišuwā* Festival

*nu=kan*<sup>LÚ</sup>SAGI.A<sup>DUG</sup> *hāniššaza* GEŠTIN *la[huwai]*

*nu* LUGAL-*i* *pāi* *n=at=kan* LUGAL-*uš* ANA GÌR.GÁN-x[ ] *anda lahuwai*

[n=]ašta<sup>LÚ</sup>SAGI.A<sup>DUG</sup>hāniššaz=pat [GEŠTIN]

[le]lhuwai nu LUGAL-i piškezzi

“(Then) the cupbearer pours wine with the *h.* vessel, and he gives it to the king. Then the king pours it into (his) GÌR.GÁN.”

“(Then) the cupbearer keeps pouring wine with that same *h.* vessel, and giving it to the king.”

In lines 13-15 we have instances of the non-reduplicated stem used to describe the first and illustrative action for a repeated sequence. The following lines 20-21 prove the point, with the cupbearer using the very same (*-pat*) pitcher to keep pouring wine and keep giving it to the king, with the reduplicated verb showing the same repetitive force as the collocated *ske-* verb. What remains of interest is the choice of local particle in these examples, *-asta* for the reduplicated stems versus *-kan* in the simplex. While these particles often mark local relationships, there is also evidence they contribute aspectual readings (Hoffner/Melchert 2008: 364ff.), and as aspect is a, if not the, primary function of morphological verbal reduplication across languages, it is

tempting to see significance in the choice of particle here.

In the similar KUB 15.52 i 4-5, *n=asta* LÚSAGI.A *namma* DUG[*hanissaz* GEŠTIN] *le-el-hu-u-wa-i*,

“the cupbearer again pours [wine from] a p[itcher]” (trans. eCHD), one is tempted to see an

interplay of the reduplication with the temporal adverb *namma* “again, next, finally”, as the CHD

has done, to mark iterativity. While that interpretation remains available, we must consider the

absence of *namma* in KBo 15.69 i 20-21, and conclude it is merely optional or reinforcing, as

the reduplication may yet be iterative or successional on its own. There is simply not enough

context here to be sure.

KBo 21.47 ii 11-14 (OH~MH/MS) Ritual Fragment

...*nu=kan* GAL.HI.A GIR<sub>4</sub> *kuiēs anda kianta* [...]x-*uskezi n=us* ANA DUMU.MEŠ

SANGA-*TIM*

*parā appiskezi* [...] *nu=wa=smas lilahui* G[AL?].HI.A-an EGIR-*pa* <sup>GI</sup>PISAN [...

GA]L.HI.A *hūmandus QATAMMA irhāizzi*

“The baked-clay cups which are put in [...] he \_\_s, and he holds them out to the priests.

[...] And he pours out for them. [ ]the cups(?) back into the basket[...]he thus makes the rounds of all the cups.” (trans. Melchert)

Here we have two *ske*-forms preceding the reduplicated stem, in what is most likely an object distributive reading. The summary in line 14 confirms that the action is repeated by the subject (LÚ ʿIŠKUR “man of the Storm-god”, who appears in line 10) for all cups involved.

KUB 45.5 ii 20-21 (pre-NH/MS) Libation to the Throne of *Ḫebat*

*[nu=s]san* LÚAZU GEŠTIN-*an* Ì.DÙG.GA=*ya* IŠ-TU<sup>[DUG]</sup>LIŠ.GAL [... *le*]lhuwāi

*n=asta* DINGIR-LUM GÌR.MEŠ=*ŠU* *arri*

“The AZU priest [p]ours out wine and fine oil from a LIŠ.GAL

and washes therewith the deity’s feet.” (trans. eCHD)

In light of line 19, *kunnaz [k]israz katta warappiskezi*, “rubs down with his right hand,” an iterative reading cannot be excluded, though given the broken context we cannot solidly affirm it. It depends solely on how thorough Hittite priests were when washing their deities’ feet. For support that cleaning actions are inherently iterative/repetitive, see 3.20.2 and discussion of *wawarsanz(a)*.

KUB 29.48 iii 18-19 (pre-NH~MH/MS) Hippological

*[nu u]wanzi water lilhuskeua[n tianzi n=a]n katkattinuwanzi damessa[nziy=an]*

“[They begin] to pour water (on the horse), they make it tremble [and] restrain(?) [it]”

(trans. eCHD)

In *lilhuskiwan tianzi* we get three imperfective elements: reduplication, the *-ske-*imperfective, and the supine construction, here giving an inchoative reading. While the supine “almost always” takes an overtly marked imperfective stem (Hoffner/Melchert 2008: 338), the combination of *-ske-* with the reduplicated stem unfortunately clouds any definitive evidence for

our purposes. While it's interesting to note reduplicated *katkattinuwanzi* "they make tremble" immediately follows, it appears unrelated, as an iconic reduplication lends itself to the semantics most easily and more prominently than any concurrent imperfectivity.

VBoT 1 11-14 (MH/MS) Letter from Amenophis III to the King of Arzawa (text eCHD)

*kāsma=fta uienun<sup>m</sup> lrsappa<an>*

<sup>LÚ</sup> *halugatallan=min aumani DUMU.MUNUS-TI*

<sup>d</sup>UTU-*mi kuin DAM-anni uwadanzi*

*nu=ssi lilhuwai`-an SAG.DU-si*

"I have sent to you Iršappa, my envoy, that we may look upon your daughter whom they will conduct to My Majesty to be (my) wife. He will pour (or: Pour [impv.]) oil on her head." (trans. eCHD)

"I have herewith sent to you Iršappa, my messenger (with the instructions): "Let us see the daughter whom they will conduct to My Majesty for marriage. And pour oil on her

head.” (trans. Hoffner 2009: 275)

Since a future reading is a regular feature of the Hittite present, marked or not, and is determined by context, the fact that futurity is a common sense of imperfective aspect is thus irrelevant in our interpretation here. We can only speculate on the choice of reduplicated stem; it may be aspectually reinforcing with a nuance beyond our understanding of the language or emphatic if indeed we have an imperative.

Other forms from the eCHD that are of no value in a functional discussion due to broken contexts include: KBo 12.112 Vo 3 (MH?/NS), *le-el-hu-wa-i* 3 sg. pres. or 2sg. impv.; KUB 32.121 ii 36 (pre-NH/NS), *le-e-el-hu-an-zi* 3. pl.; KBo 23.65:6 (pre-NH/OH?/NS), *[l]e-el-hu-wa-an-du* 3. pl. impv.

3.9. *LAK-* “To Knock Out (a Tooth); To Turn (an Eye or Ear Toward); To Fall (MP)”

3.9.1. KBo 6.2 i 9 (OH/OS) Laws (eCHD)

*takku LÚ.U<sub>18</sub>.LU-an ELLAM kuiski ... KA×UD=ŠU lāki*

“If someone knocks out a free man’s tooth ...”

3.9.2. *lilakk-*

KUB 24.8 i 2-6 (Pre-NH/NS) Tale of *Appu*

(text Siegelová 1971: 4)

[ ... *ha*]r<sup>n</sup>l<sup>d</sup>and ]us r<sup>LÚ</sup>MEŠ-us [k]uis

[sar] ]isr<sup>kez</sup>zi hūwappas[a=k]an LÚ<sup>MEŠ</sup>-r<sup>us</sup>?

[GIŠ-ru m]ān lilakki hūwapp[us]a=kan LÚ<sup>MEŠ</sup>-as

[tarn]as=sma<as> saksakilus wal<sup>ha</sup> lannai

[t]=us harnikzi

“He who habitually vindicates honest men, who repeatedly fells evil men like trees,  
who continually strikes evil men on their skulls like *šakšakilus*, and destroys them.”

(trans. eCHD)

While the eCHD translation may be a bit over-the-top in driving home the aspectual sense of the verbs here, it’s definitely accurate. Note that this time our reduplicated *lilakki* is preceded by *sarliskezzi* and followed by *walhannai*, a verb formed with the third imperfective verbal suffix *-anna-*, which, like *-ssa-*, overlaps in function with *-ske-* (Hoffner/Melchert 2008: 318ff.); thus the passage proves probative in establishing the verbal reduplicant’s status.

3.10. *LIP(P)-, LIPAI-* “To Lick (Up)”

3.10.1. KBo 6.34 i 29...ii 19-20 (MH/NS) Soldier’s Oath

*harnammar INA QĀTI=ŠUNU dāi n=at lipānzi*

“He puts yeast into their hands and they lick it.”

*nu=smas BULÙG BAPPIR INA QĀTI=ŠUNU dai n=at lippanzi*

“He puts malt (and) ‘beer bread’ into their hands and they lick it.” (trans. eCHD)

KUB 35.148 iii 14-18 (OH/NS) *Zuwi* Ritual

UR.TUR-*as=za mahhan* 9 <sup>UZU</sup> *happessar=set lipzi* ...

*kill=a happesnas inan QĀTAMMA lipdu* <sup>UZU</sup> *ZAG.LU-as inan lipdu*

“Just as the puppy licks its nine body parts ...

in the same way let it lick up the illness of this one’s body parts also!

Let it lick up the illness of (his) shoulder!”

(trans. eCHD)

It's clear that, at least when the subject is a (domestic?) animal, as with the puppy in the *Zuwi* Ritual, this verb functions as a habitual on a lexical level, an “activity” verb. Therefore, to my mind, it need not be reduplicated either to denote iterativity, or here also, a distributive. Such a marking would remain purely optional. Since the action of licking is often pragmatically repetitive, it will be difficult to demonstrate any clear functional distinction between the simplex and reduplicated stems. In the examples to follow, reduplication may simply be a “reinforcement” of the lexical semantics.

### 3.10.2. *lil(l)ipa(i)-<sup>mh</sup>*

KUB 8.67 (pre-NH/NS) *Ḫedammu* Myth

*L]M-tili=ya azzikizzi*

*mi<sup>2</sup>-l]i<sup>2</sup>-it GIM-an katta Ḫ paski[zzi ]*

*G]IM-an lillipāi*

*]ju adanna zinni[zzi]*

*-z]i nu 99 x[*

] und zu [Ta]usenden frißt er.

] wie [Hon]ig schling[t er] hinunter

] wie [ ] schlürft er

]... er beende[t] das Essen

...-]t und 99 [

(text and trans. Siegelová 1971: 40-41)

[...] eats by the [thou]sands [...] swallo[ws] like [hon]ey

licks up like [...]

(trans. eCHD)

Here again, our reduplicated verb is preceded by *skē*-verbs. Even given the damage, it seems clear that both habitual and distributive object readings are appropriate.

KBo 11.14 i 21-22 (OH/NS) *Hantitaššu* Ritual

MUN GIM-*an* UDU<sup>HI,A</sup> *lilipantī* nu *ueddu kiūs*

*hūkmaus<sup>d</sup>UTU-us QATAMMA lilipaiskiddu*

“Just as sheep lick salt, in the same way let the Sungod come (and) lick up these spells!”

(trans. eCHD)

Duplicate KUB 43.57 i 22 has *li-li-pa-as-ki-id-du*.

Here we have the same kind of sympathetic magic as in the *Zuwi* Ritual above, and, ostensibly, the change in subject in the apodosis would appear to threaten our working theory concerning this verb’s Aktionsart. While a habitual reading is expected for the sheep subject, one expects the Sungod to behave like a human (assuming strict anthropomorphy in Hittite religion), and simply “lick it up.” That may still be the case, but I believe we must also consider the plural object as one impetus (the other homomorphy in a sympathetic spell?), driving a distributive reduplication. The big caveat here concerns the shapes of the two reduplicated stems (Luvian-looking in the first instance, unexpected shape in the second), which we shall save for later.

3.11. *LUKK(A)*- “To Brighten”

3.11.1. KBo 17.1 iv 24 (OH/OS) Ritual for the Royal Couple

*mān luggatta=ma*

“And when it dawns ...”

KBo 3.34 i 19 (OH/NS) Palace Chronicles of *Ḫattušili I*

*mān luktat nu ABI LUGAL halzais*

“When it dawned, the father of the king called.” (trans. eCHD)

KUB 9.15 ii 17-18 (?/NS) Purification Ritual

*mahhan=ma GE<sub>6</sub>-anza lukzi MUL.UD.ZAL.LI=kan uezzi lukzi nāwi*

“But when the night grows brighter and the morning star rises, (while) it  
hasn’t yet become (really) bright ...” (trans. eCHD)

KUB 8.48 i 1 (?/NS) *Gilgameš* (text eCHD)

*nu lukkešta [nu]<sup>d</sup>E[*nk*]it<sup>us</sup> ANA <sup>d</sup>GILGAMEŠ EGIR-*pa* memisk[*juwan dais*]*

“It dawned and Enkidu began to recount to Gilgamesh.”

Clearly, the simplex and the inchoative both mean “to dawn”, and therefore, though impersonal, the understood subject is the morning sky. This point is relevant, since given the variety of stems the *lukk-* complex displays, with the clearest and earliest meanings reflected above, we will proceed to examine the evidence under the working theory that as none of the other subjects exhibited can be understood to be the morning sky, they are therefore signifying a preternatural brightness metaphorically analogous to the archetypal subject of the base verb. We will therefore be operating under the assumption that we have an intensive sense in our reduplicant, even if it doesn’t bear an expected shape for an intensive vis-à-vis the rest of Indo-

European and even one or two Hittite examples (e.g. *wariwar-*). In any case, *lukk-* reduplicated stems do not appear to match either our dominant cases of imperfectivity or the “transformative” cases (i.e. resulting in a change of state or position) of *asas-/ases-* and *titti-* “to install”. It should be noted that we do not possess an unsuffixed reduplicated stem. As the suffixes displayed in our attestations are described as stative-fientive *-e-*, and fientive *-ess-*, the possibility exists that the underlying reduplicated stem has the sense of incremental increase “starts to grow brighter and brighter”, and that *lalukke-* and *lalukkess-* represent overt markers of the underlying reduplicative semantics of increase, with speakers creating a suffixed reduplicated stem to match the suffixed base middle verb *lukka-*. This interpretation would not strictly exclude being labeled “intensive”, but is rather a more nuanced view of the special lexical semantics of the root, which according to the CHD, in all the oldest attestations is used exclusively of the dawn, and may account for it not adhering to a more “classic” intensive stem shape.

3.11.2. *lalukke-*

KUB 33.66 Ro ii 16-22 (OH/MS) Myth of the Stormgod of *Lihzina*

*ANA DUMU.LÚ.U<sub>19</sub>.LU=ma tuekki=ssi [a]ndan*

*lalukket harsani=s<si> 𒀭KI.MIN𒀭 saku𒀭 wa𒀭as=sas KI.MIN*

*wālulas=sas KI.MIN IGI<sup>HI.FA1</sup>-as harki[as] dankuwayas*

*KI.MIN hantī i=s𒀭si 𒀭KI.MIN eneras=sas*

*KI.MIN laplipas=sa<s> KI.MIN*

“It was/became luminous on the mortal’s [entire?] body:

on his hand ditto, on the eyes, on his *w.*, on the white[s] of the eyes,

on his forehead, [on] the eyebro[ws], and on the eyelashes [ditto]”

(trans. following eCHD)

Both this *-e-* fientive and cases of the *-ess-* fientive below might be considered to be pluractional

(body parts and “four corners”, respectively) if we were to try and force imperfective readings,

though this is highly unlikely given that such a reading wouldn't fit all our reduplicated (*lukk-*) stems, and furthermore, light tends to affect everything in its vicinity anyway. That property also fits well with the intensive.

### 3.11.3. *lalukkess-*

KUB 33.11 iii 8-13 (OH/NS) *Telipinu* Myth

[ ... *kardim*] *iyawandas* ʾZIʾ=ŠU

[ ... <sup>GIŠ</sup>*wa*] *rsa<ma>as wesuriyattati*

[ ... *mahha*] *n lukka*[*n*] *zi*

[ ... *halhaltuma*] *rias lalū uk*ʾ *kiszi*

[ ... *d*] *andukesnas DUMU-as*

[ ... *u*] *ddār iyat*

“[ ... ] the soul of the angry one was twisted (like) kindling. As when they kindle [ ... ]

it grows bright in the corners [ ... ] the mortal child [ ... ] did the deed.”

KUB 33.51 4-10 (OH/NS) Myth of the Disappearance of *Ḫannaḫanna*

𒀭DINGIR.1.MAḪ-as ZI=ŠU<sup>GIŠ</sup> war[s]amas

wisūriyattat[i] [n]u<sup>GIŠ</sup> warsama[n]

mahhan lukkanz[i] [n]=asta anda

4-tas halhaltūmar[iyas] laluk<sup>ḫ</sup> kī<sup>ḫ</sup> isz[i]

𒀭DINGIR.MAḪ-ni=ya<sup>ḫ</sup>=kan AN[A ZI=K]A karates=tes[a]

[anda QATAMM]A la[lukki]sdu

[<sup>GIŠ</sup>warsama]s [ ... ] arha warāni

“The spirit of *Ḫannaḫanna* was twisted like kindling (i.e. out of alignment, like a heap of kindling). Just as when they kindle the firewood, it grows bright in the four corners, so let thine innards become bright in your spirit, *Ḫannaḫanna*. As firewood [ ... ] burns up ...”

KUB 8.16: 7-10 (OH/NS) Astral Omen

takku=kan<sup>MUL</sup> lessallas uezzi nu=ssi=kan

*happarnuwatar=set parā mekki lalukeszi*

“If the *leššallaš*-star comes, and its *ḥ*. shines very brightly

(it will happen that the king of the world will die)”

(trans. eCHD)

The use of *mekki* here would seem to reinforce an intensive reading, while the star subject is an excellent candidate for the sense.

KUB 15.34 ii 26-28 (MH/MS) Ritual of Evocation

*kedani=kan ANA SÍG.SA<sub>5</sub> mahhan and[a la]jukkissan ANA DINGIR.MEŠ*

*LÚ.MEŠ<sup>GIŠ</sup>ERIN tueggas=s[mas a]nda QĀTAMMA lalukkesdu*

“Just as in/on this red wool (there is something) glistening, so also let it

glisten on your body parts, O male deities of the cedar (lands)!”

(trans. eCHD)

KBo 18.133: 4-5 (NH/NS) Letter

*[ka]ruwariuwar=ma=tta dusgaraz [la]luk<k>ēsdu*

“Let joy grow bright for you first thing in the morning.”

(trans. Melchert)

The temporal noun here, “daybreak”, further links the metaphor to the dawn sky.

3.11.4. *lalukkesnu-*

KUB 30.30: 2-6 (?/NS)

*[nūʔ] DINGIR.MAH Z[Iʔ]*

*lalukki[snuddu]*

*mān DUMU.NITA-[as ... miyarʔ]*

*n=as waljiwalaidduʔ*

*mān DUMU.SAL-a[s ... miyarʔ]*

“[And] Hannahanna the so[ulʔ ...]

let her illumin[ate ...]

When a male child [... is born,]

then let her (Hannahanna) make (him) str[ong]

When a female child [... is born,]”

(text and trans. with Beckman 1983: 200)

KUB 34.77 Ro 3-7 (OH~MH/NS) Ritual Fragment

*nu<sup>d</sup>UTU-us mahhan x [*

*nepisaza huyanza n=asta udnij[as hūmandasʔ]*

*lalukkisnuwan harzi Ú DINGIR.MAH<sub>3</sub> A[NA SAL.LUGALʔ]*

*INA ZI=ŠU andan QATAMMA lalukki[snuddu]*

*DUMU-lani TI-ni innarauwann[i]*

“And as the (light of the) Sun-god [... is] flowing down from heaven and has given light [to all? the] la[nds], so likewise let Hannahanna create illumina[tion] f[or the queen] in her soul! [And] in regard to offspring, life (and) strength [may she thrive!?”

(text and trans. Beckman 1983: 202)

KBo 18.133: 20 (NH/NS) Letter (text eCHD)

[ o o o o]x=*kan Zl-ni anda lalukkesnuskiddu*

“May (the deity) ever give light in [your] soul!”

This form is interesting if only for being heavily affixed: *la-lukk-es-nu-ske-*. The question then becomes whether any force of the reduplicant can be felt at all, even if we can attempt to render it in a (rather cumbersome) translation: “always make it grow really bright in your soul.”

3.12. *MALD*- “To Chant”

3.12.1. KBo 20.10+25.59: 11-12 (OH/OS)

*ta LUGAL-un suppiahi w[a]tar 3=ŠU*

*isparnuzi malti*

“(Then) he purifies the king. He scatters water three times and recites.”

KBo 25.121 Ro i 9-10 (OH/OS) Invocation to Hattic Deities

*] kē 2=ŠU māldi*

*]x [] aruni huēkzi<sup>LÚ</sup>BELÍ-s=a māldi*

“... He recites these (words) two times ... he swears to the sea.

And the lord recites ...”

### 3.12.2. *mammalt-*

KUB 30.68 Vo iii 6-9 (OH/NS) A List of Tablets

[DUB.x x *ma*]/*tesnas* (PNs) ...

*mān* DUMU-*as* ANA DINGIR.MEŠ<sup>URU</sup> *Za*[/p]*uwa*

[...-z]i *ki=ma mammalzikanta*

“[Tablet ... of the ch]ants of (PNs, several identified as singers) ...

When the prince [goe]s to [worship] the gods of Z.,

they (the named singers) recite these (chants).”

(trans. eCHD; see also Dardano 2006: 194-5)

Yet again we can remark on the pairing of *-ske-* with the reduplicant here. Due to the broken context we can only speculate on whether the finer sense is either repetitive or habitual, i.e. customary. In our simplex examples above, the action is circumscribed by an explicit number of repetitions. In most attestations of the base unaffixed form that do not give a number, the

recitation is usually of a formulaic introduction or set of lines in Hittite or Hattic, or a vow. This is opposed to our hapax reduplicated stem, which takes as its object a number of chants themselves composed of a series of lines each, although admittedly the evidence is sketchy and this distinction cannot be proven.

### 3.13. MAUSS-, MAU-, MU- “To Fall”

#### 3.13.1. KUB 43.60 i 33-34 (OH/NS) Incantation and Myth

*ÍD-p[a m]ūhhi luli[ya] muhhi*

“I will fall into a river, I will fall into a pond.” (trans. eCHD)

#### KUB 28.4 Ro 16b-17b (OH/NS) Myth

*ᵈSÎN-as=wa=kan nepisaz mausta n=as=kan ser KI.LAM-ni mausta*

“The moon fell from heaven. It fell on the gatehouse.”

3.13.2. *mummiya-*, *mu(m)miye-*

KUB 13.2 ii 16-18 (MH/NS) Instruction for *BĒL MADGALTI*

*hanissuwar=ma=kan kuit awan katta mummiyetta*

*n=at kuttas awan arha daskandu n=asta samanus*

*tekkusnuskandu ...*

“Den Putz aber, der herabbröckelt, soll man an den Wänden

herabnehmen, und man soll die Grundsteine zeigen.”

(text and trans. von Schuler 1957: 45)

“Let them keep taking off from the wall the plaster which keeps crumbling,

and let them continue to uncover the foundation(s).”

(trans. following eCHD)

The duplicate KUB 31.86 iii 2 (NS) has *mauskittari* instead of *mu(m)mietta* (see eCHD) in the relative clause, and as such is our most diagnostic example under this listing. In addition note once again the *ske-* verbs in the main and following clause.

KUB 34.19 i 9 (OH/NS) Omen

*takku IZBU SAG<.DU>=SU ZAG-na mummiye[zzj]*

“If the head of a malformed newborn animal keeps falling to the right”

(trans. eCHD, revising Riemschneider 1970: 54-57)

The CHD translation “keeps falling to the right” is possible, but can’t be proven.

KUB 8.22 ii 6-8 (Pre-NH/NS) Astral Omen

𒌷 *mān=san nepisi* MUL.ĜI.A *anda sissandari n=at=kan kaf ta* 𒌷 *[m]umianzi*

“If stars are shooting in the sky and falling down.”

We have coordinated here our reduplicated “to fall” with the progressive *ssa-* verb to *sai-*, *siye-* “to shoot”. The reduplicated stem gets a repetitive force from the coordination and the plurality of subjects (specifically the nature of shooting stars not to fall all at once).

KUB 36.44 i 8-10 (OH/MS?) The Disappearance of the Sungod

[ ... ] ... *nu kuwapi*<sup>d</sup>UTU-*us mumiyezzi*

[ ... ]-<sup>⌈</sup>*i=ku*<sup>⌋</sup> *happēni=kku* GIŠ-<sup>⌈</sup>*ī=kku* *hahhali=kku* <sup>⌋</sup>*mumiyezzi*<sup>⌋</sup>

[ ... ]x *ikt'āiskett[a]*

“Now, wherever the Sun-god falls, (if) he falls in [...], or flame,  
or bush, [...]will be caught in a net(?)”

(trans. following Hoffner 1998: 27)

There is no immediately obvious reason to utilize the reduplicated stem here, other than perhaps the plurality of potential landing spots.

The contexts of KBo 44.158 Vo 3 and 10 are too fragmentary to be of any use.

### 3.13.3. *mummuwai-*

KUB 33.68 ii 1-5 (OH/MS) The Stormgod: *mugawar* Fragment

*nu sankus a<sup>r</sup> ʾil mahhan parkiyat*

*tuell=a ŠA<sup>d</sup>10 ZI=KA alil parakta<sup>r</sup> ru<sup>l</sup>*

*nu=tta kī mugāuwas uddār mummuwā<sup>r</sup> n<sup>l</sup>*

*ēstu nu GEŠTU-an lagān harak nu=tta kuit LUGAL [MUNUS.LUGAL]*

*memiskanzi n=us istamaski*

“O Stormgod, may your soul grow like a flower. May these words of invocation be falling(?) upon you. Turn your ear and listen to what the king and queen are saying to you.” (trans. CHD L-N: 329)

If this form, a hapax, truly belongs together with the other attestations (for reasons against, cf. the formal discussion, 6.2.15.), then I see no manifest reason the reduplication should be employed other than to reinforce the manifold plurality of the oh-so-inspiring words of the royal couple about to fall upon the Stormgod’s ear; perhaps even playing on a happy coincidence between reduplicated root structure and onomatopoesis (cf. murmur). It’s a reach, however, even more so than KUB 36.44 i 9.

### 3.14. *PARAI*- “To Blow”

#### 3.14.1. KUB 2.3 ii 29-30 (OH/NS) KI.LAM Festival

*sawatarr=a 3=ŠU parianzi*

“And they (the <sup>LÚ.MEŠ</sup>ALAN.ZU<sub>9</sub>) blow the horn three times.” (trans. eCHD)

KBo 6.34 iii 30-33 (MH/NS) Ritual of the Military Oath

*[wal]ūlan pariyanzi n=an GÌR-it [ispar]ranzi n=asta parās parā [(tar!)]nattari*

“They inflate a *[wal]ūla-* and [fla]tten it with (their) foot, so that the air is expelled.”

(trans. eCHD)

Similar to the situation we encountered with *mald-* / *mammalt-* above, all instances of *parai-* “to blow” that do not refer to a single act are circumscribed by a set number of repetitions.

### 3.14.2. *paripara(i)-*

KUB 35.163 ii<sup>1</sup> 17-20 (OH/NS)

*nu=kan*<sup>MUNUS</sup>ŠU.GI *parā paizzi nu=kan*<sup>É</sup>*hīli sāvātar pariparāi ser arha=ma=at=kan*

*kuwapi wahnuskezzi*<sup>MUNUS</sup>ŠU.GI=*ma kissan memiskezzi*

“The old woman goes forth and one keeps playing a horn in the courtyard. While (the palace official) continues to swing it (a ritual clay object) over (the king and queen), the old woman is reciting as follows [a Palaic incantation follows].”

Unlike KUB 2.3 ii 29-30 and similar attestations delineating the number of times a horn is blown, here we are to understand that the swinging, horn-playing, and reciting continue on until the incantation is spent. Note here the coordination with *ske-* verbs.

KBo 15.49 iv 7-9 (MH?/NS) *Hišuwā* Festival

*kuitman=ma ANA PANI<sup>d</sup> Tiyapentas [---] sipanzakanzi nu LÚ.MEŠ<sup>GIŠ</sup>BALAG.DI=pat*

*sawā[<sup>tar</sup>] pariparanzi*

“And while they continue to libate... before *T.*-deities,

the same instrumentalists continue playing the horn.”

The coordination with the *ske*-verb in this temporal clause is a good pairing to indicate that the performance is ongoing for the duration of the libation.

KBo 15.52 v 9-13 (dup. KBo 20.60 v 1) (MH?/NS) *Hišuwā* Festival

1 LÚ.<<MEŠ>> BALAG.DI=*ma=kan ŠA DINGIR-LIM KÁ-as anda artari sawātar*

*pariparāi* 1 LÚ *purapsis=ma=kan kuis suhhi ser artari nu LUGAL-i menahhanda*

*kuwarayalla kissan memiskezzi*

“One instrumentalist stands in the gate of the god and blows a horn. One *p.*-priest who is standing on the roof recites *k.* thus facing the king.”

Here the horn playing (reduplicated) and the reciting (*-ske-*) are considered continuous and coterporal, in the same fashion as our previous two examples.

KUB 25.39 i 24-25 (?/NS) Istanuvian Songs

*nu<sup>LÚ</sup>SANGA<sup>URU</sup> /stan[uwa<sup>GI</sup>]<sup>Š</sup> huhupal dāi n=at hazzikkezzi<sup>SI</sup> sāvītra paripriskanzi*

“The priest of *lštanuwa* takes a cymbal(?). He plays it and they blow horns.”

Again our verb is coordinated with and reinforced by *-ske-*.

KUB 44.64 iii 8-9 (NH/NS) Medical Ritual Fragment

*mān=kan antuhsas pariparittari*

“If a person is flatulent” (trans. eCHD)

KBo 22.101 Vo? 9-10 (NH/NS) List of Tablets

*[mān antu]hsan andurza istark[zi] / [nasma ... p]aripareskattari*

“[If a per]son is internally ill, [or ...] he/she is flatulent” (trans. eCHD)

The repetitive and “internal” (indicated by the medio-passive) nature of flatulence is self-explanatory.

While *pariparāi* in KUB 35.363 iii 20 and *[pa]ripān* in KUB 35.159 ii 2 won't help us in establishing a functional distinction, as per the CHD their appearance next to Palaic on the same tablet securely establishes the reduplicated stem for Old Hittite. Against the CHD, however, the former is most likely Hittite and not Palaic, as it stands beside Hitt. *iyannāi* “to march” (formally another iterative).

KBo 25.60 ii 3 (NS) [...]x GI (erasure) *pa-ri--ip-pa-ra-a<-i>* “he/she blows the reed (pipe) (CHD P: 155), is likely iterative but unprovable.

3.15. *PAS(S)*- “To Swallow”

3.15.1. HT 1 i 41-42 (MH/NS) Ritual of *Zarpiya*

*ANA GI.A.DA.GUR=ya=ssan purin dāi nu pāsi*

“He puts his lips to the drinking straw and swallows.” (trans. eCHD)

KUB 27.29 iii 9 (MH/NS) Ritual of *Allaituraḫi*

[...] *sarapi nu pāsi 7 =ŠU*

“He (sc. the client) sips and swallows seven times.” (trans. eCHD)

KUB 7.1 i 29-30 (pre-NH/NS) Ritual of *Ayatarša*

*EGIR-anda=ma=ssi=kan issi=ssi lahuhi n=at katta paszi*

“I then pour (the infusion) into its (i.e. the child’s) mouth and it swallows it down.”

(trans. eCHD)

### 3.15.2. *pappasa(i)-*

KBo 4.14 iii 6-9 (NH)

*kāss=a=za kuis memiyas kisat nu=kan EN.MEŠ :pasattarmas*

*arha :pa-ap-pa-sa-i nu=kan BE-an ANA LUGAL ÌR.MEŠ ZI akkanzi*

*zik=ma=za [LUGAL]-i karsis ÌR-is ēs*

“This is/was the matter that happened. Does *pasattarma-*

swallow up(?) (the) lords? If/When the personal servants die

for the king, be a loyal servant to [the king]!”

(trans. eCHD)

It seems likely, especially if we are to understand a *figura etymologica* as per Kammenhuber (1954: 438, n.93), that since *pasattarmas* is almost certainly Luvian then *pappasai* is too, especially seeing as both are preceded by a marker wedge in the text. If this is the case, discussion is best saved for treatment of Luvian reduplication. For further see 5.1.14.v.

### 3.16. SAI-, SIYE- “To Shoot”

#### 3.16.1. KUB 29.1 iv 13-16 (OH/NS)

... <sup>GIŠ</sup>GEŠTIN=*wa mahhan katta sūrku sarā=ma=wa* <sup>GIŠ</sup>*mahlus sīyaizzi*

LUGAL-*sa* MUNUS.LUGAL-*s=a katta surku sarā=ma* <sup>GIŠ</sup>*mahlus sīyandu*

“So wie der Weinstock die Wurzeln nach unten und die Reben nach oben treibt,  
so sollen König und Königin die Wurzeln nach unten die Reben nach oben! treiben.”

(trans. Tischler 2004: 701)

The verb could just as easily be rendered “shoot” here, as we are speaking of vines.

KUB 58.14: 24-27 (OH/NS)

MUNUS <sup>GIŠ</sup>BAN <sup>LÚ</sup> *hartaggan* GI-*it* 1=ŠU *siēzzi* [t]=*an wastai tān=a siēzzi* [t]=*an hazziazzi*

“The archeress shoots at the bear-man once with an arrow and misses him.

She shoots a second time and hits him.” (text and trans. CHD Š: 18)

### 3.16.2. *sisiyē-*

KUB 36.67 ii 20-23 (?/NS) Tale of *Gurparanzaḥu*

*siyaiskizzi*<sup>m</sup> *Gurpāranzaha[s n]ju=ssi=kan* GI-*as IŠTU* <sup>GIŠ</sup>BAN *pariyan* MUŠEN-*is*

*mān iyattari ŠUŠI* [LUG]AL.MEŠ 70 <sup>LÚ</sup>GUR[US-*z*]*a sisiyauwanzi taruhta*

“Gurparanzaḥa started shooting. His arrow traveled across from his bow like a bird.

He defeated sixty [ki]ngs (and) seventy heroes in a shooting contest.”

(trans. CHD Š: 68)

The inceptive meaning of the initial *ske-* verb is patent, and coordinates nicely with the reduplicated infinitive which has an underlying repetitive sense.

KUB 29.7 Vo 56-7 (MH/MS) *Šamuḥa* Ritual

*[nu k]ē uddār parkui sissiyann=a ēstu DINGIRLUM=ma*

EN SÍSKUR=*ya apēz [uddā]naz parkuwaēs asan[d]ju*

“Let these words be pure and s., but let the god and the ritual client be purified from that word.” (text and trans. CHD Š: 68)

It remains unclear whether *sissiyann* even belongs under the heading if we consider the difficulty of getting the meaning “uncontaminated, purified” or the like from “seal, shoot”, not to mention this same odd semantic pairing (“seal, shoot”) often given for the base verb (which I eschew here). But of greatest import is the unexpected gemination of the initial consonant in KUB 29.7, not present (nor expected) elsewhere. Considering that part of the stem belongs to the *hi-*

conjugation, but the rest to the *mi-* conjugation, we likely have here a conflation of two separate verbs—one, “to seal”, and the other, “to shoot”—with *sissiyān* belonging to neither.

### 3.17. *DAI-* “To Place, Put”

In this and the following section on *tiya-* “to step”, I will follow the argument of Melchert (to appear), where he convincingly demonstrates the existence of two synchronic stems *titti-*, as well as two *tit(ta)nu-*, one each from both *dai-* and *tiya-*. Though these sections depend heavily upon his conclusions and translations, any imprecision in the functional interpretation of these verbs’ reduplicated stems is solely mine.

#### 3.17.1. KBo 22.2 Ro 15-16 (OH/OS) *Zalpa*

*mān*<sup>URU</sup> *Nēsa pāir nu=smas* DINGIR.DIDLI-*es tamāin karātan dāir*

“When they went to Nesa the gods put another appearance on them.”

*nu=ssi=ssan kuit sahan LUGAL-us dāi*

“Whatever obligatory service the king imposes on him ...”

(all remaining trans. in 3.17. Melchert, unless otherwise noted)

### 3.17.2. *titti*-<sup>1</sup>

Since the base verb is already transitive, we certainly cannot speak of any “transitivizing” effect of the reduplication as we did for *asas-* / *ases-* above in 3.2.2. However, *titti-* to *dai-* “to put” does share with its homonym *titti-* to *tiya-* “to assume a standing position”, a transformative (change of position) sense. That is to say when one is said to *titti-* (*dai-*) something, one causes the object to be laid/put/set upon (something), with all the metaphorical range we could reasonably expect thereof. This means that *titti-* “to install” (to *dai-*) is functioning as the counterpart verb of horizontal orientation to *titti-* “to install” (to *tiya-*), which acts as a

transformative of vertical orientation (semantic extensions notwithstanding), as shown below in

3.18.2. I evaluate the possibility of this reading for our attestations in the remarks that follow.

KBo 19.162 iv 10-11 (OH/MS) Ritual for Consecration of a Temple

*mān x[... ḥattalwas] GIŠ-ru tittai*

“When one installs the wood of the doorbolt ...”

Melchert (ibid. 2) makes clear that in this passage and similar ones, the reference is to a

horizontal beam. As he notes, one could not possibly place a puppy made of tallow onto the

door bolt (KUB 4.2 i 22-23) if the reference were not to a horizontal beam; nor does KUB 17.10

iv 4: *hāsta* LÚ.NI.DUḪ 7 GIŠ|G *āppa huittiyat* 7 GIŠ *hattalu*, “the gatekeeper opened the seven doors

and threw back the seven bars,” make much sense otherwise.

KBo 3.1 i 19-20 (OH/NS) Edict of *Telipinu*

*kuissa kuwatta utnē paizzi apēll=a ŠU-i URU.DIDLI.ĤI.A GAL.GAL- TIM tittiyantes eser*

“To whatever country each (son) went, also in his hand the great cities were placed.”

A metaphorical extension seems clear for this passage, but if we want to press the point, I would argue for the most part cities tend to spread out more than stretch up.

KBo 16.97 Vo 45 (+ Ro 42) (MH/MS) Oracular Inquiry

*urnirmiš ZAG-az GÙB-laz tittian[za]*

“A ‘finger’ is present to the right and the left.”

KUB 42.100 iii 34-35 (NH) Cult Inventory

*[k]uit=ma=wa ammuk<sup>LÚ</sup>SANGA iēr nu=wa=mu UNUTE<sup>MEŠ</sup> [k]ue EGIR-pa maniyahher*

*nu=war=at tittiyan*

“The implements which they remanded to me when they made me a priest are present.”

The derived sense of the participle, “be present, at hand”, is not incompatible with our interpretation of a causative of positional state. Furthermore, Brent Vine (pers. comm.) informs me that such a development is reminiscent of PIE *\*key-*, which while usually glossed “to lie”, can also be read as “be present, be at hand, be here” in many of the older IE languages. This is clearest when the subject is an inanimate object, as with our KUB 42.100 example, e.g. Gk. ἄρματα... κείτο / ἐν κλισίῃς (*Iliad* 2.777-8), “the chariots... are standing in the shelter”; Ved. *etád asyā ánaḥ śaye* (Rig Veda 4.30.11a) “this cart of hers lies, very completely crushed...” (trans. Jamison/Brereton 2014: 604). Our best candidate for a similar treatment in Hittite is from the dreams: *nu=wa<sup>GIŠ</sup>KA × GIŠ.ḪI.A mān kueqa kittari* (KUB 60.97+31.71 iii 12-13; text after van den Hout 1994: 310), “as if there are some chests present”; n.b. the lack of a local particle.

KBo 14.98 i 16-17 (OH/MS?) Ritual

*[-h]un GÙB-lan tēta(n)=set [...]x DUMU.MUNUS tittiskezzi*

“[She ...-s] her left breast [...] and places her daughter [on it].”

Any mother could tell you that a breast-feeding baby does not sit upright, but is held horizontally.

Since this is a characteristic act of a mother, *-ske-* conveys the habitual here. Furthermore, as a

baby is rarely its own agent, a causative is natural.

### 3.17.3. *tittanu-1*

KUB 2.2 ii 37-38 (OH/NS) Ritual for Consecration of a Temple

*mān INA É.GAL-LIM GIBIL <sup>GIŠ</sup>hattalwas GIŠ-ru tittanuwanzi*

“When they install the wood of the door bolt in a new palace ...”

(trans. following Schuster 1974: 65, in Melchert, *ibid.* 2)

This parallel passage to KBo 19.162 above confirms that *tittanu-* functions in the same fashion as *titti-*, both in respect to horizontal orientation and transformative sense.

HKM 52: 34-37 (MH/MS) Maṣat Letter

*namma ammuk apiya sahan luzzi=ya ŪL kuit ēsta kinun=a=mu LÚ.MEŠ URU-LIM*

*sahan luzzi=ya tittanuwer*

“Furthermore there was no obligatory service and payment for me then, but now the men of the city have imposed obligatory service and payment on me.”

In KBo 6.4 iv 16-17 above (1.18.1) we have *dāi* used in a parallel construction, ensuring another *tittanu-* (*dai*).

KUB 1.11 i 34-36 (MH/NS) Horse-training Text

*nu=smas 1 ŠĀTU memal [and]a immiyanda pi[a]nzi ŠA ḪA.LA.=ŠU=ya h[al]kin sarā  
tittanuanzi*

“They give them 1 *SŪTU*-measure of meal mixed in, and they pile up their grain ration.”

KBo 27.67 Vo 1-2 (?/NS) Birth Ritual

*mān MUNUS-za=ma harnāwi ēszi nu=za[...]ITU.ḪI.A=ya karū sarā tittanuz[i]*

“If a woman is sitting on the birth stool and [...], and she also has already piled up (i.e. completed) the months ...”

The use of preverb *sarā* in the previous two examples makes clear the idea of iterative stacking—an action completed in steps, up to a certain point.

3.18. *T/YA*- “To Step”

3.18.1 HKM 65 Ro 8-10 (MH/MS) Maṣāṭ Letter

*n=as=san ŠU.HI.A=ŠUGIR.MEŠ=ŠU=ya si[y]a!?-atten namma=as=ka[n]*

*ANA ANŠE.KUR.RA.HI.A tittanutten ÉRIN.MEŠ=ya=smas sardiya tiyaddu*

“Y’all secure their hands and feet, then situate them on horses and let a troop stand  
by for assistance.”

KBo 1.28 Ro 12-14 (NH) Edict for *Piyassili*

*nasma kuis ŠA<sup>m</sup>Piyassili NUMUN-as INA KUR Kargamis salli pēdan tiyazi*

“Or whatever descendant of Piyassili attains the ‘great place’ in Carchemish.”

(all remaining trans. in 3.18. Melchert, unless otherwise noted)

The meaning “attain” is simply an extension of the underlying sense with which the Hittites viewed office-holding, namely that one “stepped” into the position.

Bo 68/299 iii 29 Bronze Tablet, Treaty with *Kuruntiya*

*n=as ŠA KUR<sup>URU</sup> Hatti LUGAL-eznani awan arha tiyazi*

“And he steps away from (abdicates) the kingship of Hatti.”

### 3.18.2. *titti*-<sup>2</sup>

Similar to *asas-* / *ases-*, the simplex of *titti-* is a “transformative” verb, its action resulting in a change of position. As with the former (cf. 3.2.2.), neither instance below can be said to have any sort of the expected imperfective nuance we have commonly seen in this chapter. If anything, usage is parallel to that of *asas-* / *ases-*, where all instances can be interpreted as “cause someone/someplace to be seated/settled”. In accordance with the base verb’s underlying meaning, *titti-* would be “to cause someone to step into (a) position”, i.e. “to install”

(cf. *ibid.* 5). I do not say strictly transitivizing, given KBo 1.28. where the base verb takes an accusative object (cf. KUB 1.1 below), which, however may simply be an accusative of direction (“step (up to) the great place”).

KUB 36.114 RCoI 21-23 (MH/MS)

*[...tj]ttian=pat ēsdu nu mahhan DUM[U...].LUGAL LUGAL-uezni tittianz[i...n]=an*

DUMU.LUGAL =pat [ ]

“[...]be installed. As the son [...] king they install in the kingship [...] him (as?) prince [ ]”

KBo 6.3 ii 37 (OH/NS) Hittite Laws

*takku LÚ GIŠ[TUKUL ha]rakzi LÚ ILKI tittianza*

“If a man who has a TUKUL-obligation disappears/perishes, and a man owing *ILKU*-services is installed (in his place) ...”

### 3.18.3. *tittanu*-2

If simple reduplicated *titti*- really does function as a causative, and the effect of the reduplication is to add an argument, then the addition of the productive *nu*- causative suffix wouldn't add anything to the sense, other than to reinforce the meaning through double-marking, much the same way as *-ske-* is used for imperfective reduplicated stems. Incidentally, most examples, aside from the AN.TAḪ.ŠUM Festival, are from the younger period of Hittite. They also display a wider range of contexts than the legal positions referred to in 3.18.2.

KUB 14.3 i 8-10 (NH) *Tawagalawa* Letter

*nu=ssi*<sup>LÚ</sup> *TARTENU uīyanun īt=war=an=za=an=k[a]n ANA* <sup>GIŠ</sup> *GIGIR GAM-an tittanut*

*nu=war=an uwati*

“I sent the *tartennu* to him (saying): ‘Go and station him beside you on the chariot and fetch him.’”

KUB 1.1 iv 65-66 (NH) Apology of *Hattušili*

*nu=mu sallai pedi ANA KUR<sup>URU</sup> Hatti LUGAL-eznani [(ti)]ttanut*

“You (Ishtar) installed me in the ‘great place’, in the kingship of Hatti.”

This passage is fruitfully compared to KUB 36.114 above (3.18.2) in establishing the underlying causation of the simple reduplicated stem.

KUB 25.1 vi 18-21 (OH/NH) AN.TAḪ.ŠUM<sup>SAR</sup> Festival

*nu LÚ.MEŠ<sup>GIŠ</sup> GIDRU LÚ.MEŠ<sup>LÚ</sup> UBARUTIM ašessar ḫūman sarā tittanuanzi n=e artari*

“The heralds cause the foreigners (and) the entire assembly to stand up, and they stand.”

Here we have the more literal usage of causing a person to be in the vertical position.

KUB 1.1 iv 71-73 (NH) Apology of *Hattušili*

*nu* URU.DIDLI.HI.A *kuiēs kuiēs* [Š]A<sup>m.d</sup>SIN.<sup>d</sup>U *n=an=kan hūmanti=ya=pat* EGIR-*an*

<sup>NA4</sup>ZI.KIN [*tjittanuskanzi*]

“Whatever cities of Arma-Tarhunta (there are), they will set her (Ishtar) up as a cult stone behind each one of them.”

Melchert (ibid. 5) points out that <sup>NA4</sup>ZI.KIN stands for Hittite *huwasi-*, an upright pillar serving as a cult object or boundary stone. As a result, the vertical orientation of the verb is indisputable.

The *ske-* suffix then, functions as a distributive in this example.

3.19. *WAI-* “To Wail, Cry (Out)”

3.19.1. *wai-* & *wiwai-*

KUB 14.1+KBo 19.38 Vo 91-93 (MH/MS) *Madduwatta*

*... aliyas=wa ŪL wāi*

*ŪL=ma=wa wāki ŪL=ma=wa isparrizzi*

*x [...] aliyān parhattari ŠAH=ma=wa wiiwai*

*kuit nu=wa kuis A-NA ŠAH!*

*se-°[ ... ]x x x x x [...]°-ya kuenzi nu=wa ū[g]g=a*

*ŠAH-as iwar wiyami*

“The deer doesn’t cry, nor does it bite, nor does it kick.

... he hunts the deer. But because the pig squeals (cries out), who ...

for the pig? whoever [...] the pig [...] kills. And even I cry (out) like the pig.”

Unlike *wiwiske-* and *wawiske-* below, this passage and these forms, simplex and simple reduplicated, show the best contrast we will find for *wai-*. The speaker is describing the habitual actions of the animals. While the pig cries out as is its nature, expressed by the reduplicated stem, neither the deer nor the speaker do, as a matter of course.

### 3.19.2. *wiwiske-*

KBo 17.62+63 i 9-18 (MH/MS?) Birth Ritual

*[k]uitman=ma=z SAL-za w[ wiskizzi nu SALŠÀ.ZU]*

*hukk[i]skizzi ŠIPAT w[ wiskiuwas]*

*mān=za SAL-za kuwapi wiw[ skiawan dāi nu SALŠÀ.ZU]*

*hukkisk[i]zzi IŠTU<sup>1?</sup> ṬUPPI=m[a*

*nu hukmiyas DUB<sup>HI.A-</sup> TIM arhay[an]*

*SAL-za=ma=z kuwapi wiwiskiuwan d[āi]*

*DUMU-an peran kārū handānzi D[UMU-as=ma]*

*apēdani ITU-mi apēdas UD<sup>HI.A-</sup>as miy[āri]*

*n=an peran qarū handān harkanz[i]*

*[k]uitman=ma=z [SA]L-za nūwa wiwiskizz[i]*

But while the woman cri[es out in labor, then the midwife]

conjures repeatedly “The Incantation of Cry[ing Out].”

At the time when the woman [begins] to cr[y out in labor, then the midwife]

conjures repeatedly. But from one tablet [...]

And the tablets of incantation are sep[arate].

But at the point when the woman be[gins] to cry out in labor

they have already determined the child. The ch[ild]

in that month, on those days, will be b[orn].

And him they have already determined.

But while the [wom]an is still crying out ...

(trans. Beckman 1983: 33, emend. Melchert for lines 15-17)

A plethora of forms (3<sup>rd</sup> pres., substantive, and supine) of the reduplicated stem with *-ske-* is

nonetheless not terribly useful. The context and subject matter (birthing pangs) makes clear the

wailing is repetitive and ongoing. The reduplicant plausibly adds intensity, but it cannot be proven. This is to be expected, however, as the verb is most likely onomatopoetic (cf. KUB 14.1 + KBo 19.38 above, and *hahhars-* “to laugh (at)”, *hahharske-* [Eng. *haha*, (*hardy*) *har har*]), and therefore lexically repetitive/habitual/iterative-durative (even intensive, the full gamut). To that point, note well Otten & von Soden’s discussion (1968: 10ff.), in which they cite the cries *ú-i-ú-i* (KUB 7.29 Vs 24) and *ú-wa-a-ú ú-i-ú-i* (KBo 29.201 Vs. 17). Given this information it seems the stems of *wiwiskezzi* and *wawiskezzi* (KUB 45.20 i 17 (OH/NS)) are built to reflect these variant cries. As to the latter form, the context is so broken that nothing can be said about the function.

KUB 30.51(+)+30.45+HSM 3644 Ro ii x+1-2

[x ʔUPPU m] ʔ ā ʔ [n (ANA <sup>d</sup> IŠTAR <sup>HUR.SAG</sup> Amāna EZEN<sub>4</sub> ŠUMMA) TE<sup>MEŠ</sup>]

[EZEN<sub>4</sub>] ʔ w ʔ iw ʔ ʔ [(skiuwas EZEN<sub>4</sub> hassannas) iyanzi]

[...Tafel(n): W]en[n man (für Šawuška vom Berg Amanos das Fest der Tau)ben,]

[das Fest] des Weh[(klagens und das Zeugungsfest) feiert.]

(text and trans. Dardano 2006: 128-9)

KBo 31.27(+)+KUB 30.44+30.58(+)+KBo 7.74(+)+14.68, and KBo 31.25+ (Dardano 2006: 152-153, 235) are all duplicates or parallels of the preceding example.

KBo 24.5 ii 9-12 Birth Ritual of a Deity(?)

*nu=za INA UD.2.KAM appizziyas hā[<sup>2</sup>iyas<sup>2</sup> °MUNUS.GAL?*]

DINGIR-LAM *anku wewiskiwan dāi* [( )]

*nu* MUNUS.GAL *anda harkanzi n=an* EN.DINGIR<sup>MES</sup>[

*wahnuskanzi ...*

(Ro 5: *ú-i-i[s-ki-u-an]*)

And during the last wat[ch] of the second day, [the “great woman”?]

really begins to bewail the deity.

And they care for the “great woman,” and her the “lord of the gods” [and? ...]

swing (over). (trans. Beckman 1983: 224-225, emend. Melchert for line 10)

While we have the supine construction here, the addition of *-ske-* leaves the imperfective sense for the reduplicated stem unprovable. The same problem adheres to the reduplicated *ske-*form in KUB 33.119: 16-17 (MH/NS). Further challenging a clear iterative for the reduplicant is the fact that the duplicate KBo 24.6 Ro 5 cited by Beckman has the simplex *ú-i-i[s-ke-u-an]* instead of *wewiskeuan*.

### 3.20. *WARS-* “To Wipe (Off)”

#### 3.20.1. KBo 2.3 iv 41 (MH/NS) Ritual of *Mastigga*

*nu 2 EN ŠIŠKUR NÍTE.ḪI.A-us warsi*

“She wipes (off) the bodies of the two ritual clients.”

### 3.20.2. *wawarsanza*

KBo 23.1 i 30-31 (?/NS) Ritual of *Ammiḥatna*, *Tulpi*, and *Mati*

<sup>siG</sup>*alis mahhan wawarsanza n=as parkuis*

DINGIR-LIM=*ya paprannaz QATAMMA parku[(is)] ēsdu*

“Wie die *ali*-Wolle abgewischt ist und (so) frei (von Unreinheit) ist,

ebenso soll auch die Gottheit von der Unreinheit frei sein!”

(text and trans. Strauß 2006: 259, 266)

We also see the same form similarly used in the ritual fragment KUB 41.22 iv 2: [ ] GIM-*an*

*parkuis wawarsanza* (end). We only have the participle of the reduplicated stem, but,

unfortunately there is not much of a functional distinction we can make against the simplex.

Wiping and washing are usually iterative actions by their very nature. To that effect, cf. Vedic

*mámriḥ*- “to wipe, groom (of horses)” and *nénekti* “(s)he washes”; the former is one of the best

attested “instensives” of the Rig Veda, and is solidly iterative/frequentative/repetitive, while the

latter, historically an “intensive” and iterative in function, simply becomes the standard present stem for the root  $\sqrt{nij}$ - “to wash” (Stephanie Jamison, pers. comm.).

### 3.21. *WEK*- “To Demand”

#### 3.21.1. KBo 22.2 Vo 10-12 (OH/OS) *Zalpa*

*INA MU.3.KAM LUGAL-us pait<sup>URU</sup> Zalpan arahzanda wetet*

*MU.2.KAM kattan ēsta<sup>m</sup> Tabarnan<sup>m</sup> Happinn=a*

*katta wekta ÛLÚ.MEŠ URU-LIM natta pianzi s=us tamesser*

“In the third year the king came and he invested Zalpa.

Two years he was down there. He demanded Tabarna and Happi,

and the people of the city wouldn’t give the men (up). So they besieged them.”

KUB 34.115+KBo 30.28 iii 7 (OH/OS)

DUMU-as *akuanna wekzi* L[<sup>ú</sup>SA]GI GAL-ri *pāi*

“The child demands (to) drink (and) the cupbearer gives (him) a cup”.

3.21.2. *wewak(k)-*

KUB 14.4 iii 17-21 (NH) The *Tawananna* Affair

*nu idālu kuitki iyat* MUNUS.LUGAL *apūn memian ANA DA*[M=YA]

EGIR-*pa wastul kuwat iyat n=as* UD-ti G[E<sub>6</sub>]-*ti=ya* DINGIR.MEŠ-*as pe[r]jan*

*artari nu* DAM=YA DINGIR.MEŠ-*as peran hurzakezzi n=an=kan x-x* [nu=s]si

[h]jinkan *w<e>wakkezzi aku=wa!-r=as* nu DINGIR.MEŠ EN.MEŠ=YA HUL-[un]

*memian kuwat istamasten*

“She did some sort of evil. Why did the Queen do that deed,

(that) sin back to my wife? Day and night she stood before the gods.

She kept cursing my wife before the gods. ... her ...

She kept demanding her death. 'Let her die!' Gods, my Lords,

why did you harken (to that) evil word?"

The text uses historical presents and the action is clearly repetitive from the context and from cues such as UD-*tī* G[E<sub>6</sub>]-*tī*=*ya*, "by day and night". Furthermore, our verb is coordinated with *ske*-verb *hurz(a)kezzi*, all giving us some of our best evidence for an imperfective reading to the reduplicated *wewakkezzi*.

KBo 3.4 ii 10-12 (NH) Ten-Year Annals of *Muršili*

(Neo-Hittite Texts, rev. H. Craig Melchert)

*nu=ssi hatrānun* ARAD.MEŠ =YA=wa=tta=kan *kuiēs anda uēr*

*nu=war=as=tta* EGIR-*pa* *kuit wewakkenun nu=war=as=mu* EGIR-*pa*

{EGIR-*pa*} *ŪL paista ...*

“I wrote him: ‘My servants who came to you,  
although I have been demanding them back from you,  
you have not given them back to me.”

What’s crucial here is that the duplicate, KBo 16.1+ iii 9, shows *wekiskenun* where we have reduplicated *wewakenun* above. That piece of information is as valuable as KUB 14.4 above for establishing the reduplicated stem’s sense.

KUB 14.1 Vo 87-89 (MH/MS) *Madduwatta*

[...]{erasure} *ABI*<sup>d</sup>*UTUŠI=ma=wa=mu Ū[L ...]*

*A[B]I*<sup>d</sup>*UTUŠI=ma=[wa=mu ŪL] kuwapikki wātarnahta*

KUR<sup>URU</sup> *Alasiya=wa ammel nu=war=at QATAMMA ?sāk?*

*kinun=a=wa mān*<sup>d</sup>*UTUŠI NAM.RA.HI.A*<sup>URU</sup> *Alasiya imma*

*āppa wewakk[i?]* (or *z[i?]*)

*nu=war=an=si āppa pe[hh]i ...*

“But His Majesty’s Father did not ... me.

And His Majesty’s Father never commanded me:

‘The land of Alasiya is mine. Recognize it as such!’

But now if His Majesty really keeps demanding the deportees of Alasiya back,

I will give them to him.”

We would like to read an iterative here, but it isn’t a sure thing.

KUB 9.4 i 19-22 (NH) Ritual of the Ox

*ANA 12* <sup>UZU</sup>ÚR.ĤI.A=*ya=ssi=kan handanun*

*kinun=a kã[s]a ŠA UD[U.ŠI]R-as happisan[ft]es*

*kēl ŠA DU[MU.NA]M.LÚ.ULÙ.LU happinas*

*inan wew[a]gganzi*

“For his twelve body parts I have arranged. Right now the body parts of the ram

are claiming the sickness of the body parts of this mortal.”

(text and trans. Beckman 1990: 36 & 45)

While Beckman's progressive reading is based on *kāsa*, a pluractional reading for the reduplicated stem is possible. As Beckman notes (ibid. 34), KUB 9.34 ii 37 is a duplicate to the preceding example, though differing from our form in question by spelling: *ú-e-wa-kán-zi*.

KBo 5.2 i 50-54 (MH?/NS) *Ammiḫatna* Ritual

2 DUG *hakkunnaus dāi n=asta* ÍD-*i*

[*and*]a *tepu zappanuzzi*

[*n=ast*]a<sup>?</sup> *taknās* <sup>d</sup>UTU-*i widār wewakki*

[*nu*<sup>LÚ</sup>AZU] 2 DUG *MÊ dāi n=asta wātar 7=ŠU anda*

[*sunna*]i<sup>?</sup> *parā=ya=kan* ÍD-*i anda 7=ŠU lāhui*

“Ferner nimmt er 2 Flaschen Feinöl, und in den Fluß

träufelt er ein wenig (davon) hinein.

[            ] von der Sonnengöttin der Erde fordert er das Wasser.

[Der AZU-Priester] nimmt 2 Wassergefäße und [füll]t siebenmal Wasser

hinein. Ferner aber gießt er (es) siebenmal in den Fluß hinein.”

(text and trans. Strauß 2006: 222 & 234)

Again a plural object reading is possible with *widār*, but unprovable. The same is true for KUB

15.34 below.

KUB 15.34 iii 39-40 (MH/MS)

*n=asta* DINGIR<sup>MEŠ</sup>-*as ŠA* [LUG]AL SAL.LUGAL TI-*tar haddulātar* MU<sup>HI.A</sup> GID.DA

DUMU!-*latar* DUMU NITA<sup>MEŠ</sup> DUMU SAL<sup>MEŠ</sup> *hāsus hanzassus wiwakte(!)ten*

“Then (you) ask the gods (for) the life, health, long years,

progeny, sons, daughters, grandsons, (and) granddaughters of the king (and) queen!”

Hoffner’s “kept demanding” of *ú-e-wa-ke-et* in KUB 12.60 i 20 (OH/NS) (1998: 26-28) is again

available but not determinable from the context. The text of KBo 4.2 i (MH?/NS) is too broken to

get much of a functional feel for *nu-wa ku-i-e-es* [ / *ú-e-wa-ak-mí* (Bawanypeck 2005: 36-37, emend. Melchert). Finally, *nu=za e-ez-te-en e-ku-ut-te-en nu ki-ŋ*[ / *ú-e-wa-ak-ta* (KUB 43.23 Vo 12 (OH/OS)), “Y’all eat and drink (for yourselves)! These (things) he kept demanding/demanded,” might be pluractional, but the sentence is broken.

### 3.22. *WID*- “To Strike, Pierce; To Press, Urge”

#### 3.22.1. *wizza*- & *wiwida*-

KUB 4.8 Ro 5-9 (NH) Hymn to *Iškur-Adad*

*n=as LÍL-ass=[a (?) huit]ar wewi[dai nu] SI.ĤI.A-ar kuedani=p[at (?) ta]k(!)takuw[a]nta*

<sup>LÚ</sup>HUL-*as=ma=za kuis UL memmai n=an SI.ĤI.A-it wez[za]i*

“He (the Stormgod) strikes also (at) the beasts of the field, for whom, nevertheless, his horns are covered. But he strikes with his horns the wicked man who refuses.”

(trans. Melchert 1979: 266)

We might have wanted to read a habitual here (cf. *lilakki*, KUB 24.8 i 4 in 1.10.2. above), but the simplex occurs in exactly the same context in the adjacent clause, since the “wicked man” is a type and hence underlyingly plural. Further eliminating any contrast, the base and reduplicated stem alternate even in the same position in the phrase below.

KBo 5.4 Vo 4 (NH) Treaty of *Muršili* with *Targašnalli*

*[nu]=tta=kan mān sakuwassarit Zl-it ŪL kuwatqa wiwidāi*

“If it doesn’t press/urge you wholeheartedly.” (trans. Melchert 1979: 265)

As Melchert points out, the same expression and verb occurs in Vo 36 spelled *ú-i-wi<sub>5</sub>-ta-[a-i]*, and in Vo 41 with unreduplicated *ú-iz-za-i*.

3.23. For various reasons, a number of reduplicated stems cannot be shown to differ in sense from their base verbs. There are quite a few examples of reduplicated stems attested with the expected imperfective or pluractional sense, but attributing the force to the reduplication cannot

be assured due to the presence of one of the “marked” imperfective suffixes: *ararkiskanzi* (3.1.2., KUB 11.25), *halihliskemi* (3.3.2., KUB 31.81), *isdusduskettaru* (3.4.2., KBo 52.85+KUB 43.58). We do however have a number of clear cases where the reduplicated stem fits squarely into what we have shown to be typologically expected in the previous chapter, e.g. durative *pariparanzi* (3.14.2., KBo 15.49), repetitive *lelhūwai* (3.8.2., KBo 15.37), habitual *kikkistari* (3.5.2., KUB 14.8), progressive *halihlai* (3.3.2., KUB 33.86), and intensive *lalukeszi* (3.11.3., KUB 8.16). Thus far, the atypical stems in our investigation into the semantics of Hittite reduplicated stems are clearly *asas- / ases-* “to sit” (3.2.2.) and *titti-* “to install” (3.18.2.), which show a transitivizing, causative force, which is likely due to their lexical meaning and valence—the reduplication here imparting an additional argument (which, in a sense, is an iconic increase). We shall now conclude our examination of the sense of the Hittite reduplicated verb with a look at the synchronically unpaired stems.

## Chapter 4. Reduplicated Verbs in Hittite Part 2:

### Unpaired Verbal Stems (and Some Denominatives)

4. What follows are the remaining reduplicated verbal stems of the Hittite language, all that are not connected to a synchronically unreduplicated base form, and, for the most part, all of which are not demonstrably or likely to be either denominative verbs or Luvianisms (the former are better served by an all-inclusive discussion on nominal reduplication, the latter will be examined in the chapter on Luvian). Whether the simplex was lost after the lexicalization or semantic bleaching of the reduplicated stem, is not available due to the accidents of attestation, or the starting form is in fact reduplicated (as with “expressive” verbs), we cannot say in the vast majority of cases. It will be obvious from the individual discussions below where this is not the case, however. Hapax verbs whose preservation is fragmentary and interpretation opaque will not receive separate entries. For the majority of attestations given here, see Puhvel (1984, 1991, 1997, 2001), whose translations are often used below. A handful of the stems treated below are however, denominative, and are clearly noted as such in their entry. They are included primarily as illustrative of how the expected reduplicative semantics apply when reduplication is introduced to a denominative base, e.g. *lahlahiya-*, or do not in cases where the

reduplication is definitively nominal and likely predates creation of the verb, e.g. *hanhaniya-*.

Treatment of *nana(n)kuss(iya)-* is given because it exerts an influence over its antonymic pair.

Strictly speaking, *lahlahhiya-* and *nana(n)kuss(iya)-* are paired, but are addressed in this chapter with the remainder of our Hittite cases.

Any comments pertaining to imperfectivity in the entries below are merely meant to explore what the author views as likely possibilities, but remain unprovable given a lack of contrastive stems.

So-called “expressive” verbs, that is, ones which are in some phonetic way imitative of the action they describe, are of course exceptions to the arbitrariness of the sign, both demanding and offering less of a strictly formal connection to the imperfective semantics we have come to expect of reduplicated stems. One could, however, argue that for some languages or stages in the evolution of certain languages, they may be the source material for the morphologization (or semantic recasting of previous morphological patterns) of reduplication to express varying shades of imperfectivity in the verb. Expressive verbs are trivial to create by their very nature and are therefore always potentially available to influence reduplicative form and function as they are introduced into a language. Our ability to recognize such forms for what they are from a language thousands of years gone speaks to that fact.

4.1. *arrir(r)a-* “To Scrape”

KUB 13.2 ii 14-15 (MH/MS) Instructions for Border Commanders

*n=at arha arrirrandu n=at dān EGIR-pa nēuit wilanit hanissandu n=at tān EGIR-pa*

*newahhandu*

“Let them scrape them clean, let them plaster them once again with new clay, let them make them new once again.”

KUB 28.63 Ro 18 (OH/NS) Ritual of *Hutusi*

*n=as IŠTU KÙ.BABBAR arha arriranza*

“It [has been] scraped clean of silver.”

Our first unpaired stem is also our first example of the “expressive” type. One need only repeat the stem aloud and imagine, or for the truly committed, act out a fast back-and-forth scrubbing motion, without lifting the hand, to be convinced. In contrast, our other expressive “scrape” verb below, *hashas-*, sounds more to me the sound of a scrubbing action where one lifts the hand at the end of the stroke and repeats. (While not couched in theory, such departures are fun and edifying!)

If, however, we can connect this stem to *arr-* “to wash”, then perhaps we are to think of washing as using a strigil, scraping dirt and oil of the skin to wash clean. Note that Jay Friedman of UCLA also independently advanced the connection of *arrirra-* to *arr-* (unpublished paper presented at the 211<sup>th</sup> meeting of the AOS, 2001).

#### 4.2. *hahhars-* “To Laugh”

KUB 33.120 i 27 (OH/NS) “Song of Exiting”

*n=as=za duskatta n=as=za hahharasta*

“He rejoiced and he laughed.”

KUB 36.47 3 (?/NS) Myth Fragment

]IGI-*anda hahriskuzzi*

“He keeps laughing in (my) face.”

This stem's roots in a laughing interjection are all too obvious. For the interjection cf. Eng. *ha ha*, *hardy-har-har*, for interjection > root cf. Gujarati *hasavum̃* “to laugh”; for reduplicated stem cf. Arm. *tsitsaghel* “to laugh”. The best comparandum, however, as Brent Vine points out to me (pers. comm.), is Russ. *xoxotát* “to roar with laughter” (phonetically [xəxatát], cf. Eng. *ha ha*), with corresponding noun *xóxot* (phonetically [xóxət], cf. Eng. *ho ho*).

4.3. *hanhaniya-* “To Be Vexed, Dissatisfied”

KUB 13.4 i 26-28 (MH/NS) Instructions for Temple Servants

*n=as ZI-an arha lānza n=as=kan UL hanhaniyai ZI-an=ssi=ma tamāis kuiski*

“[The master] is relaxed in disposition, [but otherwise] is he not vexed, and in disposition towards [the servant] a different person?”

(trans. following Puhvel)

KUB 3.63 (NH) Royal Letter

*nu=smas=kan DINGIR.MEŠ-as ZI-anza le hanhaniyai*

“Let the gods’ mind/soul not be vexed at you.”

The marker wedges and formalism suggest this verb to be a Luvianism, furthermore a denominative at that, connected to Luv. *haniyatatar-* “evilness”, *haniya-* “malicious”, and *hanhaniwa-* “wickedness” (see Kloekhorst 2008: 284).

4.4. *hashas-* “To Scrape Clean”

KUB 7.13 Ro 8 (?/NS) Purification Ritual

<sup>GIŠ</sup>AB.ĤI.A=*ya arha hashassanzi*

“And they scrape (off) clean the windows.”

KUB 7.13 Ro 12 (ibid.)

*kutti arha hashasser*

“They scraped [plaster] clean off the wall.”



4.5. *hulhuliyā-* “To Intertwine, Wrestle”

KBo 26.65 ii 9-10 (MH/NS) *Ullikummi*

*n=an patalhus 3=ŠU kuwasta [...] hulhuliyat*

“He kissed his ankles three times ... he embraced.”

KUB 23.97 iii 1-2 (NH) Letter

*nu=mu=za=kan ŠEŠ.DÙG.GA=YA anda hulhuliyat*

“My dear brother embraced me.”

KBo 17.105 iv 6 (pre-NH/NS) Ritual of the Tutelary Deity of the Hunting Bag

*nu=smas=z=san anda hulhuliandu*

“Let them embrace!”

KBo 3.40 Ro 12 (OH/NS) Hurrian Wars

2 LÚ.MEŠ *hulhuliyantes*

“two wrestlers”

Cf. *hulhuli(ya)-, hulhula-* “wrestling”:

KUB 25.23 i 21-22 (NH) Cult Reform

*PAN/DINGIR-LIMGEŠPU hulhuliyā tieskanzi duskiskanzi*

“Before the deity they go in for boxing, wrestling, they rejoice.”

Puhvel (1991: 361f.) connects the verb with an array of words tied to twisting or encircling semantics, through which he posits a possible root *\*hul(a)-* “wind, twist, twine”. A number of the words listed are undoubtedly derivatives of each other or a common source, namely *hulāli-* “distaff”, *hulaliya-* “entwine, encircle”, and *hulaliessar* “encirclement”. I find Kloekhorst’s suggestion (2008: 357) that *hulāli-* “distaff” is likely connected to the “wool” root *hul-* (cf. *hulana-* and *huliyā-* “wool”) attractive, but there are both formal problems and semantic exposition required. Whereas a direct derivation from the *hulali-* group seems problematic, it is more plausible that our verb here, *hulhuliyā-*, stems from a lost simplex *\*huliyā-* “wrap, wind”, from which we also have the result noun *huliyā-* “wool” (< “winding, stuff wound”). It’s easy to see why the reduplicated verb might have survived given the semantics of the root, “winding” being a naturally iterated action. As to the metaphorical extension “wrestle”, the reduplication fits well and can be seen to be durative, as wrestling is often a prolonged struggle, and/or reflexive.

4.6. *kalgalinai-* “To Clang, Clash”

KUB 30.22 15-16 + 30.20 i 3 (OH/NS) Royal Funeral Rite

LÚQA.ŠU.DU<sub>8</sub>.A=ma=ssan *isqaruh dāgan* GUL-ahzi nu *kalgalinai[z]zi*

nu<sup>SAL</sup> *taptaras weskiuwan dāi*

“The cupbearer knocks an *isqaruh*-vessel to the ground, and it clangs;

the wailing woman starts a lament.”

(trans. following Puhvel)

Though hapax, the context is full enough, the expressive nature clear enough, and the connection to *galgalturi-* apparent enough to confidently identify the verb. The formal connection to *galgalturi-*, an instrument of some sort, is too muddled to determine the direction of derivation. Puhvel (1997: 26) fruitfully compares the onomatopoeia to Rus. *kólokol* “bell”, as well as Ved. *karkarí-* and *gárgara-*, musical instruments of some type.

4.7. *katkattiya-* “To Shake, Tremble”

KUB 29.9 i 4-6 (OH/NS) Oracle

*[takk]u=kan antuwahas INA É=ŠU andan paizzi nu=ssi sakuwas peran É-ri anda*

*katkattiyazi*

“If a person goes into his house, and before his eyes it shakes inside the house ...”

KUB 29.48 Vo 6-10 + 29.44 iii 16-17 (MH/NS) *Kikkuli*

*mahh[an=ma=an ā]rranzi katkattiyazzi=ya=as*

*n=an=k[an] wetenaza n[amma] arha tittanuwanzi*

“When they wash [the racehorse] and it shakes (itself dry),

they then station it away from the water.”

KUB 1.13 ii 64 (ibid.)

*n=as 5=ŠU arranzi katkattinuzi=ya[=as]*

“They wash them five times, and one makes them shake (dry).”

KUB 33.103 iii 4-6 (MH/NS) *Hedammu* Myth

*genuwa=nnas=kan [...] katkattiskezzi SAG.DU-as=ma=nnas*

*LÚBÁHAR-as [GÍŠDUB]BIN GIM-an wehattari*

“Our knees ... shake, and our heads spin like a potter’s wheel.”

This stem is expressive by nature, reminding one of, but not directly connected to, the sound of chattering teeth as they shake. The inherent quick back-and-forth nature of shaking is obviously repetitive and/or intensive, whether of knees knocking, horses shaking dry, or houses quaking,

and though ascribing this verbal nuance may be superfluous if purely sound-imitative, it is complementary and gets at the interface between sound and reduplicative semantics.

4.8. *kuk(k)urs-* “To Mutilate”

KBo 6.2 iv 45 (OH/OS) Laws §95 (text Hoffner 1997: 93)

ARAD-*s=a* KIR<sub>14</sub>-ŠU ʾistʾ[āmanus=*sus* kukkurij]iskezzi

“He mutilates the slave’s nose and his ears.”

KBo 19.3 iv 14 (OH/NS) Laws §95

[ARAD-*s=a* KIR<sub>14</sub>-ŠU istā]manus kukkurska[nzi]

KBo 6.3 iv 3-4 (OH/NS) Laws §99 (Hoffner 1997: 96)

⌈ARAD-*n=a?*KIR<sub>14</sub>⌋-ŠU UZNĀ=ŠU kukkurskanzi

“They mutilate the slave’s nose and ears.”

As mentioned in 3.6.2., all the attestations of *kuk(k)urs-* here and elsewhere take persons or their body parts as objects. The evidence and period of attestation strongly points to an early lexicalization most likely arising from a repetitive (“cut again and again”), intensive (“really cut up”), or (if used as here with bodily pairs) plural object reading (“cut this then that”), but they need not be exclusive.

#### 4.9. *kukus-* “To Taste”

KUB 10.99 i 24-25 + 28-29 (OH/NS) Ritual Fragment

LÚALAM.ZU<sub>9</sub> ANA NINDA.GUR<sub>4</sub>.RA 1=ŠU *memai tawali=ma* 2=ŠU *memāi* ...

[*kis*]san ANA LUGAL GEŠTIN NINDA *harzazunn=[a...]* [*parā ē*]pzi *n=an kukuszi*

“The reciter speaks once for the leavened bread and speaks twice for the *tawal*-drink ...

As [follows(?)] he proffers to the king wine and *harzazu*-pudding. And he tastes it.”

(text and trans. Watkins 2003: 389-390)

This word, long thought to be an alternate spelling to *kuskuszi* “squash, pound” below, is correctly connected by Watkins to the Indo-European root \**ǵeus-* “taste” on contextual and formal grounds. Since both the simplex of the root does not survive into Hittite, and Watkin’s new interpretation further isolates the attestation, rendering it one of a *dis legomenon* (the other, KBo 20.39 r.col., fragmentary at that), elucidating a precise semantic nuance here is impossible; though upon further thought a “diminutive” reading of “take a quick bite, nibble, taste” analogous to Chinese reduplication of the sort 尝尝 *chángcháng* “take a (quick) taste” < 尝 *cháng* “to taste” seems appropriate.

4.10. *kuskus-*, *ku(w)asku(w)as-* “To Squash, Pound”

KBo 21.76 rt.col. 18-19 (?/NS) Medical Ritual

*n=at kuskuszi n=at=si IŠTU[...] akuwanna pāi*

“He squashes it and gives it to him to drink with ...”

KBo 20.129 + FHG 23.1 36 (?/NS) Ritual of Mouth Washing

<sup>GIŠ</sup>ERIN <sup>GIŠ</sup>*paini=ya apinissan anda tianzi ŪL [k]uskussanzi*

“They put in cedar and tamarisk in that manner, (but) they do not pound (them).”

KUB 7.1 i 25-26 (OH/NS) Ritual of *Ayatarsa*

ŠAR.HI.A=*ma hūman kuaskuaszi*

“He squashes all (the) vegetables.”

“To smash, squash” and reduplication seem to have a happy marriage of many potential facets, whether repetitive, intensive, and/or expressive. Like so many of our examples in this section, achieving exactitude may be impossible without contrast, but educated guesses can be made with a high degree of confidence. Puhvel (1997: 313) compares similar sound symbolism in Eng. “quash; squash”, ultimately < Lat. *quatere, quassāre* “shake”.

4.11. *LAH(H)IYAI-* “To Travel, March (intrans.); To Attack, War Upon (trans.)”

KUB 26.17 i 4 (MH/MS) Instructions for Border Commanders

*mān* <sup>d</sup>UTU-ŠI=*ma kuwapi apasila lahhiyaizzi*

“But if His Majesty at any time campaigns in person”

KUB 21.47 14 + KUB 32.82 Ro 19 (MH/MS) Instructions

*n=an lahhiya[ttē]*

“Y’all attack him!”

4.11.1. *lahlahhiya-*

KBo 2.2 i 43-47 (NH/NS) Oracle

*peran=kan kuedani memiyani lahlahheskaweni*

*n=an=kan tapassas apiya kuiski wemiyazi*

“The matter about which we constantly worry in advance: (if) some fever(?)

will find him (the king) there (let the MUŠEN *HURRI* oracle be unfavorable)”

(trans. eCHD)

The usage is clearly habitual—the king’s health is a constant concern; that, however, is most likely the force of the *-ske-*.

KBo 22.6 i 14-16 (OH/NS) *Šar Tamḫari*

*Sarrukinas*<sup>URU</sup> *Purushanda iyannes ta=z=kan tuzz[i-o]=mis*

*arahzanda lahlahhiyatta*

“Sargon set out for Puruṣḫanda, and his(!?) army milled (lit. mills) about  
(Then he sacrificed one bull and seven sheep to the holy river Aranzaḫ)”  
(trans. eCHD)

This intransitive stem shows repetitive semantics, i.e. the army marches back and forth, and shows that in context the meaning of *lahhiya-* is tied to the expedition itself, not the distance traversed.

KUB 5.11 iv 23f. (NH/NS) Oracle

*mān(?) asi(?) is[hiu]l DÙ-ri [U]L[=k]án! kuitki lahlahhiyaweni*

*nu l[GI-z] TE<sup>MEŠ</sup> SIG<sub>5</sub>-ru*

“If that treaty is concluded (?) (and) we will have nothing to worry about,  
then may the first exta [sic] (sign?) be favorable”

(trans. eCHD)

The verb is always reduplicated when used in the sense “to worry”.

#### 4.11.2. *lahlahhinu-*

KUB 9.34 iii 30f. (MH/NS) Ritual of *Tunnawi*

*kuis=an weritenuer kues=an=kan lahlahhinue<<-nu-e>>-er*

“those who caused him fear, those who caused him worry”

(trans. eCHD)

KUB 35.146 Vs. ii 14-17 (MH/MS) Ritual Fragment with Luvianisms

... *pastarnuwanzi=an kuiēs nu=za* <sup>GIŠ</sup>ḪAŠḪUR

*[da]ndu kumarnuwanzi=an kuiēs nu=za kunkumān*

*[da]ndu lahlahhinuskerr=an=kan kuiēs*

*[nu=za* <sup>GIŠ</sup>MAḂ *dandu*

(F. Starke 1985: 268f.)

“ ... those who spurn him shall take apple.

those who aggravate(?) him shall take cucumber(?)

those who have kept him perturbed,

shall take fig.”

(trans. Puhvel 2011: 193)

“those who constantly caused him worry”

(line 16, trans. eCHD)

Puhvel offers a past progressive reading of the *ske-* suffix in the reduplicated verb, while the eCHD takes a slightly different tack with a past habitual.

#### 4.11.3. *lahlahheskinu-*, *lahhilahheskinu-*

KUB 1.13 i 15f. (MH/NS) *Kikkuli* Hippological Texts

*[n=a]s tūriyanzi n=as 1 DANNA pennai*

*[lah]lahheskenuzi=m=as ANA 7 IKU.ḪI.A*

“They harness them and he drives them (at a moderate gait) one DANNA,

but of that he makes them run over seven IKU’s”

(trans. eCHD)

Given the measure of seven *iku*, the force of the reduplication may be distributive, i.e. he makes them run all of seven *iku* of the *danna*, or given that it's a training text, habitual, i.e. "(as part of the conditioning) he always makes them run seven *iku* (of the *danna*)". As with the above examples, however, the presence of *-ske-* renders discussion of the reduplicative semantics speculative.

The simplex, and thus the reduplicated stem, are denominative from *lāhha* "military campaign; journey"; that the root is originally nominal is also supported by the cognate Gk.  $\lambda\tilde{\alpha}(F)\acute{o}\varsigma$  "men, troops, folk" and OIr. *lāech* "warrior", as recognized by Sturtevant (1931: 120). All examples given above are reduplicated transitives, except *Šar Tamḥari*, which shows a reduplicated intransitive stem. As noted in the introduction to the chapter, if the reduplicated stem is made from an already existing denominative verb, then the expected semantics obtain; if, however, a verb is made to a reduplicated nominal stem (e.g. *hanhaniya-*), they do not. Note that the overall semantics of the transitive use of the simplex with respect to its reduplicated counterpart are almost resultative, i.e. agitate someone into a state of worry, perhaps best seen in KUB 9.34 iii 30f.

4.12. *lĕlaniya-* “To Become Enraged”

KBo 6.2 ii 14 (OH/OS) Laws §38

*takku hannesnas ishās lē[l]aniatta [n]u<sup>LÚ</sup>sardian w[alhazi]*

“If the adversary in court becomes enraged and strikes the helper ...”

KUB 33.10 Ro 15 (OH/MS) Myth of *Telipinu*

*[nu=wa<sup>d</sup>T]elipinu[s lē]anitta[t]*

“Telipinu became furious.”

KUB 17.10 ii 33, iv 4 (OH/MS) Myth of *Telipinu*

*<sup>d</sup>Telipinus lēlaniyanza uet / <sup>d</sup>IM-as lēlaniya[n]za uezzi*

“Furious, Telipinu came.” / “Furious, the Stormgod comes.”

Though possibly a denominative from an unattested noun, as Kloekhorst (2008: 524) surmises, if so it is early, as it is attested only in Old Hittite. Without the noun, however, it is of course impossible to prove, and we are allowed some harmless conjecture. One possibility is that the verb’s reduplication is suggestive of angry speech along the lines of Eng. *blah-blah* for boring or uninteresting speech, or Japanese *ira-ira* used to illustrate an irate emotional state in manga, *pun-pun* for the truly livid, but, again this remains pure speculation.

4.13. *lilwabh-* “To Hurry, Hasten”

KBo 26.61 + KUB 33.102 iii 20-23 (dupl. KUB 33.98 iii 10-13) (MH/NS) Song of

*Ullikummi*

*kūn[=wa=za TUR-an? d(a)]tten nu=war=an <<su>> uppe[(ssar)] iyat[te(n*

*nu=war=an G)]E<sub>6</sub>-i Kl-pi petat[(t)en] nuntarnu[(tten=wa lil)]jiwahten*

“Take this [child(?)] and treat him as a gift. Carry him to the dark earth. Hurry! Hasten!”

(trans. eCHD)

ABoT 60 Vo 3-4 (MH/MS) Letter

*nu=mu=kan* <sup>d</sup>UTU-ŠI BĒLI=YA ÌR.MEŠ=K[A] *lilwahhuwanzi nai*

“Your Majesty, my lord, send your servants to me quickly!” (trans. eCHD)

The factitive suffix *-ahh-* suggests that the verb is de-adjectival, an inference that would seem to be supported by the only clearly connected word, the adjective *lilwant-* “speedy”. If the latter is a true possessive adjective, that would suggest an unattested substantive *\*lili-* or the like.

Regarding the /w/ of the our stem, there is evidence supporting direct derivation of factitives from an adjectival stem in *-want-*, for which cf. *innarawahh-* “to make vigorous” ~ *innarawant-* “having vigor”, *misriwahh-* “to make splendid, perfect” ~ *misriwant-* “splendid, perfect”. This pattern arose from cases where a stem in *-want-* stood beside a stem ending in a real *-wa-*, as in *pittalwa-*, *pittalwant-* “plain, simple”, *maninkuwa-*, *maninkuwant-* “near”, the latter with attested

factitive *maninkuwahh-* “to draw near” (cf. Melchert 1984a: 80). As the hapax *maninkuwa-* became obsolete, speakers would have reanalyzed *maninkuwahh-* as derived from *maninkuwant-*, as likely with any other such pairings.

4.14. *mema/i-* “To Speak”

KBo 17.1 iii 4 (OH/OS) Ritual for the King and Queen

*āppan(-)anda=ma=sse kē mēmahhi*

“And after him [an eagle] I recite these things ...”

KUB 22.70 Ro 75 (NS) Oracle

*lē=wa=mu kuitki mematteni*

“You shall not say anything to me!”

KUB 7.5 iv 6-7 (MH?/NS) Ritual

*nu=za=kan zashimus kuiēs uskezz[i] n=as memiskezzi*

“He will report those dreams which he sees.”

Even more so than with *kuk(k)urs-*, above 2.8, it is clear that *mema/i-* is an ancient lexicalization of a reduplicated stem. Friedrich (HW) has the meaning of *mema/i-* as *sprechen*, and uses *sagen* for *te-/tar-*, while the CHD also seems to follow an aspectual distinction (while noting some overlap), and also notes that among the well-attested exclusive nuances between the verbs, of *mema/i-* we have “to testify” and “to describe”, while of *te-/tar-* “to command” (KBo 17.4 ii 12-13) and “to designate” (KUB 9.10 iii 3ff.) (eCHD). While in the *Testament of Hattusili I* we have Akk. *iqabbi* for both *tezzi* (KUB 1.16 iii 65/iv 66) and *memiskezzi* (iii 64/iv 64), the Akkadian commonly carries both meanings “to speak” and “to say” and (a)telic flavors thereof. As far as I know, no one has yet conclusively proven a telicity contrast between the two verba dicendi, yet the implicit consensus seems to be what we would want for a lexicalized reduplicated stem,

namely *mema/i-* as atelic over against *te-/tar-*, allowing for a certain amount of overlap over time, a degree of aspectual bleaching we might expect from a stem long lexicalized.

4.15. *mimma-* “To Refuse, Reject”

KBo 6.2 + 19.1 ii 20 (OH/OS) Laws §40

*takku*<sup>GIŠ</sup>TUKUL-*li=ma mimmai*

“But if he refuses (to do) TUKUL-service ...”

KUB 17.10 i 8-9 (OH/MS) Myth of *Telipinu*

UDU-*us=za* SILA<sub>4</sub>=ŠU *mimmas* GU<sub>4</sub>=*ma* AMAR=ŠU *mimmas*

“The ewe rejected her lamb, the cow rejected her calf.”

KUB 14.1 Ro 18 (MH/MS) *Madduwatta*

<sup>m</sup>*Madduwattas=a=z* KUR <sup>HUR.SAG</sup> *Hāriyati asānna mimmas*

“Madduwatta refused to settle in the country of mount Hariyati.”

In his paper in the Melchert Festschrift, García-Ramón (2010: 41) reasserts Sturtevant’s (1933: 133) earlier equation of *mimma-* “refuse” with Gk. μῖμνο/ε- “stand fast”, but importantly for our current purposes, he attempts to discern some sort of unifying semantics for the very old /i/-reduplicating class of verbs. While he notes that the lack of a simplex in Hittite makes it impossible to prove any specific Aktionsart as pertains to *mimma-* (a sound principle), he does however call upon the strength of the equation to shed light on any inherited stem contrasts, which in turn may survive into Hittite (although I would argue that comparative semantics between languages with and without contrast is tricky). The Homeric evidence he gives need not detain us here (ibid. 44-45). Suffice it to say that García-Ramón concludes that the Hittite reflects the lexicalization of a transitive reading to an intensive formation of PIE stative *\*men-* “to stay, remain”. While this is plausible, I’m not sure “intensive” is the right description, and the

narrative seems to lack a few steps. At first glance, it is not immediately obvious how an intensive stative with inherent intransitivity, “really remain, remain steadfast” (again, “intensive” here is difficult), acquires a transitive reading, unless we think of it as against the will of outside actors, but again that would be an implicit argument (and any intensive valence would seem to speak more to an attitude than a verbal action). It seems a much better fit to get rid of the “intensive” label and simply see the reduplication as durative, which fits a stative more naturally. As conceded above it’s not too difficult to formulate a scenario “remain” > “tarry” > “remain steadfast (against X)” > “resist X”, and as we discussed in the previous section of the chapter, we do have two synchronically contrastive stems in Hittite for which reduplication does in fact have the effect of adding transitivity, *asas-/ases-* (cf. 1.2.2.) and *titti-* (*tiya-*) (cf. 1.19.2.), to which we may also compare the transitive and causative values of Lat. *sistō* and Gk. ἵστημι; it’s just a switch that shouldn’t be taken too lightly when investigating the underlying semantics of reduplication.

4.16. *NEKU-*

“To Become Twilight”

KBo 15.22 8 (?/NS) Ritual of *Pupuwanni*

*[kuitma]n nekuzzi<sup>d</sup>UTU-us=kan nūw[a tepu ser*

“While evening comes but the sun [is] still up a little.”

KBo 5.8 iii 19-20 (NH) Annals of *Mursili*

*mahhan=ma nekutt[a] nu=ssan pedi wahnunun*

“But when night fell I turned around.”

4.16.1. *nana(n)kuss(iya)*- “To Become Dark, Gloomy”

KUB 43.2 + 7.16 +8.24 iii 7-8 (dupl. KBo 9.68 iii 10-11, KUB 34.15: 10-11) (OH/NS)

Omen

*n=asta KU[R-a]nti kuedani anda nanakus[z]i nu=za lūla auszi*

“In what land it gets dark, it will see serenity.”

KBo 13.101 Vo 14-17 (pre-NH/NS) Ritual for the Sungod

*[nu=ssi peran] [n]anakussiyan ēsdu [tuk=ma] peran lalukiuwan ē[sdu]*

“[Before him] let it be dark. But before [you] let it be bright/resplendent.”

(trans. eCHD)

As the more common impersonal *lukk(a)*- “it dawns” has a counterpart, *neku*- “it dusks”, so too does the latter possess a correspondingly reduplicated stem with fientive semantics, *nana(n)kuss(iya)*- “become dark, gloomy”, matching in function the former’s *lalukke* (\*-eh<sub>1</sub>-stative-fientive). As the discussion in 3.11. adduces an intensive reading underlying the reduplicated *luk(k)*- complex, so too does an intensive fit the contextual and contrastive evidence for *nana(n)kuss(iya)*-, leading Watkins (1985: 253) to attribute an oppressive, mythological darkness to the verb. However, inchoative semantics may be a better fit for *lalukk*- ~ *nana(n)kuss(iya)*-, denoting an iterative stepping up or drawing down of the light, “grows brighter” ~ “grows darker” (cf. 6.3.2. for further discussion).

#### 4.17. *pappars*- “To Sprinkle”

KUB 17.10 ii 28-30 (OH/MS) Myth of *Telipinu*

*kāsa IŠTU*Ì.DÙG.GA ŠA<sup>d</sup> *Telipinu* KASKAL.ḪI.A=KA *paparashun*

*nu=ssan*<sup>d</sup> *Telipinus* Ì.DÙG.GA-*it papparassanta* KASKAL-*sa iyanni*

“I have herewith sprinkled your paths with fine oil, O Telipinu.

So walk, Telipinu, on the path sprinkled with fine oil.”

(trans. eCHD)

KBo 6.34 iv 4 (MH/NS) Soldier’s Oath

*nu=ssan pahhueni wātar papparaszi*

“Then he sprinkles water onto the embers.”

KUB 31.113: 12-13 (NS)

*nu=kan É DINGIR-LIM p[arā] sanhanzi papparsanzi*

“They clean out the temple and sprinkle (it).”

Hittite lacks the simplex stem seen elsewhere in Indo-European, e.g. TochAB *pārs-* “to sprinkle”, Lith. *puĩslai* “spray”, ON *fors/foss* “waterfall”, perhaps replaced by the lexicalized reduplicated stem. The attestations are overwhelmingly ritual in nature, and most instances could fit a repetitive or pluractional reading (perhaps inherent to an extent, apropos droplets), but if the stem was lexicalized early and never acquired a contrasting counterpart, it matters not.

4.18. *pippa-* “To Knock Down, Destroy; To Turn Up”

KBo 22.6 iv 23 (OH/NS) *Šar Tamḫari*

[(<sup>URU</sup>*Pu*)]*rushandas BÀD-essar KÁ.GAL hanti pippandu*

“Let them overturn the wall and gate of P. separately.”

KUB 31.124 ii 10-12 (MH/MS?) Prayer of *Arnuwanda I* and *Ašmunikal*

*nu kētas ANA KUR.KUR.ḪI.A sumenzan ŠA <DINGIR.MEŠ> É.ḪI.A*

DINGIR.MEŠ=*KUNU* *kue ēsta n=at* LÚ.MEŠ<sup>URU</sup> *Gasga arha pippēr*

“The men of Kaska have overthrown the temples of yours (O gods) that were in these lands.”

KUB 34.22 i 8-9 (pre-NH/NS) Omen

*nu apāt*<sup>GIŠŠÚ.A</sup> [...] *arha pippattari*

“That throne ... will be overthrown.”

KUB 41.3 Vo 35 (?/NS) Ritual of *Pupuwanni*

*nasma=as=kan apēdani* UN-*si*<sup>TÚG</sup> *sek[nus]* <*kuiski*> UGU *pippai*

“Or someone turns up his *s*-garments against this person.”

EGIR-*p[a]* *kamzuriti pakmariti=ma=za arha pippas*

“The latter (examination): (the sacrificial sheep) turned itself over at *k.* and *p.*”

Like *mimma-*, García-Ramón (2010: 45ff.) treats *pippa-* under his investigation into the semantics of the /i/-reduplicating class. Here he sees a lexicalized marked present that originally contrasted with a root aorist to a root he reconstructs (subsuming previously reconstructed *\*peH-* “move (violently)”) as *\*(s)peh<sub>2</sub>-* “to put in motion, draw” (ibid. 46), comparing the Hittite usage with Gk. *σπῶω* “to draw, pull violently (often temples, walls, etc.)” and Ved. *ut-pipīte* “rises”, *praty-ut-pipīte* “overthrows”. The contrast in PIE then is purely aspectual, the root “momentative”, and by his second gloss, “move (violently)” (ibid. 47), a *potentially* lexical intensive. While I appreciate reducing the number of roots where available, I think however that the discussion on the aspectual contrast next to a parenthetical intensive gloss potentially confuses the lexical and the aspectual in the context of a reduplication study, where the evidence (as presented) suggests that Greek generalized the unreduplicated stem

with the intensive meaning, Vedic the reduplicated stem, but with the intensive meaning preserved through use of preverbs, and Hittite the reduplicated stem with the intensive meaning. However, despite the first gloss in the CHD, there is ample reason to give the primary meaning of *pippa-* as “overturn” rather than “destroy”, which is simply the result of overturning certain objects, i.e. walls, temples, gates (“overturn” is also supported by the Vedic evidence); certainly sheep turning over or turning up one’s garments are not destructive actions (v.s. KUB 50.90 and KUB 41.3, respectively). Apropos his discussion of Luvian *uppa-* “to carry”, for which Melchert proposes *\*au-(s)peh<sub>2</sub>-*, note also his reference to Armenian *hanem* “to pull; take away; lead”, further undermining any violent lexical semantics to the root (Melchert, to appear<sup>2</sup>). Here again then, as with *mimma-*, I respectfully disagree with García-Ramón that an intensive sense is the best interpretation of the root semantics. It seems more likely that there was simply an aspectual contrast (which he notes) that was lost when Hittite abandoned the present/aorist contrast, the inherently telic sense of “overturn” then preserved in the reduplicated stem, essentially the scenario he gives above, but understanding telic where he gives “intensive”.

4.19. *sisd-* “To Prosper, Proliferate (?)”

KUB 14.12 Vo 14 (NH) Plague Prayer

*n=at sesdu māu*

“Let it prosper, let it grow!”

KBo 8.35 ii 14-15 (MH/NS) Treaty with the *Kaska*

*nu m̄an kūš lingāus pahhasduma sumās=a DINGIR.MEŠ-es*

*pahsanderu n=asta QATI LUGAL maisten sisten*

“Now if y’all keep these oaths, (then) may the gods protect you,

may you grow and prosper by the hand of the king!”

KUB 40.36 + 23.78B + 26.6 ii 11 (ibid.)

*pahsantaru x QATI LUGAL māu [sic!] sis[t]en*

“May they (the gods) protect (you), may it [sic] grow, may you prosper through the king!”

The etymology, and indeed the shape, of this stem remain in contention (cf. 6.4.6.). The gloss is based on a putative Akkadian equivalent in an expression “winds of prosperity” (which is not probative for our purposes), as well as inferred from frequent asyndeton with *mai-* “to grow” in a common formula. Certainly no appreciable reduplicative semantics can be positively identified, except perhaps, if the meaning is correct, a wishful durative. If Carruba (apud Friedrich 1966: 28-29) has the right of it in connecting the stem to IE *\*sed-* “to sit”, then at the very least the meaning has become lexicalized early on, if we are to judge by the semantic distance between “sit” and “prosper”, a scenario supported by the verb’s limited contextual usage.

4.20. *sisha-* “To Decide, Appoint”

Bo 86/299 ii 25 (NH) Treaty of *Tuthaliya* with *Kuruntiya*

*kinun=a=za mān* <sup>d</sup>UTU-ŠI ŠA GU<sub>4</sub> UDU.HI.A *kuitki AŠRU seshahhi*

“Now if I, His Majesty, appoint some place (for the raising) of cattle and sheep”

KBo 5.9 iii 6 (NH) Treaty with *Duppi-Tešub* of *Amurru*

*n=an=za=an mahhan namma* LUGAL-us *seshāi*

“When the king again assigns it (a task)”

KBo 23.106 Vo 9-10 (MH/MS) Oracle

[...-] <sup>Γ</sup>x-li<sup>Γ</sup>=wa=kan *kuitki* SISKUR ANA <sup>d</sup>Γ He<sup>Γ</sup>[ba]t [si]shuen

“We ordered some [...]... ritual for Hebat (and it has not been performed)”

(trans. CHD)

Pace Kloekhorst (2008: 759), *sisha-* does not synchronically pair with *ishai-* “to bind”; however, it is likely that the stem is a lexicalized relic directly from *\*seh<sub>2</sub>-* “to bind” (not *\*sh<sub>2</sub>ei-* as for *ishai-*; for details see 6.4.7.). Arriving at a meaning “decide, appoint” from “bind” is nevertheless no minor point, for which there are a few possibilities. We can assume the lexicalization is literally rooted in “binding”, reflecting information about appointment ceremonies or ritual that we do not possess. Alternatively, some meaning rooted in metaphor roughly akin to “tie a bow on it, wrap it up” > “finish decisively, decide” may be at work (unattractive for being impossible to prove). But perhaps we can look to Eng. “fix” (ult. from Lat. *figere* “to fasten”) for a plausible parallel semantic development, which in its earliest instances is transitive “fasten”, but comes in time to mean both “appoint, assign” and “decide, determine” (cf. OED). Cf. also the Southern American Eng. near future auxiliary in “I’m fixing to go”, “I’m fixing to eat this”, behind which lies “I’ve decided to, set myself to” > “I will (soon)”. Attestations with reflexive *-z(a)* could reflect an ethical dative from the step “fix for oneself” > “decide”, or still felt as “decide to one’s benefit”. In any case, the force of the reduplication has long since been lost.

4.21. *tastasiya-* “To Whisper”

KUB 5.4 i 28-29 (NH) Oracular Inquiry

*nu=ta uezzi peran kuiski tastasiyaizzi* <sup>d</sup>UTU-ŠI=wa=ddu=za=kan kissan kissann=a  
*zikkezzi*

“He proceeds before anyone to whisper (about) you, ‘His Majesty is setting himself  
(against) you in such and such a way.’”

Patently sound-imitative, there isn’t much to say about this quintessentially expressive verb.

4.22. *tith(a)-* “To Thunder”

KUB 34.123 + 1.1 (MH/MS) Ritual of Thunder

*[mān<sup>d</sup>]M-as titha LUGAL-us* <sup>GIŠ</sup>*hulu[(ga)nnia]z katta uezzi*

“When the Stormgod thunders, the king comes down via *huluganni*-cart.”

VBoT 73 Vo iv 2 (OH/NS) Myth: The Moon that fell from the Sky

*mān=k[an<sup>ᵈ</sup>U-as]KALA.GA tetheske[zzij] nu LÚ<sup>ᵈ</sup>U kisan iya[zi]*

“When the Stormgod thunders violently again and again, the priest of the Stormgod acts as follows.” (trans. following García-Ramón 2010: 43)

Rounding out his coverage of the /i/-reduplicants, García-Ramón (2010: 43), concludes that *tith-* represents the lexicalization of an intensive stem, the simplex of which has been lost to Hittite without trace. I have no issue with his analysis, as the event itself is so paradigmatically intense that such a development is trivial.

4.23. Bringing our investigation into the function of Hittite verbal reduplication to a close, we find no real surprises among the Hittite unpaired stems. Among unpaired reduplicated stems, we should have expected to, and do in fact, find onomatopoeic verbs, e.g. *tastasiya-* “to whisper” (4.21.), *hahhars-* “to laugh” (4.2.), et al.; reduplicated stems that had replaced their

simplex, e.g. *pappars-* “to sprinkle” (4.17.); intensive or inchoative *nana(n)kuss(iya)-* to become twilight” (4.16.1.); repetitive or intensive *arrir(r)a-* “to scrape (clean)” (4.1); and stems which have clearly become lexicalized after the loss of their base, e.g. *memai/i-* “to speak” (4.14.), *sissha-* “to decide, appoint” (4.20.), et al., including a probable lexicalized durative *mimma-* “to refuse, reject” (4.15.). It is important to note, however expected, that it is the category of the input that informs the sense and use of verbal reduplication, e.g. *lahhiya-*, though denominative, is verbal, and thus, the force of the reduplication in *lahlahhiya-* (4.11.1.) falls into our expected range of reduplicative semantics, in this case habitual (KBo 2.2), repetitive (KBo 22.6), or progressive (KUB 5.11). Having laid out the functional facts for Hittite, we now turn to the reduplicated verb in Luvian and Lycian.

## Chapter 5. The Reduplicated Verb in Luvo-Lycian

5. As expected, the Luvian attestations of reduplicated verbs are not as many as we have for Hittite. Consequently, the caveats stated at the beginning of our Hittite examination apply here as well, but are compounded by the paucity of evidence. We will do our best to elucidate what meaning we can from context, and even more rarely for Luvian, contrast. Since the evidence is so limited, we will make no effort to separate paired and unpaired stems into separate sections, simply citing the simplex ahead of the reduplicated stem where we have both. There is no compelling reason to separate the Cuneiform from the Hieroglyphic Luvian; rather, following the intersection of attestations for one verb, we have merged the evidence for both into one section. As the Lycian evidence does not support its own chapter, we shall discuss it in a section below. There are a few places where our understanding of the grammatical structure and meaning of certain words precludes any useful translation; these attestations are left untranslated and given mainly as citations of forms with unbroken, if not understood, contexts.

## 5.1. Luvian

### 5.1.1. *hishi(ya)*- “To Bind”

KUB 9.31 ii 23-24 (MH/NS) Ritual of *Zarpiya*

*ashanuwanta kuinzi wassantari<sup>d</sup> lūlahhinzas=tar hūpparaza kuinzi hishiyanti*

“Who wear bloody clothes, who bind on mountain-dweller (style) belts.”

While we lack the unreduplicated stem in Luvian, here the verb is clearly employed as a habitual, since the subjects are defined by their customary garb. The corresponding Hittite passage employs a participle built on the simplex here: *ēshanuwanta kuiēs wēssanta*

<sup>LÚ.MES</sup> *lūlahiyas=san huprus kuiēs ishiyantes* “who wear bloody clothes, who are bound/girded as to belts of mountain-dwellers” (KUB 9.31 i 37-38). The question then is whether the Luvian reduplicated stem became lexicalized for this sense, allowing it to be equated with the Hittite

simplex in this context, or if the habitual sense here is just more clearly marked by the reduplicated stem and we simply lack an instance of the simplex for Luvian.

Normally we save Hieroglyphic Luvian attestations for their own subsection, but as nothing can be done with it for the purpose of this chapter, note H.Luv. (PUGNUS.PUGNUS) *hi-sà-hi*- “bind” (CEKKE §13, Hawkins 2000: 145), which though not proving that the reduplicated stem was lexicalized in Luvian, does support the possibility.

#### 5.1.1. *hui(ya)*- “To Run”

KUB 35.39 Vo iv 7-8 (MH/NS) *Dupaduparsa* Ritual

2 LÚ.MEŠ GAL=ŠUNUSÌR<sup>RU</sup> *summallanna=mū=r*

*harlā parlā hūiyadda* KI.MIN

KUB 35.39 Vo iv 2 (ibid.)

[2 LÚ]MEŠ GAL=ŠUNUSÌR<sup>RU</sup> ā=dda marāwista

*meniyalli tarwayanni hūhuiyanda* KI[.MIN]

As with the simplex cited above, this reduplicated form occurs in one of a series clauses coordinated by KI.MIN “likewise”, in which another reduplicated verb *wawalipadda* “(s)he/it wrapped” appears. Unfortunately, we cannot be sure of any contrast with the simplex, as we are unable to translate either example.

KUB 7.53+ Ro i 58-59 (MH/NS) Ritual of *Tunnawi*

*ariyaddalis* <sup>d</sup>ĪŠKUR-anza sarri tappasī hūehūiya

*tappassa* <it> sarri tiya <m> mi huihuiya

“Run over heaven, mountain Storm-god! Run over (the) earth, heaven!”

The reduplicated stem's usage here is obviously habitual, as storm(god)s do surely always roll over heaven and earth. Compare below, BABYLON 1 §2-3, for a possible contrast.

5.1.2. *HWI*- "To Run"

BABYLON 1 §2-3 (Hawkins 2000: 392; late 10<sup>th</sup> – early 9<sup>th</sup> c.)

*wa/i-mu-ta-'TONITRUS.HALPA-pa-wa/i!-ní-sa*

(DEUS)TONITRUS-*sa* BONUS-*ti-i* HWI-*ya-ta*

"The Halabean Storm-god ran with fortune for me."

If the ruler who erected this stele is repaying a specific favor with a devotional act, then we do have a good contrast with a habitual "run" in KUB 7.53+ above.

KARKAMIŠ A6 §23-24 (Hawkins 2000: 124-125; end of 9<sup>th</sup> – start of 8<sup>th</sup> c.)

*wa/i-sá za-ti* LOCUS-*ta<sub>4</sub>-ti* REL-*i-'* PES<sub>2</sub>(-)*HWI-ia-ta*

*wa/i-tú-u za-na* (“MENSA.SOLIUM”) *á-sa-na* AEDIFICARE+*MI-ha*

“When he ran in this precinct, for him I built this seat.”

KARKAMIŠ A6 §8-9 (ibid.)

*za-a-pa-wa/i* (“MENSA.SOLIUM”) *á-sa-na-'* *ku-ma-na 'ka-ma-ni-i-ya á-mi-i-'* DOMINUS-

*na-ni* INFANS-*ní* REL-*i-ya* AEDIFICARE+*MI-ha wa/i-sá za-ti* LOCUS-*ta<sub>4</sub>-ti-i*

(“PES<sub>2</sub>”) *HWI-HWI-ta*

“But when I built this seat for *K*, who is son of my lord, he used to run in this precinct.”

Hawkins (2000: 124) gives a habitual reading to reduplicated *HWI-* here, which, however, is better brought out by emending Hawkins' translation to: “But until I at a certain point built...”,

thus emphasizing a change in what was formerly habitual behavior. The emendation also brings out the force of REL-*i-ya*, which is likely indefinite, as per Hawkins (2000: 126).

KARKAMIŠ A11b+c §8 (Hawkins 2000: 103; late 10<sup>th</sup> – early 9<sup>th</sup> c.)

*pa-tá-za-pa-wa/i-ta-'* (TERRA+LA+LA) *wa/i-li-li-tà-za mi-i-zi-'*

*tá-ti-i-zi AVUS-ha-ti-zi-ha \*348(-)la/i/u-tà-li-zi-ha NEG<sub>2</sub>-'* (PES<sub>2</sub>)HWI-HWI-*sà-tá-si*

“My fathers, grandfathers, and forebears(?), never used to run to those plains.”

KARKAMIŠ A11b+c §11-12

*wa/i-ma-tà-'* PRAE-*na* (PES<sub>2</sub>)HWI-*ya-ta*

*a-wa/i pa-ya-'* REGIO-*ni-ya* (“VACUUS”) *ta-na-tá-ha*

“And they ran before me, and I wasted those lands.”

Here the speaker is clearly denoting an action that sets him apart from what his ancestors never did in the past.

### 5.1.3. *ilha(i)*- “To Wash”

KUB 35.23 30-31 (MH/NS) “Grand Ritual”

*ililhāi=ti m[al]hassassis [EN-as ṭ]aparū dāta[riyamman] hirūn māyassin EME-in*

*pa [halā]is āsdu ma[hassassis EN-as]...*

“The ritual lord washes himself (of) evil, curse, oath (and) adult gossip. So let the ritual lord be pure ...”

KUB 9.6+ Ro ii 10ff. (MH/NS) *Dupaduparsa* Ritual

*āssa=mmas elelhāndu tāinati mallitāti tāin=ti=(y)ata malli aiyaru*

*tapāruwa hīrūta tatarriyamna*

*āssa=ti ēlhādu tappasantis tiyammantis tāin=ti=(y)ata aiyaru*

*malli=ti=(y)ata [a]iyaru*

“Let them, the *t*., oaths and curses, become oil (and) honey. Let heaven and earth wash their mouth(s). May they (the evils) become oil, may they become honey.”

Two distributive readings are possible here: the former object-distributive, is a reading well-supported by the evidence in Hittite; the latter subject-distributive, is both more tenuous from the Hittite standpoint and in this instance unsubstantiated given the pairing with the simplex. Sadly, all other examples of both simple and reduplicated stems for this root are in unrecoverable contexts.

#### 5.1.4. *la-* “To Take”

KUB 32.8+ Vo iii 14-16 (?/NS) Ritual Fragment

*lalpīn=tī=tta / lādda kuwannanin=tī=tta / lādda*

“He took the eyelash for himself, he took the eyebrow for himself.”

KBo 9.145 rt. col. 7-8 (?/NS) Fragment

<sup>GIŠ</sup>NÍG.GUL-*in lālandu nuš-*

*tarmissandu*

“Let them take a hammer [...] let them keep nailing down [ ].”

While collocation with marked imperfective *tarmissandu* is tantalizing, the broken context disabuses us of seeing too much.

KUB 35.88 iii 9-10 (restoration after KUB 35.89:10) (?/NS) Ritual against Illness

<sup>d</sup>*Kamrusipas āssatta wananza l[(alā)tta]9-za* <sup>GIŠ</sup>GA.ZUM-*za*

“Kamrusepa spoke (and) took nine combs for/from the women.”

ibid. iii 13-14 (restoration after KUB 35.89:12)

*lalāi=wa [(9-unza)]<sup>GIŠ</sup>GA.ZUM-za<sup>d</sup>Kamrusipas*

“Kamrusepa shall take nine combs.”

A plural object reading presents itself.

KUB 35.54 ii 15-16 (?/NS) Ritual of the “Old Woman”

*pā ānda pūna zāš [...] lāladdu*

“Let this [ ] take in all.”

We have an implied plurality in the object.

KUB 35.43 iii 28-29 (ibid.)

*l[ala(i=)]dū=tta tapāru tatariyamman hir[(ū)]n...*

“Let it (the scape animal) take from him the *t*., the curse, the (false) oath...”

The line continues with a long string of adjectives; cf. KUB 35.24 i 22 (Starke 1985: 85) for restoration of the verb. Here we can safely take a distributive reading of the verb.

KUB 35.43 ii 16-18 (ibid.)

*ipalāti=du=(w)an hui[n]juwahha a=dū=tta ipalātin*

*latta isaruilat[i=p]a=du=(w)an hūinuwahha*

*a=dū=tta attuwalin h[a]ttastarin latta*

“I have caused it (a white sheep as scape animal) to move to his left. It has taken the  
sinisterness from him. I have caused it to move to his right. It has taken the violence  
from him.”

While obviously the above passage employs the base stem, what matters for our purposes is  
that after a description (in Hittite) of an “old woman” making a circuit around the ritual client  
while holding a white sheep, the same passage is repeated, and though broken, shows *lalatta*  
with single object.

KUB 9.31+ ii 30-32 (MH/NS) Ritual of *Zarpiya*

*uraz<zas>* <sup>d</sup>UTU-*az tatinzi* DINGIR.MEŠ-*inzi*

<sup>d</sup>É.A-*as=ha parnanza=ta kuwatti anda hūinaiman*

*lalanti pā uzas adaritan*

“Oh great Sun-god, father gods, and Ea, feed yourselves in the house where they  
receive the *a.h.!*”

A habitual *lalanti* fits well in the relative clause here.

KUB 44.4+ Vo 22-24 (?/NS) Birth Ritual(?)

EME.ĤI.A EME.ĤI.A *kuwapi=wa paitte[ni]*<sup>NA<sub>4</sub></sup>*peruni* ]*palhuna pāiueni* A GAM

AG NI ANA<sup>NA<sub>4</sub></sup>ZÚ ]*duwarnuman[zi p]āiueni* UR.MAĤ GIŠ-*ruanzi* KI.MIN

UR.BAR.RA ]*patalhauna* KI.MIN ]*zammanti* DUMU.NÍTA *lalauna!* KI.MIN

“Tongues, tongues, where are you going?”—“We are going to flatten the rock...we are going to break the obsidian, likewise to *shackle* the lion, likewise to fetter the wolf, likewise to seize the *z.* male child.”

Our reduplicated stem is here coordinated with other unreduplicated, unmarked stems in a series of one-time acts. As such there is nothing that suggests anything within our range of imperfectivity. Though it would certainly be poetic, I cannot say for certain that the reduplicated stem was here chosen to evoke the underlying word behind EME.ĤI.A, *lāla/i-* “tongue”, in a sort

of ring composition, and indeed some scholars e.g. Puhvel et al. following Beckman (1983: 195) have interpreted *lalauna* as denominative to *lala*- “tongue”.

The two Hieroglyphic Luvian attestations of *lala*- occur in contexts too broken to elicit any function.

#### 5.1.5. *luwa*- “To Pour”

KUB 35.107 iii 18ff. (MH/NS) Magic and Myth

*a=wa* DUMU.LÚ.ULÙ<sup>LU</sup>-*in* SAG.DU-*in* DUGUTÚL-*i[n dūw]anda*

*a=wa=fta* IGH.ḪI.A-*wa ānda* (*u*)*war=sa lūwanda [a=wa=ft]a?* *mannawannin*

*ānda tamma kūšāinta ...*

“They placed a pot (as) a human head. They poured in water (as) the eyes.”

They *k*-ed in *t*. as the nose (?) ...”

KUB 35.39 i 26f. (?/NS) Ritual of the “Old Woman”

*lilūwa tāin mimien(-)tūwā[ ] lilūwa lilūwa iyā nannā [i...]*

“Pour oil ... pour, pour ...”

A connection between the repetitive action and the reduplication would be harmonious, but remains wishful.

#### 5.1.6. *malhu-/malwa-* “To Break”

The only extant finite verb form of the simple stem is in an (appropriately?) broken context.

KBo 22.254 Ro 4ff. (?/NS) Ritual Fragment

*... mammaluwai [a]dduwalin Š[U-in adduw]alin EME-e[n] ...*

“He shall break the evil hand, the evil tongue ...”

KUB 35.45 iii 17 (?/NS) Ritual of the “Old Woman”

*[mam]malwai=an EN SISKUR.SISKUR-is adduwalin EME-in*

“The ritual lord shall break it, the evil tongue ...”

There isn't too much to see here, as any hope the dual object of the first attestation would suggest a distributive reading is quickly quashed by the second attestation's lack of any additional objects in an almost identical context.

#### 5.1.7. *m(a)nā*- “To See”

KUB 35.88 Ro ii 11-13 (?/NS) Ritual against Illness

*[kuis=wa=tar zāti-]i DUMU-ni ādduwāl ānnīt[i]*

[ ] *dūpsamma manādu x[*

*[-i]n manādu MUŠ-in KU[N-in manādu]*

“Whoever does evil to this child, let him see the *d.*, let him see... let him see the tail of the snake [lit. the snake, the tail].”

KUB 6.45 iii 74 (=6.46 iv 44) (NH) Prayer of *Muwattalli*

*IŠTU<sup>d</sup>U pihassassi=wa=za kaniss[(anza salla)]nuwan[(za)] mimmamiss=a*

“I have been recognized, raised and esteemed by the Stormgod of Lightning.”

KUB 24.12 ii 28-33 (?/NS) Ritual of the Sun-goddess of the Netherworld

*nu=kan zik KI-as<sup>d</sup>UTU-su GAM-rass=a DINGIR.MEŠ kēdās tarpallius arkammi=ya*

*mamannaten ŠA<sup>m</sup> Tudhaliya=ma=mu ŠA<sup>LÚ</sup>GURUŠ hastariyatar ... sarā tarnesten*

“You, O Sungoddess of the Netherworld and (you) O infernal deities, look upon these substitutes and the tribute, but send up the *h.* ... of me, T., as a youth.”

Melchert (1988: 218-220) has already convincingly sketched out the meanings and history of these reduplicated by-forms. The second reduplicated stem, *mammanna-*, is affixed by the durative *-anna-*, so any imperfective value could be due to or simply reinforced by this suffix. I would, of course, lean towards renewal given the semantic development of the first reduplicated stem *mimma-*; if speakers followed a course once before, it may well happen again. It is unsurprising that these could exist side-by-side, as he also notes hapax Hitt. *lahuwa-* next to normal *lilhu(wa)- < lahu-*, but also consider lexicalized *kuk(k)urs-* next to *kuwakuwarske- < kuer(s)-* “to cut”. Since Melchert makes the case that *mimma-* always and *mammanna-* sometimes means “esteem”, it’s entirely plausible that the Luvian situation here is parallel to that of Hittite *kuer(s)-*, with one stem becoming lexicalized and continuing alongside a second reduplicated, and here as with *kuer(s)-*, augmented, imperfective stem.

5.1.8. *par(a)*- “To Carry”

KUB 35.88 Vo iii 7 (?/NS) Ritual against Illness

*[z]ila=pa=wa=(a)tā=tta parandu hasāt[(i a)n-*

“Then let them carry it/them off. With/from the bone(s)…”

KUB 35.43 Ro ii 12 (?/NS) Ritual of the “Old Woman”

*[lalai=d]ū=tta papraddū=tta 4-ti pārtāti*

“It shall take (it) from him, let it carry (it) off with the four hooves.”

Both the simplex and the reduplicated stem occur in near identical ritual contexts involving the use of a scape animal. Only the reduplicated stem is used in a clause with explicit plurality; note, too, the coordination with reduplicated *lalai* “takes”. Previous renderings of the verbal root

have glossed it as “to drive, chase” (cf. *CLL*), but as is clear from the above translations, “to carry” is a better fit (for further discussion, cf. 6.2.17.)

#### 5.1.9. *pi(ya)*- “To Give”

KARKAMIŠ A23 §4-5 (Hawkins 2000: 119; late 10<sup>th</sup> – early 9<sup>th</sup> c.)

*wali-mu-´ mi-zi || (a)ta<sub>4</sub>-ni-zi-´ |pi-pa-sa-ta*

*mu-pa-wali (a)ta<sub>4</sub>-na-za-´ |NEG<sub>2</sub> |pi-ya-ta*

“He gave my enemies to me, but he did not give me to my enemies.”

We have here what would be a wonderful juxtaposition if it weren't for the presence of the iterative-durative suffix *-sa-*, our all-too-common foil of clear contrast. Nevertheless, we have made the case before that the productive suffix can be used to reinforce and/or renew any Aktionsart the reduplicant originally conveyed. We have potentially a reduplicated form without the iterative suffix in TÜN P 2, §3 *pi-pa-wali*, possibly a pres. 1 sg., and though the context is

badly damaged, its occurrence next to “I make great” helps make the case for “I give”. The remainder of the attestations of *pipassa-* lack the nice contrast above, and since they all show the iterative-durative or habitual sense expected of the *-sa-* suffix alone, we shall pass over them.

We also have a Cuneiform hapax *pipissa* “give!” (KUB 35.133 iii 17), and while the iterative suffix occludes any force the reduplication may have had, n.b. Lycian *pibi(je)-* “to give” from ultimately the same stem. Giving and the expectation of reciprocity go hand-in-hand (*do ut des*), which may be expressively encoded in the reduplication here—although again, this is speculative. Crucially, we now also have HLuv. *pi-pi-sa-wa/i* (TELL AHMAR §6; Hawkins apud Bunnens 2006: 27-28), a perfect match for CLuv. *pipissa-*, and shows that even HLuv. did in fact reduplicate *pi(ya)-* in the expected fashion.

5.1.10. *sa-* “To Let Go”

ASSUR b §5 (Hawkins 2000: 534; prob. late 8<sup>th</sup> c.)

*a-wa/i á-pi ku-ru-pi REL-ia* (“\*286.\*317) <sup>(-)</sup> *wa/i-ra+a-ma LEPUS-pa-sà-la-ia*

*ARHA-’* (“\*69”) *sa-ha-na*

“The *w. t.* which I left behind in the *k.*”

(trans. Melchert, emend. Hawkins, loc. cit.)

ASSUR e(?) §13

*wa/i-za<sup>i</sup> ni-i ARHA* (“\*69”) *sa-tu<sup>i</sup>*

“And do not let them miss us ...”

ASSUR f+g §37-8

*á-pi-ha-wa/i-'* ("LEPUS") *ta-pa-sà-la-ia* ("\*286. \*317") *wal/i-ara/i-ma-'* *ku-ru-pi*

*á-mi-i a-ta-ti ARHA-'* ("\*69") *sa-ha-na*

*á-pa<sup>i</sup>-ia-pa-wa/i* DOMUS-*ni-i a-ta-ti ARHA-'* ("\*69") *sa-ha-'*

"Furthermore, I left *t. w.* behind in the *k.*, in my *a.*"

(trans. Melchert, emend. Hawkins, loc. cit.)

MALPINAR §5 (Hawkins 2000: 341; 8<sup>th</sup> c.)

*wa/i-t[a-] z[a-ti] á-mi<sup>1</sup> á-ta<sub>5</sub>-ia-za-sa-na HÁ+LI-sa-na* SERVUS-*ta<sub>4</sub>-ia* STATUA-*ru-ti-i*

OVIS(ANIMAL)-*ti* PRAE-*i* ("\*69") *sa-sa-tu-u*

"Let them present to this my statue, (that) of Atayazas, servant of Hattusilis, with a sheep."

Compare *sasarla-* in COMMAGENE §26-8, below, where it co-occurs with *sasa-*. There, as *sasa-* does above, *sasarla-* takes a single object, which appears unusual for that stem, given our other attestations. But there may be more to MALPINAR §5 than meets the eye—if the offering of a sheep is meant to be a recurring event, then the action of reduplicated *sasa-* is implied to be repetitive.

#### 5.1.11. *sarlai-* “To Offer”

KARKAMIŠ A1a §30-1 (Hawkins 2000: 89; 10<sup>th</sup> c.)

*a-wa/i* REL *-i-sa* OVIS(ANIMAL) *-si*

*a-wa/i za-a-ti-i* STATUA *-ru-ti-i* OVIS(ANIMAL) *-na* (LIBARE) *sa<sub>5</sub>+ra/i-li-i-tú*

“(He) who (is a man) of sheep, let him offer a sheep to this statue.”

CEKKE 1 Ro §5 (Hawkins 2000: 145; 8<sup>th</sup> c.)

POST+*ra/i-tá-pa-wa/i* BOS(ANIMAL) OVIS(ANIMAL) LIBARE(-)*sa<sub>5</sub>+ra/i-la-ti*

“And in the future they shall offer an ox and a sheep.”

Note the ending here, which points to a reduplicated stem, here with two objects. The plural to the simplex could only be *sarlaintu*, spelled *-la-i-tu*.

MARAŞ 3 §5 (Hawkins 2000: 268; prob. 8<sup>th</sup> c.)

1 (BOS.ANIMAL) *wa/i-wa/i-pa-wa/i-tu sa<sub>5</sub>+ra/i-li-ha*

“And one ox to him I offered ...”

MARAŞ 5 §2 (Hawkins 2000: 270; 9<sup>th</sup> or 8<sup>th</sup> c.)

POST+*ra/i-tá-pa-wa/i* "9" BOS(ANIMAL)-*za-*' (LIBARE) *sá-sa<sub>5</sub>+ra/i-la-ti*

"And in the future they shall offer nine oxen ..."

Nine oxen is certainly a plurality.

MALPINAR §26-8 (Hawkins 2000: 342; 8<sup>th</sup> c.)

*za-ti-pa-wa/i* 'á-*ta<sub>5</sub>-ia-za-sa-na* STATUA-*ru-ti-i* 1 OVIS(ANIMAL)-*na sa-sa<sub>5</sub>+ra/i-la-tu*

*ni-pa-wa/i-ti* POST+*ra/i-i-sa* REL-*sà-ha-*' CAPUT-*ti-sa sú+ra/i-wa/i-ni-ti*

*a-wa/i* x[...]x *ti... ta x x sa* INFRA-*ta-*' (figure)(\*\*69") *sa-sa-tu*

"To this statue let him offer a sheep. Or (if) any inferior man shall SURAWANI-

(for) himself, ...                      ... may he let down!"

Lest we get too hopeful for straight plural action readings for our reduplicated stem, here the man is only offering one sheep. Still, the bulk of the instantiations are pointing to repetitive or distributive actions.

ANCOZ 1 §2 (Hawkins 2000: 346)

*a-wa/i za-ia* (ARGENTUM.DARE) *ti-na-tá* (LIBARE) *sa<sub>5</sub>+ra/i-la-i-ti i-pá?* (DEUS)CERVUS<sub>2</sub>  
(FEMINA) *á-ta<sub>5</sub>* (DEUS) *ku+AVIS-pa-pa[...]*

“And these *tithes* they will offer to Runtiyas of the open country and ATA Kubab[a...”

KULULU 1 §6 (Hawkins 2000: 443; 8<sup>th</sup> c.)

*wa/i-na* (“ANNUS”) *u-si-na* (“ANNUS”) *u-si-na* 1 (“BOS.ANIMAL”) *wa/i-wa/i-ti-i*  
3 (“OVIS.ANIMAL”) *ha-wa/i-ti sa-sa<sub>5</sub>+ra/i-la-wa/i*

“And I shall offer him every year with one ox (and) three sheep.”

BULGARMADEN §11 (Hawkins 2000: 522-523; 8<sup>th</sup> c.)

*a-wa/i* TONITRUS-*hu-na*-(LITUUS)*á-za-sa-za-*' DEUS-*na-za* "OVIS"-*ru-pi*

*sa<sub>5</sub>-sa<sub>5</sub>+ra/i-la-i* "ANNUS"-*na* ANNUS-*na*

"... shall offer to Tarhunazas' gods *k*-sheep year (by) year."

#### 5.1.12. *su(wa)*- "To Fill"

KARKAMIŠ A30h §1-3 (Hawkins 2000: 177; early 1<sup>st</sup> m.)

[(DEUS)*ku+*AVIS (\*256)*ka*-\*282-*na* NEG<sub>3</sub>REL-*i-sa-ha su-su-tá*

*wa/i-tá*-DOMUS-*sa-*' || DOMINUS-*na mu-*' *a-tá x-pa-tá*

*wa/i-na-*' *su-wa/i-ha* 3×MILLE(?) X 4×MILLE(?) *wa/i-ní-ti*

"No one used to fill Kubaba's granary, but she \_\_\_ed me lord of the house, and /filled it with 3000 measures of X and 4000 measures of grapes."

(trans. following Hawkins 2000: 177)

Pace Hawkins, *wa/i-ní-ti* can only be “grapes”, as you can’t fill a granary with wine, which anyway is *maddu*-. The reduplicated verb can here be habitual though, as translated by him.

KARATEPE 1 VII §38 (Hawkins 2000: 49; late 8<sup>th</sup> – early 7<sup>th</sup> c.)

(“MANUS<”>)*su-wá/i-ha-ha-wá/i pa-há+ra/i-wa/i-ní-zi*

(URBS) (<“>\*255”) *ka-ru-na-zi*

“And I also filled the Paharean granaries ...”

MARAŞ 8 §7 (Hawkins 2000: 253; early 10<sup>th</sup> c.)

(\*255)*ka-la/i/u-na-Γ wa/i?Γ* (\*255)*ka-la/i/u-na x-ta (X) su-wa/i-ha*

“I filled granary on(?) granary ...”

5.1.13. *ta-* “To Stand”

BULGARMADEN §6 (Hawkins 2000: 522-523; 8<sup>th</sup> c.)

|*a-wa/i* REGIO-*ni* |PRAE-*i-ha* |*zí-ra/i-la-mi-i* ||

| (“SCALPRUM.ARGENTUM”) *su-ha-pa-na-ti* |*ta-ta-ha* |*á-mi-ti* |IUDEX-*na-ti* |

*á-mi-ya-ti-ha-´* |*ha-tà-sà-tara/i-ma-ti*

“I even stood out in the country, the fruitful, the very rich through my justice and influence.”

ADIYAMAN 1 §1 (Hawkins 2000: 345)

[... (DEUS)TONITR]US-[*s*]*a* [*ra*]/-*ni-la-´* PRAE-*i* CRUS+*RA*/

“The Stormgod stood forth to/in the *i*.” (trans. following Hawkins 2000)

We may surmise a habitual for the first example, though we cannot confirm it, while the second is likely not anything from our range of imperfective meanings (unless the Stormgod is wont to stand forth to the *i*?).

#### 5.1.14. Miscellany

Here we gather for reference all the remaining stems of short comment, either too broken of context or uncertain of meaning to be of much use in a semantic survey.

i. We have a reduplicated stem *aruwaruwa-* from an unattested \**aruwa-*, a denominative from *aru-* “high”: KBo 4.11 Vo 29 [ ]<sup>DUG</sup> *hars<sup>HLA</sup> aruwarunni* “we lift *h.*-vessels.” Compare Lycian *aruwāt(i)-* “high” in the personal name *Aruwātijesi-*, interpreted by Neumann (1978: 127) as “he shall be high”, possibly “raised high, exalted”, lexicalized from the participle of \**aruwa-*.

ii. There exists a hapax HLuv. *hahatta-*, translated by Yakubovich (online) as “annihilate”, which looks to pair with Lyc. *x<sup>t</sup>ta-* “to harm, do violence to”, as first seen by Starke (1990: 310):

*a-wa/i* | *ha-za-u-na-na* (URBS) ARHA | ([“]\*218”) *há-ha-ta-ha*, “I utterly destroyed (the city)

Hazauna,” (vel sim.) (KARKAMIŠ A1a §12, Hawkins 2000: 88).

iii. Attested twice in is *mumuwa-* (KUB 36.96 13; KBo 11.14 i 12), for which Melchert (*CLL* 150) posits “invigorate”, next to base stem *mūwa-* “overpower”.

iv. Though we lack the base stem in Luvian, we have reduplicated *nana-* “to lead” (cf. Hitt. *nā(i)-* “to turn, lead”): KUB 35.65 Vo 13 ]x *nānum=pa nanātti* “now you will lead”; KUB 35.54 Vo

iii 17 [(w)] *āršā=tta* [D-ti] *[nan]jamman* “water led from the river”. To this discussion

<sup>NINDA</sup> *niniyama/i-* “twisted bread” and <sup>GIŠ</sup> *niniyal-* “cradle” may also belong if from possible \**nini-*

made from the weak stem of Luvo-Hittite preform \**nai-* “to turn, lead”.

v. We have *papparkuwa-* “to purify” (KUB 35.102+ Ro 16) once, for which cf. participle

*parkuwaiminzi* (KUB 86 ii 7) and Hitt. *parku-/parkuwai-* “pure”.

vi. To the stem *pass-* “to swallow” (note pret. 3 sg. *pasta* (KUB 35.133 ii 5)), we have in

Neo-Hittite KBo 4.14 iii 6-9 two Luvianisms, one to the simplex, *pasattarmas* (of unsure

interpretation), and one reduplicated, *pappasai* (see 3.16.2. for full citation). While the latter takes a plural object, the exact translation of the clause is uncertain. It is preceded by *arha*, which can impart the extra force of totality or emphatic action to the verb (“to the limit”), perhaps also reinforced here by reduplication—but this is purely speculative. For further discussion see 3.15.

vii. Of interest especially for its shape is *palpati(ya)*- “to blaze”, used of a fire and the god Nergal: KUB 35.145 Vo iii 11-12 °U.GUR *pal-pa[-da-mi-in]* / [*a-us-du* “let him look upon Nergal ablaze”. Perhaps an intensive < \**padpadi(ya)*-, semantically parallel to Hitt. *wariwar*- “to burn up, blaze”.

viii. Another iterative suffix muddies the waters for *puppussa*- “to crush” (KUB 7.38+ iii 13), to *pūwā(i)*- “to crush, pound”, though note the action of crushing is inherently iterative and emphatic. Cf. also Hitt. *pussā(i)*- “to crush”.

ix. No Luvian simplex exists to hapax *tatarh*- “to break” (impv. 3 pl. *tatarhandu*), on whose separation from Hitt. *taruh*- / *tarhu*- “to conquer, overcome” see Kloekhorst (2008: 838-839)

x. We have a pret. 1 sg. *tattahha* (KUB 22.97 ii 10), and *tatta-x* (ibid. 79 iii 5), sense unknown.

xi. The common Luvian noun *tātariyamman-* “curse” is the *men-* stem to *\*tatariya-* “to curse”, for which see cognate H.Luv. *ta-ta+ra/i-ya-*. The verb is cognate with Hitt. *tar-* “to say”, but no unreduplicated base is attested in Luvian.

xii. There exists just once a *titessai-* (KUB 31.99 Ro 15) alongside *tissai-* “to shape, mold”.

xiii. An unknown stem *tīta-* is attested in pret. 1 sg. *titahh[a]-* (KBo 7.17 4), and impv. 2 sg. *tīta* (KUB 35.133 iii 6).

xiv. Imperative *dūdupa* “strike!” (KUB 35.65 Vo 8) occurs in a badly broken context, but certainly one can imagine the force reduplication could lend to a verb of violence. It must come from a simplex *\*dupa-*, since the only other extant base stem to the root, *dūp(a)i-* “to strike”, inflects as an iterative-durative. The posited preform must also be the source of both

*r/n-* nominals \**dupawar/dupaun-* “a striking, punishment” (restored *dupaun[aššin]*, KUB 38.4 i 4),

and fully reduplicated *dūpadupar/\*dūpadupan-* “a striking, beat down”.

xv. We touched above in 5.1.2. on *wawalipadda* “(s)he/it wrapped”,

2 LÚ.MEŠ GAL=ŠUNUSÌR<sup>RU</sup> *nahisra marahsiwali[s]*

SÍG-*lanis anda wawalipadda* KI.MIN

“... likewise the unclean(?) fleece wrapped the *n.* inside”

from the same \**walipp-* “to wrap, envelop” that’s behind the theonym <sup>d</sup>*Walippantalla/i-* “the

Enveloper”, *walip(p)att(i)-* “wrapping”, and the \**walipp(a)i-* “ibid.” baked into Luv.

<sup>NINDA</sup>*walpaimanna/i-* and Hitt. <sup>NINDA</sup>*walipaimius*. Certainly wrapping may be conceived of as an

iterative action, done in steps.

xvi. Hapax *zazzarā(i)-*, attested pret. 3 sg. *za-az-za-ra-a-ta* (KBo 29.58 5) is of uncertain

analysis and meaning.

xvii. Similarly, the meaning of both reduplicated stem *zuzunni(ya)-* (KBo 2.8 ii 5; KUB 43.76 Vo 17) and simplex participle *zunnimmis* (KUB 44.4+ Vo 16) < \**zunni(ya)-* are unknown.

## 5.2. Lycian

### 5.2.1. *pije-* “To Give”

As mentioned in 1.9. above, Lycian provides the best evidence for the “give” stem in Luvo-Lycian, giving both our best example of clear functional contrast in Lycian and filling out the picture for the Luvian as well.

#### Text 8 Karmylessos

1 ebēññē: xupā m=ene=prñnawatē:

2 trijētezi: s=ene=pijetē

3 nēne: ehbije: se=tuhe

“This tomb, T. built it, and gave it to his brothers and nephews.”

Text 36 Xanthos

1 ebēññē: prñnawā: m=ene prñnawatē

2 ahqqadi: pizibideh: tideimi: se:

3 hm̃prāneh: tuhes: se=ije ñta tadē: miñti

4 aladehali: ada: O-: se(j)=ētri: ñtata:

5 ada: |||- se pijetē: hrzzi: ñtatā: ladi: ehbi: se mñnereidehe

6 esedēñnewi ) se pijetē: ētri: ñtatā: prñnezi:

7 atlahi:

“This mausoleum, A., son of P. and nephew of H., built it, and he established for the m.

for the burial 101/2 ada’s and one ada for the lower burial chamber. And he gave (the)

upper burial chamber to his wife and to consanguineal descendants of M., and the lower

burial chamber to his own household member.”

Text N320 Xanthos; the Létôon Trilingual

11                    ...                    s-

12 e=i pijētē: arawā: ehbijē: esi=ti:

18                    ...                    se=i=p-

19 ibiti: uhazata: ada: HOO: ēti: tlla-

20 xñta: arñna: se=smĩmati: xddazas: ep-

21 i=de arawa: hãti kmĩmētis: me=i=pibi-

22 ti: sixlas:

11-12 "... And they gave him freedom of whatever is his.

N.B. here that the matching Greek employs aorist ἔδωσαν in line 11. See Melchert DLL for further examples of the simple stem.

18-22 “...and they will give for Xanthos 120 ada as yearly tribute *under the payment standard*. And they will enjoin the slaves, however many they release into freedom, that they will give (i.e., one each) shekels...”

Both attestations of the reduplicated verb in the Trilingual clearly refer to ongoing commitments, as made evident by the yearly tribute and standing prescription to oblige freed slaves to likewise give shekels as tribute. For the former obligation the Greek has a reduplicated passive: και δίδονται κατ’ ἕκαστον ἐνιαυτὸν τρία ἡμιμναῖα, “and each year three half-minas will be given”; but lest we think that the Lycian is simply copying the Greek reduplication, we get an unreduplicated infinitive ἀποτίνειν for the latter. In 5.1.9., I speculated that reduplication in “give” verbs may also encode reciprocity. If we are to entertain the idea, note that Gk. ἀποτίνειν means specifically “to pay back”, as I was reminded by Brent Vine (pers. comm.).

Text 149 Rhodiapolis

1 ebēññē: prñnawã m=ene: prñnawatē

2 ijamara: terssixleh◊: tideimi mali-

3 jahi:wedrēñnehi: ax#ātaza: me pibijeti

4 prñnezi: se=tteri: adaijē me=i=ne ñtawātā

5 pibijeti: tere ebehē me=ije=ne: hrppi tāti

6 tike: ijamaraje: tibe: ladi: ehbi: hrpp[i=(i)je me=i]

“This mausoleum, I., son of T., priest of *animal sacrifice* (for) W. M., built it.

He will give to the household and city a quantity of ada. And he will give it, the *inclusion*,

in the district of these (the household and district?). They shall not place anyone upon

him, I. or his wife...”

In contrast to texts 8 and 36, the dedication of this mausoleum seems to entail a type of contract between the builder and the municipality, and as such the verb forms are not punctual, but contingent on future action.

Text 44b

41 [...]ahmīmāta: qarazutazi: tezi: aruwāt-

42 i[...] tukedri: se(j)=eti: puwēi: se(j)=urubli-

43 [je]=de: xurzide: se tukedri: atrā: tehlu°

44 [...]°lei: θrmīmā: pibijeti: xurzazē: kumez-

45 [e]ine: uhazata: wawā: trisñni: se=ñte pl°

44-45 "...by command(?) he will give for worship of (these) figures

a yearly tribute a cow of three years..."

The meaning of this passage is less secure, but compare the occurrence of *uhazata* "yearly tribute" with the same in the Létôn Trilingual line 19 above, and we likely have a recurring event here as well.

## 5.2.2. Miscellany

For functional difference, *pije-/pibije-* is the only Lycian of real value. Below we gather with short comment the remainder of possible reduplicated forms for Lycian as we did for Luvian in

5.1.14. The citations will be of greater interest and detain us further in the formal chapter.

i. While it is far from assured that any Lycian *#dd-* represents reduplication + syncope (to be discussed in the following chapter), nevertheless note *dderije-* “to curse(?)” (Text 44b, 17) to which Melchert (*DLL* 9) compares HLuv. *ta-ta+ra/i-ya-* “curse” (as per 1.14.xi. above). Hajnal (1995: 16) takes a different tack and posits a reduplicated stem to Hitt. *tari(ye)-* “to exert oneself.”

ii. At the end of the Létôn Trilingual we have a possible reduplicated *ha-* “to release, let go”: *me=i(j)=eseri=hhati:* “they shall leave/defer to Pixodaros” (Text N320 40-1). If it is reduplicated, however, we can discern no functional difference when compared to simplex *hãti* in line 21 of the same text (see above 2.1., both are 3 pl., with *hhati* denasalized).

iii. If we are to entertain reduplication, we have either two hapax legomena in *pablāti* (3 pl., Text 89, 4) and *pabrati* (3 sg., Text 44a, 51), or, as seems more likely and desirable, conflating the two (\**r* > *l* is possible), dual attestations of a single verb. Previously, the Lycian was thought to be cognate to Luvian *papra-* “to carry” (cf. 5.1.8. above). Melchert (*DLL* 47) tentatively glosses the latter “to urge” given the present form in past narrative context. However, a transitive reading of the Lycian is dubious, as acknowledged now by Melchert (pers. comm.). The exact meaning of the Lycian remains unclear. Cf. 6.2.18. for further discussion.

iv. We have *ppuwēti* (Text 83, 7, 12-13; N320, 34) and *ppuweti* (N320, 23) “they write”, sense assured by corresponding ἐν τῇ στήλῃ ἐγγέγραπται in the Létôon Trilingual. The attestation of *puweti* (Text 44c, 9-10) in near identical context robs us of any functional distinction but ensures us the verb is in fact transitive, as argued by Heubeck (1985: 42-43), who proposes a reduplicated present, thus not ultimately from a stative perfect, pace Hajnal (1995: 121). For cognates and possible semantic development, see Giusfredi (2009). If related to Lat. *pungō* “I pierce, harm”, then the semantics, I believe, are trivial, and similar to the evolution of Gk. γράφω, Eng. *carve*.

v. We shall take up *stfa-* “to stand, be placed (in a standing position)” (Text 44c, 5,7,9; 58, 3; 93, 2; N320, 16-17; 44b, 35) in the formal chapter.

vi. All geminate onsets of the common verb *ta-* “to put, place” occur in the infinitive (e.g. *ttāne* (Text 49; 149, 15), *ttāna* (58, 4)), in three of its five attestations. While all five infinitives are paired with a preverb, it is surely coincidence that the three geminates occur with the same preverb *hrppi*, which also is paired with myriad instances of the (never geminated) finite verb.

We will have cause to examine the possible circumstances of gemination in the following chapter.

vii. Heubeck (1985: 41), based on a gloss “to cause to pay (a penalty)”, proposes a semantically appealing etymology for Lycian *ttiti* (Text 94, 3; 131, 4) < *\*k<sup>w</sup>ei-k<sup>w</sup>ei-* that would connect it to Gk. τίρω. Support for the reduplicated shape is largely dependent on connection to Milyan *kikiti*, for which the same gloss is proposed (see Hajnal 1995: 156ff.); cf. Lycian *tija-* “penalty, amends”, denominative *tt(e)i-* “to pay”, Milyan *killeime-* “tribute(?)”.

### 5.3. Concluding Remarks

In most cases of contrasting simplex and reduplicated stems, we were able to see, or at least plausibly infer, some sort of the expected reduplicative semantics (habitual, repetitive, iterative, progressive, durative, distributive), with perhaps the best examples being Luvian “to run” (5.1.2.) and “to fill” (5.1.12.), and Lycian “to give” (5.2.1.). There are no real surprises vis-à-vis what we saw for Hittite. Some use of reduplicated stems could be motivated by a desire to match another in the same passage, e.g. *hūhuiyanda* next to *wawalipadda* (KUB 35.39 Vo iv 2, 5.2.1; 5.1.14.xv.). In a handful of attestations contrast appears absent, or perhaps not easily recognized by a non-speaker, e.g. *mam(m)alwa*- “to break” (5.1.6.), *tata*- “to stand” (ADIYAMAN 1 § 1, 5.1.13.). In such cases it is also possible that the reduplicated stem and base are beginning to become used in free variation, a step logically behind the replacement of the simplex stem by Hitt. *pappars*- “to sprinkle” (cf. 4.17.). The stem *mimma*- “to esteem” (5.1.7.), may reflect a lexicalized meaning alongside its copy by-form *mammanna*- “to see, esteem” (with the latter having a semantic overlap due to influence of, or parallel development to, *mimma*-), and if so, the meaning would be quasi-resultative, i.e. “I see you” > “you are seen and esteemed in my eyes”.

As to the shape, which will be the focus of the following chapter, the reader will have noticed that the vast majority of Luvo-Lycian reduplicated stems are of the partial stem copy vowel variety. The only exceptions are *li*-reduplicated *liluwa*- “to pour” (5.1.5.), *mimma*- “to esteem” (5.1.7.), and *pipasa*- “to give” (5.1.9.), and full root reduplicated *palpadiya*- “to blaze” (5.1.14.vii.). The stem *mam(m)alwa*- “to break” (5.1.6.) could in principle be something other than copy reduplication historically (sc. Čop’s Law, \*éCV- > aCCV-), but synchronically it would have fit into the productive copy pattern.

## Chapter 6. Reconstructing the Anatolian Reduplicated Verb

6.1. Now that we have established the possible range of functions the reduplicated verb could express in Hittite and Luvo-Lycian, we turn our attention to categorizing the varying shapes, cataloguing their exemplars, and describing the history of said forms as best we can. Rather than separate the entries by language, we will instead group them in alphabetical order by type, as our aim here is to make the case for a common Anatolian heritage for the reduplicative process. To be clear, our scope stops there; beyond that I leave the reader to infer what they will from the facts of Anatolian what the broader implications for Indo-European are. Rather than receive full entries, Luvo-Lycian homovocalic reduplicated verbs of minor note will instead be listed at the end of their section for reference. I invite the reader to consult section 5.1.14. and 5.2.2. of the Luvo-Lycian functional chapter for further comment.

We shall adhere to the principle of economy, and only reconstruct the pre-form that requires the fewest steps, the simplest explanation for the accepted facts of the Hittite, Luvian, and Lycian verb. To that end, we will be cautious of making broad assertions for the entire verbal system from single forms. Of course, for some roots, the interests of explanation will conflict with those

of simplicity. Entries will give the reduplicated stem, the simplex where paired, the Indo-European root and comparanda where known, attested forms of interest in narrow transcription (hapax and dis legomena frequently have reference given as well), followed by discussion. For textual references where not given below, see the corresponding entries in the functional treatments.

I believe the evidence provides for the following templates of Anatolian verbal reduplication, in order of prevalence: homovocalic (copy vowel) reduplication; heterovocalic reduplication (including the Cé-CoC- type); Cí-CC- reduplication; full root reduplication; and “intensive” reduplication of the type *wariwar-*. (Including the Cé-CoC- type with less easily explainable stems is simply a matter of economy of organization and caution.) As we shall see, the evidence incontrovertibly places the accent on the reduplicant. Of those which do not fit neatly into these paradigms, Lycian *ppuweti* “writes, inscribes” is a form of special interest in a language where we cannot be sure of a number of assertions made for its verbal forms, and Hittite *asās-/ases-* and *lalukke-* present their own unique problems. With those preliminaries aside and in mind, let us begin.

## 6.2. Homovocalic Reduplication

### 6.2.1. *ararkiske-* (ARK- “mount, copulate” < \**h<sub>1</sub>érgʰ-*)

*a-ra-ar-ki-is-kán-zi* (KUB 11.25 (OH/NS))

The evidence suggests (see Melchert 1994:137) that the simplex *arg-* “to mount (sexually), copulate” was a baritone middle (*arga* < \**érgor*). As such, there is no reason to suppose a zero-grade weak stem from which to posit PA \**h<sub>1</sub>r-h<sub>1</sub>rg-*, and we can safely ascribe this to synchronic copy vowel reduplication of the simplex.

### 6.2.2. a. *hahhars-* onomatopoetic

*ha-ah-har-as-ta* (KUB 33.120 i 27), *ha-ah-har-as-ki-it* (KUB 14.1 Vs. 72, Rs. [42])

cf. *ha-ah-har-sa-na-an-za* (part.)

### b. *hahriske-* onomatopoetic

*ha-ah-ri-es-kán-zi* (KUB 31.71), *hahriskezzi* (KUB 36.47)

That the stem variants are onomatopoetic copy reduplication is not in doubt. The former is clearly the base verb, and the latter stem *harhriske-* presupposes the existence of a *\*hahhariye-*, in much the same way that we posited a *\*kukkuriye-* for the stem *kukkuriske-* above, 1.2.3., and a type that *mumiye-* (1.2.7.) proves existed. Furthermore, *hahriske-* may indicate that root syncope had occurred already in *hahhariye-*, for which cf. Luv. *papra-* “to carry” and Hitt. *lilhuwa-* “to pour”, et al., and perhaps again *mumiye-*.

6.2.3. CLuv. *hishiya-* “to bind” (< *\*sh<sub>2</sub>ei-* “to gird, bind”) cf. Ved. *sināti* “(s)he binds”

*hi-is-hi-ya-an-ti* (KUB 9.31 ii 24)

HLuv. (PUGNUS.PUGNUS) *hi-sà-hi-* (CEKKE §13)

The principle of economy argues for taking this stem for what it descriptively appears to be, and the Hieroglyphic Luvian and cognate Hitt. simplex, *ishai-l ishi-* (the *li-l* is prothetic), support this conclusion. Noteworthy is the reduplication of *\*shi-* as *hi-shi-*, not *\*si-shi-*. The existence of the Hittite base suggests that the Luvian simplex has since been lost, but the paucity of evidence cautions against taking for granted replacement by the reduplicated stem. As noted in the

functional discussion (5.1.1.), the matching Hittite passage in the Ritual of Zarpiya employs the cognate unreduplicated participle, *ishiyantes*.

6.2.4. CLuv. *huihuiya- / hūhuiya-* (*hui(ya)-*, HWI- “to run” < \**h<sub>2</sub>wey-* “to run”)

*hu-u-hu-i-ya-an-da*, *hu-i-hu-i-ya*, *hu-u-e-hu-u-i-ya*

HLuv. (“PES<sub>2</sub>”) *HWI-HWI-ta*, (PES<sub>2</sub>) *HWI-HWI-sà-tá-si*

While the Luv. simplex gives us only *hu-u-i-un-ni* (/χū.yunni/) and *hu-u-i-ya-ad-da*, the Luvian reduplicant allomorphs match the stem allomorphs found in the Hittite simplex *huwai-* (/χwi-/ and /χūy-/); for /hwil/ ~ /hu/ alternation see Melchert (1984b: 52). Moreover, the sign HWI/A is sometimes used to represent HW/HU. As all other evidence points to the reduplicant being accented, it is implausible to assume syncope in the initial syllable. Therefore we must accept that the Luvian reflects two separate reduplicants available to the speakers as a result of the allomorphy in the simplex. We should note that the form *hu-u-e-hu-u-i-ya* reflects a late Hittite spelling of /xwV-/ and does not reflect a plene syllable.

6.2.5. CLuv. *ililha-* (*ilha(i)-* “to wash”)

*i-li-il-ha-a-i, e-li-el-ha-a-an-du, e-li-el-ha-an-du*

This Luvian example of a vowel-initial reduplicated stem is unquestionably synchronic and transparent. Melchert (2011: 127-128) describes the base form as a lengthened iterative akin to Lat. *cēlāre* “to hide” (the base stem spellings which show initial plene can’t reflect an old short /e/). One assumes it must be a Luvian back-formation from the zero-grade of the *\*elh<sub>3</sub>*-root, otherwise we would expect a virtual PA *\*elh-V- > \*ell-V-*, cf. Hitt. *malla-* “grind” < *\*melh<sub>2</sub>-* (Luv. *malhu-*, below, was “protected” by virtue of its /u/-extension), and Hitt.-Luv. imperfective suffix *-anna/i-* < *\*-enh<sub>2</sub>i-* (Melchert 1994: 79).

6.2.6. *isdusdus(ske)-* (*ISDUWA-* “to become evident” < *\*steu-* “be famous; praise”)

cf. Gk. στεῦται “(s)he announces solemnly, promises”

*is-du-us-du-us-k[e-* (KBo 52.85+KUB 43.58 (MH/MS))

The reduplicated stem is a straightforward copy reduplication of the simplex *isduwari*, a virtual

*\*stu-stu-ske-*. Note the full reduplication of *\*st-*.

6.2.7. *kikkis-* (*KIS-* “to happen; to become”)

*ki-ik-ki-is-...* (OH/NS) (always, except once *ki-kis-ta-a-ri* (NS), and *ki-ik-ki-es-ta-ri* (NS))

There is some question as to the exact IE provenance of this root. Kloekhorst (2008: 481)

ultimately follows Eichner’s proposed etymology < \**g/ǵéis-o*, \**g/ǵéis-nto* “to turn” (1973: 78), cf.

OHG *kēran* “to turn”. Melchert (1984b: 103), however, finds the etymon to be \**keis-* “to stir, be

in motion”, and compares Skt. *ceṣṭati* “(s)he stirs, moves, acts”. Since there is ultimately initial

devoicing in pre-Hittite, we expect a copy reduplication to produce \**ki-kis-* either way.

6.2.8. *kuwakuwarske-* (*KUER-* “to cut” < \**k<sup>w</sup>er-* / \**k<sup>w</sup>r-* (ibid.)”)

cf. Ved. *kr̥ṇóti* “(s)he makes, does”

*ku-wa-ku-wa-ar-<as>-ke/a-* (KBo 11.11 (NS))

Though not attested until Neo-Hittite, *kuwakuwarske-* is the synchronic copy reduplication we

would expect from the lautgesetzlich outcome of \**k<sup>w</sup>r-ske-*, which would lead to *kuwarske-* (cf.

Kloekhorst 2007). As we shall see in the following entry, pace Kloekhorst (2008: 491) there is

no reason to posit a /s/-extension for the root, cf. CLuv. *kuwar-* / *kur-*.

6.2.9. *kuk(k)ur(s)-* (as above)

*ku-uk-ku-ri]-is-ki-iz-zi* (OS); *ku-uk-kur-as-ká[n-zij]* (OH/NS); *ku-ug-gur-as-kán-zi* (OH/NS)

cf. ptc. *ku-kur-sa-an-t-* (NS), *ku-gur-sa-an-t-* (NS), 1 pl. pret. *ku-e-er-su-un* (NS);

2 sg. impv. *kur-sa-a-i* (NH)

As argued in the entry in the Hittite unpaired stem chapter, section 4.8., this reduplicated stem was lexicalized early, appearing frequently in the laws. It represents a synchronic copy vowel reduplication to the weak stem of the base verb *kuer- / kur-* “to cut”. There is no need to appeal to a root *kuers-*; all examples with final /s/ can be explained in other ways. Though in later eras Hittite did remake /-ske-/ forms by adding the suffix directly to roots of this shape i.e.

*kukkur(a)ske-*, in Old Hittite /-ske-/ was never added directly to a consonant-final stem, but induced anaptyxis, cf. OS *tarsikke-* < *tar-* “to speak” (see Hoffner/Melchert 2008: 34). As the comparandum shows, for a coronal final root we would expect a *\*kukkursikke-* for OS. The only plausible explanation for this state of affairs is to infer that /-ske-/ was added to a reduplicated stem *\*ku-kuriye-*, for which cf. below *mum(m)iye-* “to fall”. The participial forms are to be taken from *kursā(i)-*, a borrowing from a putative Luvian denominative that is the base of *kursawar*

“island”, as Starke deduced (1990: 536). Finally, as per Kloekhorst (2008: 487), the anomalous *kuersun* is most likely a nonce creation.

6.2.10. *kukus-* (< \**ǵeus-* “taste”) cf. Goth. *kausjan* “to taste”, Ved. *jujōṣa* “I/(s)he likes”

*ku-ku-us[-zi?]* (OS), *ku-ku-us-zi* (OH/NS)

Watkins (2003) firmly established the root etymology, comparing it to the Vedic perfect weak stem *jujuṣ* and YAv. 3sg. indicative middle *zūzušte*. Pooth (draft, 41) theorizes that the Avestan could go back to a “Late IE” /i/-reduplicated present middle; but given the tenuousness of that proposal and the shortage of evidence in Hittite (it would be nice to be sure of the OS ending, not to mention have a base stem), it’s easiest to assume synchronic copy reduplication. That said, the exact age of that synchronic reduplication is suggested by the consistent spelling of the root consonant with single <k>, indicating that it was formed before the general Hittite devoicing of initial consonants (#D\_ > #T\_). At the very least, that assures us that even at that stage pre-Hittite was employing typologically expected copy reduplication.

6.2.11. CLuv. *lāla-* (*lā-* “to take” < \**deh*<sub>3</sub>- “to give”) cf. Ved. *ádāt*, Arm. *et* “(s)he gave”,

*la-la-a-ú-i, la-la-a-at-ti, la-a-la-i, la-la-a-i, la-a-la-an-ti, la-la-an-ti, la-a-la, la-la-u-na*

The previously held belief in HLuv. *ta-* “take”, has since been superseded by consensus that

HLuv. also reflects /*la-*/ behind orthographic initial <*tà*>, usually read *CAPERÉ-*, but

nevertheless given spelled out in a handful of forms, e.g. *la-i* (KÖRKÜN), (*CAPERÉ*)/*la-ha*

(MARAŞ 4), *la-si* (İSKENDERUN) (cf. Yakubovich, Annotated Corpus of Luwian Texts). As the

history of interpretation indicates, there is broad agreement that Luvian *la-* is cognate with Hittite

*dā-* “to take” (< \**deh*<sub>3</sub>- “to give”), but the details of the sound change remain under investigation.

See Morpurgo Davies (1987: 211-212), Marazzi (1990: 112-113), and Yakubovich (2010: 291)

for etymology and the reading *CAPERÉ*.

The plene spellings are all over the place for this stem, with some on the reduplicant, others on

the root, and yet still others on both. Since the simplex shows a fairly consistent long root

vocalism (aside from 1 pl. *lu-ú-un-ni*), then perhaps the inconsistent representation of the

reduplicated stem reflects the scribes vacillating between faithfulness to accented reduplicant

vs. the root vocalism of the simplex.

6.2.12. *lil(l)ipa(i)-* (*LIP(P)-* “to lick (up)”) onomatopoetic, cf. OE *lapan*, Lat. *lambere* (ibid.)

*le-li-pa-a-i* (NS), Luv. *li-li-pa-an-ti*, *li-li-pa-is-ke/a-* (MH/NS), *li-li-pa-as-ke/a-* (MH/NS),

*li-el-li-pa-a-i* (MH/NS)

While the signs EL and IL are themselves unambiguous, LE and LI are not, and hapax NS *li-el(l)ipai*, taken in light of the frequent New Script orthographic alternation between /i/ and /el/, does not give us cause to doubt copy reduplication. Both the Luvian borrowing *lilipāi*, and especially the CLuv. *lilipanti*, assure us that we have a copy vowel reduplicant; otherwise, following Čop’s Law we would have expected *\*lallipāi* and *\*lallipanti*. Intuitively, we should not expect an onomatopoetic root, subject to continual on-the-spot renewal, to show anything other than copy reduplication.

6.2.13. CLuv. *mammalhu- / mammalwa-* (*malhu- / malwa-* “to break” < *\*melh<sub>2</sub>-u-* “to grind”)

cf. Goth. *gamalwjan* “to crush”, Av. *mruta-* “weak”

*ma-am-ma-al-hu-un-ni*, *ma-am-ma-lu-wa-i*

See Melchert (1988: 215-216) for full treatment and identification of the root. Strictly speaking, the forms could reflect Cé-CoC- reduplication with operation of Čop's Law, but since we cannot be certain of the reality of the geminate /m/, given only three occurrences in NS, caution dictates reading clearly productive copy reduplication. Synchronically, it would have appeared so to speakers.

6.2.14. *mammalt-* (MALD- “to chant” < \**meld<sup>h</sup>*- “to speak solemnly, proclaim”

cf. Arm. *malt'em* “pray”, OSax. *meldon* “tell”, OCS *moliti* “ask, pray”

*ma-am-ma-al-zi-ka-an-t-* (OH/NS)

The form is clearly a copy reduplication of the weak stem, but even if the ablaut reflects a causative-iterative, as per Oettinger (1979: 444), we still get our target: \**móld<sup>h</sup>*- / \**mld<sup>h</sup>*- > *mald-* > *ma-mald-*. The NS geminate spelling is not diagnostic; cf. Hoffner/Melchert 2008:19.

6.2.15. *mu(m)miye/a-* (MAUSS-, MAU-, MU- “to fall” < \**mieuh<sub>1</sub>*- “to move”)

cf. Lat. *moueō* “I move”, Skt. *mīv-*, *mū-* “to push”,

Toch. AB *musk-* “to disappear, go missing”

*mu-mi-e-ez-zi* (OH/MS?), *mu-um-mi-i-e-e[z-zi]* (OH or MH/NS), *mu-um-mi-ia-az-zi* (NS)

*[m]u-mi-an-zi* (OH/NS), *mu-um-mi-i-e-et-ta* (MH/NS), *mu-mi-ia-tar* (NS)

For the inflection of the irregular simplex, cf. *au(s)- / u-* “to see” (Hoffner/Melchert 2008: 228f.).

N.b. the single /m/ in the oldest attestation *mumiyezzi* (OH/MS?), but also *mumiyanzi* (OH/NS),

and cf. *ma(m)malt-* above (1.2.6.). Cf. also Melchert (1984b: 64 n.120) for the identification of

*mum(m)iye-* with *mau(ss)-* and meaning.

Against both Eichner, MSS 31 (1973: 90), and Kloekhorst (2008: 565f.), who go to unnecessary

lengths to explain the shape, this stem is in fact a simple copy reduplication of the weak stem of

*mau(s)- / mu-*. The usage of *mauskittari* in duplicate KUB 31.86 iii 2 (NS) for *mumietta* in (KUB

13.2 ii 16) is the clearest indication of the fact. If the reduplication were old and not synchronic,

we might expect a *\*mumuwetta*, but it seems likely here that the stem is remade to reflect the

expected shape of the productive class in *-ye/a-*. For the use of *-ye/a-* in a reduplicated stem,

cf. the proposed preform *\*ku-kuriye-* above, 6.2.3. One way then to account for the loss of the

/u/ vocalism in the root is to posit a preform *\*mumuye/a-*, which then underwent root syncope in

the same vein as Luv. *papra-* “to carry” and Hitt. *lihuwa-* “to pour”, i.e. *\*múmuye- > \*mumye-*,

<mu-mi-i/e-e>. This scenario, to my mind, is preferable to motivating Eichner's causative-iterative *\*mouh<sub>1</sub>-éie* > *\*mauwéye-* > *\*muweye-* > *\*mumeye-* > *\*mu(m)iya-*, whose starting point should have yielded *\*muwe-* instead, as Kloekhorst (2008: 565) points out. Kloekhorst's proposal, however, is no more appealing, as he must invent an original simplex *\*mumai-* / *\*mumi-*, which is then rebuilt to attested *mumiye/a-* (ibid. 566).

As to the alleged byform, hapax *mummuwai-* (*mu-um-mu-wa-a-a[n?!]*) (KUB 33.68 ii 3 (OH/NS)), the reading of the last sign, syntax, and meaning are all highly problematic, so we reject here any connection with *mumiye/a-*. The form more likely pairs with another *mumuwai-* (sense unknown) cited in the CHD.

6.2.16. *pappars-* (< *\*pres-* "to sprinkle")

cf. TochB. *prantsäm* "besprinkled", Ved. *pṛśant-* (ibid.)

*pa-ap-pár-as-ke-* (OS), *pa-ap-pa-ar-as-sa-an-zi* (OH/NS), *pa-pa-ar-as-hu-un* (OH/MS)

According to the LIV<sup>2</sup>, the base stem is a root aorist; we get a characterized present in every language where attested, e.g. Lith. *purškiu* in *l-ske-l*, and of course the reduplicated stem in

Hittite. This verb is one of the best attested of our reduplicated form—for all intents and purposes the reduplicated stem was the base form. The possibility exists that the root aorist was inherited but was subsequently replaced by its reduplicated stem. Against Kloekhorst (2008: 628) the preponderance of evidence is for a root *\*pres-*, so appealing to a Schwebeablaut variant showing *\*pors- / \*prs- > pars- / pars- > pappars-* is poorly motivated. Emending his scenario, we know that Hittite would not have tolerated the variation of a *\*prés-ti / \*prs-énti > \*periszi / parsanzi* (cf. *teripp-* “to plough” < *\*trep-* (Gk. *τρέπω* “to turn”)), so it appears that the reduplicated stem, which in all cases has replaced the base, simply shows copy reduplication of what would have been the weak stem, which must have replaced the strong stem ablaut at some point (cf. Hitt. *guls-* “to carve, inscribe” < IE *\*k<sup>w</sup>el-s- / \*k<sup>w</sup>l-s-* “to draw grooves”, cf. Ved. *kárṣati* “(s)he draws, drags”).

6.2.17. CLuv. *papra-* (*par(a)-* “carry (off)” < *\*b<sup>h</sup>er-* “to carry”)

cf. Ved. *bibhárti* “(s)he carries, Gk. *φέρω*, Lat. *ferō* “I carry”

*pa-ap-ra-ad-du*

See Melchert (forthcoming) for his statement on the root etymology of this verb < \**b<sup>h</sup>er-* (Melchert, pers. comm.). Certainly the semantics we established in the functional entry (5.1.8.) recommend this provenance. While *pa-ap-ra-ad-du* may go back to a pre-Luvian \**pé-por-*, as with *mammalhu-*, we must adhere to Ockham's razor and come down on the side of copy reduplication. Note, as elsewhere, syncope of the root vocalism, which if anything argues in favor of copy reduplication if the lack of such syncope in Hittite stems in Cé-CoC- is any indication.

6.2.18. Lyc. *pabra-*, *pabla-* “to urge(?)”

*pablāti* (Text 89, 4), *pabrati* (Text 44a, 51)

As tempting as it is to identify the Lycian as cognate with the preceding Luvian *papra-*, the semantics and context of the attestation (which does not favor a transitive verb), caution against that assertion. The same formal possibilities hold though, and we must therefore identify the stem as copy reduplication. The proposed lenition of the root consonant \*/p/ > /b/, cf. Lyc. *pibi(je)-* and CLuv. *pipassa-* “give” below, is unsatisfactory in determining root etymologies for

all /p...b/ forms in question, which instead must reflect roots that began with *\*b<sup>(h)</sup>-* (cf. Melchert 1994: 300-301, on the problem).

6.2.19. Lyc. *pibi(je)-* (*pije-* “to give” < PA *\*pe+ay-* “to give < IE *\*h<sub>1</sub>ay-* “to give; take”)

(for etymology cf. Melchert 1984: 32 n. 65, 162)

cf. Gk. αἴνυμαι “I take, seize”, TochA. *em*, B. *āyu* “I will give”

*pibiti* (Text N320, 18-19.21-22), *pibijeti* (Text 44b, 44; 149, 3.5)

The Lyc. simplex stem matches the CLuv. & HLuv. base stems *pi(ya)-*, which all seem to have generalized what is the weak stem for Hittite *pai / piyanzi*. While for the HLuv. reduplicated stem, we usually get /i/-reduplication to a back-formed *\*pā* (see below, 6.4.5.), n.b. also *pi-pi-sa-wa/i* (TELL AHMAR 2, §28; Hawkins apud Bunnens 2006: 27-28), a perfect match to hapax CLuv. *pipassa-* “give!”, with copy reduplication, voiced root initial, and *-ssa-* imperfective suffix. We should concede that none of the etymologies put forth for Anatolian “give” are unproblematic, and I have simply chosen the one-time consensus for the sake of entry symmetry. Formally, the facts show an attested *hi-* verb in /-i-/, and the voiced initial argues in favor of a root shape *\*b<sup>h</sup>yeh<sub>1</sub>-i-* (Jasanoff 2003: 94), or even *\*b<sup>h</sup>ei(H)-*. Our interest in the facts

of the reduplication, however, doesn't compel us to choose. For a full discussion of the root, its problems, and possible provenance (and against the previously accepted etymology given above), see Kloekhorst (2006: 110-119), whose chosen etymology (zero-grade to *\*h<sub>1</sub>ep-* "to seize, reach") nonetheless does not satisfactorily account for the voiced initial of the root in the reduplicated stem.

6.2.20. *p(a)ripra-* (*(P(A)RAI-* "to blow" < *\*preh<sub>1</sub>-* "to blow")

cf. Gk. πίμπρημι "I blow"

*pa-ri-pa-ra-a-i* (OH?/NS), *pa-ri-pa-ra-an-zi* (MH?/NS), *pa-ri-ip-pa-ri-ia-an-zi* (NH?)

cf. *pa-ra-a-i* (OS)

The limitations of the orthography in representing complex onsets are well-known, and the spellings are consistent with how Hittite would have represented a /pr-/ onset of the root. The lack of any plene spellings to "split" the proposed cluster in the reduplicated stem, the simplex, or any of the derivatives, argue for taking the Hittite as reflecting *priprāi* / *pripryanzi* < *prāi* / *priyanzi*, i.e. the reduplicated stem is simply weak stem copy reduplication. The form *pripranzi* could then either be from influence of the *tarna-* class, or represent an innovated

*/i/-reduplicated form after e.g. pippanzi. Taking the cluster as real for Hittite gives us the right root shape for the Greek, which could also have innovated an /i/-reduplicated present here after ἵστημι “I stand” (the nasal is secondary).*

6.2.21. HLuv. *sasa-* (*sa-* “to leave, let go” < \**seh<sub>1</sub>(i)-* “to let go”)

cf. Ved. (*áva, ví*) *sāt* “(s)he removed”, Lat. *sinō* “I let, permit”

(“\*69”) *sa-sa-tu-u, sa-sa-tu*

Not much to see here; clear copy reduplication. Cf. CLuv. *sā-* “to release, let go”.

6.2.22. HLuv. *sasarla-* (*sarlai-* “to offer” < PA \**serlāye-* “make exalted”)

(LIBARE) *sá-sa<sub>5</sub>+ra/i-la-ti, sa-sa<sub>5</sub>+ra/i-la-tu, sa-sa<sub>5</sub>+ra/i-la-wa/i, sa<sub>5</sub>-sa<sub>5</sub>+ra/i-la-i*

See above; cf. CLuv. *sarlai-* “to exalt”, attested only participially. Presumably the preform is a de-adjectival factitive in \**-eh<sub>2</sub>-ye-* to “high”.

6.2.23. *sisije/a-*

(*SIYE/A-* “to shoot” < \**h<sub>1</sub>es-* “to throw, shoot”)

cf. Ved. *ásyati* “(s)he shoots, hurls”, YAv. *aṛ́hiieti* “(s)he shoots”

*si-si-ya-u-wa-an-zi* (NS); *si-is-si-ya-an* (MH/NS)

As all attestations make clear (see 3.16.2.), the reduplicated stem reflects copy vowel reduplication of the simplex *sije/a-* “to shoot”. Following Kimball’s root etymology (1987: 168ff.), a virtual \**h<sub>1</sub>s-ye/o-* > \**s-ye/o* > *sije/a-* > *si-siya-*, though note well the reduplication is synchronic. We will not consider here the form *sissijan*, since we cannot even be certain of the grammatical interpretation and meaning; and the shape, with an unexplained geminate, caution against including it with *sisije-* at all. As such there is no need for us to address any possible conflation of two roots into the base verb (for discussion see Kloekhorst 2008: 694-695, with references); the reduplicated stem is only to *sije/a-* “to shoot”. For reduplicated stems in *-ye/a-* to vowel-final roots, cf. also *mumiye/a-* above, 6.2.7.

6.2.24. HLuv. *susu-* (*su(wa)-* “to fill” < PA \**seuh*<sub>3</sub>- “to fill”)

*su-su-tá*

Definite copy reduplication to the base is reflected in this stem.

6.2.25. HLuv. *tata-* (*ta-* “to stand” < \*(*s*)*teh*<sub>2</sub>-) cf. 6.4.9. for comparanda

*ta-ta-ha*

For issues regarding the stem etymology, cf. *titta-* / *titti-* below, 6.4.9. Otherwise, this is clearly synchronic copy reduplication to the simplex.

6.2.26. *wawars-* (*WARS-* “to wipe (off)” < \**wers-* “to wipe away, sweep”)

cf. Lat. *uerrere*, OLat. *uorrō* “I polish, sweep”

*wa-wa-ar-sa-an-za* (?/NS)

The reduplicated stem is a synchronic copy to *wars-*, any strong / weak stem allomorphy,

*wars-* / \**urs-*, has been leveled in Hittite, which did not abide that sort of ablaut in verbal paradigms. The functional difference with the simplex is not compelling (see 3.20.), but perhaps there is a resultative relationship in the two instances of the formula *parkuis wawarsanza*, i.e. “keep wiping until immaculate”.

6.2.27. *wiwai-*, *wiwiske-* ( *WAI-* “to wail, cry (out)” onomatopoetic, cf. Lat. *uae*

*ú-i-wa-i* (MH/MS); *ú-i-ú-i-is-ki-iz-...* (5x; MH/MS?), *ú-e-u-is-ki-u-an* (Ro 5: *ú-i-i[s-ki-u-an]*)

In *wiwai-*, we have copy reduplication from the weak stem of the verb; as you will observe, Hittite did not tolerate ablaut in the reduplicant, for which especially cf. *asas-* / *ases-*, below.

There exists for the base form both a *mi-* verb *wiyai-*, and a *hi-* verb *wāi* / *wiyanzi*. Kloekhorst (2008: 938) follows Melchert (1984b: 132f.) and takes the former to be backformed from the latter. The morphology of the root exclamation is particularly rich in Anatolian, e.g. the Hittite nominal pair *ain* (*ú*)*wāin* (OS), and Luvian noun in *úwāis=ha=du ni[s]*, “and let [ ] woe not [ ] for her” (KUB 35.87, 7) (trans. Watkins 2013). For discussion of the preceding nominals in their IE context, and more on the expressive language of the family, see Watkins 2013: 250-251).

When considering the form *wawiske-* (KUB 45.20 i 17 OH/NS), n.b. that for wails Otten & von Soden (1968: 13) cite both *ú-i-ú-i* (KUB 7.29 Vs 24) and *ú-wa-a-ú ú-i-ú-i* (KBo 29.201 Vs. 17).

As such, the stem *wawiske-* may not be descriptively reduplicated at all, but formed directly from the interjection *ú-wa-a-ú*, which occurs adjacent to *ú-i-ú-i*, by an analogy *wiwi*: *wiwiske-* ::

*(u)waw*: X. The analogy is reinforced by the ambiguity of regular *wiwiske-* itself, which to a speaker, looks to have been formed in the same fashion. Alternatively, speakers may have made a *-ye-* base verb to the cry /wau/, from which *wawiske-*; cf. *wappiya-* “to bark” from onomatopoeitic /wap/.

6.2.28. *wiwida-* (*WID-* “to strike; to urge” < \**wedʰ-* “to hit”)

cf. Skt. *vadhati* “(s)he strikes, destroy”, Hom. ἔθων “striking, uprooting”,

Gk. ὠθέω “I drive, urge”

*ú-i-wi<sub>5</sub>-ta-[a-i]*, *wi<sub>5</sub>-ú-i-da-a-i* (NH)

Melchert (1979: 265-268) convincingly lays out this verb’s history into Hittite. An IE athematic,

Narten present \**wédʰ-ti* / \**wédʰ-nti* > PA *wéd-ti* > 3sg. \**wezzazzi* /wet<sup>st</sup>ʰil (cf. *ezzazzi* “eats”).

The stem *wezz-* is then leveled throughout the paradigm, as also for *ezzai* and *isparzai*

(*isparzazzi* < *ispart* “escapes”). For Hittite reduplication to a *mi*-base verb, a stem inflecting in *hi*- is expected, cf. *wekzi* : *wewakki*, below 6.3.6. As to the alternation *we/id*-, consider “build” *wete*- / *wita*-, OH *wētt+* / *wīt+*, for the sporadic raising of /e(:)/ in  $w\_C_{[+coronal]}$ , and consider also the NH dates of attestation. The locus of reduplication is definitely to a stem in *wid*-, otherwise we’d expect \**wi-wad*- vel sim., again cf. *wewakki*.

#### 6.2.29. Miscellany

i. Calvert Watkins (pers. comm. via Melchert) recognized *mamhuittari* (KUB 35.25 6) as a reduplicated stem to the verb *ma-ṛah-hu-it-ta* (KUB 48.75 5) (3 sg. pret. or 3 sg. pres. mid., sense unknown); see CHD L-N: 113. For the root syncope cf. *lalhuwantit*, Luv. *papra*-, confirming again that the accent is on the reduplicant.

ii. For fuller discussion of the formalism of *nana(n)kuss(iye)*- “to become dark, gloomy” : *neku*- “to dusk”, see below under *lalukk*-, 6.3.2.: [*n*]a-na-an-ku-us-zi (OH/NS), *na-na-ku-us-zi* (OH/NS), *na-na-ku-us-si-ya-an-t*.

iii. I shall simply list here for reference the Luvian stems of minor note that show copy reduplication; see the Miscellany section (5.1.14.) in the Luvo-Lycian chapter for gloss and comments: *mumuwa-*, *nana-*, *papparkuwa-*, *pappas-*, *puppussa-*, *tatarh-*, *tatta-*, *tatariya-*, *titessai-*, *dūdupa-*, *wawali(p)pa-*, *zuzunni(ya)-*.

### 6.3. Heterovocalic Reduplication

6.3.1. *asās-* / *ases-* (*ES-* / *AS-* “to sit” < \**h<sub>1</sub>ēs-* “to sit” (Narten ablaut of \**h<sub>1</sub>es-* “to be”))

cf. Gk. ἵσται “(s)he sits”, Ved. *āste* “(s)he sits”, YAv. *ānhāire* “they sit”

*a-sa-a-si* (OS), *a-se-e-se-er* (OH/NS), *a-se-e-sa-an-t-* (MH/MS), *a-se-e-sa-an-zi* (NS),

*e-se-ser* (OH/NS), *a-sa-ser* (NS), *a-se-se-er* (OH+)

Against the LIV<sup>2</sup>, the root is not a frozen reduplicated form, but rather a Narten formation of

\**h<sub>1</sub>es-* “to be”. There are a few reasons to believe this from the Anatolian alone: \**h<sub>1</sub>e-h<sub>1</sub>s-* would

have yielded Hitt. \**ēs-*, while the same preform would have given Luv. \**ass-* and be unable to

explain forms in *is-*, e.g. HLuv. *istarta-* “throne” and *isnuwa-* “to seat, settle”—the vowel would have been  $\bar{a} < \text{æ} < eh_1$  (cf. Melchert 1994: 245, 265). See further now Oettinger (2004; 2011).

Since, on the one hand, *a-sa-a-si* (OS) and *a-se-e-se-er* (OH/NS) unambiguously tell us that the accent was on the root syllable, against all other evidence for reduplication in Hittite, and on the other, the semantics and usage are causative and transitivizing (cf. 3.2.2.), comparable only to the usage of *titti-* (cf. *ibid.* 3.17.2., 3.18.2.), it behooves us to recognize a different pattern of reduplication underlying *asās-* / *ases-*. Jasanoff (to appear) further extends his  $h_2e-$  conjugation framework by proposing that the classical perfect and reduplicating thematic aorist stem ultimately from the same forerunner, a reduplicated “stative-intransitive” aorist from his protomiddle period of PIE (*ibid.* 26-27). If, for the sake of argument, Proto-Anatolian speakers created a stem for “sit” following the pattern he lays out there (where the reduplicated stative-intransitive aorist is created off a stative-intransitive aorist of the shape  $*C\acute{o}C-$  /  $*C\acute{e}C-$ ), it would have looked something like  $*es-\acute{o}s-$  /  $*es-\acute{e}s-$  (it could not have been an older  $*h_1es-h_1\acute{o}s-$ , for the reasons stated above). This would have yielded a  $*is\bar{a}si$  /  $*is\bar{e}sanzi$  in Hittite, a very peculiar verb not easily identified with its simplex. As such, speakers would be well-motivated to renew the reduplication, choosing a reduplicant derived from the strong stem in this case, *asās-* / *ases-*

over *\*esās-* / *\*eses-*. The latter option would have been too close to the lautgesetzlich pattern, and the former reinforced by vowel-initial copy reduplicated verbs of the type *arark-*. As for the semantics, either the reduplication was originally distributive, as fits well within the expected range of meaning for other reduplicated stems in Hittite, and the causative sense is secondary, or the causative meaning is par for the course for a descendant of an old “reduplicated stative-intransitive aorist”. If the latter, cf. Indo-Iranian “causative” reduplicated aorists, and the cognate Tocharian A class II causative preterites, as well as reduplicated aorist ~ perfect pairs in Homer, where the former often has a transitive factitive value to the stative sense of the corresponding perfect (Jasanoff, to appear 21-22). For overlap of iterative (which fits the dominant Hittite pattern) and causative (which *asās-* / *ases-* shows) semantics within the same stem formation in Latin and elsewhere, cf. Kölligan (2004; 2007)

6.3.2. a. *lalukkē-* (*LUK(K)*- “to brighten, dawn < *\*leuk-* “to dawn, grow bright”)

cf. Ved. *rócate* “(s)he glows, shines”, *rucāná-*, OLat. *lūceo* “I let shine”

*la-lu-uk-ke-et* (OH/MS)

b. *laluk(k)ess-*

*la-lu-uk-ki-is-zi* (OH/NS), *la-lu-ki-es-zi* (NH)

c. *laluk(k)esnu-*

*la-lu-uk-ki-is-nu-ut*

We have here a number of reduplicated stems that all have suffixes; there is no “base” reduplicated stem. The attested Hittite simplex is medio-passive *lukk(a)-* “to brighten, dawn” < *\*leuk-(o)to*, but none of the reduplicated stems are derived either from the medio-passive or *lukke/a-* “to kindle, set alight” (renewed to *lukkiye-*) < caus. *\*loukéye-* (see Watkins 1973: 68-69). The fientives, unsurprisingly, mean “becoming luminous” (*lalukkē-* also “being luminous”), and are likely created directly to the root (stative-fientive *\*-eh<sub>1</sub>-* need not be denominative); *lalukkess-* is a renewal. Nevertheless the building of a state may still be reinforced by the reduplication, as in *lalaniya-* “to grow angry, enrage”. Watkins’ first take on the matter (1985), in which he states that *nu-* causatives are never derived from fientives in *-ess-*, has since been abandoned. The real crux of the *lalukke-* problem is of course the vocalism of the reduplicant. It does not fall into any of the patterns shown by other reduplicated stems, so there is a real possibility that it is archaic, but I cannot subscribe to Watkins’ (ibid.) proposed */o/-*reduplication, *\*lo-louk-* or *\*lo-leuk-* > *\*lo-luk-* > *la-lukk-*, as also followed by Kloekhorst (2008: 517), since we have no evidence for this pattern elsewhere in IE or Anatolian. While I do reject

an underlying /o/-reduplication, one might bring up the possibility of umlaut in this environment, i.e. \**lé-lowk* > \**ló-lowk* > \**ló-luk* > *lá-lukk*. On the surface this would be the only way of making the case for an archaic reduplication of the Cé-CoC- type, but trades motivating a nonexistent pattern of reduplication for an otherwise unattested sound change. Sporadic sound change is certainly possible, cf. the raising of /e(:)/ in  $w\_C_{[+coronal]}$ , e.g. *wete-* / *wita-* “build”, and *takkiss-* < \**téks-Ci*, but uneconomical.

There are two other matters to consider. The first consideration is one of orthography; the only evidence for plene spelling in this verb is indirect, from a verbal noun in *-ima-* (found as the suffix of many deverbal nouns to reduplicated stems, e.g. *katkattima-*, *tethima-*, *kurkurima-*): *la-a-lu-ki-ma-as*, *la-a-lu-ki-ma-an* “light source”. This is likely evidence confirming the location of the accent in its expected position in the reduplicant, in what is otherwise a problematic verb.

Second, Watkins’ comparandum for the reduplicative pattern in *lalukk-* is its poetic opposite *nana(n)kuss(iye/a)-* “to become dark”, following the simplex opposition *luk(k)-* “it dawns” to *neku-* “it dusks”. His proposal takes *nanakuss-* after *lalukess-*, hence the former < \**no-nok<sup>w</sup>-s-* (1985: 253). This is, however, unnecessary in accounting for the shape of *nanakuss-*, which is simply copy reduplication to the regular outcome of \**nég<sup>w</sup>-s-ti* > *nakuss-*, cf. *takkiss-* “to

undertake” < \**téks-Ci* (cf. Melchert 1994: 140). We may take the consequences of Watkin’s pairing further though, and assert that it is the influence of its antonym that accounts for the unusual shape of *lalukk-*. We see a similar outcome in *malisku-* “weak” (cf. Germ. *mulsch* “weak”), paired with its opposite *dassu-* “strong” (cf. Skt. *dāṃsas-* “miraculous power”). If indeed this verb belonged to the same Cé-CoC- pattern as *wewakk-* and *mema-* (with which I have categorized it), such would have been obscured by the regular monophthongization of a preform \**lelowk-* > \**lelawk-* > \**leluk-*, paving the way for its reshaping under the influence of its natural pair.

### 6.3.3. *lelaniya-* “to enrage, become furious”

(pace Kloekhorst (2008: 524), not “infuriate” which implies transitivity; see 4.12.)

*le-e-[[a-ni-at-ta* (OH/OS), *[le-e-l]a-ni-it-ta-a[t]*, *le-e-l[a-...]* (OH/NS),

*le-e-la-ni-ia-an-za* (OH/MS)

This verb has no known simplex, yet is attested OH/OS, with clear plene spellings on the reduplicant. On the surface, the ablaut pattern matches *wewakk-*, *mema-*, and *lilakk-* (possibly), and I see no reason not to take it as such, a virtual \**lé-lon-ye-*; and indeed it is desirable due to

the age of attestation if we are to make the assertion that the Cé-CoC- shape is archaic vis-à-vis the clearly more productive copy reduplication. The only unusual feature then is the suffix, which does not appear in our other exemplars of this pattern, though n.b. *lelaniya-* is medium tantum, and so we are likely dealing with the same middle suffix *-iya-* seen in pres. indic. mid. *parkiya-* “to rise” ~ impv. mid. *par(a)ktaru* “let him rise!” (cf. Melchert 1997: 84), so it need not detain us.

6.3.4. *lilakk-* (LAK- “to knock out; to fall (MP) < \**legʰ-* “lay down”)

cf. Goth. *lagjan* (caus.), Gk. ἔλεκτο “(s)he laid down”

*li-la-ak-ki* (NS) (hapax)

cf. simplex *la-a-ak* (OH/MS), *la-a-ki* (OS); *la-ga-a-ri* (MH/NS),

*la-a-ga-a-ru* (MH/NS), *la-ga-an-t-*, *la-ak-ki-is-ke-* (OH/NS)

Though the root etymology has been known since Sturtevant, as Kloekhorst points out (2008:

525), the “exact morphology is not very clear.” On the one hand we have one reduplicated

form, and NS at that, which shows /k/, whereas all other instantiations of the root have /g/. The

only exception is the /ske/-stem, whose gemination can be accounted for as a result of

assimilation to the suffix, cf. *eku- / aku-* “to drink” > *akkuske-*, *huek- / huk-* “to butcher” >

*hukkiske-*. Since the date of the /ske/ form is also NS, one possibility is simply that this form is a nonce creation from a root *lakk-* extracted from the /ske/-stem. As to the ablaut pattern, given the date, orthography, and the fact that the reduplicated stem is the same conjugation class of the simplex, namely *hi-*, I would lean towards seeing the vocalism as created by analogy with *wewakk-*, or even similarly *lelahu-*, rather than being an independent example of the Cé-CoC-class.

6.3.5. *mēma- / mēmi-* (archaic lexicalized reduplicated stem; see below for root etymology)

*me-e-ma-ah-hé* (OS), *me-e-ma-ah-hi* (OS), *me-e-ma-a-i* (OS), *me-e-ma-i* (OS),

*me-ma-i* (OS), *me-em-ma-i* (NS), *me-mi-an-zi* (MH/MS), *me-e-mi-ir* (OS),

*me-e-m[ij]* (OH/MS), *me-ma* (NS), *me-e-ma-a-ú* (MH/MS), *me-ma-ú* (MH/NS),

*me-e-mi-is-ki-iz-zi* (MH/MS), *me-mi-is-kán-zi* (OH/MS)

This stem, with *wewakk-* (below 6.3.6.), represents our only possible evidence of an original

ablauting stem of the Cé-CoC- type in Hittite. That the earliest inflections are of the *dāi / tiyanzi*

class, as per Kloekhorst (2008: 574), there is little doubt—there are ample attestations to that fact. The question is what exactly is the root etymology? Oettinger (1979: 486) first proposes a perfect to *\*men-* “be mindful, have a thought”, cf. Ved. *mányate* “(s)he thinks”, which, however, should have resulted in gemination in the weak stem, and also does not account for the accent on the reduplicant (LIV<sup>2</sup> still follows this account and lists the Hittite under the *\*men-* heading). Melchert (pers. comm.) prefers the later idea of Oettinger (2001: 82) and takes the root to be *\*meh<sub>1</sub>-* “to measure” on semantic grounds, cf. Ved. *mimāti* “(s)he measures”, OAv. *fra-mīmaθā* “y’all should arrange”. On equal formal grounds, but semantically preferable to my mind, we may take the root etymology from *\*mey-* “to change, exchange; barter”; cf. TochB. *māsk-* “to barter” < *\*mi-ske-* (also characterized). We can maintain plausible semantic development “barter, haggle, bandy (words about) > converse, speak (with)” (cf. Eng. “to exchange words with, have an exchange”), and have a clear imperfective and specifically iterative reading of the reduplication, contrastive to *te- / tar-* “to speak, state”. Kloekhorst’s treatment comes very close to this conclusion (2008: 574-575), but stops short, vacillating between a forced stem *\*h<sub>1</sub>mé-h<sub>1</sub>m-oi-ei*, and indeed *\*mé-moi-ei*, which he is unable to semantically motivate. Brent Vine (pers. comm.) reminds me that the Greek evidence points to the possibility of a *\*h<sub>2</sub>mey-* (ἀμείβω “I exchange”) and is supported by instances of Vedic

lengthening of the preverb, e.g. *apāmítya-* “fee” (but n.b. also *apamítya-*). Given the inconsistency of the Vedic lengthening, and the root extension necessary for the Greek, which should < *\*h<sub>2</sub>meig<sup>w-</sup>*, I think, however, that we are either dealing with a root enlargement for the Vedic, or even a separate root for the Greek (as it is thus listed in the LIV<sup>2</sup>). Assuming a root *\*mey-* is the easiest path to the OS *mēmāi / memiyanzi* < *\*mé-moy-ei / \*mé-my-enti*, whether we are to take the 3 pl. to reflect original ablaut or secondarily remodeled after the prevailing *dāi / tiyanzi* class. In all instances we must attribute a leveling of the root vowel after 3sg. *mēmāi*, and deem an original variation 1 sg. *\*mēmehhi* : 2 sg. *\*mēmaitti* : 3 sg. *mēmāi* too aberrant to have survived in a disyllabic reduplicated stem, which in all other cases tends towards generalization of stem shape.

6.3.6. *wewakk-* (*WEK-* “to demand” < *\*wek-* “to wish”)

cf. Ved. *váṣṭi*, OAv. *vaštī* “(s)he wishes”

*ú-e-wa-ak-kī* (MH/MS), *ú-e-wa-ak-ta* (OH/MS), *ú-e-wa-ak-mi* (MS?),

*ú-e-wa-ak-ki* (MH/NS)

Much ink has been spilt over the history of this verb and its implications for the entirety of the IE verbal system. While descriptively the Cé-CoC- pattern is a reality for Hittite, and perhaps also for Luvian if we interpret *mammalhu-* with a genuine geminate (which is in no way certain), note that the accent is unambiguously on the reduplicant, as it is for all other Anatolian reduplicated stems. This fact, along with the meaning of the stem (for which see 3.21.2.), preclude the form from reflecting a classical IE perfect, contra Jasanoff (2003: 38). Motivating an accent retraction is entirely ad hoc and contrary to the bulk of the Anatolian evidence. The form is to be taken with what appear to be iterative-durative “perfects” in IE, from old reduplicated \**h<sub>2</sub>e-* presents, vs. resultative perfects of the Ce-CóC- template (Jasanoff, to appear). As such, *wewakta* is not an old pluperfect, but simply the Hittite preterite of the reduplicated *hi-* present.

It should be noted that the attestation *ú-e-wa-ak-ki* (KUB 14.1 Vo 88 (MH/MS)), could also be *-zi*. Oettinger’s (1979: 432) *-ta* reading is unlikely given the present-future conditional reading.

It is the Hurrian-Hittite Bilingual [*ú-je-wa-ak-ki* (KBo 32.15; paired with Hurrian *šār-* “to desire, ask for”) that settles the matter and confirms *wewakki* is at least as old as MH. The simplex stem *wek-* points to a Narten *mi-* present, with /é:/ leniting following /k/ > /g/. For evidence for a Narten present to this root cf. Melchert (2014a: 255); for another Narten *mi-* present with

reduplicated stem in *hi-*, refer to *wiwida-*, above 6.2.11. Finally, it should be emphasized that Hittite would not have preserved a weak stem variant \**wé-wk-enti* > \**wewkanzi* > \**wūkanzi* > \**mukanzi*, both on grounds of preferring isosyllabism, and on the aberrant variation this would have resulted in, and thus leveled the ablaut in favor of one more faithful to the root shape (for dissimilation of /w/ next to /u/, cf. *newa-* “new” acc. pl. *ne-mu-us*; for monophthongization of /ew, owl, cf. *lukke-* “to kindle” < \**lowkéye-*).

#### 6.4. /i/-Reduplication (Ci-CC-)

6.4.1. a. *lilhuwa- / lilhui-* (LAH(H)U-, LAH(H)UWAI- “to pour” < \**leh<sub>3</sub>-u-* “to wash”)

cf. Lat. *lauō*, Alb. *laa*, Gk. *λοέω* “I wash”

*li-il-hu-wa-i* (MH/MS), *le-el-hu-u-wa-i* (MH/MS?), *le-e-el-hu-an-zi* (NS),

*li-il-hu-us-ke-* (MS), *la-al-hu-wa-an-ti-it* (KUB 36.2b ii 20)

b. *lilahuwa-*

*li-la-hu-i* (KBo 21.47 ii 11-14 (OH~MH/MS))

c. CLuv. *lilūwa-* (LUWA- “to pour”)

*li-lu-u-wa-(a)* (KUB 35.39 i 26f.)

See Melchert (2011) for a convincing take on the history of the base. In short, the PIE strong stem underwent the following changes into Anatolian:  $*l\acute{e}/\acute{o}h_3-w-$  > PA  $*l\acute{o}γw-$  > Hitt. *lāhu-*, CLuvian *lā(h)u-*; while the weak stem developed thus:  $*lh_3-u-C$  > PIE  $*luh_3-C-$  > Hittite, CLuvian *lu-u-*. That is to say, the strong stem is the source of generalized Hittite *lāhu-*, while the weak that of Luvian *luwa-*, giving us a unified Anatolian history of the root. Melchert notes that a regular syllabification of the prevocalic weak stem would have led to  $*alh_w-V-$ , a variation that was no doubt dispreferred, in much the same way that motivated the leveling of strong *wewakk-* throughout its paradigm. We do not need to wade into his details on the formal and semantic relationship of the Anatolian root to that of Restindogermanisch—the account of the simplex gives us our starting point. The stem *lilhuwa-* comes regularly then from a virtual  $*l\acute{i}-lh_3-w-ei$  /  $*l\acute{i}-lh_3-w-enti$  > *lilhuwai* / *lilhuwanzi*. The hapax variant *lilahui* is either a spelling variant akin to *wa-al-ah-zi* alongside rarer *wa-la-ah-zi* “(s)he strikes”, or another nonce creation with *lel-*reduplication (read *lelahui*) like *lelakk-*, after the *wewakk-* pattern. The hapax participle *lalhuwantit* looks to be copy reduplication after the most productive pattern, with root syncope like Luv. *papra-*.

On the status of the reduplicated stems for common Anatolian, Melchert concludes that, “CLuv. *liluwa-* is likely an independent creation from *lu-u-wa-*, based on a pattern productive in Luvian as well as Hittite, not an inherited cognate of Hittite *lilhu(w)-*” (ibid.130). Certainly, our roster of *li/-*reduplicated verbs bears this out for Hittite. Accidents of attestation surely account for the paucity of Luvian examples beyond HLuv. *pi-pa-(sa-)* “to give”, CLuv. *mimma-* “to esteem”, and *lilūwa-* itself. Crucially, as we are striving to show here, it is important to think of the reduplicative processes as pan-Anatolian.

6.4.2. *mimma-* “refuse” (archaic lexicalized reduplicated stem; see below for root etymology)

*mi-im-ma-i* (OS), *me-em-ma-i* (OH or MH/MS), *mi-im-ma-an-zi* (OS),

*me-em-ma-an-zi* (OH/NS), *mi-im-ma-as* (OH/MS),

*mi-im-mi-ú-en* (MS), *me-em-mi-er* (NS)

Usually *mimma-* is connected with *\*men-* “to stay” and given as an exact equation to Gk. μίμνω (Sturtevant 1933: 133; and more recently García Ramón 2010: 43ff.). However, since the Hittite verb does not show thematic inflection, I’ve never been wholly comfortable with this etymology. Oettinger (1979: 497) suggests the same etymon as produces the prohibitive particle, < *\*meh<sub>1</sub>*,

cf. Gk. μή, Skt. *mā́*, Arm. *mi*. Kloekhorst, while favoring Oettinger's take, must cautiously equivocate in deference to Melchert's caveat that a convincing scenario must first be devised if this etymology is to be pursued. While I will endeavor to demonstrate what I believe to be a plausible development supporting this etymology in the history of Hittite, we should first note that the only PIE verbal root that matches this shape is *\*meh<sub>1</sub>-* "to measure". The only word I can think of in English, at least, that could encompass both "~measure" and "~stop" is "check" (ult. from the game of chess), i.e. "check, verify" and "check yourself, stop and evaluate your position/what you're doing". Formally, if we have Ci-CC- here, then *\*mí-mh<sub>1</sub>-ei* / *\*mí-mh<sub>1</sub>-enti* > *mimmai* / *mimmanzi*, which is exactly what we want. For confirmation that Hittite *\*-VRHV-* > *-VRRV-* (Melchert 1994: 79) includes *\*-VmHV-* see Melchert's (2014b: 205) derivation of Hitt. *himma-* "imitation, replica" < *\*h<sub>2</sub>im-h<sub>2</sub>-ó-* "possessing the image (of)" < *\*h<sub>2</sub>im-eh<sub>2</sub>-* (cf. Lat. *imāgō* "image"). Since *mimma-*, like *pippa-* below, groups synchronically with *tarna-* "to release", I see no reason to reconstruct an *il-* extension as with *\*d<sup>h</sup>i-d<sup>h</sup>h<sub>1</sub>-i-* (*titti-*, see below). We can of course for our purposes stop here, for if one follows the root etymology given above for *mēma-* (6.3.5.), then we have effectively freed the *\*meh<sub>1</sub>-* root for *mimma-*. But I believe a plausible scenario that also connects the root to the prohibitive will better illustrate the semantics therein. The only way to produce the expected shape of the Hittite prohibitive *lē* from *\*meh<sub>1</sub>-*, is to appeal to the

sporadic nasal dissimilation seen in *lāman* “name” (< pre-Hitt. \**nāman*) and *lammar* “hour” (< \**nammar*). Oettinger saw *lē* as < \**mē*, a frozen 2 sg. imperative, but we need to account for a common enough syntactic sequence that would then induce the dissimilation, and lead to the grammaticalization of the imperative of \**meh*<sub>1-</sub>, which otherwise lacks an attested simplex in Hittite, into the prohibitive particle. If we take into consideration the underlying semantics behind the Hittite serial construction (with two verbs in full inflectional agreement, but lexically predetermined first members *paí* “go” and *uwa* “come”) “he went (and) (he) did it”, then, without committing to the identity of the NEG-marker for the time, consider a sequence, “refuse! don’t (NEG) do it!” > “don’t do it!” (NEG > zero here)—classic *ne pas* grammaticalization shift, but with better semantics. In Hittite double negatives are an intense negative, not a negation of a negative (Hoffner/Melchert 2008: 346), so at the beginning \**mē* was a reinforcer, à la *pas*. The oldest evidence in IE points to the prohibitive occurring with the injunctive, never with the imperative, and this is borne out by the Hittite usage as well, where *lē* only negates the indicative; so positing a serial imperative construction would be difficult to motivate. In the Hittite laws, however, there is another way of expressing the negative imperative: through use of *natta* (underlying Akkadogram *UL*) and the future indicative. One can then suppose \**mē natta* [2 sg. fut. indic.] “refuse! you shall not do it!” is then grammaticalized for all persons, spurred

further by the dissimilatory change that would have divorced it from any remaining connection with *mimma-*. The use of *lē=man* with the indicative as a “speaker optative” (ibid. 344-355), that is “slightly more polite” than *lē* without *man*, illustrates exactly the discourse semantics that an imperative construction would also occupy, and provides yet another locus for the dissimilatory change.

6.4.3. a. CLuv. *mimma-* (M(A)NĀ- “to see” < \**mneh*<sub>2</sub>- “to regard”)

cf. Hom. μνόομαι “I think on”, (late) Ved. *ā-manatī* “(s)he mentions”

*mi-im-ma-me-is* (KUB 6.45 iii 74), *mi-im-ma-an-du* (HT 78, 7)

b. CLuv. *mammanna-*

*ma-am-ma-an-na-ten* (KUB 24.12 ii 28-33), *ma-am-ma-an-na*,

*ma-am-ma-an-na-ad-du*

cf. *ma-na-a-ti*, *ma-na-a-ha*, *ma-na-a-du*

We only have the suffixed copy reduplicated stem with the marked iterative in *-anna-*, and the 3 pl. impv. and participle of *mimma-*, so we lack a direct witness to the strong stem root vocalism; but if we are to take *mimma-* as Ci-CC- reduplication, then the development of the

stem follows Hitt. *mimma-* closely (albeit with simplification of the cluster *\*-mmm-> -mm-*):

(virtual) *\*mí-mnh<sub>2</sub>-ei* | *\*mí-mnh<sub>2</sub>-enti* > *\*mimmai* | *\*mimmanti* (the root shape of *titha-* is a Hittite

issue, see below). If, however, one adheres to Hitt. *mimma-* as reflecting *\*mí-mn-o- < \*men-* “to

remain”, note that CLuv. may also reflect *\*mí-mn-o-*, but from *\*men-* “to perceive”. Whether

both reflect a *\*men-*, one does and not the other, or neither do, is impossible to determine from

the formal developments. As discussed in the Luvo-Lycian stems chapter, 5.1.7., since *mimma-*

always, and *mammanna-* only sometimes, means “to esteem”, I believe we have a case parallel

to *kuwakuwarske-*: *kuk(k)urs-*, where one stem has become lexicalized (see Melchert 1988:

218-220 for details on *m(a)nā-*). For *li-*-reduplicated stem alongside copy reduplication, see

*lilhu(w)a-* ~ *lalhu(w)a-*.

6.4.4. *pippa-* (< *\*peH-* “to move”) cf. Ved. *ut-pipīte* “it rises”

*pí-ip-pa-i* (OH/MS), *pí-ip-pa-an-zi* (OS), *pí-ip-pa-a-as* (OH or MH/NS),

*pí-ip-pé-er* (MH/MS?)

Formally, this root parallels *mimma-*; reduplication of the *Cí-CC-* produces *\*pí-pH-ei* | *\*pí-pH-enti*

> *pippai* | *pippanzi*. Semantically one thinks “knock down; turn up” relates to “rises”, in the

sense of “overturn, make something rise (then fall)”. See Hittite Unpaired Stems 4.18., for attestation and functional considerations, and García-Ramón (2010: 45ff.) for another view.

6.4.5. HLuv. *pi-pa-(sa-)* (*PI(YA)-* “to give”; for etymology see above 6.2.19.)

*pi-pa-sa-ta* (KARKAMIŠ A23 §4-5)

*pi-pa-wa/i* (TÜNP 2)

We have here our only sure example of *li*-reduplication in Hieroglyphic Luvian. The base stem cannot be to *piya-* directly, but must be from a root *\*pa-* “to give”, back-formed from expected 3 sg. *\*pāi* (cf. Hitt. *pāi/l piyanzi* (OS), and perhaps Istanuvian *pa-(a)-i-ú* “let give”), in the same fashion that CLuv. 3 sg. pret. *tatta* was created from 3 sg. pres. *tāi* “(s)he steps, arrives” (cf. Jasanoff 2003: 115); cf. also copy reduplicated CLuv. *nana-* “to turn”, which cannot be formed from the regular outcome of *\*neih<sub>x</sub>-* (cf. Hitt. *nāi* “to turn”). All signs point then to a synchronic creation of Luvian date, proving that *li*-reduplication was still a productive process in this period (as per discussion, 6.4.1.) For a stem with univerbation of the preverb post-dating reduplication, see *uiye-* “to send” < *\*au+h<sub>1</sub>i-h<sub>1</sub>yeh<sub>1</sub>-* (6.4.8.).

6.4.6. *sisd-* “to prosper, proliferate (?)”

*si-is-du* (KUB 12.43, 2, 3 (OS or MS)), *se-es-zi* (KBo 3.7 i 7 (OH/NS)), *se-is-du* (MH/NS),

*si-es-du* (MH/NS), *se-es-du* (KBo 3.7 i 5 (OH/NS))

There is much uncertainty in form and meaning surrounding this verb. It is grouped here under /i/-reduplication on the probability that the spellings outside of OS reflect the lowering of /i/ > /e/ found in e.g. *sisha-* “to decide”, just below. The semantics are chiefly inferred on the frequent co-occurrence with *mai-* “to grow”, with which it usually stands in asyndeton. Carruba (apud Friedrich 1966: 28-29) suggested we have here the Anatolian reflex of IE *\*sed-* “to sit”. While formally possible, the semantic distance is non-trivial. There exist no finite verb forms that directly show the /d/ of the proposed stem shape; only the verbal noun *sisduwar* “proliferation” offers evidence. Unfortunately, there exists no 3 sg. pres. *\*seszazzi* along the lines of *ezzazzi* “(s)he eats” to settle the question. Melchert (1994: 166) proposes a conditioned loss of dental stop between /s/ and /t, ts/ on the basis of this stem and *taistā(i)* “load” < *\*taist-ti-*. Kloekhorst (2008: 757) demurs on that point, instead suggesting that the verbal noun is after the imperative *sisdu*, though I find motivating the verbal noun from 3 sg. imperatives difficult at best. The easier assumption is to take the verbal noun genitive, *se-is-du-wa-a[s]* (MH/NS) as the older

form vs. *se-e-es-sa-u-wa-a[s]* (NH) and *[s]i-is-sa-wa-as* (NH), the geminate of which would reflect expected outcomes of paradigmatic forms *\*sis-tV-* > *\*sis-stV-*, and the date of attestation bolsters this view (for spread of /s/ before consonant at syllable boundary, see Melchert 1994: 151). Were *sis-* the original root shape, we would have expected *\*se-e-sa-u-wa-as*, *\*si-sa-wa-as* instead (cf. verbal nouns *[s]e-su-wa-a-as*, *se-se-an-zi* < *ses- / -sas-* “to sleep”). Indeed, if the root is historically an /i/-reduplicated *\*sed-*, then motivating the creation of a secondary *sis-* root would be unproblematic. Lacking a paired stem, and no longer recognizing #s\_sC- as a productive reduplication template (cf. Lat. pres. *sistō* vs. perf. *stētī*; Luv. *hishiya-* and see below 6.4.7.), speakers were unhindered in creating a new stem from the 3 sg. *siszi*. This scenario is compatible with assuming loss of the simplex and lexicalization of *\*sisd-* prior to the historic period. For further evidence this root was in a state of flux, n.b. variants in *sas-* under the influence of *ses- / sas-* “to sleep” (Oettinger 1979: 216). Finally, n.b. that unlike *sisha-*, below, and all other Hittite /i/-reduplicating verbs (which inflect *hi-*), *sisd-* was a *mi-* verb; this fact could have further contributed to its formal isolation and lexicalization.

6.4.7. *sisha-* “to decide, appoint”

*si-is-he-er* (KBo 32.14 ii 36 (MH/MS)), *se-es-ha-a-i* (KBo 5.9 iii 6 (NH)), *se-es-ha-an-zi*

(KUB 9.15 iii 19 (NS), KUB 42.91 ii 9, 21 (NS))

As per Kloekhorst (2008: 758), the Hurro-Hittite Bilingual *sisher* is clearly the older reading, and

all cases of *sesha-* can be accounted for by the NH lowering of OH /i/ > /e/ (cf. Melchert 1994:

133). However, against Kloekhorst (ibid. 759), it is not certain that *sisha-* reflects a reduplicated

stem to Hitt. *ishai-/ishi-* “to bind” (hence our treatment of *sisha-* under Hittite unpaired stems).

In order to make this equation he has to assume several unsupported steps, the last of which

involves the disappearance of the expected stem-final /i/ if truly derived from *ishai-*.

Furthermore, the assured reduplicated stem to the “bind” simplex, Luv. *hishiya-* “to bind” (above

6.2.3.), cannot directly equate with *sisha-*, and shows the synchronic Luvian approach to

reduplicating #sC- was in fact #C\_sC-, while Hitt. *isdusduske-* “to make evident” shows Hitt. had

also renewed /s/ + obstruent reduplication, but as #sC\_sC-. If indeed *sisha-* was a synchronic

Hittite creation, we would rather have expected *\*ishisha-*, following *isdusduske-*. Add to the

formal objections the semantic distance between “bind” and “decide, appoint”; if the latter

meaning is to be derived from the former, then it can only be through an old lexicalization (see

discussion, 4.20.), and thus, *sisha-* cannot have paired with *ishai-* for the Hittite speaker.

Instead, given the Hittite semantic and the Luvian formal facts, *sisha-* must be a relic like *sisd-* (if from PIE *\*sisd-*), reflecting a stem *\*si-sh<sub>2</sub>-* from a time when the root was still *\*seh<sub>2</sub>-* (for syncope cf. *tith-*, *lilhuwa-*, *pippa-*), and not yet extended and reanalyzed to *\*sh<sub>2</sub>ei-* as seen in *ishai-*. Following both the creation of *ishai-* and the renewal of the reduplicative template for /s/ + obstruent, *sisha-* would have become formally isolated, further facilitating its lexicalization.

For Hittite nominal evidence for the root shape *\*seh<sub>2</sub>-*, cf. *sahhan* (a type of obligation)

< *\*seh<sub>2</sub>-en-*, *ishanittar* “in-law (i.e. bound by marriage)” < *\*sh<sub>2</sub>-en-*, and see Rieken (1999: 283-287) for further examples.

6.4.8. *tith-* ( < *\*(s)tenh<sub>2</sub>-* “to thunder”)

cf. Lat. *tonāre* “to thunder”, Ved. *tatanat* “it thundered”

*ti-it-ha* (3 sg. mid. (OS; OH/NS)), *te-e-et-ha* (OH/MS),

*te-et-ha-i* (3 sg. pres. ind. act. (NH))

As Kloekhorst points out (2008: 883), there are complications in trying to determine the formal history of this stem. It’s certainly desirable to connect the Hittite to the core IE root *\*(s)tenh<sub>2</sub>-*,

but the rules governing the outcome of the laryngeal, the deletion of the nasal, and how they interplay is the crux of the problem. Crucially, we are dealing with an impersonal middle (its only expressed subject is the Stormgod), so only one form matters in mapping the prehistory of the verb: *\*tí-tnh<sub>2</sub>-o*. I believe we can extrapolate the outcome Melchert (2012: 181-183) lays out for *aki / akkanzi* “die(s)” and its ilk. Melchert, following an original proposal by Hrozný (1917: 176), derives *aki / akkanzi* < *\*nókei / \*nĕnti*, which leveled the weak stem to eliminate what would have been aberrant ablaut *\*nākki / akkanzi*, much as happened with what must have been an original *wewakki / \*mukkanzi* above, 6.3.6. The expected outcome of a syllabic nasal in Hittite is /an/, but the example of *akkanzi* and that of *kappi*- “small” < *\*kmb<sup>(h)</sup>i-* (cf. Av. *kamna-* “small”), suggest a reflex whereby an unaccented homorganic syllabic nasal before an obstruent was realized as /a/ in Hittite, presumably after a loss of the nasalization (ibid. 181); cf. also *\*km+puh<sub>x</sub>ye/o-* > *kappuwe/a-* “count” (cf. Lat. *computāre*). The fact that Luv. *zanta* and Hitt. *katta* “down” < *\*kńta*, *\*md<sup>h</sup>ró-* > *antarā-* “blue” show seemingly different treatment of non-homorganic nasal + obstruent, does not disprove the outcome for *akkanzi*. We know that the reflex of *\*h<sub>2</sub>* in Hittite behaved like a velar, and is frequently given as /χ/ (whereas *\*h<sub>3</sub>* > /ʎ/). I believe it is entirely reasonable to posit for *titha-* the following scenario: *\*tí-tnh<sub>2</sub>-o* > *\*tí-tanh<sub>2</sub>-o* > *\*tí-tanχ-a* > *\*tí-taχ-a* (*\*titaha*). The new root vocalism is then under pressure from both the

tendency to syncopate that vowel in reduplicated stems (Luv. *papra-*, Hitt. *hahriske-*, Hitt. *mamhuittar*), and to match the template of other *li-*-reduplicating presents (*pippa-*, *mimma-*, *lilhuwa-* (*lilywa-*); that deletion follows is expected. Since the reduplicated stem is almost certainly a pre-Hittite innovation, it stands to reason that the “νεογνός” rule (Mayrhofer 1986: 129, with refs.) no longer operated at the time of its creation. Furthermore, I follow Melchert (1994: 55, 79) in assuming a contrast between original *\*-VRHV-* > *-VRRV-* and *\*(C)Rh<sub>2</sub>V-* > *-(C)aRhV-*.

- 6.4.9. a. *titta-* / *titti-*
- i. (*DAI-* (*dāi* / *tiyanzi*) “place, put” < *\*d<sup>h</sup>eh<sub>1</sub>-* “to place, put”)
- cf. Ved. *dádhāti* “(s)he puts, does”, Gk. τίθημι “I put”
- ii. (*TIYA-* (*tiezzi* / *tiyanzi*) “step” < *\*(s)teh<sub>2</sub>-* “to stand”)
- cf. Ved. *tíṣṭhati* “(s)he steps, stands”, Gk. ἵστημι, Lat. *sistō* “I set up”
- ti-it-ta-i*, *ti-it-ti-ia-an-z[i]*, *[t]i-it-ti-ia-an-z[i]*, *ti-it-ti-an-t-*, *ti-it-ti-is-ke-ez-zi*
- b. *tittanu-*
- ti-it-ta-nu-mi* (MH/MS), *[ti-i]t-ta-nu-an-zi* (OS?), *ti-it-ta-nu-ut* (MH/MS)

Melchert (to appear) has clearly demonstrated that synchronically we are looking at two separate verbs here, one “to place (horizontally)”, one “cause to stand, erect”; see 3.17. & 3.18. for full discussion. One option is to assume synchronic copy vowel derivation from the weak stem, which also avoids any issue in explaining the geminate stop, since synchronic copy reduplication presumes creation after Hittite devoiced initial stops. The transparency of this scenario would, whatever the ultimate history of the roots, serve to reinforce the shape for speakers. But given the well-established existence of both PIE /i/-reduplication, and the prevalence of reduplication in cognate stems, it behooves us to explore the possibility of inheritance (for *titti-* < *tīya-*, at least), even if some details have been reshaped (but such is true of all branches).

Following Heubeck’s (1985) proposal that many Lycian presents with geminate onsets represent stems with a syncopated reduplicant, Jasanoff (2010) applies the idea to Lyc. *sttati* “stands”. He begins his analysis by acknowledging that PIE would likely have reduplicated the cluster *\*sT-* as *\*sV-sT-* (ibid. 147). Anatolian, therefore, would have inherited this pattern, as *sisd-* and *sisha-*, above, support. Jasanoff (ibid. 149) then reconstructs an /i/-reduplicated present for PIE, reflected in Lat. *sistō* (with the inherited pattern) and Ved. *tīṣṭhati* (with renewed

reduplicative pattern). He concludes that whatever the PA form was, Hittite *titta-* confirms that the reduplicant must have contained a \*/t/ and was remodeled to *\*ti-th<sub>2</sub>-* (*h<sub>2</sub>e-* conjugation) on the basis of the /s/-less simplex *tiya-* (ibid. 149). On the subject of his paper, Lycian *sttati*, he must first assume an Anatolian renewal of the inherited /i/-reduplicated present to *\*stí-sth<sub>2</sub>-*. His exact prehistory for the form then follows: *\*stísth<sub>2</sub>- > \*stíth<sub>2</sub>- > \*stítai > \*sitati > sttati /stati/*, with remade 3<sup>rd</sup> sg. ending, but otherwise he claims, a word equation with *titta-* (ibid. 149-150).

There are a few points to be made against this. First, if it were from *\*steh<sub>2</sub>-*, we would expect with Brugmann et al. (see 7.2.2.) the inherited reduplicative *\*sísth-*, as in Hitt. *sisd-* (6.4.6.) and *sissha-* (6.4.7.). Since Hitt. *isdusduske-* (6.2.6.) shows a renewal *\*sTV-sT-*, and Luv. *hishiya-* *\*TV-sT-* (6.2.3.), it is unlikely, however possible, that Lycian chose a third option, *\*sTV-T-*. The “third option” supposes that, in the course of its development, the ancestor of the Lycian gained a /t/ in the reduplicant, then lost an /s/ on the root, then lost the /t/ in the reduplicant. Second, while his reconstruction gives a stressed reduplicant in the first steps, we would need to either assume an ad hoc accent shift in the present, or deletion of a stressed syllable. Typically, one expects an initial stressed vowel to resist deletion, and indeed Blevins (2008) contra Blust (most recently, 2007), debunks the purported case of stressed syncope in Mussau, an Austronesian language. Given these formal facts and the demonstrable Greek borrowings in /st-/ (*sttala*

“stele”, *sttrat-* “general”, *Spartaze/i-* “Spartan”(and derivatives), various PNs), n.b. the geminate spelling, I believe we cannot look to *sttati* as a witness for Lycian reduplication, nor for Hittite *titta-*. For Lycian then, we must return to the conclusion that *stta-* is in fact a loanword from Greek, as is sure for its paired noun *sttala* “stele” (cf. Schürr 2007: 30; Morpurgo Davies 1987: 220-221).

Returning to the matter at hand, the two base verbs we are dealing with in Hittite *titta-* are *dāi* / *tiyanzi* “put” < \**d<sup>h</sup>éh<sub>1</sub>-i-ei* / \**d<sup>h</sup>h<sub>1</sub>-i-énti*, and *tiyanzi* “step” < \*(*s*)*th<sub>2</sub>-yé-nti* (synchronically reflecting the reflex of *-ye/o-*; cf. Melchert 1994: 69). For “step” cf. CLuv. *tā-* (3sg. pres. *ta-a-i*, 3 sg. pret. *ta-at-ta*, *da-a-ad-da*, which shows no evidence of *li-*extension in the Luvian simplex. Jasanoff (2003: 115) accounts for the Luvian shape as a back-formation from the 3 sg. \**tāi* < \*(*s*)*teh<sub>2</sub>-i-e(i)*, which indeed we followed for *pi-pa-(sa-)* (6.4.5.). Now that we have argued that Lycian *sttati* is not an Anatolian reflex of \**steh<sub>2</sub>-*, but far more likely a borrowing, we can abandon the notion that Anatolian preserved */s/* in the synchronic root “step, stand”. The only word which positively reflects the */s/*-mobile is the *nt-* stem, *istanta(i)-* “to tarry”, from the lexicalized verbal adjective \**sth<sub>2</sub>-ent-*. This stem indicates, on the one hand, that Anatolian inherited the */s/*-mobile reflex of the “step, stand” root, but then deleted the */s/* in the synchronically productive

stem *\*teh<sub>2</sub>-*; on the other, it shows Anatolian also inherited a reflex of the root aorist, which could then have been suffixed to *\*th<sub>2</sub>-yé-* in Anatolian (or pre-Hittite) itself. However, instead of reconstructing a *ye/o-* verb for Hittite *tiya-*, we can posit a Common Anatolian *hi-* verb in *-il-*, *\*téh<sub>2</sub>-i-eil* *\*th<sub>2</sub>-i-énti*, parallel to *\*d<sup>h</sup>éh<sub>1</sub>-i-eil* *\*d<sup>h</sup>h<sub>1</sub>-i-énti*, and postdating the deletion of */s/* in the root. This would then account for both the attested Hittite simplex, with back-formed *mi-* verb from the weak stem, and the Luvian *hi-* verb *tā-*, back-formed from the 3 sg. (for the latter, cf. Jasanoff 2003: 115). We need not deal with the other evidence Jasanoff (2010: 146) marshals in support of an inherited *ye-* stem. Even if the Hittite does reflect a *ye-* stem, there is nothing preventing branches from creating their own *ye-* stem—especially where this is a particularly productive suffix—as the absence of */s/* in any Anatolian reflex of *\*t(e)h<sub>2</sub>-y(e)-* suggests. The Balto-Slavic evidence, after all, points to a stem created secondarily from the root aorist in those branches (Lith. *stóju*, OCS *stajǫ* (LIV<sup>2</sup>: 590-591)).

Anatolian most likely did inherit the */il-*-reduplicated present *\*sí-steh<sub>2</sub>-*, but subsequently lost it when */s/* was deleted from the simplex. If it had persisted it would have undergone reshaping along the lines of *istustu-*, yielding in the first instance *\*(i)stista-*, and then been further altered after its base stem to *titta-*, as Jasanoff suggests—two renewals. This presumes a

synchronically transparent relationship between what became *tiya-* and what would have first been *\*sista-*, and then *\*(i)stista-*. I tend to think that the existence of lexicalized *sisha-* next to synchronically productive Hitt. *ishai-* / *ishi-* and Luv. *hishiya-*, and the lexicalization of *istanta(i)-*, disfavor this approach. Essentially then, Anatolian abandoned most of the inherited stem formations of the “step, stand” root after deleting /s/, replacing them through productive processes from a Common Anatolian date.

As I have argued, and as HLuv. *pi-pa-sa-* shows, /i/-reduplication was a productive process throughout the history of Anatolian, so creating a *\*tí-th<sub>2</sub>-*, following /s/-loss in *\*teh<sub>2</sub>-* and the demise of inherited *\*sí-sth<sub>2</sub>-*, at a Common Anatolian date is easily accomplished. A straight synchronic Hittite derivation from *tiya-* “step” might look like *\*tittiezzi* / *tittiyanzi*, while one from *dāi* / *tiyanzi* “put” > *\*tittiyai* / *tittiyanzi* (so too if speakers formed a *hi-* verb from *tiya-* “step”, cf. *wewakk*)—neither one gives us the right 3 sg. (we can only really speak to the weak stem and 3<sup>rd</sup> person due to attestation). However, if we assume a Common Anatolian /i/-reduplication for both stems (certainly reduplication of *\*d<sup>h</sup>eh<sub>1</sub>-i-* cannot be of PIE date), we get virtual:

*\*tí-th<sub>2</sub>-ei* / *\*tí-th<sub>2</sub>-enti* > *tittai* / *\*tittanzi*                      < *\*teh<sub>2</sub>-*

*\*d<sup>h</sup>í-d<sup>h</sup>h<sub>1</sub>-i-ei* / *\*d<sup>h</sup>í-d<sup>h</sup>h<sub>1</sub>-i-enti* > *\*tittiyai* / *tittiyanzi*                      < *\*d<sup>h</sup>eh<sub>1</sub>-*

The new reduplication stem of *\*teh<sub>2</sub>-*, was thus created at a date when the unextended stem was still extant. We have seen evidence that an /i/-reduplicated present can in fact have existed alongside an /i/-extended *hi-* verb, cf. *sis<sub>1</sub>ha-* < *\*s<sub>1</sub>i-sh<sub>2</sub>-* to *ishi-* < *\*sh<sub>2</sub>-i-*. Each of the derivations above gives us one of the forms we are looking for, and if we can also employ a surface analogy *dāi*: *tittai* :: *tiyanzi*: *tittiyanzi* (the last element of the analogy is also the only one that can also readily be taken from a straight synchronic derivation), together with the semantic similarities illustrated in the functional entries, I hope we will have demonstrated enough pressure to explain a formal falling together of the expected reflexes of a Common Anatolian /i/-reduplication of the two roots. That this reduplicated stem is not attested outside of Hittite may simply be due to accident. With regards to the geminate /t/ in *tittai* < *dāi*, I don't see the need to either assume the reduplication must have taken place after the PA devoicing of initial stops, nor do I see the need to assume voicing assimilation to the *\*h<sub>1</sub>* in *\*d<sup>h</sup>i-d<sup>h</sup>h<sub>1</sub>-i-* (and devoicing is just unappealing). Synchronically it *looks* like copy reduplication from weak stems anyhow, so the strong formal pressure (and possible merger) outlined above for *tiya-* and *dāi* / *tiyanzi*, and the fact that reduplication nuance in contrasting base-reduplicated stems depends on a close semantic association, provide powerful loci for leveling. Contra Kloekhorst (2008: 884),

spellings that show /titnu/ don't need to reflect an old \**dʰi-dʰh<sub>1</sub>-nu-*, but rather the common medial syncope that we have seen in reduplicated stems.

6.4.10. *uiye-* “to send” (< PA \**au+h<sub>1</sub>i-h<sub>1</sub>yeh<sub>1</sub>-* “to send (here)” < \**h<sub>1</sub>yeh<sub>1</sub>-* “to throw”)

cf. Gk. ἵημι /hīēmi/ “I throw, send”, Lat. *iaciō* “I throw”

*u-i-e-ez-zi* (MH/MS), *u-i-ia-zi* (NS), *u-i-ia-mi* (MH/MS)

See Yakubovich (2013: 95) for why we must read the stem *uiye/a-*, against Kloekhorst's reading *uye-* (2008: 910). This stem is included for thoroughness, since the reduplication would have been completely opaque synchronically (as such there is no entry for the stem in the functional chapter). Here it serves to illustrate that /i/-reduplication was an ongoing process at almost all stages of Anatolian, and also does not contravene the observation that proto-Anatolian seems to have generalized /i/-reduplication to laryngeal final stems (see Chapter 7).

## 6.5. Full Root Reduplication

### 6.5.1. *hashas-* “scrape clean” (onomatopoetic)

*ha-as-ha-as-sa-an-zi* (KUB 7.13 Ro 8), *ha-as-ha-su-un* (KUB 41.19 Vo 7),

*ha-as-ha-as-kán-zi* (KUB 57.84 iii 6-7)

As per our discussion under Hittite unpaired stems, 4.4., this verb is not a reduplicated stem to *hās* “open”, but onomatopoetic for scouring something clean.

### 6.5.2. *hulhuliy-* “intertwine, wrestle”

*hu-ul-hu-li-ya-zi* (KUB 50.84 ii 21), *hu-ul-hu-li-ya-at* (KUB 23.97 iii 1-2),

*hu-ul-hu-li-an-du* (KBo 17.105 iv 6)

This stem is bound up in a complex of nouns and denominative verbs ultimately related to *hulana* “wool”, its processes and accoutrements (see 4.5.). It is likely that our reduplicated stem paired with a lost simplex *\*huliy-* “wrap, wind”, from which we still have the result noun

*huliya-* “wool”. The shape is quite clear, but as to what motivated speakers to choose full root reduplication we can only speculate.

6.5.3. *kalgalinai-* “clang, clash” (onomatopoeic)

*kal-ga-li-na-iz-zi* (KUB 30.22 15-16 + 30.20 i 3)

Cf. *gal-gal-tu-ri-* “(an instrument)” (KUB 53.6 ii 9); whatever the derivational direction of the verb and its associated noun, that the full root reduplication is bound in onomatopoeia is clear; see

4.6., for comparanda.

6.5.4. *katkattiya-* “shake, tremble”

*kat-kat-ti-ya-zi* (KUB 29.9 i 4-8), *kat-kat-ti-ya-az-zi* (KUB 29.48 Vo 6-10 + 29.44 iii 16-17),

*kat-kat-ti-is-ke-ez-zi* (KUB 33.103 iii 4-6), *kat-kat-ti-nu-zi* (KBo 3.5 i 33)

See 4.7., for a discussion of the semantics. The full root reduplication matches other

onomatopoeic / “expressive” stem shapes, e.g. *hashas-*, *kalgal-*, *kuskus-* / *kuwaskuwas-*,

*tastas-*; that the stem here is suffixed *-iya-* is not problematic, cf. *mumiye-*, *sisiye-*, above.

6.5.5. *kuskus-* / *ku(w)asku(w)as-* “squash, pound” (onomatopoetic)

*ku-wa-as-ku-as-ti* (KBo 12.124 iii 16), *ku-as-ku-as-zi* (KUB 7.1 i 25-26),

*ku-us-ku-us-zi* (KBo 21.26 rt. col. 19-19)

This stem is notable for having both full root reduplication and “heavy” (i.e. with ablaut) full root reduplication variants. These may simply be trivial by-forms, or the latter could be made to have the same root vowel as all other attested onomatopoetic full root reduplicated stems; we simply have no other reduplicating stems with root-internal /i/ or /u/ as a witness. See 4.10., for a discussion on the semantics.

6.5.6. CLuv. *palpadi(ya)-* “to blaze”

ᵈU.GUR *pal-pa[-da-mi-in] [a-us-du* “let him look upon Nergal ablaze!”

(KUB 35.145 Vo iii 11-12)

While descriptively reflecting a dissimilated \**padpadi(ya)-*, the stem is semantically parallel to Hitt. *wariwar-* “to burn (up), blaze”. The stem constitutes our only exemplar of this type for Luvo-Lycian.

6.5.7. *tastasiya-* “whisper” (onomatopoetic)

*ta-as-ta-si-ya-zi* (KBo 5.4 i 28-29), *ta-a-as-ta-si-ya-iz-zi* (KBo 4.3 iii 21)

The shape conforms to other onomatopoetic stems discussed above. Note that all of our onomatopoetic / “expressive”, full root reduplicated stems are unpaired, as should be expected for reduplicated stems of this type. *Hulhuliyā-* is the only exception to this state of affairs; but note both the derivational complex as well as the lack of any apparent sound symbolism. N.b. the plene spelling in KBo 4.3 iii 21, which confirms the accent was on the reduplicant for this type, as expected given the evidence presented for all other verbal reduplication.

6.6. Full Root “Intensive” Reduplication

6.6.1. *arrir(r)a-* (*ARR-* “to wash” < \**h<sub>1</sub>erH-* “to wash”)

cf. TochA. absolutive *yāyruräṣ* (< \**yārā-*) “having bathed”

*arha a-ar-ri-ir-ra-an[-du-* (KUB 13.2 ii 14f), *ar-ri-ir-ra-az-zi*, *ar-ra-ar-as*, *ar-ri-ir-ra-an-du*,

*a-ra-ra-an-za*, *arirrista* (KUB 30.10 Rs 5), *arraras* (KUB 36.89 Vs 15)

Both reduplicated stems must be of Hittite date, as there was no /o/-reduplication, nor reduplication of the coda in IE. It should be noted that the stem connection with simplex *ārr-* / *arr-* was seen earlier and independently advanced by Jay Friedman of UCLA. As discussed in section 4.1. (where it is cautiously included with Hittite unpaired stems), the readings are consistent with “scraping clean”, and it is not a stretch to see the connection between washing and scraping when usage of a strigil vel sim. is employed upon one’s person. The sense of the reduplicated stem and the shape, which reminds us of intensive *wariwar-*, certainly recommends an intensive of that class, and elision of the root initial vowel by the “connective” /i/ is not improbable. The variant stem shape *ar(r)ara-* is likely an alternate copy vowel reduplicated intensive of the sort *katkattiya-* and *hashas-* (see above), easily created by speakers. The alternative is to take the stems as ablaut variants, as Eichner (1981: 62-63) does, who sees the pattern of *asās-* / *ases-* here. That introduces a whole host of problems that are best avoided when presented with the much simpler explanations given above, the processes of which are evidenced in far more verbs than the special case of *asās-* / *ases-*. Furthermore, the plene spelling on the reduplicant in *a-ar-ri-ir-ra-an[-du-* argues that this is to be taken as an example of perfectly normal reduplicative processes for Hittite.

6.6.2. *halihla- / halihli-* (HALI(YA)- “to kneel” < \**h<sub>3</sub>el-* “to bend”)

*ha-li-ih-la-i* (MH/MS), *ha-li-ih-li-is-ta-ri* (2s. mid.), *ha-li-ih-li-ya-an-da-a-ri*, *ha-li-ih-la-at-ti*

Puhvel (1991: 28) connects the verb with IE words for “elbow”, cf. Gk. ὐλένη, Lat. *ulna*, and against Kloekhorst (2008: 274), the semantics are good—“bend the knee”, “bend in the arm”—the latter is in fact the English etymology. Whatever the IE details are we won’t detain ourselves with, the Hittite must reflect a root \**h<sub>3</sub>el-*. While none of the reduplicants have a plene spelling, the simplex *haliya-* certainly does (*ha-a-li-er* (OH/NS), *ha-a-li-ya-an-da-at* (NH), *ha-a-li-ya-ri* (OH/NS)), and so we should err on the side of caution and take the orthography as reflecting /*halihli-*/, despite the limits of the writing system in expressing a possible /*hli-hli-*/ (cf. *p(a)ri-pra-* above, 6.2.20.). The two possibilities we are left with is that the stem shows a total reduplication (suffix included) *halihali-*, with subsequent root syncope (cf. *hahriske-*, Luv. *papra-*); or that we have another candidate for intensive reduplication of the *wariwar-* type. A couple of factors argue in favor of the latter. First, no other sure cases of full root reduplication whose stem ends in *-iya-* or other suffix shows reduplication of the suffix element, cf. *katkattiya-*, *kalgalinai-*, *hulhuliya-* (hapax legomena *partipartiske-* and *waltiwaltiske-* notwithstanding, which will be addressed below, 6.7.2.). The spelling *halihlai* (MH/MS) is best explained by supposing the /*li*

is the “connective” /i/ of a *wariwar*-intensive. Further, the semantics work well with an intensive reading (refer to 3.3.2.), allowing us to safely translate the reduplicated stem as “to kowtow”. If our expanding roster of *wariwar*-stems is correct, I see no great difficulty in allowing root syncope, as there was a strong tendency among other types of copy reduplication to do so, and it pairs well with the elision of *arrirra*- above; the salient features of this type in Hittite are thereby understood as full root reduplicant + /i/. The latter point, and the facts of *arrirra*- (Vedic does not create intensives to vowel-initial roots—cf. Schaefer 1994—the only descriptive exception, *álarī* < √r “to set in motion”, belongs to a different class), argue in favor of taking this class of reduplication as an independent creation.

6.6.3. *kun(n)ikunk-* (KUNK- “to swing, sway” < \**kwenk-* “to bend (up or down)”)

cf. Ved. *śváñcate* “(s)he leans, bows”

*ku-un-ni-ku-un-ki-is-ki-it-ta* (OH?/NS)

We must both address why the stem shows *kun(n)ikunk-*, rather than \**kunkikunk-*, and also the nature of the geminate. The first matter presents no great difficulty if we assume that the /n/ of the base stem coda was unreleased before the following stop, and carried over to the

reduplicant such that we get a \*[kun.i.kun.k(i)-] in the first instance; cf. Skt. intensive *kánikrand-* < *krand-* “to bellow” (Schaefer 1994: 35), and also *varīvart-* < *vrt-* “to turn” (ibid. 192) of the *ganīgam-* type in Sanskrit. As to the second issue, there exist a number of NH cases with secondary gemination of sonorants, e.g. *kuerri* “cuts”, *kuenna-* “slays”; see Melchert (1994: 165-166), in which he suggests that one of the strategies available for repairing the syllabification of an originally morpheme-final sonorant appearing secondarily before a vowel was to spread the sonorant across the syllable boundary, i.e. \*[kun.i.kun.k(i)-] > [kun.ni.kun.k(i)-]. The repetitive semantics we established for *kunnikunk-* in 3.7.2., does not in and of itself prevent identifying the form as an intensive, cf. Schaefer (1994: 113) on *ganīgam-*: “An beiden Belegstellen zeigt das Intensivum repetitive Funktion”—given the lexical semantics this is hardly surprising.

6.6.4. *wariwar-* / *uriwar-* (*WAR-* “to burn (up), be burned” < \**wer-* “to burn”)

*ua-ri-ua-ra-an pa-ah-hur* (KUB 44.4 Vo 4),

*ú-ri-wa-ra-an* (KUB 17.10 iii 22, 33.30 iii 1, 33.28 iii 11)

The root is not, pace Kloekhorst (2008: 924-925) and the LIV<sup>2</sup> (689), \**werh<sub>x</sub>-* “be hot”—the formalism and semantics argue against this. The form *ú-ri-wa-ra-an* can be secondarily

explained in light of stem variants exemplified by *urāni* and *warnu-*, the latter indirectly reflecting the vocalism of a transitive *hi-* verb *\*war-*, which nevertheless may be reflected in KUB 17.27 ii 26, *pahhur=a wārai* “and kindles a fire.” The medio-passive *urāni* is itself renewed by MH/MS *warāni*, so clearly these stem alternates infiltrated each other’s original paradigms.

Furthermore, *wārai*, if genuine, demonstrates that the root was *aniṯ*, otherwise we would have expected *\*wārai*, as also *\*urrāni* if from *\*urh<sub>x</sub>-ór(i)*—which, contra Kloekhorst, we cannot even arrive at since the IE syllabification would have been *\*wrh<sub>x</sub>-ór(i)*. Moreover, following Kloekhorst’s own demonstration that <ú> represents /u/, while <u> represents /o/, OS *ú-ra-a-ni* can only be /uráni/, while *u-ur-ki-* “trail” is /órgi-/ , showing an outcome *\*#wrC- > /orC-/. In sum, OS *urāni* must < *\*ur-ór(i)* < *\*wer-*, and thus we must reject any connection with Lith. *de*-present *véřda*, (*virtī*) “cook, boil”, OCS *vřřitŭ*, (*vřřěti*) “boil” < *\*werh<sub>x</sub>-*, outside of a possible root-enlargement with accompanying shift in semantics, to which we now turn.*

The Hittite usage of *war-* in no case allows a reading “boil”, as it is never used of liquids or cooking, but always means “burn (up)”: the middle takes “fire” and “torch” as subjects; the passive, lamb, fatty meats, and heads of horses and cattle; the *nu-* transitive takes cities, temples, and ritual offerings (Melchert, pers. comm.). While some of the objects appear

candidates for cooking, the context is in holocaust rituals—that they are completely consumed by fire, not prepared for consumption, is precisely the point *war-* drives home. Furthermore, it is uncertain that the primary meaning of the Balto-Slavic *seř* root relates to heat or cooking, but rather liquid motion, e.g. “well up, gush, bubble”. Cf. Eng. “boil” < ult. Lat. *bullā* “bubble”; Germanic *\*seup-* “seethe, boil” < IE *\*h<sub>2</sub>sewt-* (violent motion) (see LIV<sup>2</sup>: 285, Kluge 1881); *\*welH-* > OHG *wallan* “to flow, wave”, Goth. *wulan* “to boil”, ON *velta* “roll”; see Buck (1949: 676-677) for further examples of “boil” < (violent motion), (liquid motion). A clear PIE root etymology for the Hittite verb remains to be found.

Finally, we should address the connective *-li-* here, under our surest example of it. According to Schaefer (1994: 55ff.) the operation of Grassman’s and palatalization may fail to occur in the reduplicant only in the *ganīgam-* subtype of Vedic intensive reduplication (which occurs only with old Vedic athematics); forms that show either or both laws applied are later applications of the productive rules. See Schaefer (ibid. 62ff) for inner-Indo-Iranian accounts of the origins of the linking vowel, the gist being generalization from *seř* and laryngeal initial roots (of which *gam-* is of course neither). We cannot appeal to a *seř* root for Hittite, nor would we want to (as I hope is clear by now). However, to resume the discussion at the end of 6.6.2., I believe that the

Vedic facts of the *ganīgam*- type, together with the Hittite, point towards the likelihood of independent creation. The possibility remains that the ultimate genesis of high front linking vowel /i/ is from a child language diminutive or linking affix, sometimes seen in adult speech as well, in both reduplicated and rhyming forms, e.g. nighty-night, walkie-talkie, itty-bitty. Cf. also Chinese *kàn yī kàn* “look, glance at”, which is descriptively analyzed as a VO “internal accusative” construction (“look a look”), but may underlyingly be rooted in child talk as well.

Unfortunately, the register of Anatolian attestations won’t help us much in finding clear examples of child language. If this is the origin, or at least reinforces another, then we are faced with the possibility that either these forms are generated from an ancient process of intensive reduplication preserved in a handful of attestations in Vedic and Hittite (and possibly reflected in some Hesychian glosses); or, as seems the simplest explanation, these forms represent a process derived from the imitation of child language, and thus easily created inner-Anatolian and inner-Indic. This approach might help explain why many of the Sanskrit examples of the *ganīgam*- type escape the normal phonological rules we’d expect to see applied in the formation of the reduplicated verbal stem (cf. other Skt. intensive types, the perfect, and reduplicating presents). At any rate, following the facts outlined for Hittite, the connective-/i/ is real for *wariwar*-, there is no other way to account for it.

## 6.7. Uncategorized Reduplication

6.7.1. Lyc. *ppuwe-* “to write, inscribe” (< (?) *\*peug-*, cf. Lat. *pungō* “I pierce, harm”)

*ppuwēti* (Text 83, 7.12-13; N320, 34), *ppuwēti* (Text N320, 23)

cf. *puwēti* (Text 44c, 9-10)

Hajnal (1995: 121, n.146) translates the verb as a passive stative “geschrieben stehen”, which he takes from an older stative middle *\*/ppuwe/* < *\*/pVpū'wo/* < *\*/pVpū'wōi/* (ibid. 95). As per Heubeck (1985: 42), however, the verb needs to be transitive, as it takes objects. Furthermore the form *ppuwēti* must be a 3<sup>rd</sup> plural with antecedent neut. pl. *mara ebeija* in N320, 34, which would exclude Hajnal’s reading. The only way then to reconcile the sense is to posit an impersonal “they write” ~ “they have written”. While Hajnal’s derivational schema is tied to his attempt to get the IE resultative perfect from the Hittite reduplicating *hi-* presents + IE intensive (see Hajnal 1999: 14ff., 19), which does not work due to the sense and accent for Anatolian that we have thus far demonstrated, it may yet be closer to the truth if we instead link it to Jasanoff’s new account (to appear) of a reduplicated “stative-intransitive” aorist as the forerunner of both the perfect and thematic reduplicated aorist categories (all part of his broader proto-middle

framework). There are two possible ways to do this. First, following his template and semantic schema for the proposed category (ibid. 27), a virtual *\*pepóu(g)-e > \*pepú(w)e > ppuwe-* could in principle represent an archaism, stative-intransitive aorist *\*póug-e* + “intensive” reduplication > “(one) really carved, etched (and now it is written)” (for Lyc. *\*/g/ > Ø* medially, see Melchert 1994: 303). While, as with Hajnal and Oettinger before (see introduction), I do not agree with Jasanoff that we must find the semantic motivation of the perfect reduplication in an intensive sense (for Anatolian, at least, all demonstrable intensives employ heavy reduplication), I do not present here an alternative, as I am not trying to explain the origins of the IE perfect.

Alternatively, we can see in Jasanoff’s proposed common source of reduplicated aorists and perfects (categories reduced to their most basic, telicizing and resultative, respectively), a parallel creation within Lycian. That is to say, since we must account for a root accent if we are to assert that *ppuwe-* reflects a reduplicated stem with a syncopated reduplicant, it stands to reason the pre-Lycian speakers may have created a reduplicating resultative of their own, with a root accent analogous to that of Jasanoff’s reduplicated stative-intransitive aorist (n.b. aorists all become presents in Lycian). Pragmatically, such a scenario is especially apropos a stele inscription, i.e. “they write” ~ “they have written (and may it stay written)”. If that were true, then

either *puwe-* (Text 44c, 9-10) represents a persistence of the base for this creation, or, as to me seems more likely, it is a spelling alternate.

While I feel *ppuwe-* represents the best case for Heubeck's (1985) syncopated reduplicant, as to further evidence among Lycian stems, there are no smoking guns (cf. 5.2.2. for what follows).

The stem *hhati* next to simplex *hāti* (< *ha-* "to release") shows no functional or contextual distinction. There is no rhyme or reason to usage of geminate infinitive *ttāne* / *ttāne* versus the simplex of *ta-* "to put". That the geminate infinitive occurs with preverb *hrppi* is inconsequential, as the same preverb is found with many instances of the non-geminate finite verb. Lycian *ttiti* may or may not be a word equation with Milyan *kikiti* (Hajnal 1995: 156ff.)—there isn't enough evidence, and the facts of *ttāne* make the reality of /tt-/ uncertain. We do however have sure examples of verbal reduplication in Lycian, namely *pibije-* "to give" and *pabra-*, *pabla-*; whatever the exact meaning for the latter, these forms fit perfectly well into the expected productive process that so clearly dominates Luvian and Hittite, typologically trivial copy vowel reduplication, with accented reduplicant.

6.7.2. We have in Hittite two matching hapax legomena, *waltiwaltiske-* and *partipartiske-*, of uncertain analysis. The former is attested *waltiwalti(škezzi)* (KUB 60.66 Vo 2), sense unknown. The latter is attested as *pár-ti-pár-ti-is-ke-ez-zi* (KUB 17.3 iii) (NS), sense unknown. For the latter, the CHD, following Oettinger (1979: 376, n. 243), compares *partai-* in KUB 12.58 i 31 (NH): *namma* <sup>MUNUS</sup>ŠU.[GI SÍ ZA.GÌN] SÍG SA<sub>5</sub> *dāi n=at pá-r-ta-a-iz-[-zi]*, “then the Old Woman takes [the blue wool] and the red wool and unravels(?) it.” Needless to say, such a connection is uncertain. If it were real it might suggest *partipartiske-* is a full stem reduplication of a denominative in *-āi-*, but there is no other evidence for full stem reduplication, unless *halihli-* is to be taken that way, though I have argued for taking it with *wariwar-*. It’s also possible that the reduplication is a result of reanalysis of the anaptyctic */i/* preceding the suffix *-ske-*, under the influence of the *wariwar-* pattern. In principle it’s also possible they simply are intensives of the *wariwar-* type (*\*walt-i-walt-* & *\*part-i-part-*) inappropriately reinforced with *-ske-* (as the imperfective suffix does not encode intensity). In that scenario speakers had come to view any type of reduplication as a target for *-ske-* renewal, and the sense of *-ske-* wasn’t redundant as it was for a multitude of reduplicated stems in Hittite. However, if not redundant it need not have been a mechanical renewal, but alternatively carried the expected sense of *-ske-*, e.g. “keep on seriously walt-ing that guy; begin to really walt; really walt that and that and that” or the like.

6.7.3. Finally, n.b. that the stems *tatrahh-* “to incite” and *paprahh-* “to defile” (and related verbal stems *papre-* “be polluted, proven guilty” and *papress- / paprass-* “become guilty, polluted”) are denominative, and do not reflect a verbal reduplication pattern \* C<sub>0</sub>-CC-, but can for Hittite be traced to the adjectives *tatrant-* “agitated (cow); sharp (stone)” and *paprant-* “unclean”, respectively. We can infer unattested *\*papra-* next to *paprant-* via the “individualizing” *-nt-* suffix, in the way that *marsa-* “unfit; false” is found beside *marsant-* “idem”. It is then plausible to assume a similar *\*tatra-* as well, perhaps built after *\*papra-*. The verbal derivation of *tatrahh-* from *tarh-* “to conquer” put forth by Gamkrelidze & Ivanov (1995: 266), is formally impossible, since the root is actually *tarhu-*, as shown by Kloekhorst (2008: 836-838, 857). Following Kronasser (apud Neu 1991: 203), who connected *\*papra-* with Skt. *babhrú-* “brown”, Puhvel also compares words for “beaver” (OE *beofor*, Lith. *bėbras, bėbrus*, Russ. *bobr*, et al.) apropos a case for pejoration of the Hittite (2011: 105-106). Deriving the Hittite complex from “brown” seems correct, but with respect to Puhvel, we need not besmirch the poor beaver, as “brown” can deteriorate perfectly well on its own.

6.8. Since the organization of the chapter summarizes well the distribution and frequency of each type of Anatolian verbal reduplication, we shall instead mark the highlights and address the implications of the evidence presented above in the concluding chapter.

## Chapter 7. Conclusions

Let us now summarize the facts of Anatolian reduplication, making a few observations of interest along the way. Rather than pepper the discussion with numerals, I make global reference to the fuller entries of pertinent verbal stems both in the formal chapter and to the functional profiles as well.

### 7.1. The Function of Anatolian Verbal Reduplication

7.1.1. We have now conclusively demonstrated what has been for a long time only suspected or asserted (Hoffner/Melchert 2008: 174 with refs.), namely, productive Anatolian verbal reduplication (partial copy vowel and /i/-reduplication) shows the usual range of imperfective and pluractional meanings well-attested cross-linguistically: durative Hitt. *pariparanzi*; habitual Hitt. *kikkistari*; iterative Hitt. *tittanuanzi* (in the sense “pile up”); repetitive, Lyc. *pibijeti*; distributive Hitt. *lilahui*; inchoative or intensive Hitt. *nanakuszi*. The one sure example of a paired synchronic stem with /e/-reduplication also fits this pattern—repetitive and iterative Hitt. *wewakk-*.

7.1.2. Closer to the iconic force of this easily recreated morphological process, we also find plenty of unpaired stems that are “expressive” or sound-imitative, almost all of which show full root reduplication: Hitt. *kuaskuaszi* “he squashes”, Hitt. *tastasiyaizzi* “he whispers”, but Hitt. *hahharasta* “he laughed”.

7.1.3. Evidence is limited for an intensive value with full root reduplication with or without “linking” /i/, e.g. Hitt. *wariwar-* “to burn up” v. CLuv. *palpadi(ya)-* “to blaze”. The functional line between this type and the cases under 7.1.1. is blurry at times, but we might expect the semantics of the productive types to find their way into the more marginal forms of reduplication.

7.1.4. Among cases that stand out with respect to semantics are Hitt. *titta-* “to install, cause to stand” and *asās-/ases-* “to seat, settle”, where a transitivity use obtains, and Lyc. *ppuwe-* “to write, inscribe”, with a resultative sense. The former two display a different lexical valence than a majority of our stems, while the latter two also have formal peculiarities adding to their interest, so perhaps we should be unsurprised that the semantics differ from other synchronic reduplicated stems. But while the semantics of these three roots stands out in the Anatolian

schema, note that Gk. ἴστημι and Lat. *sistō* are transitives, and recall that the classical IE perfect is a resultative.

## 7.2. The Form of Anatolian Verbal Reduplication

7.2.1. In our formal chapter, we have shown sure evidence that it is partial copy vowel reduplication (CV-), with fixed accent on the reduplicant, that is the most productive synchronic pattern (40+ stems). For reduplication with fixed segmentism, /i/-reduplication (~10 stems) remains available, though not nearly as productive, to judge by HLuv. *pi-pa-sa-*, and /e/-reduplication persists in a handful of stems (~4-5)—hapax *le/ilakk-*, if to be read /lelak-/ and taken as an analogical creation to *wewakk-*, would be the only /e/-reduplicating stem made to a *hi-* verb. Intensives like *wariwar-*, for which we have made a case for four possible stems, of course exhibit hybrid full copy reduplication with fixed “linking” /i/. Full root copy reduplication, often “expressive” or sound imitative, and thus, also typologically trivial and synchronically unpaired, lies behind six Hittite stems and CLuv. *palpadiya-*, which, however, is intensive. In every stem that clearly marks accent it is always on the reduplicant (aside from ~1-2,

*asās- / ases- & ppuwe-*). The absence of plene spelling in the reduplicant is not in itself evidence against accent, especially in verbs of limited attestation, so long as we have some examples of plene spelling marking accent in the same type. For /i/-reduplication, the evidence for accent on the reduplicant is rather the consistent syncope of the root vowel, since \*/i/ in accented closed syllables does not lengthen (Melchert 1994: 131).

7.2.2. As elsewhere in Indo-European, reduplication as a process has been renewed. Since on the one hand, the vast majority of Anatolian reduplicated stems are clearly or likely reflect typologically trivial copy vowel reduplication, and on the other, Anatolian conjugations do not mesh with standard reconstructions of inherited reduplicative patterns (the standard reconstructions of /e/- and /i/- reduplicating presents show what would be *mi-* endings in Anatolian), I am of like mind with those who regard reduplication as a synchronic process continually subject to renewal, as demonstrated by Steriade for Attic reduplication (1982: 195ff.), and more recently by Keydana (2006: 62ff.). The fluidity underlying any state of change is quite clearly demonstrated in the moment, as it were, by Old Egyptian pluractional stems (cf. 2.6.4.). Indeed, the view that it is the process that changes rather than individual lexical items, returns to a vantage point assumed by none other than Brugmann (1892), who figured out long ago that

Lat. *sistō* “I (cause to) stand” is in fact the lectio difficilior in light of Latin perfects *stetī*, *spopondī*, et al., with a different and renewed reduplicative template.

7.2.3. Anatolian also follows the universal trend in renewing original PIE \*sV-sT- reduplication to \*sT- roots, either as \*sTV-sT-, e.g. Hitt. *isdusduske-* “to make evident” (cf. Gothic *ga-staistald* “I possessed”), or \*TV-sTV-, e.g. Luv. *hishiya-* “to bind” (cf. Vedic *tiṣṭhati*). We have a possible relic of \*sV-sT- of PIE date (but far from assured) in *sisd-* “to prosper(?)” (cf. Latin *sistō*), and one showing likely Proto-Anatolian \*sV-sT-, *sisha-* “to decide, appoint”; both are synchronically unpaired in Hittite and eschew the productive pattern of reduplicating /sT-/ onsets. That all daughter languages show evidence for a new reduplicative pattern disfavoring \*sV-sT- is illustrated and accounted for by a general phonological dispreference for the sequence under a “Poorly-Cued Repetition Principle” advanced by Zukoff (paper presented at the Harvard Indo-European Workshop, 3/5/2015).

7.2.4. There are a number of full root reduplicated stems that are predictably used in a sound-imitative sense, and at least one, Hitt. *hulhuliy-* whose force is unclear, which may however be denominative, and one Luv. *palpadiya-*, which is intensive. The other type exhibiting full root

reduplication is the “intensive” with descriptively connective /i/, of which *wariwar-* is the exemplar. Of the roots that employ this template, at least one, *kun(n)ikunk-* is not intensive, but repetitive, yet this is expected from its lexical semantics, “to sway”, an effect mirrored in Ved. *ganīgam-* (< “to come”), which is also repetitive in use. Either this type is an inheritance and matches the Vedic, or they are both independent creations, which I find to be the most likely explanation (refer to the discussions throughout 6.6., especially 6.6.4. ¶13).

7.2.5. Hittite shows a handful of examples with fixed /e/-reduplication. While I have been cautious in reconstructing the accepted template for forms like *wewakk-* and *mema-* as Cé-CoC- presents (cf. LIV<sup>2</sup>), strictly speaking, the Anatolian evidence is also compatible with a shape Cé-CeC-, i.e. IE copy vowel reduplication. Plugging in /e/ for /o/ for the root vowel, we would expect in the first instance an alternating paradigm Cé-CiC-C ~ Cé-CaC-V, with \*/é/ > /ē/ (Melchert 1994: 133), \*/e/ > /i/ in posttonic closed syllables (ibid. 139), and \*/e/ > /a/ in posttonic open syllables (ibid. 137). It is then reasonable to assume that speakers leveled this irregularity after the 3 sg. (Watkin’s Law, cf. Watkins 1962: 96), Cé-CaC-e, following the evidence (6.3) that all /e/-reduplicated verbs were of the *hi-* conjugation (apart from middle *lelaniya-*). In this

scenario, *lelaniya-* would have been created after the others of this class (as is probable for *lelakk-*), otherwise under the operation of normal sound laws we would expect *\*lēlinye- < \*lé-len-ye-*. We do need to comment on the implications for 3 sg. *mēmāi*, for which we proposed an immediate preform *\*mé-moy-ei*. Leaving aside the root etymology, a preform *\*mé-mey-ei* would have yielded *\*mēmē*, an absolute aberration in the Hittite verbal system, and would have been remodeled in the 3<sup>rd</sup> sg. after the dominant *dāi* pattern (there exists only one word in Hittite with final */ē/*, *utnē* “country”). The existence of Cé-CeC- for PIE, is of course, controversial, belief in which can be indicated by reconstructing *\*dʰé-dʰeh<sub>1</sub>-tí* “(s)he puts” as the preform to Ved. *dádhātí* (idem), as followed by both Jasanoff (most recently, to appear, 15) and Ringe (2006: 28), without comment. Typologically, this is appealing, as it would reflect a PIE copy vowel reduplicative template; under the uniformitarian principle it would be dubious to reconstruct all PIE reduplicating patterns as reflecting fixed segmentism, when we have clearly shown that copy vowel reduplication is the most trivial and easily reproduced process.

7.2.6. The evidence presented shows that */i/-*reduplication, which shows the greatest number of forms for a type with fixed segmentism in Anatolian, is at least moderately productive, cf. HLuv. *pi-pa-sa-*. To return to our case for the *\*Cé-CeC-* pattern: for Hittite, of course, the

*\*d<sup>h</sup>eh<sub>1</sub>-* root shows /i/-reduplicating *titta-*, but that fact need not be insurmountable if we return to the idea of Hill & Frotscher (2012) and Sandell (2011) (and before, Watkins (1969: 36), Rasmussen (1997: 252ff.), and Hirt (1900: 190-193)) that /e/-reduplicating and /i/-reduplicating presents were in fact originally part of the same paradigm. Daughter languages had a number of strategies available to them to repair this allomorphy, with some generalizing /i/-reduplication, e.g. Greek τίθημι, and others /e/-reduplication, e.g. Vedic *dádhāti*, for the whole paradigm. If you follow the etymologies given in the formal chapter, then I believe Proto-Anatolian chose yet another strategy, one based on root shape—it selected the Cí-CC- allomorph for roots ending in a laryngeal (at a time when still salient), and the Cé-CeC- template elsewhere. That choice is reflected in *wewakk-*, *lelaniya-*, *mema-*, and perhaps indirectly, *le/ilakk-* for Cé-CeC-, and *titta-*, *lilhuwa-*, *tith-*, *pippa-*, *mimma-*, and *sisha-* for Cí-CC-. We need not invalidate what all other evidence suggests for Anatolian on what may simply be a coincidental similarity of Hitt. *mimma-* to Gk. μίμνω, the latter form figuring prominently into what theory one subscribes to for the history of the thematic conjugation (beyond our present scope). As indicated, *sisha-* was captured by this generalization, but *sisd-* must have been so isolated even at the time Proto-Anatolian repaired the paradigmatic inconsistency that it was not targeted, its obvious lexicalization and *mi-* conjugation (unique among /i/-reduplicating presents) speak to this

possibility. Finally, n.b. that while PIE /i/- and /e/-reduplication are typically reconstructed with what would have been *mi*- endings from an Anatolian perspective, all of our best evidence shows instead that both types conjugated according to the *hi*- class; I leave it up to another investigator to fully explore the implications of this fact.

7.2.7. Finally, there is one suggestive Lycian form, *ppuwe*-, interpretable as a resultative, in a manner following the new Jasanoff theory (to appear). Rather than restate our take on the verb, c.f. 6.7.1. for full discussion. For the status of Lycian geminate onsets as representative of reduplicated stems, cf. both 6.7.1. and 6.4.9.

7.2.8. We have now shown that for the majority of Anatolian reduplicated stems we definitely have or can plausibly infer typologically common reduplicative semantics. The bulk of Anatolian stems show that partial copy vowel reduplication, typologically trivial, is the most productive, and furthermore, that it is accented on the reduplicant. There are, however, interesting facts that have come to light during the course of our investigation that I believe warrant further research. The stem *asās-/ases-* (< “to sit”) is unique among Hittite reduplicated verbs in showing accent on the root, and, given its unusual transitivity semantics vis-à-vis the rest of Hittite stems

(again paralleled only in *titta-* (< “to stand”), which nevertheless shows expected accentuation), I believe we have yet to determine whether the formal facts point to an anomaly of accentuation, tell of the emergence of a new type of Hittite reduplication, or point to relics of long-gone reduplicative patterns (though I believe the last the most unlikely). Related to the issue of the emergence of new reduplicative patterns in Anatolian is the status of Lycian *ppuwe-*, which, as stated above, is the best candidate for true evidence of a syncopated reduplicant à la Heubeck (1985). We may yet find more Lycian attestations, or come to a better understanding of what we already possess, in answering the ultimate status of Lycian geminate onsets in general, and *ppuwe-* in particular. I have expressed my belief that Anatolian restricted /i/-reduplication to roots that historically ended in a laryngeal—the synchronic distribution certainly supports this. If indeed the Anatolian evidence reflects a Proto-Anatolian root-based constraint, then this has implications for theories that assume PIE /e/- and /i/-reduplicated presents belonged to the same paradigm. Furthermore, that Anatolian /e/- and /i/-reduplicated stems also inflect according to the *hi-* conjugation has ramifications for both this theory, and the general history of the IE verb. Finally, if /e/-reduplicating forms such as *wewakk-* and *mema-* are in fact to be thought of as reflecting a Cé-CeC- template, as I believe, and not Cé-CoC-, then this must also be explored in situating Proto-Indo-European within the universal typology of reduplication, and

has the potential to reinforce arguments for the reality of our reconstructions under the uniformitarian principle. If indeed *wewakk-* et al. are to Cé-CeC-, and Cí-CC- is ultimately from the same paradigm, then Anatolian effectively shows only synchronic copy reduplication and the diachronic descendants of former copy reduplication. Taken individually, each of these proposals is far from assured, and together they are downright controversial, but it is the hope of this author that further research into these topics will conclusively answer these questions.

## Bibliography

- Adelaar, K. Alexander. 2000. "Siraya Reduplication." *Oceanic Linguistics* 39.1, 33-52.
- Alp, Sedat. 1991. *Hethitische Keilschrifttafeln aus Maşat-Höyük*. Atatürk Kültür, Dil ve Tarih Yüksek Kurumu, Türk Tarih Kurumu Yayınları VI/35. Ankara: Türk Tarih Kurumu.
- Applegate, Richard B. 1972. *Iniseño Chumash Grammar*. Ph.D. dissertation, University of California, Berkeley.
- . 1976. "Reduplication in Chumash." *Hokan Studies*. ed. Margaret Langdon and Shirley Silver. 271-283. The Hague: Mouton.
- Bawanypeck, Daliah. 2005. *Die Rituale der Auguren*. Heidelberg: Winter.
- Beckman, Gary M. 1983. *Hittite Birth Rituals*. Studien zu den Boğazköy-Texten 29. Wiesbaden: Harrassowitz.
- . 1990. "The Hittite 'Ritual of the Ox' (CTH 760.I.2-3)." *Orientalia* 59, 34-55.
- . 1999. *Hittite Diplomatic Texts*, 2<sup>nd</sup> ed. *Society of Biblical Literature Writings from the Ancient World Series 7*. Atlanta: Scholars Press.
- Beckwith, Miles. 1994. "Greek ἠῦρον, Laryngeal Loss and the Greek Reduplicated Aorist." *Glotta* 72.1/4, 24-30.
- Bendjaballah, Sabrina and Chris H. Reintges. 2009. "Ancient Egyptian verbal reduplication: typology, diachrony, and the morphology-syntax interface." *Morphology* 19, 135-159.
- Berlin, Brent. 1963. "Some Semantic Features of Reduplication in Tzeltal." *International Journal of American Linguistics* 29.3, 211-218.

- Blevins, Juliette. 1996. "Mokilese Reduplication." *Linguistic Inquiry* 27.3, 523-530.
- . 2008. "Phonetic Explanation without Compromise: The Evolution of Mussau Syncope." *Diachronica* 25.1, 1-19.
- Blust, Robert. 1998. "Ca- Reduplication and Proto-Austronesian Grammar." *Oceanic Linguistics* 37.1, 29-64.
- . 2007. "Disyllabic Attractors and Anti-antigemination in Austronesian Sound Change." *Phonology* 24.1, 1-36.
- Brugmann, Karl. 1892. *Grundriß der vergleichenden Grammatik der Indogermanischen Sprachen*, Vol. II, Part II. Straßburg: Karl J. Trübner.
- Buck, Carl Darling. 1949. *A Dictionary of Selected Synonyms in the Principal Indo-European Languages: A Contribution to the History of Ideas*. Chicago: University of Chicago Press.
- Bunnens, Guy. 2006. *A New Luwian Stele and the Cult of the Storm-God at Til Barsib-Masuwari*. Publications de la Mission archéologique de l'Université de Liège en Syrie. TELL AHMAR II. Louvain/Paris/Dudley, MA: Peeters.
- Chang, M. Laura. 1998. "Thao Reduplication." *Oceanic Linguistics* 37.2, 277-297.
- Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge University Press.
- Cowgill, Warren. 1979. "Anatolian *hi*-Conjugation and the Indo-European Perfect." *Hethitisch und Indogermanisch. Vergleichende Studien zur historischen Grammatik und zur dialektgeographischen Stellung der indogermanischen Sprachgruppen Altkleinasiens*. ed. Erich Neu and Wolfgang Meid. 25-39. Innsbruck: Innsbrucker Beiträge zur Sprachwissenschaft.
- Cusic, David. 1981. *Verbal Plurality and Aspect*. Ph.D. dissertation, Stanford University.

- Dardano, Paola. 2006. *Die hethitischen Tontafelkataloge aus Hattuša (CTH 276–282)*. Studien zu den Boğazköy-Texten 47. Wiesbaden: Harrassowitz.
- Downing, Laura J. 2005. "The Emergence of the Marked: Tone in some African reduplicative systems." *Studies on Reduplication*. ed. Bernhard Hurch. 89-110. Berlin: Mouton de Gruyter.
- Dressler, Wolfgang U., Katarzyna Dziubalska-Kołaczyk, Natalia Gagarina and Marianne Kilani-Schoch. 2005. "Reduplication in Child Language." *Studies on Reduplication*. ed. Bernhard Hurch. 455-474. Berlin: Mouton de Gruyter.
- Eichner, Heiner. 1973. "Die Etymologie von heth. *mēhur*." *Münchener Studien zur Sprachwissenschaft* 31, 53-107.
- . 1975. "Die Vorgeschichte des hethitischen Verbalsystems." *Flexion und Wortbildung. Akten der V. Fachtagung der Indogermanischen Gesellschaft. Regensburg 9. – 14. September 1973*. ed. H. Rix. 71-103. Wiesbaden: Reichert.
- . 1981. "Indogermanische Chronik 27a: Anatolisch." *Die Sprache* 27, 57-68.
- Erteschik-Shir, Nomi and Tova Rapoport (eds.). 2005. *The Syntax of Aspect. Deriving Thematic and Aspectual Interpretation*. Oxford Studies in Theoretical Linguistics 10. Oxford: Oxford University Press.
- Frampton, John. 2009. *Distributed Reduplication*. Cambridge: MIT Press.
- Friedrich, Johannes. 1966. *Hethitisches Wörterbuch*, 3 Ergänzungsheft. Heidelberg: Winter.
- Friedrich, Johannes, Annelies Kammenhuber and Inge Hoffmann. 1975ff. *Hethitisches Wörterbuch*, 2<sup>nd</sup> ed. Indogermanische Bibliothek. 2. Reihe: Wörterbücher. Heidelberg: Winter.

- Gamkrelidze, Thomas V. and Vjacheslav V. Ivanov. 1995. *Indo-European and the Indo-Europeans. A Reconstruction and Historical Analysis of a Proto-Culture. Part I: The Text. Part II: Bibliography, Indexes.* Trends in Linguistics. Studies and Monographs 80. Berlin/New York: Mouton de Gruyter.
- García Ramón, José Luis. 2010. "On Hittite Verbs of the Type *mimma*-*bbi*'refuse': *Aktionsart* and Aspect in Indo-European Reconstruction." *Ex Anatolia Lux. Anatolian and Indo-European Studies in honor of H. Craig Melchert on the occasion of his sixty-fifth birthday.* ed. Ronald Kim, Norbert Oettinger, Elisabeth Rieken and Michael Weiss. 40-54. Ann Arbor: Beech Stave.
- Garrett, Andrew. 2001. "Reduplication and Infixation in Yurok: Morphology, Semantics, and Diachrony." *International Journal of American Linguistics* 67.3, 264-312.
- Goetze, Albrecht. 1930. *Verstreute Boghazköi-Texte.* Marburg an der Lahn: A. Goetze.
- Gil, David. 2005. "From repetition to reduplication in Riau Indonesian." *Studies on Reduplication.* ed. Bernhard Hurch. 31-64. Berlin: Mouton de Gruyter.
- Giorgieri, M. 2000. "Schizzo grammaticale della lingua hurrica." *La Civiltà dei Hurriti. La Parola del passato: Rivista di studi antichi* 55. 171-277. Napoli: Macchiaroli.
- Giusfredi, Federico. 2009. "Luwian *puwa*- and cognates." *Historische Sprachforschung* 122, 60-66.
- Güterbock, Hans G., Harry A Hoffner, Jr. and Theo P.J. van den Hout. 1989—. *The Hittite Dictionary of the Oriental Institute of the University of Chicago.* Chicago: The Oriental Institute of the University of Chicago. <http://ochre.lib.uchicago.edu/eCHD/> (eCHD)
- Haji-Abdolhosseini, Mohammed, Diane Massam and Kenji Oda. 2002. "Verbal Reduplication in Niuean." *Oceanic Linguistics* 41.2, 475-492.

- Hajnal, Ivo. 1995. *Der lykische Vokalismus. Methode und Erkenntnisse der vergleichenden anatolischen Sprachwissenschaft, angewandt auf das Vokalsystem einer Kleincorpussprache (LV)*. Graz: Leykam.
- . 1999. "Vergleichende Rekonstruktion im Wandel. Vom Paradigma zur Funktion, vorgesehen für: Akten des Gyarmathi-Symposiums, Göttingen, 19.-21. November 1999." [http://www.uibk.ac.at/sprachen-literaturen/sprawi/pdf/Hajnal/b37\\_vergleichende\\_rekonstruktion.pdf](http://www.uibk.ac.at/sprachen-literaturen/sprawi/pdf/Hajnal/b37_vergleichende_rekonstruktion.pdf)
- Harley, Heidi and Maria Florez Leyva. 2009. "Form and Meaning in Hiaki (Yaqui) Verbal Reduplication." *International Journal of American Linguistics* 75.2, 233-272.
- Hawkins, John David. 2000. *Corpus of Hieroglyphic Luwian Inscriptions, Volume I: Inscriptions of the Iron Age. Parts 1, 2, and 3*. Studies in Indo-European Language and Culture, 8.1-3. Berlin/New York: Walter de Gruyter.
- Heubeck, Alfred. 1985. "Konsonantische Geminaten im lykischen Wortanlaut." *Zeitschrift für vergleichende Sprachforschung* 98.1, 36-46.
- Hill, Eugen and Michael Frotscher. 2012. "The Accentuation of Old Indic Reduplicated (3<sup>rd</sup> Class) Presents." *The Indo-European Verb. Proceedings of the Conference of the Society for Indo-European Studies, Los Angeles 13–15 September 2010*. ed. H. Craig Melchert. 105-114. Wiesbaden: Reichert.
- Hirt, Herman. 1900. *Der indogermanische Ablaut, Vornehmlich in seinem Verhältnis zur Betonung*. Straßburg: Karl J. Trübner.
- Hoffner, Harry A. Jr. 1997. *The Laws of the Hittites: A Critical Edition*. Documenta et Monumenta Orientis Antiqui 23. Leiden: Brill.
- . 1998. *Hittite Myths*, 2<sup>nd</sup> ed. Atlanta, GA: Scholars Press.
- . 2009. *Letters from the Hittite Kingdom*. Atlanta, GA: Society of Biblical Literature.

- Hoffner, Harry A., Jr. and H. Craig Melchert. 2008. *A Grammar of the Hittite Language*. Winona Lake, IN: Eisenbrauns.
- Hrozný, Bedřich. 1917. *Die Sprache der Hethiter*. Leipzig: Hinrichs.
- Huehnergard, John. 2005. *A Grammar of Akkadian*, 2<sup>nd</sup> ed. *Harvard Semitic Museum Studies* 45. Winona Lake, IN: Eisenbrauns.
- Inkelas, Sharon and Cheryl Zoll. 2005. *Redplication. Doubling in Morphology*. Cambridge: Cambridge University Press.
- Jamison, Stephanie and Joel P. Brereton. 2014. *The Rigveda. The Earliest Religious Poetry of India*. New York: Oxford University Press.
- Jasanoff, Jay. 1994. "Aspects of the Internal History of the PIE Verbal System." *Früh-, Mittel-, Spätindogermanisch. Akten der IX. Fachtagung der indogermanischen Gesellschaft*. ed. George Dunkel, et al. 149-167. Wiesbaden: Reichert.
- . 2003. *Hittite and the Indo-European Verb*. Oxford: Oxford University Press.
- . 2007. "From Reduplication to Ablaut: the Class VII Strong Verbs of Northwest Germanic." *Historische Sprachforschung* 120, 241-284.
- . 2010. "Lycian *sttati* 'stands'." *Investigationes Anatolicae: Gedenkschrift für Erich Neu*. Studien zu den Boğazköy-Texten 44. ed. Jörg Klinger, Elisabeth Rieken and Christel Rüster. 143-152. Wiesbaden: Harrassowitz.
- . 2012. "The prehistory of the thematic aorist." Paper given at the 31<sup>st</sup> East Coast Indo-European Conference, Berkeley, CA, 18 May.
- . to appear. "The prehistory of the IE perfect: A contribution to the theory of the *h<sub>2</sub>e-conjugation*."

- Kammenhuber, Annalies. 1954. "Studien zum hethitischen Infinitivsystem III." *Mitteilungen des Instituts für Orientforschung* 2, 403-444.
- Keydana, Götz. 2006. "Die Indogermanische Perfektreduktion." *Folia Linguistica Historica* 27, 61-116.
- Kimball, Sarah. 1987. "Initial *\*h<sub>1</sub>s-* in Hittite." *Studies in Memory of Warren Cowgill (1929-1985). Papers from the Fourth East Coast Indo-European Conference. Cornell University, June 6-9, 1985.* ed. Calvert Watkins. 160-181. Berlin/New York: Walter de Gruyter.
- Kiyomi, Setsuko and Stuart Davis. 1992. "Verb Reduplication in Swati." *African Languages and Cultures* 5.2, 113-124.
- Kloekhorst, Alwin. 2006. "Hittite *pai-* / *pi-* 'to give'." *Indogermanische Forschungen. Zeitschrift für Indogermanistik und allgemeine Sprachwissenschaft* 111, 110-119.
- . 2007. "The Hittite Syllabification of PIE *\*CuR* and *\*K<sup>w</sup>R*." *Tabula Hethaeorum. Hethitologische Beiträge Silvin Košak zum 65. Geburtstag. Dresdner Beiträge zur Hethitologie* 25. ed. D. Grodek and M. Zorman. 455-457. Wiesbaden: Harrassowitz.
- . 2008. *Etymological Dictionary of the Hittite Inherited Lexicon*. Leiden Indo-European Etymological Series. Leiden/Boston: Brill.
- Kluge, Friedrich. 1881. *Etymologisches Wörterbuch der deutschen Sprache*. Straßburg: Karl J. Trübner.
- Kölligan, Daniel. 2004. "Wenn zwei dasselbe tun: Iterativa und Kausativa." *Indogermanistik - Germanistik - Linguistik. Akten der Arbeitstagung der Indogermanischen Gesellschaft, Jena 18.-20.09.2002*. Philologia. Sprachwissenschaftliche Forschungsergebnisse 63. ed. M. Kozińska, R. Lühr and S. Zeilfelder. 193-247. Hamburg: Verlag Dr. Kovač.

———. 2007. "Iteratives and causatives in Latin: a unified approach." *Greek and Latin from an Indo-European Perspective*. Proceedings of the Cambridge Philological Society, Suppl. Vol. 32. ed. C. George, M. McCullagh, B. Nielsen, A. Ruppel, and O. Tribulato. 49-64. Cambridge: Cambridge University Press.

Košak, Silvin. 1982. *Hittite Inventory Texts: (CTH 241-250)*. Heidelberg: Winter.

Laroche, Emmanuel. 1965. *Textes mythologiques hittites en transcription. Première Partie. Mythologie anatolienne*, RHA 23. 61-178.

Leroy, Marie and Aliyah Morgensten. 2005. "Reduplication before two years old." *Studies on Reduplication*. ed. Bernhard Hurch. 478-494. Berlin: Mouton de Gruyter.

LIV<sup>2</sup> = Rix, Helmut, ed. 2001. *Lexikon der indogermanischen Verben*, 2<sup>nd</sup> ed. Wiesbaden: Reichert.

Loprieno, Antonio. 1995. *Ancient Egyptian: A Linguistic Introduction*. Cambridge: Cambridge University Press.

Macaulay, Monica. 1993. "Reduplication and the Structure of the Karuk Verb Stem." *International Journal of American Linguistics* 59.1, 64-81.

Malone, Joseph L. 1997. "On Reduplication in Ojibwa." *Anthropological Linguistics* 39.3, 437-458.

Marazzi, Massimiliano. 1990. *Il geroglifico anatolico: problemi di analisi e prospettive di ricerca*. Biblioteca di ricerche linguistiche e filologiche 24. Roma: Dipartimento di studi glottoantropologici, Università "La sapienza."

Mayrhofer, Manfred. 1986. *Indogermanische Grammatik*, Band I: *Lautlehre*. Heidelberg: Winter.

- McCarthy, John J. and Alan Prince. 1995. "Faithfulness and reduplicative identity." *Papers in Optimality Theory. University of Massachusetts Occasional Papers* 18. ed. Jill Beckman, Laura Walsh Dickey and Suzanne Urbanczyk. 249-384. Amherst, MA: Graduate Linguistics Student Association.
- Melchert, H. Craig. 1979. "Three Hittite Etymologies." *Zeitschrift für Vergleichende Sprachforschung*, 93.2, 262-271.
- . 1984a. Review of J. Weitenberg, *Die hethitischen u-Stämme*. *Kratylos* 29, 79-82.
- . 1984b. *Studies in Hittite Historical Phonology*. Göttingen: Vandenhoeck & Ruprecht.
- . 1988. "Luvian Lexical Notes." *Historische Sprachforschung*, 101.2, 211-243.
- . 1993. *Cuneiform Luvian Lexicon (CLL)*. Chapel Hill: H. Craig Melchert.
- . 1994. *Anatolian Historical Phonology (AHP)*. Leiden Studies in Indo-European 3. Amsterdam/Atlanta: Rodopi.
- . 1997. "Traces of a PIE Aspectual Contrast in Anatolian?" *Incontri Linguistici* 20, 83-92. Pisa/Roma: Istituti Editoriali e Poligrafici Internazionali.
- . 2002. "A Hittite Fertility Rite?" *Akten des IV. internationalen Kongresses für Hethitologie. Würzburg 4.-8. Oktober 1999*. Studien zu den Boğazköy-Texten 45. ed. G. Wilhelm. 404-409. Wiesbaden: Harrassowitz.
- . 2004. *A Dictionary of the Lycian Language (DLL)*. Ann Arbor/New York: Beech Stave.
- . 2011. "The PIE Verb for 'to pour' and Medial *\*h<sub>3</sub>* in Anatolian." *Proceedings of the 22<sup>nd</sup> UCLA Indo-European Conference*. ed. S. W. Jamison, H. C. Melchert, and B. Vine. 127-132. Bremen: Hempen.

- . 2012. "Hittite *hi*-Verbs of the Type *-āC<sub>1</sub>i*, *-aC<sub>1</sub>C<sub>1</sub>anzi*." *Indogermanische Forschungen* 117, 173-185.
- . 2014a. "'Narten formations' versus 'Narten roots'." *Indogermanische Forschungen* 119, 251-258.
- . 2014b. "Anatolian Stems in *\*(C)o-*." *Das Nomen im Indogermanischen. Morphologie, Substantiv versus Adjektiv, Kollektivum. Akten der Arbeitstagung der Indogermanischen Gesellschaft vom 14. bis 16. September 2011 in Erlangen.* ed. Norbert Oettinger and Thomas Steer. 205-214. Wiesbaden: Reichert.
- . to appear. "Hittite *ti(ta)nu-*, *titti-*, and Lycian *stta-*." *Studia Indogermanica Lodziensia*.
- . to appear<sup>2</sup>. "Hittite and Luvian *uppa-* and Hittite *uiya-*."
- . forthcoming. "Three New Luvian Verb Etymologies."
- Morpurgo Davies, Anna. 1987. "'To put' and 'to stand' in the Luwian languages." *Studies in Memory of Warren Cowgill (1929-1985). Papers from the Fourth East Coast Indo-European Conference. Cornell University, June 6-9, 1985.* ed. Calvert Watkins. 205-228. Berlin/New York: Walter de Gruyter.
- Neu, Erich. 1968. *Interpretation der hethitischen mediopassiven Verbalformen.* Studien zu den Boğazköy-Texten 5. Wiesbaden: Harrassowitz.
- . 1980. *Althethitische Ritualtexte im Umschrift.* Studien zu den Boğazköy-Texten 25. Wiesbaden: Harrassowitz.
- . 1991. "Hethitische Etymologien aus dem Nachlaß Heinz Kronassers." *Studia Etymologica Indoeuropaea. Memoriae A.J. Van Windekens dicata.* Orientalia Lovaniensia Analecta. ed. L. Isebaert. 201-210. Louvain: Peeters Press.

- . 1996. *Das Hurritische Epos der Freilassung I. Untersuchungen zu einem hurritisch-hethitischen Textensemble aus Hattuša*. Studien zu den Boğazköy-Texten 32.
- Neumann, Günter. 1978. "Spätluwische Namen." *Zeitschrift für vergleichende Sprachforschung* 92, 126-131.
- Niepokuj, Mary. 1997. *The Development of Verbal Reduplication in Indo-European*. Washington: Institute for the Study of Man.
- Odden, David and Mary Odden. 1985. "Ordered reduplication in Kihehe." *Linguistic Inquiry* 16.3, 497-503.
- Oettinger, Norbert. 1976. *Die Militärischen Eide der Hethiter*. Studien zu den Boğazköy-Texten 22. Wiesbaden: Harrassowitz.
- . 1979. *Die Stammbildung des hethitischen Verbums*. Erlanger Beiträge zur Sprach- und Kunstwissenschaft 64. Nürnberg: Hans Carl.
- . 2001. "Varia Hethitica." *Historische Sprachforschung* 114, 80-89.
- . 2004. "In den Fußspuren Emil Forrers: Die Diathese von indogermanisch *\*h<sub>1</sub>ēs-*, *\*h<sub>1</sub>es-* 'sitzen' und anderes." *Šarnikzel. Hethitologische Studien zum Gedenken an Emil Orgetorix Forrer (19.02.1894-10.01.1986)*. ed. Detlev Groddek and Sylvester Rößle. 487-494. Dresden: Technische Universität.
- . 2006. Review of Jasanoff 2003, *Hittite and the Indo-European Verb*. *Kratylos* 51, 34-45.
- . 2011. "Indogermanisch *\*h<sub>1</sub>es-* 'sitzen' und luwisch *asa[r]*." *Münchener Studien zur Sprachwissenschaft* 65, 167-169.
- Otten, Heinrich and Wolfram von Soden. 1968. *Das akkadisch-hethitische Vokabular Kbo I 44 + Kbo XIII 1*. Studien zu den Boğazköy-Texten 7. Wiesbaden: Harrassowitz.

- Palmer, Bill. 2007. "Imperfective Aspect and the Interplay of Aspect, Tense, and Modality in Torau." *Oceanic Linguistics* 46.2, 499-519.
- Piñon, Chris. 1991. "Falling in paradise: verbs, preverbs and reduplication in Hungarian." Public handout presented at the Syntax Workshop, 21 May, Stanford University.
- Pooth, Roland A. online draft. "Early Vedic underspecified verb semantics, polyconstructional syntax and its inner-Vedic specification: the verb *juṣ* (and its PIE prehistory\*)." [https://www.academia.edu/2272151/Early\\_Vedic\\_underspecified\\_verb\\_semantics...\\_the\\_verb\\_JUSH...\\_draft\\_](https://www.academia.edu/2272151/Early_Vedic_underspecified_verb_semantics..._the_verb_JUSH..._draft_)
- Puhvel, Jaan. 1984. *Hittite Etymological Dictionary. Volume 1/2. Words beginning with A (Vol. 1). Words beginning with E and I (Vol. 2)*. Berlin: Mouton de Gruyter.
- . 1991. *Hittite Etymological Dictionary. Volume 3. Words beginning with H*. Berlin: Mouton de Gruyter.
- . 1997. *Hittite Etymological Dictionary. Volume 4. Words beginning with K*. Berlin: Mouton de Gruyter.
- . 2001. *Hittite Etymological Dictionary. Volume 5. Words beginning with L*. Berlin: Mouton de Gruyter.
- . 2011. *Hittite Etymological Dictionary. Volume 8. Words beginning with PA*. Berlin: Mouton de Gruyter.
- Raimy, Eric. 2000. *The Phonology and Morphology of Reduplication*. Berlin: Mouton de Gruyter.
- Rasmussen, Jens E. 1997. "Processes of Grammaticalization in Indo-European Verbal Derivation." *Sound Law and Analogy. Papers in honor of R.S.P. Beekes on the occasion of his 60<sup>th</sup> birthday*. ed. Alexander Lubotsky. 249-262. Amsterdam/Atlanta: Rodopi.

- Rieken, Elisabeth. 1999. *Untersuchungen zur nominalen Stammbildung des Hethitischen*. Studien zu den Boğazköy-Texten 44. Wiesbaden: Harrassowitz.
- Riemschneider, Kaspar Klaus. 1970. *Babylonische Geburtsomina in hethitischer Übersetzung*. Studien zu den Boğazköy-Texten 9. Wiesbaden: Harrassowitz.
- Ringe, Don. 2006. *From Proto-Indo-European to Proto Germanic. A Linguistic History of English, Volume I*. Oxford: Oxford University Press.
- Risch, Ernst. 1975. "Zur Entstehung des hethitischen Verbalparadigmas." *Flexion und Wortbildung. Akten der V. Fachtagung der Indogermanischen Gesellschaft. Regensburg 9. – 14. September 1973*. ed. H. Rix. 247-258. Wiesbaden: Reichert.
- Rose, Sharon. 2003. "Triple Take: Tigre and the case of internal reduplication." *San Diego Linguistics Papers* 1, 109-128.
- Rubino, Carl. 2005. "Reduplication: Form, function and distribution." *Studies on Reduplication*. ed. Bernhard Hurch. 11-29. Berlin: Mouton de Gruyter.
- Sandell, Ryan. 2011. "The Morphophonology of Reduplicated Presents in Vedic and Indo-European." *Proceedings of the 22<sup>nd</sup> Annual UCLA Indo-European Conference*. ed. S. W. Jamison, H. C. Melchert, and B. Vine. 223-254. Bremen: Hempen.
- Schaefer, Christiane. 1994. *Das Intensivum im Vedischen*. Göttingen: Vandenhoeck & Ruprecht.
- Schürr, Diether. 2007. "Formen der Akkulturation in Lykien: Griechisch-lykische Sprachbeziehungen." *Griechische Epigraphik in Lykien. Eine Zwischenbilanz. Akten des Int. Kolloquiums München, 24.-26. Februar 2005*. ed. Christof Schuler. 27-40. Wien: Österreichische Akademie der Wissenschaften.
- Schuster, Hans-Siegfried. 1974. *Die hattisch-hethitischen Bilinguen. I. Einleitung. Texte, und Kommentar*. Leiden: Brill.

- Sibanda, Galen. 2004. *Verbal phonology and morphology of Ndebele*. Ph.D. dissertation, University of California, Berkeley.
- Siegelová, Jana. 1971. *Appu-Märchen und Hedammu-Mythus*. Studien zu den Boğazköy-Texten 14. Wiesbaden: Harrassowitz.
- Sihler, Andrew L. 1995. *New Comparative Grammar of Greek and Latin*. New York: Oxford University Press.
- Singer, Itamar. 2002. *Hittite Prayers*. Atlanta, GA: Society of Biblical Literature.
- Soysal, Oğuz. 2004. *Hattischer Wortschatz in hethitischer Textüberlieferung*. Leiden/Boston: Brill.
- Starke, Frank. 1985. *Die keilschrift-luwischen Texte im Umschrift*. Studien zu den Boğazköy-Texten 30. Wiesbaden: Harrassowitz.
- . 1990. *Untersuchungen zur Stammbildung des keilschrift-luwischen Nomens*. Studien zu den Boğazköy-Texten 31. Wiesbaden: Harrassowitz.
- Steriade, Donca. 1982. *Greek Prosodies and the Nature of Syllabification*. Ph.D. dissertation, Massachusetts Institute of Technology.
- Strauß, Rita. 2006. *Reinigungsrituale aus Kizzuwatna. Ein Beitrag zur Erforschung hethitischer Ritualtradition und Kulturgeschichte*. Berlin/New York: Walter de Gruyter.
- Sturtevant, Edgar. 1931. "Changes in Quantity Caused by Indo-Hittite *h*." *Language* 7, 115-124.
- . 1933. *A Comparative Grammar of the Hittite Language*. Philadelphia: Linguistics Society of America.

- Thurgood, Elzbieta. 1997. "Bontok Reduplication and Prosodic Templates." *Oceanic Linguistics* 36.1, 135-148.
- Tischler, Johann. 2004. *Hethitisches etymologisches Glossar, fasc. 13. S Part 1*. Innsbrucker Beiträge zur Sprachwissenschaft. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- Van Brock, Nadia. 1964. "Les thèmes verbaux à redoublement du hittite et le verbe indo-européen." *Revue Hittite et Asianique* 22, 119-165.
- van den Hout, Theo P. J. 1994. "Träume einer hethitischen Königin: KUB LX 97+?XXXI 71." *Altorientalische Forschungen* 21, 305-327.
- von Schuler, Einar. 1957. *Hethitische Dienstanweisungen. für höhere Hof- und Staatsbeamte. Ein Beitrag zum antiken Recht Kleinasiens*. Archiv für Orientforschung 10. ed. Ernst Weidner. Graz: E. Weidner.
- Watkins, Calvert. 1962. *Indo-European Origins of the Celtic Verb, Vol. I. The Sigmatic Aorist*. Dublin: Institute for Advanced Studies.
- . 1969. *Indogermanische Grammatik. Bd. III: Formenlehre. 1. Teil: Geschichte der Indogermanischen Verbalflexion*. Heidelberg: Winter.
- . 1973. "Hittite and Indo-European Studies: The Denominative Statives in *-ē-*." *Transactions of the Philological Society* 70.1, 51-93.
- . 1985. "Hittite and Indo-European Studies II." *Münchener Studien zur Sprachwissenschaft*, 45. 245-255.
- . 2003. "Hittite *ku-ku-uš-zi*, KUB 10.99 i 29." *Hittite Studies in Honor of Harry A. Hoffner, Jr. on Occasion of his 65<sup>th</sup> Birthday*. ed. G. Beckman, R. Beal and G. McMahon. 389-391. Winona Lake, IN: Eisenbrauns.

- . 2013. “Aspects of the ‘Expressive Dimension’ in Indo-European: Toward a Comparative Grammar of Speech Registers.” *Proceedings of the 24<sup>th</sup> Annual UCLA Indo-European Conference. Los Angeles. October 26<sup>th</sup> and 27<sup>th</sup>, 2012.* ed. Stephanie W. Jamison, H. Craig Melchert and Brent Vine. 243-253. Bremen: Hempen Verlag.
- Weiss, Michael. 2011. *Outline of the Historical and Comparative Grammar of Latin*, corrected reprint of 2009 1<sup>st</sup> ed. Ann Arbor/New York: Beech Stave.
- Willi, Andreas. 2007. “Of aspects, augments, aorists — or how to say to have killed a dragon.” *Greek and Latin from an Indo-European Perspective.* Proceedings of the Cambridge Philological Society, Suppl. Vol. 32. ed. C. George, M. McCullagh, B. Nielsen, A. Ruppel, and O. Tribulato. 34-48. Cambridge: Cambridge University Press.
- Yakubovich, Ilya. 2010. *Sociolinguistics of the Luvian Language.* Brill’s Studies in Indo-European and Linguistics 2. Leiden: Brill.
- . 2013. “Anatolian Names in *-wīya* and the Structure of Empire Luwian Onomastics.” *Luwian Identities. Culture, Language and Religion Between Anatolia and the Aegean.* ed. Alice Mouton, Ian Rutherford and Ilya Yakubovich. 87-123. Leiden/Boston: Brill.
- . online. *Annotated Corpus of Luwian Texts.* <http://web-corpora.net/LuwianCorpus/search/>
- Zeitoun, Elizabeth, Lillian M. Huang, Marie M. Yeh, Anna H. Chang, Joy J. Wu. “The Temporal, Aspectual, and Modal Systems of Some Formosan Languages: A Typological Perspective.” *Oceanic Linguistics* 35.1, 21-56.
- Zukoff, Sam. 2015. “Repetition Avoidance and the Exceptional Reduplication Patterns of Indo-European.” Paper presented at the Harvard GSAS Workshop on Indo-European and Historical Linguistics, Harvard University, March 4.  
[https://www.academia.edu/12155278/Repetition\\_Avoidance\\_and\\_the\\_Exceptional\\_Reduplication\\_Patterns\\_of\\_Indo-European](https://www.academia.edu/12155278/Repetition_Avoidance_and_the_Exceptional_Reduplication_Patterns_of_Indo-European)