The Semantics of Derived Verbs:
A New Look at Old Egyptian Morphology

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SYMBOLS AND ABBREVIATIONS

:	separable morpheme
~	reduplicated segment
#	number
*	unattested form
[ ]	phonetic values
1	first person
2	second person
3	third person
ABS	absolutive
ACC	accusative
ACT	active
ADJZ	adjectivizer
ANT	anterior
ANTIC	anticausative
APP	applicative
CAUS	causative
CONT	continuative
DU	dual
EGES	egestive
ERG	ergative
F	feminine
FOCZ	focalizer
GRND	ground

INGR	ingressive
IMP	imperative
IMPF	imperfective
INACT	inactive
INF	infinitive
INGS	ingestive
INTR	intransitive
ITER	iterative
M	masculine
MOT	motion
NN	personal name
NOM	nominative
NP	noun phrase
PASS	passive
PL	plural
PT	Pyramid Texts
PTCP	participle
RECR	recurrent
REL	relative
RES	resultative
S	subject
SBRD	subordinating particle
SG	singular
TLA	Thesaurus Linguae Aegyptiae
TR	transitive
V	verb
VERB	verbalizer
VSubj	valential subject
Wb	Wörterbuch der ägyptischen Sprache

Coptic dialects

A	Akhmimic
B	Bohairic
F	Fayyumic
L	Lycopolitan
M	Oxyrhynchite
S	Sahidic

CHAPTER 1. INTRODUCTION

In this doctoral dissertation, I examine the linguistic processes present in the derivation of verbs in the first stage of the ancient Egyptian language attested in writing, i.e., the language of the *Pyramid Texts*, here referred to as *Old Egyptian*. These verbal derivational processes include affixation, most notably the *n*-prefix, the *s*-prefix, and the *ḥ*-prefix, as well as reduplication and gemination. This work primarily investigates the semantic nature of derived verbs in the Pyramid Texts, by describing the verbs' valency and the syntactic and semantic roles of their arguments. The main aim of this dissertation is to determine the function(s) and productivity of these derivational phenomena in Old Egyptian, to identify the semantic types of base verbs with which the affixes and reduplication can combine, to establish any constraints involved in the derivation of verbs, and to explain the relative fixed order of the derivational processes as they attach to the verbal stem.

The present chapter introduces the reader to the nature of the ancient Egyptian language, providing a glimpse into the topic of verbal derivation, which is the subject matter of this doctoral dissertation. Section 1.1. briefly describes the Afroasiatic language family, of which ancient Egyptian is part. Section 1.2. outlines the main features of ancient Egyptian, including its historical development, writing systems, dialects, as well as individual phases in the history of the language's research over the past two hundred years. Section 1.3. describes the textual corpus used in this study and discusses the main research questions, the methodological approach employed and the drawbacks of this work. The last

paragraphs outline the structure of the dissertation, briefly summarizing each of the following chapters.

1.1. Afroasiatic languages

The ancient Egyptian language is a member of the Afroasiatic language family, also called Afrasian. The previous label "Hamito-Semitic" is outdated and should be rejected due to "its linguistically inaccurate and culturally racist connotations," as advocated by Newman.[1] In addition to Egyptian, this family includes the Berber, Chadic, Cushitic, Semitic, and possibly Omotic (see sections 1.1.5. and 1.1.6.) languages. Afroasiatic primarily represents an "African family," with the Semitic branch being a "single offshoot" that early on spread from Africa to Asia.[2] In fact, Semitic is the only branch of the family that can be characterized as Asian, having left the native African continent a long time ago. In contrast, Cushitic, Chadic, and Omotic are sub-Saharan languages, Berber languages are found in the Sahara and North Africa, while Egyptian was spoken in the eastern Sahara.[3]

It appears that the homeland of the speakers of the Proto-Afroasiatic language was "somewhere in the lands that stretch from the northern Ethiopian highlands into the southern Red Sea hills," where they resided sometime between "16,000-13,000 BC".[4] According to Christopher Ehret, the first split occurred when Proto-Omotic separated from

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[1] Paul Newman, "Methodological Pitfalls in Chadic-Afroasiatic Comparisons," in *Current Progress in Afro-Asiatic Linguistics: Papers of the Third International Hamito-Semitic Congress [London, 29th to the 31st of March 1978]*. Amsterdam Studies in the Theory and History of Linguistic Science 4; Current Issues in Linguistic Theory 28, ed. James Bynon (Amsterdam: John Benjamins, 1984), 164.

[2] Christopher Ehret, "Who Were the Rock Artists? Linguistic Evidence for the Holocene Populations of the Sahara," in *Symposium: Rock Art and the Sahara. Proceedings of the International Rock Art and Cognitive Archaeology Congress*, eds. Alfred Muzzolini and Jean-Loïc Le Quellec (CD-ROM, Turin, 1999). In the past, it was assumed that Afroasiatic originated in the Middle East and spread to Africa, an opinion which today is no longer tenable.

[3] Christopher Ehret, "Linguistic Stratigraphies and Holocene History in Northeastern Africa," in *Archaeology of Early Northeastern Africa: In Memory of Lech Krzyżaniak*. Studies in African Archaeology 9, eds. Marek Chlodnicky and Karla Kroeper (Poznań: Poznań Archaeological Museum, 2006), 1020.

[4] Ehret, "Who Were the Rock Artists?".

Proto-Afroasiatic and left the branch Proto-Erythraic (Figure 1.1.). Depending on the exact location of the homeland of Proto-Afroasiatic, either the speakers of Proto-Omotic moved south into the Ethiopian highlands, or the speakers of Proto-Erythraic moved northwards.[5] Afterwards, Proto-Erythraic split into Proto-Cushitic and Proto-North-Erythraic. Proto-Cushitic peoples gradually moved south, while Proto-North-Eythriac peoples moved northwards and across the Sahara.[6] The branches then diverged into Proto-Chado-Berber and Proto-Boreafrasan in North Africa. The speakers of the Chadic languages moved south and settled around the Chad Basin, while the speakers of Proto-Berber remained in North Africa.[7] The last divergence occurred when Proto-Boreafrasan split into Pre-Egyptian and Proto-Semitic around or after 10,000 BC, with the speakers of the latter having moved to the Levant.[8]
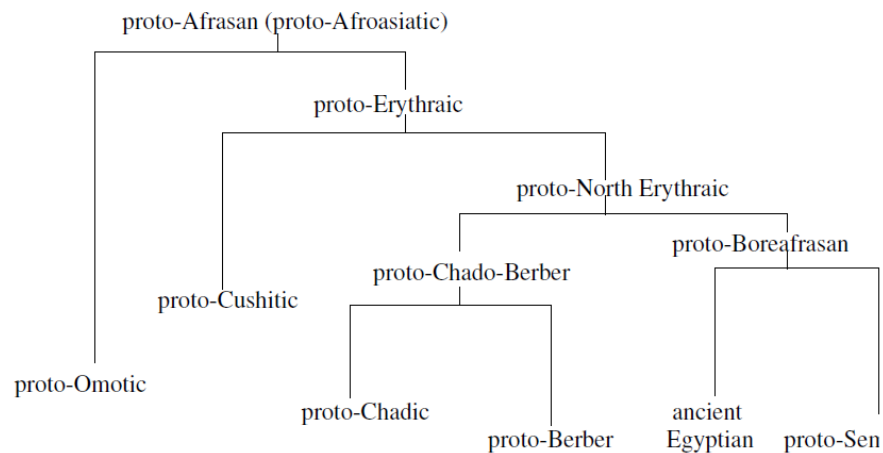
Figure 1.1. *Family tree of the Afroasiatic proto-languages.*[9]

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[5] Ehret, "Linguistic Stratigraphies," 1026.
[6] Ehret, "Linguistic Stratigraphies," 1027.
[7] Ehret, "Linguistic Stratigraphies," 1027.
[8] Ehret, "Linguistic Stratigraphies," 1044.
[9] Ehret, "Linguistic Stratigraphies," 1026, Figure 3.

Moreover, the Afroasiatic language family was for a long time in contact with another language family in Africa, namely Nilo-Saharan.[10] The speakers of the languages belonging to the two families "have accounted for most of the peopling of the Sahara since about 9,000 BC".[11] The two language groups had an impact on each other's technology and culture, together with a mutual exchange of linguistic features.[12] However, more research would be needed in order to assess the extent of contact and the overall influence of the Nilo-Saharan languages on ancient Egyptian.

1.1.1. Semitic

The numerous languages (around 70) in the Semitic branch of the Afroasiatic family are preserved in their written forms since the rise of the earliest ancient cultures. Springing to life at different points in their history of more than four millennia, some of them have already died out but many are still spoken today. The geographical distribution of the various Semitic languages has been changing over time. Due to the large size of the languages in the Semitic branch and their attestation over vast temporal and geographical units, their classification has naturally met with disputing opinions, which has been a subject of interest for several centuries.[13] The subgrouping of the Semitic languages in this section follows that of Goldenberg,[14] which is one of the most recent proposals.

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[10] For Nilo-Saharan, see Christopher Ehret, *A Historical-Comparative Reconstruction of Nilo-Saharan*. Sprache und Geschichte in Afrika SUGIA 12 (Cologne: Köppe, 2001).

[11] Ehret, "Who Were the Rock Artists?".

[12] Ehret, "Linguistic Stratigraphies," 1019-1055.

[13] See Aaron Rubin, "The Subgrouping of the Semitic Languages," *Language and Linguistics Compass* 2 (2008): 61-84; John Huehnergard and Na'ama Pat-El, "Introduction to the Semitic Languages and Their History," in *The Semitic Languages*, 2nd ed. Routledge Language Family Series, eds. John Huehnergard and Na'ama Pat-El (New York: Routledge, 2019), 1-15.

[14] Gideon Goldenberg, *Semitic Languages: Features, Structures, Relations, Processes* (Oxford: Oxford University Press, 2013), 57.

The Semitic branch of the Afroasiatic family can be divided into two main branches, based on their geographical features, namely East Semitic and West Semitic, which is an undisputed division among scholars. The former group comprises Akkadian, whereas the latter languages are further separated into Central Semitic, Ethiopian Semitic, and Modern South Arabian. The Central Semitic languages include Ugaritic, Hebrew, Pheonician, and other languages in Canaan, Aramaic, Ṣayhadic (Old South Arabian), and Arabic and its varieties. Gəʿəz belong to the Ethiopian Semitic languages, while Modern South Arabian include, among others, Mehri, Jibbāli, and Soqoṭri.

The first instances of a variety of Semitic languages are preserved in Akkadian names and loanwords in Sumerian texts written in the cuneiform script.[15] These date to the early third millennium BC, and are followed by Akkadian texts, and slightly later by Eblaite texts, attested around the mid-third millennium BC until the beginning of the Christian period.[16] The Ugaritic language, written on clay tablets in an alphabetic cuneiform script, is known from the thirteenth century BC.[17] The Hebrew language, spoken by the peoples of Israel and attested in the Hebrew Bible/Old Testament, arose as a separate dialect in the Canaan around the tenth century BC.[18] In its written form, it has remained an important component of the Jewish culture everywhere in the world. The not well attested Phoenician language, spoken around the Mediterranean, is found preserved in the textual material of the first millennium BC.[19] Aramaic, still spoken today, is a language attested since the ninth century BC in Northern Syria and Mesopotamia.[20] In the eighth century BC,

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[15] John Huehnergard, "Afro-Asiatic," in *The Cambridge Encyclopedia of the World's Ancient Languages*, ed. Roger Woodard (Cambridge: Cambridge University Press, 2004), 141.
[16] Goldenberg, *Semitic Languages*, 10-11.
[17] Goldenberg, *Semitic Languages*, 12.
[18] Goldenberg, *Semitic Languages*, 11.
[19] Goldenberg, *Semitic Languages*, 12.
[20] Goldenberg, *Semitic Languages*, 12.

it used to be an important diplomatic language and a *lingua franca* of the day. The Arabic language is attested in its written form only since the seventh century AD and together with its many dialects it is still spoken today.[21] The related languages of the South Arabian area, preserved in alphabetic inscriptions since the seventh/sixth century BC until the sixth century AD, have been known as Epigraphic South Arabian or Ṣayhadic.[22] The Modern South Arabian languages, spoken today in the southern part of the Arabian Peninsula, include Mehri, Ḥarsūsi, Baṭhari, Hobyōt, Jibbāli, and Soqoṭri.[23] Gəʿəz, the language of the ancient kingdom of Aksum, is attested in writing since the first centuries of the Christian period.[24] Today it survives in the liturgical texts of Ethiopia.[25] Tigré is spoken in the northern part of Eritrea and around the borders with Sudan, while the Tigrinya language can be found in Ethiopia and Central and South Eritrea.[26] The Amharic language, a form of which is attested in writing already in the 14th century AD, used to be the official language of Ethiopia, and had been connected with and used at the royal court for many centuries.[27] Finally, Gurage is a term used for numerous Ethio-Semitic languages of the Gurage region.[28]

1.1.2. Berber

The Berber branch comprises languages native to North Africa, especially the areas from Morrocco to Egypt and from the Mediterranean Sea to Sahara.[29] The various languages

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[21] Goldenberg, *Semitic Languages*, 14-15.
[22] Goldenberg, *Semitic Languages*, 15-16.
[23] Goldenberg, *Semitic Languages*, 16.
[24] Goldenberg, *Semitic Languages*, 16.
[25] Goldenberg, *Semitic Languages*, 17.
[26] Goldenberg, *Semitic Languages*, 17-18.
[27] Goldenberg, *Semitic Languages*, 18.
[28] Goldenberg, *Semitic Languages*, 19.
[29] Mohamed Elmedlaoui, "Berber," in *Semitic and Afroasiatic: Challenges and Opportunities*. Porta Linguarum Orientalium 24, ed. Lutz Edzard (Wiesbaden: Harrassowitz, 2012), 136.

and their dialects spoken in these regions include, among others, Tahaggart in the Touareg area; Kabyle, Mozabite, and Chaouia in Algeria; and Tashlhiyt, Figuig, Tamazagiht, and Tarifit in Morocco.[30] However, due to their great similarity, most scholars look at the Berber languages as one language with several dialects.[31] The earliest attested mentions of the Berber peoples date back to the times of Herodotus.[32] In the fourth century BC, first inscriptions recording a written Berber language appeared in North Africa.[33] This Lybic script, which is purely consonantal like the Egyptian writing systems with the exception of Coptic, has developed into the modern writing system via the use of *Tifinagh*, the script used among the Touaregs.[34] In fact, nowadays three main writing systems are used among the speakers of the Berber languages, namely *Tifinagh*, Latin, and Arabic scripts.[35]

1.1.3. Cushitic

The Cushitic branch of the Afroasiatic family consists of more than 30 languages found especially in eastern Africa. Based on their geographical distribution, these languages comprise four subgroups: North Cushitic, Central Cushitic, East Cushitic, and South Cushitic.[36] The main countries in which Cushitic languages are spoken include Djibouti, Eritrea, Ethiopia, and Somalia; while some languages are also present in other areas, such as Sudan and southern Egypt (the Beja language), Kenya (the Oromo and Somali languages), and Tanzania (small South Cushitic languages).[37] The earliest attested

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[30] Elmedlaoui, "Berber," 138-9.
[31] Maarten Kossmann, "Berber," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 18.
[32] Elmedlaoui, "Berber," 132.
[33] Elmedlaoui, "Berber," 139.
[34] Elmedlaoui, "Berber," 140.
[35] Kossmann, "Berber," 20.
[36] David Appleyard, "Cushitic," in *Semitic and Afroasiatic: Challenges and Opportunities*. Porta Linguarum Orientalium 24, ed. Lutz Edzard (Wiesbaden: Harrassowitz, 2012), 199-201.
[37] Appleyard, "Cushitic," 199.

inscriptions come from the 18th century, but these include only few words and proper names.[38] Thus, proper writing systems of the Cushitic languages come only from the modern era, specifically the second half of the 20th century, although Latin-based scripts are used too.[39]

1.1.4. Chadic

The Chadic branch includes around 140-160 different languages that are nowadays spoken in central Africa, specifically in the countries Niger, Nigeria, Cameroon, and Chad.[40] The Chadic languages can be divided into three main groups: Western Chadic encompassing the region of northern Nigeria, Eastern Chadic in the area of south-central Chad, and Central Chadic predominantly in northern Cameroon.[41] One of the most well-known and well-studied Chadic languages is Hausa, spoken in northern Nigeria and southern Niger. Other languages include Tangale, Mushere, Kulere, and Mubi. It should be noted that the Chadic languages represent a highly diverse group with very few features in common: thus, some languages are as far apart as languages of different branches in the Indo-European family, such as English and Iranian.[42]

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[38] Appleyard, "Cushitic," 199.
[39] Maarten Mous, "Cushitic," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 345.
[40] Zygmunt Frajzyngier and Erin Shay, "Chadic," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 236.
[41] Herrmann Jungraithmayr, "Chadic," in *Semitic and Afroasiatic: Challenges and Opportunities*. Porta Linguarum Orientalium 24, ed. Lutz Edzard (Wiesbaden: Harrassowitz, 2012), 298.
[42] Jungraithmayr, "Chadic," 297-8.

1.1.5. Omotic

The Omotic branch contains around 30 languages that are spoken in south-central and western Ethiopia.[43] They are divided into six main branches, namely Mao, Gonga, Yemsa, Gimojan, Dizoid, and Aroid.[44] However, some scholars are of the opinion that the last two language branches should not be classified within the Omotic family, thus reducing the number of Omotic languages to 22.[45] There has also been much debate about the justification for the inclusion of Omotic in the Afroasiatic language family.[46] Recently, Rolf Theil has argued for a lack of convincing phonological and morphological evidence that would incontestably tie Omotic with the other Afroasiatic languages.[47]

1.1.6. Relevance of the Afroasiatic languages to ancient Egyptian

The ancient Egyptian language has a secure place in the Afroasiatic language family, representing a branch on its own. As such, it is to be expected that it shares certain affinities with the other Afroasiatic languages. However, a long history of the development of the Afroasiatic languages has led to numerous differences across the branches. Since ancient Egyptian and Semitic seem to have once represented a single branch, Boreafrasan, it is likely that Egyptian will display more common elements with the Semitic languages than the other Afroasiatic members. Therefore, more emphasis will be placed on comparative evidence from Semitic than the other Afroasiatic languages in this dissertation, but Cushitic, Chadic, and Berber will be assessed too. Due to the long historical separation of

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[43] Azeb Amha, "Omotic," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 423-4.
[44] Rolf Theil, "Omotic," in *Semitic and Afroasiatic: Challenges and Opportunities*. Porta Linguarum Orientalium 24, ed. Lutz Edzard (Wiesbaden: Harrassowitz, 2012), 369.
[45] Theil, "Omotic," 369 and 372-376.
[46] Amha, "Omotic," 425-434.
[47] Theil, "Omotic," 376-382.

Omotic and Egyptian and due to the disputed position of Omotic in the Afroasiatic family, Omotic will not be considered. Based on the topic of each chapter of this dissertation, comparative materials from each branch of the language family, apart from Omotic, will be presented in relevant chapter sections.

1.2. Ancient Egyptian

1.2.1. Development of the ancient Egyptian language

The ancient Egyptian language is one of the longest attested languages of the world, since its appearance in writing at the end of the fourth millennium BC until the end of its last stage, Coptic, at the beginning of the second millennium AD. Thus, we find the Egyptian language uniquely attested in writing over four millennia, giving us the privilege to study its diachronic development and typological features in much detail.

The ancient Egyptian language is traditionally divided into five stages, following its chronological development: Old Egyptian, Middle Egyptian, Late Egyptian, Demotic, and Coptic (Figure 1.2.). The earliest stage attested in writing, i.e., Old Egyptian, is preceded by archaic Egyptian when the first hieroglyphs appeared but did not yet represent a complete writing system.[48] Archaic Egyptian is characterized by a large number of names, titles, and labels, found on palettes, seals, funerary stelae, and other objects of royal and administrative use, characteristic of the Early Dynastic Period (ca. 3200-2690 BC).

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[48] See Günter Dreyer, *Umm el-Qaab I: Das prädynastische Königsgrab U-j und seine frühen Schriftzeugnisse*. Archäologische Veröffentlichungen, Deutsches Archäologisches Institut, Abteilung Kairo 86 (Mainz: Philip von Zabern, 1998); Jochem Kahl, *Das System der ägyptischen Hieroglyphenschrift in der 0.-3. Dynastie*. Göttinger Orientforschungen, 4. Reihe: Ägypten 29 (Wiesbaden: Harrassowitz, 1994); Jochem Kahl, "Hieroglyphic Writing during the Fourth Millennium BC: An Analysis of Systems," *Archéo-Nil* 11 (2001): 103-134; Jochem Kahl, "Die frühen Schriftzeugnisse aus dem Grab U-j in Umm el-Qaab," *Chronique d'Égypte* 78 (2003): 112-135; Jaén Alejandro Jiménez-Serrano, "The Principles of the Oldest Egyptian Writing," *Lingua Aegyptia* 15 (2007): 47-66; Richard Mattessich, "The Oldest Writings, and Inventory Tags of Egypt," *The Accounting Historians Journal* 29, no. 1 (2002): 195-208.

Some of these already represent the earliest instances of grammatical features encoded in the hieroglyphic script.[49] The writing system might have been invented some time before the creation of tomb U-j at Abydos, but it is only in the reign of Sekhen/Ka that "all the functions of hieroglyphs," i.e., phonograms, logograms, and determinatives, are all attested, and only in the reign of Den that the "syllabary" is "more or less complete".[50]

The Old Egyptian stage of the language begins with an appearance of the first complete sentence, found on a cylinder seal of king Peribsen (Dynasty 2, ca. 2690 BC),[51] shown in 1(1).

1(1) *d(m)ḏ:n:f*   *tꜣ:wj*   *n*   *zꜣ:f*   *nswt-bjt*   *pr-jb:sn*
     unite:ANT:3SG.M   land:DU.M   for son.M:3SG.F dual_king.M   Peribsen
     "He has united the Two Lands for his son, Dual King Peribsen."

The first extensive ancient Egyptian texts were found in the tomb of Metjen at Saqqara, a high official under the kings of Huni and Snefru (the end of Dynasty 3 and the beginning of Dynasty 4), developing into the numerous tomb biographical inscriptions of later time.[52] Old Egyptian is traditionally a label applied to the language of Old Kingdom and First Intermediate Period inscriptions (ca. 2690-2060 BC). However, in this work, the term Old Egyptian will refer to the language of the Pyramid Texts (see section 1.3.1.), a religious corpus inscribed in Dynasties 5-6. The Pyramid Texts represent the main body of textual evidence used for linguistic analyses in this dissertation (see section 1.3.1.), as it is the only

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[49] James Allen, *The Ancient Egyptian Language: An Historical Study* (Cambridge: Cambridge University Press, 2013), 2-3. See also Jochem Kahl, *Frühägyptisches Wörterbuch. Dritte Lieferung ḥ-ḫ* (Wiesbaden: Harrassowitz, 2004), 291.

[50] Kahl, "Hieroglyphic Writing during the Fourth Millennium BC," 124.

[51] See Jochem Kahl, *Frühägyptisches Wörterbuch. Zweite Lieferung m-h* (Wiesbaden: Harrassowitz, 2004), 229.

[52] See Julie Stauder-Porchet, *Les autobiographies de l'Ancien Empire égyptien: étude sur la naissance d'un genre.* Orientalia Lovaniensia Analecta 255 (Leuven: Peeters, 2017).

collection of texts that preserves the earliest stage of the ancient Egyptian language attested in writing.

Middle Egyptian gradually evolved into Old Egyptian, blurring the difference between the two stages. In fact, early Middle Egyptian retains features of its preceding stage, while some late Old Egyptian texts already show characteristics of its successor.[53] The Middle Egyptian stage is mainly characterized by the Egyptian classical literary works of various genres, such as narratives, wisdom texts, hymns, from the Middle Kingdom and the beginning of the Second Intermediate Period (ca. 2060-1650 BC). Late Middle Egyptian was used in the later Second Intermediate Period and the beginning of the New Kingdom (ca. 1650-1350 BC), displaying features of its succeeding stage. Even though it was no longer spoken, Middle Egyptian continued to be employed mainly for monumental inscriptions and religious texts until the hieroglyphic writing ceased to exist in the fourth century AD.
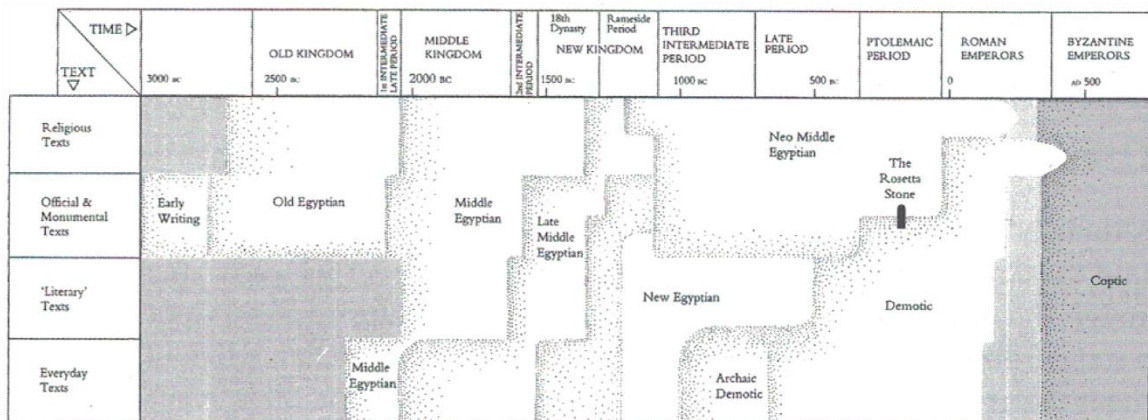
Figure 1.2. *Stages of the ancient Egyptian language.*[54]

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[53] Allen, *The Ancient Egyptian Language*, 3.

[54] Mariam Ayad, "The Death of Coptic? A Reprisal," in *Coptic Culture: Past, Present and Future*, ed. Mariam Ayad (Oxford: Oxbow, 2012), 20, Fig. 2.5. See also Friedrich Junge, "Sprachstufen und Sprachgeschichte," in *Zeitschrift der Deutschen Morgenländischen Gesellschaft. Supplement VI. XXII.*

Late Egyptian first appeared during the Amarna Period (Dynasty 18) and is attested until the beginning of the Late Period (ca. 1350-650 BC). This stage is characterized mostly by narrative and wisdom genres, love poetry, and miscellanies. Late Egyptian and its succeeding stages are radically different than the earlier stages, since the language gradually changed from a synthetic language, represented by Old and Middle Egyptian, to an analytic language. Synthetic languages express syntactic relations within sentences by inflection, i.e., by changes in the form of words carrying a grammatical function, and by agglutination, i.e., by combining morphemes to form lexemes. In contrast, analytic languages tend to use auxiliaries rather than inflectional morphemes to express syntactic relations.

The Late Egyptian stage developed into Demotic, which is first attested around 650 BC, and continued to be used throughout the Late Period, the Graeco-Roman times, and Byzantine Egypt, until around the mid-fifth century AD. This stage is predominantly characterized by narrative and wisdom texts. The last stage of Egyptian, Coptic (ca. AD 300-1200), became associated with the language of Christian Egyptians, and therefore, most Coptic texts have a religious character. Coptic is still alive as a liturgical language, spoken today in some parts of the world.

1.2.2. Egyptian dialects

Coptic is the only stage that shows clear dialectal variation in the ancient Egyptian language. There were six major dialects in Coptic, namely Akhmimic, Bohairic, Fayyumic, Lycopolitan, Oxyrhynchite, and Sahidic, some or all of which must have existed in the

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Deutscher Orientalistentag vom 21. bis 25. März 1983 in Tübingen, ed. Wolfgang Röllig (Stuttgart: Franz Steiner Verlag: 1985), Abb. 3.

earlier periods as well. For instance, in a satirical letter preserved on Papyrus Anastasi I (Dynasty 19), a scribe complains about distorted writing: "Your discourses are collected on my tongue and remain fixed on my lips, for they are so confused when heard that no interpreter can unravel them. They are like a Delta man's conversation with a man of Elephantine."[55] In addition, due to certain similar aspects of the two stages, it is likely that Late Egyptian represents a diachronic successor of Old Egyptian, perhaps a northern dialect.[56] In contrast, Middle Egyptian might be a southern dialect.[57]

1.2.3. Egyptian writing systems

The main writing system of ancient Egypt was based on hieroglyphs, consisting of phonograms, logograms, and determinatives. The signs ranged from monoconsonantal to triconsonantal. The signs *w* and *j* might have functioned as *matres lectionis*, i.e., they might have signaled the presence of vowels, but did not specify their exact value.[58] The hieroglyphic script was used to record all stages of the language except for Coptic. It was mostly reserved for monumental inscriptions. Thus, it was carved on stone or painted on wood, but in some cases, it could be written on papyri as well. The hieratic script, a cursive form of the hieroglyphic writing, was used for handwritten documents throughout the history of Egypt, such as administrative texts, letters, and literary texts. The Demotic script developed out of hieratic with further cursive signs. The last hieroglyphic inscription can be found at Philae, dating to AD 394, whereas the last demotic inscription, also at Philae,

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[55] Translation by Wente. See Edward Wente, *Letters from Ancient Egypt*. Writings from the Ancient World 1 (Atlanta: Scholars Press, 1990), 109.
[56] Allen, *The Ancient Egyptian Language*, 4.
[57] Allen, *The Ancient Egyptian Language*, 4.
[58] See Daniel Werning, "Hypotheses on Glides and Matres Lectionis in Earlier Egyptian Orthographies," in *Coping with Obscurity: The Brown Workshop on Earlier Egyptian Grammar*. Wilbour Studies in Egyptology and Assyriology 4, eds. James Allen, Mark Collier, and Andréas Stauder (Atlanta: Lockwood Press, 2016), 29-44.

dates to AD 452. By the fifth century AD, the knowledge of the hieroglyphic writing had been completely lost. In fact, Horapollo in his *Hieroglyphica* presents a decipherment of the script and explains the significance and meaning of hieroglyphic signs. He claims, for instance, that "when they wish to show pleasure, they write the number 16. For after this number of years, men begin to experience the stirrings of pleasure in women and are able to beget children," or that "to denote a horoscopist, they draw a man eating the hours. Not that a man actually eats the hours, for that is impossible, but because food is prepared for man according to the hour."[59] In contrast, Coptic is the only stage that used an alphabetic script, which was based on the Greek alphabet, but also used several characters for native sounds that did not exist in Greek.

1.2.4. Approaches to the study of ancient Egyptian

The ancient Egyptian language has been studied over two centuries, ever since the decipherment of the hieroglyphic writing in 1822. Within this time span, it is possible to recognize four chronological approaches to the study of the ancient Egyptian language, namely 1) the Early Phase (ca. 1820-1875), 2) the Semitic Lens Phase (ca. 1875-1944), 3) the Standard Theory Phase (1944-1980), and 4) the Re-evaluation Phase (ca. since 1980).

The first phase in the study of the Egyptian language began with the decipherment of the Egyptian hieroglyphic writing by Jean-François Champollion in 1822. His success was largely built on the works of his predecessors, such as Johan Åkerblad and Thomas Young. In addition to the description of the nature of the hieroglyphic as well as hieratic writing systems, Champollion outlined the basic grammatical features of the language.[60]

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[59] Horapollo, *The Hieroglyphics of Horapollo.* Translated by George Boas. Bollingen Series 23 (New York: Princeton University Press, 1993), 60, #32, and 64, #42.
[60] Jean-François Champollion, *Précis du système hiéroglyphique des anciens Égyptiens, ou recherches sur les éléments premiers de cette écriture sacrée, sur leurs diverses combinaisons, et sur les rapports de ce*

His approach to the decipherment and to Egyptian were largely based on his knowledge of Coptic. Afterwards, it was Heinrich Brugsch in the second half of the 19th century who extensively worked on the language, especially Demotic and its verbal system.[61] He began to identify Semitic elements in Egyptian and gave rise to the movement of German Egyptian linguistics in the following years.

The main representatives of the second phase were the members of the Berlin School: Adolf Erman,[62] Kurt Sethe,[63] and Elmar Edel.[64] The most important contributions of the Berlin School to Egyptian linguistics are the division of the Egyptian language into two main stages (Earlier and Later Egyptian), a description of the morphology and syntax of each stage, and the creation of the *Wörterbuch der ägyptischen Sprache* (1926-1953).[65] Their approach to Egyptian was influenced by their knowledge of Semitic linguistics, reflected mainly in their understanding of the Egyptian verbal system. Largely based on the works of the Berlin School, Alan Gardiner published his extensive *Egyptian Grammar* in 1927,[66] an important reference tool still used by some scholars today. In his work, Gardiner focused on the aspectual opposition of perfective and imperfective in Earlier

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système avec les autres méthodes graphiques égyptiennes, *Volumes 1-2* (Paris: Treuttel et Würtz, 1824); Jean-François Champollion, *Lettre à M. Dacier, secrétaire perpétuel de l'Académie Royale des Inscriptions et Belles-Lettres, relative à l'alphabet des hiéroglyphes phonétiques employés par les Égyptiens pour inscrire sur leurs monuments les titres, les noms et les surnoms des souverains grecs et romains* (Paris: Firmin-Didot Père et Fils, 1822).

[61] Heinrich Brugsch, *Grammaire démotique: contenant les principes généraux de la langue et de l'écriture populaires des anciens Égyptiens* (Berlin: Dümmler, 1855).

[62] Adolf Erman, *Neuaegyptische Grammatik* (Leipzig: Wilhelm Engelmann, 1880); Adolf Erman, *Ägyptische Grammatik: Mit Schrifttafel, Litteratur, Lesestücken und Wörterverzeichnis*. Porta Linguarum Orientalium 15 (Berlin: Reuther and Reichard, 1894), and their subsequent editions.

[63] Kurt Sethe, *Das aegyptische Verbum im Altaegyptischen, Neuaegyptischen und Koptischen*, *Bände I-III* (Leipzig: Hinrichs, 1899-1902).

[64] Elmar Edel, *Altagyptische Grammatik I.* Analecta Orientalia 34 (Roma: Pontificium Institutum Biblicum, 1955).

[65] Antonio Loprieno, *Ancient Egyptian: A Linguistic Introduction* (Cambridge: Cambridge University Press, 1995), 8; Adolf Erman and Herrmann Grapow, eds. *Wörterbuch der aegyptischen Sprache im Auftrage der Deutschen Akademien. Bände I-V* (Leipzig: Hinrichs, 1926-1953).

[66] Alan Gardiner, *Egyptian Grammar: Being an Introduction to the Study of Hieroglyphs* (Oxford: Griffith Institute, 1927), and its subsequent editions.

Egyptian, employing more of a "eurocentric" approach to Egyptian rather than "semitocentric".[67]

The main representative of the next movement, characterized by the employment of what came to be known as Standard Theory, was a student of Sethe, Hans-Jakob Polotsky.[68] He analyzed the Egyptian verbal system based on Coptic, using paradigmatic substitutions of verbal predicates into the positions of a nominal or adverbial phrase. His work was based on Coptic second tenses, which put emphasis not on the verb, but on the adverbial phrase in a sentence. Therefore, Polotsky looked for the predecessors of Coptic second tenses in the earlier phases of the language, which became to be known as emphatic sentences. Thus, the analyses of Polotsky as well as those of the Berlin School were primarily functional and syntactic in nature.

In the 1980s, it became clear that the Standard Theory could not be maintained due to its numerous idiosyncrasies and its problematic syntactic approach. Linguists of this time were struggling to reconcile their understanding of Egyptian with syntax and morphology, leading to a conference aptly named *Crossroad* (1986).[69] Their approach centered not only around syntactic but also semantic and pragmatic considerations of the language. In this movement, it is possible to encounter several different approaches to the study of Egyptian, due to the large number of scholars with varied training working on the language. Nevertheless, the main representatives of this era are Mark Collier, Antonio

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[67] Loprieno, *Ancient Egyptian*, 8-9.
[68] Hans-Jakob Polotsky, *Études de syntaxe copte* (Cairo: Publications de la Société d'Archéologie Copte, 1944); Hans-Jakob Polotsky, *Egyptian Tenses*. Publications of the Israel Academy of Sciences and Humanities II (5) (Jerusalem: Central Press, 1965); Hans-Jakob Polotsky, "Les transpositions du verbe en égyptien classique," *Israel Oriental Studies* 6 (1976): 1-50.
[69] Gertie Englund and Paul Frandsen, eds., *Crossroad: Chaos or the Beginning of a New Paradigm. Papers from the Conference on Egyptian Grammar, Helsingør 28-30 May 1986*. CNI Publications 1 (Copenhagen: Carsten Niebuhr Institute of Ancient Near East Studies, 1986).

Loprieno, James Allen, Sami Uljas, Andréas Stauder, Pascal Vernus, Jean Winand, and many others. Important contributions to the topic of general Egyptian linguistics of this time were Loprieno's *Ancient Egyptian: A Linguistic Introduction* (1995) and Allen's *The Ancient Egyptian Language: An Historical Study* (2013). Allen emphasized the need for looking at the language differently, without the imposition of the categories known to the native speakers of modern Indo-European languages and without the analysis of forms that do not even exist in Egyptian. Based on his newest works,[70] the following decades might witness a new phase in Egyptian linguistics, further refining the contributions of the Re-evaluation Phase. The current dissertation attempts to do just that.

1.2.5. Basic features of Old Egyptian

The present dissertation builds upon the works of the representatives of the Re-evaluation Phase, whose treatments of the verbal system can radically vary from scholar to scholar. Therefore, it should be noted that the model of the Old Egyptian verbal system employed in this work is based upon, but not identical to, the past research and findings of Allen. Since this dissertation analyzes the Old Egyptian language, a brief description of its main features is offered in the following paragraphs.

Old Egyptian was a synthetic language, expressing syntactic relationships in sentences via morphemic additions and had verb-subject-object (VSO) word order. Old Egyptian verbs could be transitive, i.e., taking at least one direct object; intransitive, i.e., taking no object; or ambitransitive, i.e., used both transitively and intransitively.[71] Old

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[70] Allen, *The Ancient Egyptian Language*; James Allen, *Grammar of the Pyramid Texts I: Unis*. Languages of the Ancient Near East 7 (Winona Lake: Eisenbrauns, 2017).

[71] Ambitransitive verbs include those verbs that employ the same form in their transitive and intransitive uses, e.g., *wꜥb* 'be(come) pure' and *wꜥb* 'purify', and those verbs that are primarily transitive, but their object can be omitted since it is implied, e.g., *wnm* 'eat'.

Egyptian verbs can be divided into several verbal classes based on the nature of their roots. These include 2-radical verbs (e.g., *mn* 'establish'), weak 2-radical verbs (e.g., *zj* 'go'), geminated 2-radical verbs (e.g., *tmm* 'close'), 3-radical verbs (*sḏm* 'hear'), weak 3-radical verbs (e.g., *prj* 'come forth'), geminated 3-radical verbs (e.g., *pḥrr* 'run'), 4-radical verbs (*pꜣḫd* 'overturn'), and weak 4-radical verbs (e.g., *msḏj* 'not like'). Each verbal class could appear in all or some of the Old Egyptian derivational stems, which are the subject matter of the present dissertation and will be described in the subsequent chapters.

The main verbal forms in Old Egyptian are the infinitive, imperative, stative, participles, *sḏm.f*, and *sḏm.n.f*, which are not specifically marked for tense. In Old Egyptian, the stative is *resultative*, expressing a state as a "result of a past action".[72] The *sḏm.n.f* form expresses an *anterior* action, in which the "situation occurs prior to reference time and is relevant to the situation at reference time,"[73] eventually developing into the perfective and past tense. The passive *sḏm.n.f* is marked by the suffix *-t(j)*. It can be used in main, relative, or circumstantial clauses. The *sḏm.f* form can be either active or passive. The active is an unmarked form, while the passive is marked either by the suffix *-t(j)* or through internal stem modification, which is not visible in the Egyptian writing system. The *sḏm.f* form can have the base or reduplicated/geminated stem. The former is unmarked, while the latter develops into the marker of imperfectivity. However, there are several different reduplicative formations that must be recognized and differentiated, which are discussed in this dissertation. Just like the *sḏm.n.f*, the *sdm.f* form can be used in main, relative, or circumstantial clauses. Similarly, participles can be either active or passive,

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[72] Joan Bybee, Revere Perkins, and William Pagliuca, *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World* (Chicago: The University of Chicago Press, 1994), 54.
[73] Bybee, Perkins, and Pagliuca, *The Evolution of Grammar*, 54.

base or reduplicated/geminated. With the exception of the imperative, the verbal forms are unmarked for mood, thus expressing a range of moods depending on the context.

The topic of Egyptian phonology will be occasionally touched upon in this dissertation, and hence its brief description is in order here. Egyptian phonology was investigated mainly in the 20th century, being largely influenced by the principles of each phase's approach to the study of the language. The most important contributions of the last century were Albright (1923),[74] Czermak (1931),[75] Vergote (1945),[76] Fecht (1960),[77] Rössler (1971),[78] and Peust (1999).[79] The phonological model followed in this dissertation is based on the most recent treatment of the subject in Allen's *Ancient Egyptian Phonology* (in press).[80]

Old Egyptian had most likely three vowels, namely [a], [i], and [u]. However, their exact values are never shown in the hieroglyphic writing system, which is consonant based. However, the presence of a vowel can be indicated by the signs *w* or *j*. These graphemes thus represent *matres lectionis* in Old Egyptian, with their presence determined by "reader-oriented considerations".[81] Table 1.1. contains the inventory of consonantal sounds in Old Egyptian, whose layout is based upon the *International Phonetic Alphabet* chart. Thus, the

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[74] William Albright, "The Principles of Egyptian Phonological Development," *Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes* 40 (1923): 64–70.

[75] Wilhelm Czermak, *Die Laute der ägyptischen Sprache: eine phonetische Untersuchung*. Schriften der Arbeitsgemeinschaft der Ägyptologen und Afrikanisten in Wien 2 (Vienna: Verlag der Arbeitsgemeinschaft der Ägyptologen und Afrikanisten in Wien, 1931).

[76] Jospeh Vergote, *Phonétique historique de l'Égyptien: les consonnes*. Bibliotheque du Muséon 19 (Louvain: Bureaux de Muséon, 1945).

[77] Gerhard Fecht, *Wortakzent und Silbenstruktur: Untersuchungen zur Geschichte der ägyptischen Sprache*. Ägyptologische Forschungen 21 (Glückstadt: Augustine, 1960).

[78] Otto Rössler, "Das Ägyptische als semitische Sprache," in *Christentum am Roten Meer I*, eds. Franz Altheim and Ruth Stiehl (Berlin: Mouton De Gruyter, 1971), 263–326.

[79] Carsten Peust, *Egyptian Phonology: An Introduction to the Phonology of a Dead Language*. Monographien zur Ägyptischen Sprache 2 (Göttingen: Peust and Gutschmidt, 1999).

[80] James Allen, *Ancient Egyptian Phonology* (Cambridge: Cambridge University Press, in press).

[81] See Werning, "Hypotheses on Glides and Matres Lectionis," 29-44.

symbols to the right represent voiced consonants, while those to the left represent voiceless consonants. The table includes the hieroglyphic graphemes and their phonetic values in square brackets. Notice that the main difference between such signs as *b~p*, *d~t*, *ḏ~ṯ*, and *q~k* lies in aspiration, while the difference between *d~ḏ*, *t~ṯ*, *q~g*, and *ḫ~ẖ*, lies in palatalization. The stress generally lay on the ultimate or penultimate syllable.[82]

Table 1.1. Old Egyptian phonetic inventory.

	Labials	**Coronals**	**Palatals**	**Velars**	**Laryngeals**
Stop	*b* [p] *p* [pʰ]	*d* [t] *t* [tʰ]	*ḏ* [tʲ] *ṯ* [tʲʰ]	*q* [k] *k* [kʰ] *g* [kʲ]	*j* [ʔ][83]
Nasal	*m* [m]	*n* [n]			
Trill/Tap		*r* [r/ɾ]			
Fricative	*f* [ᵖf]	*z* [θ] *s* [s] *š* [ʃ][84]		*ḫ* [x] *ẖ* [xʲ]	*h* [h] *ḥ* [ħ] *ꜥ* [ʕ][85]
(Lateral) Approximant	*w* [ʋ]	*ꜣ* [l][86]	*y* [j]		

Lastly, the glossing rules adopted in this work are based on the article by Di Biase-Dyson, Kammerzell, and Werning,[87] and the *Leipzig Glossing Rules*.[88] They have been adjusted to

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[82] For a detailed description of phonotactics in Egyptian, see Allen, *Ancient Egyptian Phonology*, 45-6 and 51-6.

[83] The glottal stop probably occurred only in some environments. In most cases, the grapheme *j* signals the presence of a vowel, especially word-finally.

[84] The grapheme *š* could also potentially represent the palatal fricative [ç].

[85] This grapheme can have a variant in the sign *d*. However, the development of *d* [t] > *ꜥ* [ʕ] is typologically unlikely. Thus, the exact value of *ꜥ* is not completely certain, but it most likely represented [ʕ].

[86] The value of *ꜣ* has been disputed for a long time. It is clear, though, that in Old Egyptian it represented a liquid of some kind, being close to [r] and [l], even though its exact phonetic value is uncertain. In fact, the grapheme *r* might have represented [l] in Old Egyptian, while *ꜣ* represented [r], as suggested by Allen, *Ancient Egyptian Phonology*, 35.

[87] Camilla Di Biase-Dyson, Frank Kammerzell, and Daniel Werning, "Glossing Ancient Egyptian: Suggestions for Adapting the Leipzig Glossing Rules," *Lingua Aegyptia* 17 (2009): 343-366.

[88] "The Leipzig Glossing Rules: Conventions for Interlinear Morpheme-by-Morpheme Glosses," ed. the Department of Linguistics of the Max Planck Institute for Evolutionary Anthropology and by the Department of Linguistics of the University of Leipzig, accessed September 10, 2017, http://www.eva.mpg.de/lingua/resources/glossing-rules.php.

conform to the model of the verbal system advocated in this dissertation.[89] The entire list of abbreviations employed in the glosses can be found at the beginning of this dissertation.

1.3. About the dissertation project

1.3.1. Pyramid Texts

The present dissertation analyzes the earliest stage of the ancient Egyptian language attested in writing, i.e., Old Egyptian. The main textual corpus used for this analysis is the *Pyramid Texts*, but occasionally, where necessary, the evidence from the Pyramid Texts will be supplemented by and contrasted with later Old Kingdom tomb inscriptions. The Pyramid Texts represent the oldest religious composition in the world as well as the oldest instances of ancient Egyptian literature. They were inscribed on the interior walls of the pyramids of the kings and queens of Dynasties 5-6 and 8 (ca. 2600-2180 BC) at Saqqara, the necropolis of the Old Kingdom capital, Memphis. The eleven royal figures in whose tombs the Pyramid texts can be found are Unas (Dynasty 5), Teti, Pepi I and his wife Ankhesenpepi II, Merenre, Pepi II and his wives Neith, Iput II, Wedjebetni and probably also Behenu (Dynasty 6), and Ibi (Dynasty 8).[90] Each corpus was thought of as a whole and the texts were supposed to be read along the walls in a certain order.[91] It appears that "the master from which the texts were transcribed to the pyramid walls was a document written in a semi-cursive script," based on some mistakes visible in the employment of hieroglyphs.[92]

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[89] The glosses follow the "advanced" guidelines, as indicated by Di Biase-Dyson, Kammerzell, and Werning, with morphemes separated by a colon. Personal and place names are not broken down into morphemes.

[90] James Allen, *The Ancient Egyptian Pyramid Texts*, 2nd ed. Writing from the Ancient World 38 (Atlanta: Society of Biblical Literature Press, 2015), 1.

[91] Allen, *The Ancient Egyptian Pyramid Texts*, 2.

[92] Allen, *The Ancient Egyptian Pyramid Texts*, 5.

The Pyramid Texts were discovered by Gaston Maspero at Saqqara in 1880, and most of them (Unas, Teti, Pepi I, Merenre, and Pepi II) were subsequently published by him.[93] Beginning in 1908, Kurt Sethe provided a concordance publication of the five textual corpora.[94] As the clearing of the pyramids progressed under the directions of Lauer, Garnot, and Leclant, more texts became available.[95] The texts of Ankhesenpepi II and Behenu were discovered recently and their publication is currently being prepared. More recent editions of the Pyramid Texts have been done by Claude Carrier (2009-2010)[96] and James Allen (2013).[97] The most extensive translations of the Pyramid Texts into English were provided by Kurt Sethe (1935-1962),[98] Samuel Mercer (1952),[99] Raymond Faulkner (1969),[100] and James Allen (2005).[101] The numbering of Pyramid Text spells in this dissertation follows Sethe's original numbering, revised and supplemented by that of Allen.

The date of the composition of the Pyramid Texts precedes their first appearance in the pyramid of Unas, but remains uncertain.[102] The inscriptions reflect a language that was not contemporary with their carving on the walls of the royal pyramids, nor with the secular texts of the time. Therefore, the Pyramid Texts represent the most extensive corpus of texts that preserves the earliest stage of the language attested in writing. This language will be

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[93] Gaston Maspero, *Les inscriptions des pyramides de Saqqarah* (Paris: Bouillon, 1894).

[94] Kurt Sethe, *Die altägyptischen Pyramidentexten I-IV* (Leipzig: Hinrichs, 1908-1922).

[95] For an overview of further published papers on the Pyramid Texts, see Allen, *The Ancient Egyptian Pyramid Texts*, 369-373.

[96] Claude Carrier, *Textes des pyramides de l'Egypte ancienne I-VI* (Paris: Cybele, 2009-2010).

[97] James Allen, *A New Concordance of the Pyramid Texts, Volumes I-VI* (Providence: Brown University, 2013), accessed October 9, 2016, https://oi-idb.uchicago.edu/id/b154b937-6036-43f4-a28d-3c92adc04aab.

[98] Kurt Sethe, *Übersetzung und Kommentar zu den altägyptischen Pyramidentexten I-VI* (Glückstadt und Hamburg: J.J. Augustin, 1935-1962).

[99] Samuel Mercer, *The Pyramid Texts in Translation and Commentary, Volumes I-IV* (New York: Longmans, Green, 1952).

[100] Raymond Faulkner, *The Ancient Egyptian Pyramid Texts, Volumes I-II* (Oxford: Clarendon Press, 1969).

[101] James Allen, *The Ancient Egyptian Pyramid Texts*. Writings from the Ancient World 23 (Atlanta: Society of Biblical Literature, 2005). The second edition of the book appeared in 2015.

[102] Allen, *The Ancient Egyptian Pyramid Texts*, 4.

referred to as Old Egyptian in this dissertation. It should be noted that the term "Old Egyptian" is traditionally applied to the texts of the Old Kingdom, encompassing the Pyramid Texts as well as tomb biographies and administrative texts. However, the language of the former clearly represents a preceding stage to that of the secular texts, which seem to have more Middle Egyptian features. However, even the secular texts of the Old Kingdom show considerable differences in the language. In fact, a proper classification of these texts and a proper terminology are still awaited.[103] In any case, I will refer to the language of the secular texts of the Old Kingdom as "Early Middle Egyptian," while the term "Old Egyptian" will be used to refer to the language of the Pyramid Texts.

The Pyramid texts represent a compilation of ritual and magical utterances, traditionally called "spells" by Egyptologists. Varying greatly in length, each spell is introduced by the phrase *ḏd-mdw* 'Recitation' and is concluded by the hieroglyphic sign for *ḥwt* 'chapter' (literally 'enclosure'). Allen distinguishes between two kinds of spells: ritual and personal.[104] The former consists of the "Offering Ritual" and the "Resurrection Ritual".[105] Offering Rituals are short spells "recited during the presentation of an offering," usually followed by the name of the item presented that represented a word-play on the contents of the spell.[106] Resurrection Rituals are longer spells that are supposed to "release the deceased's spirit from its attachment to the body and the earth" in order to join the gods.[107] In contrast, personal spells were recited to ensure the deceased's journey from his

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[103] An important contribution to this problem will be the Ph.D. dissertation of Victoria Almansa (Brown University), tentatively entitled *Between Social Identity and Royal Ideology: A Behavioral Interaction Analysis of Old Kingdom Letters and Royal Decrees through Language Usage*.

[104] Allen, *The Ancient Egyptian Pyramid Texts*, 6-7. See also Harold Hays, *The Organization of the Pyramid Texts: Typology and Disposition* (Leiden: Brill, 2012).

[105] Allen, *The Ancient Egyptian Pyramid Texts*, 6.

[106] Allen, *The Ancient Egyptian Pyramid Texts*, 6.

[107] Allen, *The Ancient Egyptian Pyramid Texts*, 6.

tomb in the morning to accompany the god throughout the day.[108] Some of these spells are intended to ward off harmful entities like snakes that might have posed danger to the deceased.[109]

The Pyramid Texts are focused on the connection of the deceased with the Sun and Osiris: "the Sun's daily movement through the sky was viewed as a journey from birth to death, and his rebirth at dawn was made possible through Osiris, the force of new life".[110] Thus, they offer us insights into the Egyptian concept of the afterlife, which emphasized a successful transition of the deceased into life after death.

1.3.2. Research questions and their significance

The Pyramid Texts represent the main textual corpus used in the linguistic analyses of the Old Egyptian language in the present study, which focuses on the elucidation of the phenomenon of creating new verbs. The investigated verbal derivational phenomena include *affixation*, i.e., a morphological process in which an affix (a bound morpheme) is attached to a base, and *reduplication*, i.e., a morphological process in which the root of a word is repeated. The latter also includes the process of gemination, i.e., the doubling of a consonant resulting in two adjacent sounds. For instance, the 2-radical verb *fḫ* 'loose' can be prefixed by the causative *s*-prefix (*sfḫ* 'make loose') or by the *s*- in combination with the *n*-prefix (*snfḫfḫ* 'unravel'). The verb is also found in its partially and totally reduplicated forms (*fḫḫ* 'loosen' and *fḫfḫ* '(repeatedly) loose/loosen'). Based on this example, it is clear that the base verb and its meaning can be modified by various morphological elements and patterns that derive new verbal lexemes. Further verbal affixes

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[108] Allen, *The Ancient Egyptian Pyramid Texts*, 7.
[109] Allen, *The Ancient Egyptian Pyramid Texts*, 7.
[110] Allen, *The Ancient Egyptian Pyramid Texts*, 8.

that have been suggested for ancient Egyptian include the prefixes *w-*, *ḥ-*, *b-*, the suffix *-ḫ*, and others.

While the existence of some of the derivational processes has been acknowledged by Egyptologists, not all of them nor the topic of verbal derivation as a whole have yet been examined in a comprehensive way. In addition, the previous studies on individual morphological phenomena suffer from numerous shortcomings, leading to superficial results, e.g., they collect evidence from the entire history of the ancient Egyptian language, failing to account for morphosyntactic and semantic changes that had taken place during approximately four millennia. Especially in the past, Egyptologists were looking at ancient Egyptian as one language. However, we cannot accurately assess a linguistic phenomenon across millennia without first studying the phenomenon in each synchronic stage of the language.

Moreover, the verbal system of ancient Egyptian has traditionally been divided into as many as fifteen different verbal classes, determined by the number of verbs' radicals, weak consonant endings, causative and geminated forms. However, the number of verbal classes needs to be significantly reduced, since most of these "classes" are not different verbal roots (verbs without any affixes), but modifications of one base root; hence, they are derived verbs. These derived verbs are distinguished from the base verbs and from each other on the basis of their morphology and semantics.

In contrast to ancient Egyptian, the existence of derived stems has been long established for the related Semitic languages. For instance, the Akkadian verbal system contains the base G-stem (*parāsum* 'cut off'), the D-stem that creates intensive verbs by the doubling or gemination of the middle radical (*purrusum* 'to separate'), the Š-stem that

is causative (*šuprusum* 'to get rid of'), and the N-stem that forms passives (*naprusum* 'to be cut off'). Other morphological processes include the medial affixation of *-ta-* or *-tan-*, which create reflexive verbs and verbs denoting repeated actions respectively, leading to further derived stems. Despite similarities between the two language branches, such a classification is virtually non-existent for ancient Egyptian.

My doctoral dissertation aims to remedy these problems by providing a systematic and comprehensive analysis of the morphological processes associated with verbal derivation in Old Egyptian. Firstly, I am interested in finding out how many different morphological processes can alter the verbal root in Egyptian. It is expected that some of these processes will be more productive than others. Therefore, I want to determine the degree of productivity for each derivational process and suggest possible explanations for their observed productivity levels. Secondly, I will describe possible function(s) of each derivational process as well as their possible historical origin. I will establish the semantic value of each derived verb and its base form, thus elucidating the meanings of Old Egyptian verbs. Thirdly, I will look for constraints in the derivation of new verbs, e.g., to which verbal class each affix can attach, what restrictions occur in verbal derivation, and what semantic or morphosyntactic features trigger and influence each morphological process. Lastly, I want to determine how these morphological phenomena combine with each other, e.g., the prefix *s-* can combine with the prefix *n-*, while both *n-* and *s-* combine with reduplicated stems. I want to understand the reasons for the observed combination patterns.

In addition, I will look at the verbal systems in the Semitic, as well as in the other Afroasiatic languages, namely Berber, Chadic, and Cushitic, in order to find potential parallels for ancient Egyptian. I would like to see how verbal derivation in these languages,

particularly in Semitic, compares with Old Egyptian verbal derivation. I am interested in finding out whether we could reclassify the Egyptian verbal system in a way similar to the classification of derived stems in the Semitic languages, and how this might change our understanding of the ancient Egyptian verbal system, its morphology and semantics.

My dissertation aims to bring a revised perception of the language's verbal system, which inevitably needs new insights and revisions, and elucidate the semantics of numerous, oftentimes poorly understood, lexical items. It is hoped that this study will represent a useful tool not only for general linguists in their cross-linguistic typological examinations of verbal derivation, but also for historical and comparative linguists studying the Afroasiatic language family, of which ancient Egyptian is part. The results of my research might contribute to the study of the Proto-Afroasiatic language by providing linguistic data from the first stage of Egyptian attested in writing, and thus help to clarify the genetic relationship of individual languages within this family.

1.3.3. Methodological approach

Due to the immensely long history of the ancient Egyptian language spanning more than four millennia, a diachronic examination of the morphological processes in ancient Egyptian is beyond the scope of this project. Therefore, I am focusing on the verbal system as seen in the very first stage of the language attested in writing: Old Egyptian. Even though the topic of this dissertation is the derivation of verbs, a particular morphological phenomenon could affect both substantives and verbs, and thus both categories of words will be taken into account, where relevant. In the future, I hope to continue to study the verbal system in the other stages of the language, ultimately providing a diachronic description of verbal derivational processes in Egyptian. It will be important to investigate

how derived verbs were affected by the change of ancient Egyptian to an analytic language (i.e., one that uses more grammatical words rather than inflectional morphemes) around 1,350 BC.

In order to adequately answer the set research questions, I have collected and analyzed linguistic data from the Pyramid Texts, relying on Allen's concordance edition of the texts, the dictionary *Wörterbuch der ägyptischen Sprache* (1926-1953), and the online *Thesaurus Linguae Aegyptiae* (2014). Together, these represent a comprehensive list of the verbal lexicon of the Pyramid Texts. Afterwards, I looked for verbs derived by various affixes, establishing a possible morphological and semantic link between the base verb and its derived form. Only synchronically attested verbal pairs were considered. A lack of a derived or base verb does not suggest its non-existence in Old Egyptian, only that the verb might not have been preserved in the Old Egyptian material available for this work. A synchronic study also eliminates potential pitfalls of analyzing a base and a derived verb whose individual attestations are separated by centuries. In fact, one form of the verb might have developed from the other or their semantic values might have changed over time. Therefore, looking at contemporary base verbs and their derived counterparts holds the best chance for an accurate linguistic analysis.

In my research, I drew on the theoretical framework from the field of linguistics, which has the ability to predict and explain the above-mentioned morphological phenomena for ancient Egyptian. I especially relied on verbal valency, i.e., a combination of the verb's arguments (such as the subject, direct and indirect objects) required by syntax together with their semantic roles (such as agent, patient, causer, experiencer). A more detailed theoretical background of verbal valency and other linguistic models will be

provided in Chapter 2. I examined the valency of both base and derived verbs based on the contexts in which they occur and observed changes in their valency properties. This applies to the increase or decrease in the number of arguments, such as the subject, direct and indirect object, and a change in the semantic role of each argument. Lastly, I compared my findings with the information from the Semitic and other Afroasiatic languages in order to see if they could be further refined.

1.3.4. Drawbacks of the research

It is only natural and expected that any analysis of a dead language will suffer from drawbacks. The main benefit of analyzing living languages lies in the fact that native speakers have an intuition for what words mean, for how words are pronounced or what constructions are linguistically correct or incorrect, even if different speakers might sometimes disagree about it. Unfortunately, when dealing with a dead language that no one in the world speaks anymore, our interpretations are naturally disadvantaged and highly subjective, stemming from our own linguistic background and training. Many kinds of biases are therefore fundamentally unavoidable in our studies of ancient Egyptian linguistic phenomena. My own biases primarily stem from Indo-European linguistics, since I am a native speaker of a Slavic language and a speaker of some Germanic and Romance languages.

Another drawback of the present study has to do with the nature of the hieroglyphic script, which did not write out vowels. Sometimes it indicated the presence of a vowel, but not its exact phonetic value. Moreover, two identical and immediately adjacent sounds were rendered only by one sign in hieroglyphs, thus concealing their doubled nature. Thus, words like English *write*, *written*, *wrote* would be all recorded in hieroglyphs as **wrt*.

However, *write*, *written*, *wrote* each carry different morphosyntactic features: for instance, *wrote* encodes the English past tense. Thus, it is obvious that certain phenomena, such as the quality of vowels or gemination, cannot be observed in the hieroglyphic script, even though they greatly affect the morphosyntactic properties of verbs. This means that some of my interpretations might inevitably constitute unverifiable hypotheses.

Furthermore, establishing morphological and semantic connections between verbs is a challenging task, which might sometimes result in incorrect interpretations due to chance similarity. This obstacle cannot be eliminated completely, especially because we do not have access to the entire vocalic structure of verbs. However, we can first take several examples of verbal pairs whose morphological and semantic connection is the most apparent. These verbs should thus be related in both form and meaning. A semantic relatedness should be established on the basis of the core meanings of verbs, obtained from the investigation of all contexts in which the verb is attested, and not on the basis of just one possible translation of the verb. Afterwards, we may hypothesize about the function of a derivational operation at play between these verbs. Then, we may test the hypothesis on the other, less certain, verbal pairs and see if the proposed function is applicable in those cases as well. However, this method will not be completely failproof, of course, which means that any uncertainty in the derivation of verbs will have to be acknowledged.

In addition, the presence of ambitransitive verbs in the ancient Egyptian language might complicate any syntactic analysis of verbs. However, the number of such verbs in Old Egyptian does not seem to be high and one of the two uses prevails over the other, which means that in most cases it is possible to assign a transitivity value to the verb. In those cases where a verb is ambitransitive, I will note its use as both a transitive and

intransitive verb. In fact, we are still lacking a comprehensive study of ambitransitive verbs in ancient Egyptian, especially in the earlier stages of the language, which would list all such verbs and their semantic and morphosyntactic properties.

Despite these problems, I have tried to analyze the Old Egyptian data as objectively as possible. I tried to remain aware of my own biases and look at the evidence as it is found in the corpus. Thus, it is hoped that the present study reflects a description of verbal derivation in Old Egyptian that stems from, but is not governed by, my own cultural and linguistic background.

1.3.5. Structure of the dissertation

The present dissertation contains five core chapters. The first one, Chapter 2, is devoted to the linguistic theories used in the analyses of Old Egyptian verbs. It primarily describes verbal valency, showing how verbs combine with arguments with various syntactic and semantic roles. In this chapter, I provide a basic description of verbal valency, a semantic background to the valency alternation in causative constructions, and another linguistic theory associated with the study of reduplication. All of these theoretical models will be applied to the Egyptian data analyzed in this work.

The next four chapters will each analyze a specific derivational phenomenon in Old Egyptian. Chapter 3 will look at verbal prefixation by the morpheme *n-*. It will be shown that the *n*-prefix has an anticausative or deagentifying function and that lexemes prefixed by the *n-* become lexicalized in Old Egyptian, as the *n*-prefix loses its productivity and gradually disappears from the language. I will compare the Egyptian *n*-prefix with its cognate N-stem in the Semitic languages and determine the extent of their similarity. In

addition, I will make observations about the vocalization of the *n*-prefix in Old Egyptian, based on Coptic evidence.

Chapter 4 will describe the process of causative derivation in Old Egyptian. I will investigate two causative strategies, namely morphological characterized by the prefix *s-* and periphrastic employing the lexical verb *rdj* 'give'. I will show which semantic types of verbs can combine with each of the two causative constructions and what the main difference in the meaning and function of the morphological and periphrastic causation is. I will show that the processes of causativization depend on the semantic type of base verbs and that the two causative types are primarily distinguished along the directness continuum. I will also address the possible role of the *n*-prefix in the causativization of transitive verbs and mention causative strategies in the Afroasiatic languages.

Chapter 5 will investigate the role of reduplication in Old Egyptian. I will outline several types of reduplication, such as total and partial, and determine their functions. This chapter will also discuss the problematic nature of "gemination" in ancient Egyptian, which is here taken to be a subtype of reduplication, and provide a new interpretation for this phenomenon in Old Egyptian. I will show that the historical development of the function of reduplication affected both the morphological forms as well as semantics of reduplicated verbs and describe a possible historical pathway in the evolution of reduplication. The process of reduplication/gemination in Old Egyptian will be also compared to similar phenomena in the Afroasiatic languages, especially the Semitic D-stem.

The last core chapter, Chapter 6, will discuss further derivational affixes in ancient Egyptian that have been proposed by scholars. These will primarily include the *ḥ*-prefix, *h*-suffix, *w*-prefix, *m*-prefix, *b*-prefix, and *p*-prefix. I will show that most of these affixes

are no longer productive in Old Egyptian and that they cannot be considered as true affixes. They are probably remnants of an old process of augmenting verbal and substantival roots, but due to the long time between their productive stage and Old Egyptian, the exact function of these affixes can no longer be observed nor established with much certainty.

Finally, Chapter 7 will summarize the findings of each individual core chapter and describe how the results fit into the larger context of verbal derivation in Old Egyptian. I will argue that individual derivational phenomena follow a fixed order according to their semantic scope and propose a new system of classifying Egyptian verbs. I will discuss what place verbal derivation in Old Egyptian has in the study of the Afroasiatic languages and what this might tell us about their genetic relationship. Lastly, I will mention avenues for further research of verbal derivation and offer a few insights into future semantic analyses of the ancient Egyptian language.

CHAPTER 2. LINGUISTIC MODELS

The present chapter introduces the reader to the theoretical models from the field of linguistics that are used in this dissertation to analyze Old Egyptian verbs. The first section explains the theory of verbal valency, an approach to the study of the morphosyntax and semantics of a language that is used throughout this dissertation (Chapters 3, 4, 6). The second section describes a type of valency alternation in more detail, together with its semantic background, required for the investigation of Egyptian causative constructions (Chapter 4). The third section outlines a linguistic model of reduplication and gemination, which will be employed in the examination of these two phenomena in Old Egyptian (Chapter 5).

2.1. The theory of valency

Communication in languages is conveyed in "predicate-argument structure," in which events are composed of various entities and relationships between them.[1] For instance, a verb creates a link and a relationship between two noun phrases that refer to actual entities. The verb thus represents the "most central element of a sentence,"[2] determining the syntactic and semantic structure of the sentence. It is known as the *valency carrier*. *Valency*

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[1] Vilmos Ágel and Klaus Fischer, "Dependency Grammar and Valency Theory," in *The Oxford Handbook of Linguistic Analysis*. Oxford Handbooks in Linguistics, eds. Bernd Heine and Heiko Narrog (New York: Oxford University Press, 2012).

[2] Susen Faulhaber, *Verb Valency Patterns: A Challenge for Semantics-Based Accounts*. Topics in English Linguistics 71 (Göttingen: De Gruyter Mouton, 2011), 3.

refers to the number of arguments that a verb takes, being a property of lexemes, i.e., items listed in the lexicon.[3] Arguments are elements in a sentence that complete the verb's meaning. We can distinguish between *syntactic* valency and *semantic* valency. The former refers to the number of arguments that bond with a verb at the formal level, while the latter refers to the number of participants required by a verb at the semantic level. Some scholars add another level of valency that would express the relationship between syntactic and semantic valency, called "logical valency," but its exact nature has been contested.[4] Therefore, this description will focus solely on syntactic and semantic valency.

The term valency entered linguistics from chemistry, where it refers to the ability of elements to bond with other atoms in order to form chemical molecules and compounds.[5] The theory of valency originated with the ideas of Lucien Tesnière in his *Éléments de syntaxe structurale* (1959) and his dependency grammar,[6] which examines the interconnections of the different parts of a clause based on the valency of individual words. The most extensive research on valency has been carried out through the investigations of

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[3] Thomas Herbst and Susen Schüller, *Introduction to Syntactic Analysis: A Valency Approach* (Tübingen: Gunter Narr Verlag, 2008), 108; Peter Matthews, "The Scope of Valency in Grammar," in *Valency: Theoretical, Descriptive and Cognitive Issues.* Trends in Linguistics. Studies and Monographs 187, eds. Thomas Herbst and Katrin Götz-Votteler (Berlin: Mouton de Gruyter, 2007), 11.

[4] Katrin Götz-Votteler, "Describing Semantic Valency," in *Valency: Theoretical, Descriptive and Cognitive Issues.* Trends in Linguistics. Studies and Monographs 187, eds. Thomas Herbst and Katrin Götz-Votteler (Berlin: Mouton de Gruyter, 2007), 37-8.

[5] Matthews, "The Scope of Valency in Grammar," 4.

[6] See Vilmos Ágel, Ludwig Eichinger, Hans-Werner Eroms, Peter Hellwig, Hans-Jurgen Heringer, and Henning Lobin, *Dependenz und Valenz: Ein internationales Handbuch der Zeitgenössischen Forschung.* Handbücher zur Sprach- und Kommunikations-wissenschaft 25, Halbband 1-2 (Berlin: Walter de Gruyter, 2003 and 2006); Ágel and Fischer, "Dependency Grammar and Valency Theory," 1-38.

the German language,[7] the English language,[8] and some Romance languages.[9] In fact, as many as 3,000 works on the theory of valency[10] have been published, and thus, naturally, only several of them could be listed here. In addition, valency has recently started to have a large impact on cognitive linguistics as well.[11]

2.1.1. Semantic and syntactic roles

Participants in a clause[12] have various semantic roles and syntactic functions. The former refers to the roles that participants have in the meaning of a clause in relation to the verb, while the latter refers to the grammatical functions that they carry out in a clause. The main problem in assigning semantic roles has to do with the fact that it is a rather subjective process, as there are no formal criteria for choosing the most fitting role for an argument.[13] However, they nevertheless represent an important part of valency models and cannot be omitted. Tables 2.1. and 2.2. list the most common syntactic and semantic roles and their

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[7] For instance, Vilmos Ágel, *Valenztheorie* (Tübingen: Gunter Narr Verlag, 2000); Gerhard Helbig, *Probleme der Valenz- und Kasustheorie* (Tübingen: Niemeyer, 1992); Klaus Welke, *Deutsche Syntax functional. Perspektiviertheit syntaktischer Strukturen*, 2nd ed. (Tübingen: Stauffenburg 2005); Gerhard Helbig and Wolfgang Schenkel, *Wörterbuch zur Valenz und Distribution deutscher Verben* (Leipzig: VEB Bibliographisches Institut, 1969); Karl-Ernst Sommerfeldt and Herbert Schreiber, *Wörterbuch der Valenz etymologisch verwandter Wörter* (Tübingen: Niemeyer, 1996).

[8] For instance, David Allerton, *Valency and the English Verb* (London: Academic Press, 1982); Thomas Herbst, *Untersuchungen zur Valenz englischer Adjektive und ihrer Nominalisierungen* (Tübingen: Gunter Narr Verlag, 1983); Beth Levin, *English Verb Classes and Alterations. A Preliminary Investigation* (Chicago: The University of Chicago Press, 1993); Herbst and Schüller, *Introduction to Syntactic Analysis*; Thomas Herbst, David Heath, Ian Roe, and Dieter Götz, *A Valency Dictionary of English: A Corpus-Based Analysis of the Complementation Patterns of English Verbs, Nouns and Adjectives.* Topics in English Linguistics (Berlin: Mouton de Gruyter, 2004).

[9] For instance, Eberhard Gärtner, *Grammatik der portugiesischen Sprache* (Tübingen: Niemeyer, 1998).

[10] Ágel and Fischer, "Dependency Grammar and Valency Theory," 15.

[11] William Croft and David Cruse, *Cognitive Linguistics.* Cambridge Textbooks in Linguistics (Cambridge: Cambridge University Press, 2004).

[12] A *clause* is defined as a part of the sentence containing the predicate and its argument(s). A *sentence* is the whole textual unit that cannot be part of another clause.

[13] Faulhaber, *Verb Valency Patterns*, 13.

definitions, which will be used in this dissertation. The syntactic functions follow the division by Perini.[14]

Table 2.1. *Syntactic functions of arguments.*

Abbreviations	Syntactic Roles
AdjP	adjectival phrase
AdvP	adverbial phrase
NP	noun phrase, any non-subject NP, including direct and indirect objects
prep+NP	preposition followed by a noun phrase
VSubj	valential subject, which can be a subject NP or a suffix on the verb

Table 2.2. *Semantic roles of arguments and their definitions.*

Semantic Roles	Definition
Agent	the entity volitionally performing the action of a verb
Beneficiary	the entity for whose benefit the action of a verb is carried out
Causer	the entity instigating an event
Experiencer	the entity experiencing a sensory, emotional, or psychological effect of the action of a verb
Location	the place where the action of a verb takes place
Patient	the entity undergoing the effect of the action of a verb, usually with a certain amount of volition
Recipient	the entity receiving something as a result of the action of a verb
Theme	the entity undergoing the effect of the action of a verb without volition

2.1.2. Describing valency

An example of coding a verb's valency used in this dissertation is given in 2(1). Unlike syntactic functions, semantic roles will be italicized.

2(1) *Andrew*   *kissed*   *Hanna*.

     VSubj>*Agent*   V   NP>*Patient*

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[14] Mario Perini, *Describing Verb Valency: Practical and Theoretical Issues* (Heidelberg: Springer, 2016), 37-51.

Since a verb may take a various number of obligatory arguments, we can, accordingly, distinguish between monovalent, bivalent, and trivalent verbs. The notion of valency is traditionally connected with transitivity: a transitive verb "describes a relation between two participants such that one of the participants acts toward or upon the other," while an intransitive verb "describes a property, state, or situation involving only one participant".[15] An example of a monovalent verb in English is the intransitive verb *sleep*, since it requires only one argument to make a clause grammatical. In 2(2), the syntactic role of the verb's only argument is the subject, while its semantic role is *experiencer*.

2(2) *Andrew is sleeping*.

In contrast, transitive verbs like *kill* require two arguments: the subject and the object, as in 2(3). The subject *Andrew* has the semantic role of *agent*, while the *mosquito* is the *patient*.

2(3) *Andrew killed the mosquito*.

In addition, English has several trivalent verbs that require three arguments. In 2(4), the verb *give* bonds with the subject (*Andrew*), direct object (*the book*), and indirect object (*to Hanna*). *Andrew* is the *agent* in this clause, *the book* is the *theme*, while *Hanna* is the *recipient*.

2(4) *Andrew gave the book to Hanna*.

Some languages also have *avalent* verbs, i.e., verbs that do not bond with any argument and therefore have the valency of zero. Avalent verbs often denote "environmental

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[15] Thomas Payne, *Describing Morphosyntax: A Guide for Field Linguists* (Cambridge: Cambridge University Press, 1997), 171.

conditions," especially the weather.[16] English does not belong to this category since every English verb requires a subject, even if it is a dummy subject. For instance, we have to say *It is snowing*, even though *it* does not refer to any specific entity. In contrast, some Indo-European languages can express a clause without the subject, as in 2(5). In fact, the obligatoriness of a subject is very rare in cross-linguistic examinations.[17]

2(5) Slovak: *Sneží.* "It is snowing."

The obligatory arguments that a verb requires are called *complements*. They can have a number of different formal realizations in English, including a noun phrase, adverbial phrase, gerund, infinitive, *wh*-clauses, and others.[18] However, a verb may take more than the number of obligatory arguments. For instance, the monovalent verb *sleep* can bond with several noun phrases, as in 2(6). However, the noun phrase expressing location (*on the couch*) and the adverb of time (*last night*) are optional arguments of the verb *sleep*. Such arguments are usually called *adjuncts* and are not part of valency description.

2(6) *Andrew was sleeping on the couch last night*.

Unfortunately, sometimes it is difficult to satisfactorily distinguish between complements and adjuncts in clauses. This is an issue that is still being debated among linguists today.[19] This happens for a number of reasons. For instance, complements can also be optional in certain scenarios, as in 2(7), where the direct object (*a book*) can be omitted. Furthermore, a phrase can act both as an adjunct or complement, as in 2(8). The prepositional phrase *on*

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[16] Viveka Velupillai, *Introduction to Linguistic Typology* (Amsterdam: John Benjamins, 2012), 258.
[17] Velupillai, *Introduction to Linguistic Typology*, 258-9.
[18] Herbst and Schüller, *Introduction to Syntactic Analysis*, 117-124.
[19] See Herbst and Schüller, *Introduction to Syntactic Analysis*, 113-116; Perini, *Describing Verb Valency*, 22-33.

the table is an optional argument and hence adjunct in 2(8a)), while in 2(8b)) it expresses location that is obligatory with the verb *put*.

2(7) a) *Andrew is reading a book.*
　　b) *Andrew is reading.*

2(8) a) *Andrew is writing a letter on the table.*
　　b) *Andrew put the letter on the table.*

Despite these issues, the main feature that differentiates between complements and adjuncts is that the former fill an "obligatory valency slot,"[20] a distinction retained in this work. It should be noted, though, that valency does not represent a "unified phenomenon" but a collection of valency relations, which vary from language to language. Figures 2.1. and 2.2. provide a list of such relations, dependent upon the form and meaning, respectively. In this way, the verb governs, for instance, when a complement can be omitted, which "form features" a complement has, such as the case, or with which preposition it connects.

　　However, the verb not only governs but is also governed by its context. In this respect, it is best to cite Ágel and Fischer in full:

> We conclude that verbs not only determine their environment but that they are also determined by it: the meaning of verbs is often abstract as verbs have a number of usages that are interconnected through family resemblances. Thus, their interpretation needs input from both the linguistic context and the situation. This explains the strong variability of verbs across

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[20] Herbst and Schüller, *Introduction to Syntactic Analysis*, 116. Some scholars advocate for the abandonment of the complement/adjunct dichotomy. See Perini, *Describing Verb Valency*, 22-33. However, since no agreement has yet been reached among linguists on this issue, the division between complements and adjuncts will be kept in this dissertation.

languages, i.e., cross-linguistic matches are between verb readings rather than verbs.[21]

(i) Obligatoriness:	*He devours **a hotdog.** *He devours.*
(ii) Form determination:	*They can see **him/*he.***
(iii) Constancy:	*She insists **on/*in/*under/*for meeting us.***
(iv) Case transfer:	German *Sie besteht auf **einem**$_{Dat}$/ ***ein**$_{Acc}$ Treffen.* 'She insists on a meeting.' German *Sie freut sich auf **ein**$_{Acc}$/ ***einem**$_{Dat}$ Treffen.* 'She is looking forward to a meeting'.
(v) Position:	*He devours a hotdog. *A hotdog devours he.*

Figure 2.1. Valency form relations.[22]

(vi) Proposition formation:	***They** arrive **at home**.*
(vii) Perspective:	*The car costs **$3,000**.* Cf. *She buys a car **for $3,000**.*
(viii) Synsemantic coding:	*He spies **on her**.* Cf. *The fly is **on her**.*

Figure 2.2. Valency meaning relations.[23]

[21] Ágel and Fischer, "Dependency Grammar and Valency Theory," 22.
[22] Figure from Ágel and Fischer, "Dependency Grammar and Valency Theory," 19.
[23] Figure from Ágel and Fischer, "Dependency Grammar and Valency Theory," 20.

Indeed, a verb may have various possible readings, as in 2(9), which means that one valency carrier does not necessarily correspond to one verb. Thus, any description of the valency of a verb needs to take the verb's different readings into account.

2(9) a) *Andrew thought it was strange*. (think = have an opinion)

b) *Andrew never thought he would win*. (think = expect)

2.1.3. Valency alternations

The valency of a verb does not always have to stay the same but can be altered in all languages. Various strategies can be employed in order to increase or decrease valency or swap the roles of arguments. In this way, one verb can be employed in several constructions with a differing number of arguments, called *diatheses* or *valency patterns*. The set of all valency patterns or diatheses of a verb represents the verb's valency.[24]

2.1.3.1. Valency-increasing operations

When verbal valency is increased, a new obligatory participant is introduced into the clause. This happens most commonly in *causative* constructions (see section 2.2.). For instance, 2(10) shows an example of a valency alternation, in which the monovalent verb *smile* becomes bivalent in the causative construction. The number of obligatory arguments is thus raised from one to two, since a clause like **Andrew made smile* is not grammatical. The verb *sleep* in the causative construction requires two arguments: subject and object.

2(10) *Andrew smiled*. (inchoative) => *Andrew made Hanna smile*. (causative)

Another way to increase valency is through *applicative* constructions, common in agglutinative languages like Austronesian. In applicative constructions, an adjunct is

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[24] Perini, *Describing Verb Valency*, 4-5.

turned into an obligatory object by a marker on the verb. The new object is called *applied object*, while the original one is called *basic object*.[25] An example of an applicative construction is given in 2(11), which comes from the Austronesian language Tukang Besi. The applicative suffix *-ako* in 2(11b)) marks the obligatory participant in the clause: the applied object *inasu* "my mother". Thus, the valency of the verb is raised from two arguments (subject and direct object) to three arguments (subject, basic object, applied object).

2(11)   a)   no-ala   te   kau
                3.REAL-fetch the wood
                "She fetched the wood."

         b)   no-ala-ako   te   ina-su   te   kau
                3.REAL-fetch-APP the mother-my   the wood
                "She fetched the wood (as a favor) for my mother."[26]

2.1.3.2. Valency-decreasing operations

When the valency of a verb is reduced, an obligatory participant becomes optional, without making the clause ungrammatical. A reduction in verbal valency most commonly occurs in *passive* constructions. In such constructions, the subject of an active clause is demoted, but it can still be expressed as an adjunct. Consider the active clause in 2(3) and its passive counterpart in 2(12). The active transitive clause was turned into a passive intransitive clause, thus reducing the number of obligatory arguments from two to one. The original object became the subject of the passive clause, while the original subject was omitted or expressed in a prepositional phrase. In the former, the subject had the role of *agent*, while

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[25] Velupillai, *Introduction to Linguistic Typology*, 263.
[26] Example from Velupillai, *Introduction to Linguistic Typology*, 263, example #187.

in the latter, the subject had the role of *patient*. Thus, the original subject was turned into an optional argument in the passive clause, while the original direct object was promoted to the subject in the passive clause.

2(12) *The mosquito was killed (by Andrew).*

A similar strategy for decreasing valency is *antipassive* constructions, which are, however, rarer than passives.[27] They are similar to passives in that one of the obligatory arguments becomes optional. However, unlike passives, in antipassive constructions it is the agent argument that stays in the clause, while the patient argument is demoted. Another way in which valency can be reduced is *noun incorporation*, when one argument is incorporated into the verb, thus reducing the number of arguments by one. 2(13) contains an example of noun incorporation from Chukchi, a Siberian language.

2(13)   a)   Tumg-e   na-ntəwat-ən   kupre-n
                friends-ERG   3SG-set-TRANS   net-ABS
                "The friends set the net."

          b)   Tumg-ət   kupra-ntəwat-gat
                friends-NOM   net-set-INTRNS
                "The friends set nets."[28]

Reflexive and *reciprocal* constructions reduce valency as well. In reflexives, the subject and object refer to the same entity, as in 2(14). Thus, the clause does not have two different participants, but only one participant with two different roles and functions. A reciprocal clause has two participants that are both the agent and patient, since both act upon one

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[27] Velupillai, *Introduction to Linguistic Typology*, 268.
[28] Example from Payne, *Describing Morphosyntax*, 221-2, examples #120 and #121.

another, as in 2(15). Due to their semantic similarity, reciprocals and reflexives could be marked in languages in the same way.[29]

2(14)   *Andrew washed himself.*

2(15)   *Andrew and Hanna kissed each other.*

Valency can be also decreased through the opposites of causatives, called *anticuasatives*, *middles*, or *mediopassives,* which can be marked by an "affix," "anticausative auxiliary," or "stem modification".[30] Anticausatives[31] are created when the causer in a causative clause is no longer required, leading to a reduction in the number of arguments. Thus, the agent is disregarded, while the situation expressed in anticausative constructions denotes a process rather than an action. Such clauses are neither active nor passive, hence the term middles. The difference between active, passive, and middle clauses is illustrated in 2(16). Notice that in the anticausative or middle clause, there is no implied agent, unlike in the passive.

2(16)   a) *Andrew opened the door.* (active)

       b) *The door was opened (by Andrew).* (passive)

       c) *The door opened.* (anticausative)

Anticausative constructions are considerably lexically restricted, since they are formed from verbs denoting events that happen seemingly spontaneously.[32] Haspelmath[33]

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[29] Payne, *Describing Morphosyntax*, 200.
[30] Martin Haspelmath, "More on the Typology of Inchoative/Causative Verb Alternations," in *Causatives and Transitivity*. Studies in Language Companion Series 23, eds. Bernard Comrie and Maria Polinsky (Amsterdam: John Benjamins, 1993), 91.
[31] See Haspelmath, "More on the Typology," 87-120; Martin Haspelmath, *Transitivity Alternations of the Anticausative Type* (Cologne: Institut für Sprachwissenschaft der Universität zu Köln, 1987).
[32] Haspelmath, "More on the Typology," 105.
[33] Haspelmath, "More on the Typology," 105.

proposed a scale indicating the types of verbs with "increasing likelihood of spontaneous occurrence," shown in Figure 2.3.
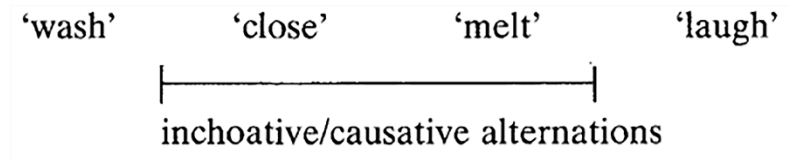
Figure 2.3. *A scale of verbs likely to appear in the inchoative/causative alternation.*[34]

The verbs like *wash*, on the left side of the scale, are unlikely to occur in the inchoative/causative alternation, since they do not take place spontaneously.[35] In contrast, verbs like *laugh* on the far left of the scale can occur only in causatives. The verbs like *close* show the strongest preference for anticausative derivations, since they are more likely to occur spontaneously, while the verbs like *melt* can be found in anticausative expressions, but causative ones are more common.[36]

2.1.3.3. Operations altering the roles of arguments

In addition, there are several strategies in which valency is neither increased nor decreased, but the semantic and/or syntactic roles of arguments are changed. Examples of such constructions are the *inversion* and *dative shift*. In inversion constructions, the alignment of arguments is inverted due to topicality: the significance of the agentive participant is lessened, while that of the patientive participant is strengthened. 2(17) provides an example of inversion from the Tibeto-Burman language Nocte.

2(17) a) nga-ma ate hetho-ang
           1-ERG   3   teach-1SG

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[34] Haspelmath, "More on the Typology," 105. Anticausative is a type of an inchoative verb derived from a causative verb.
[35] Haspelmath, "More on the Typology," 105.
[36] Haspelmath, "More on the Typology," 105-6.

"I will teach him."

    b)   ate-ma   nga-nag hetho-***h***-ang
            3-ERG   1-ACC   teach-INV-1SG
            "He will teach me."[37]

Dative shift is not a very common strategy across languages but occurs in English. Consider the two sentences in 2(18). The clause in 2(18a)) has a direct and indirect object, wile the clause in 2(18b)) has what appears to be two direct objects, hence *double* object. In this way, the two objects are realigned, but the valency of the verb remains the same.

2(18)   a) *Andrew gave an apple to Hanna.*
          b) *Andrew gave her an apple.*

2.1.4. Valency and ancient Egyptian

Valency alternations are cross-linguistically very common in verbal morphology. In fact, as many as 90 percent of languages in Bybee's *Morphology* have a morphological marker of valency on the verb.[38] The valency category was thus the most common, even more common than tense and aspect, in her investigation of cross-linguistic morphological features. In addition, in only 6 percent of the languages, valency was an inflectional rather than derivational operation.[39] In this respect, the theory of valency and its alternations is one of the most suitable approaches to the study of verbal derivation in Old Egyptian, combining morphosyntactic and semantic descriptions. It will be especially applied to the examination of *n*-prefixation in Old Egyptian in Chapter 3, for which no prior function is assumed. Therefore, it is hoped that through the description of the valency of *n*-prefixed

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[37] Example from Payne, *Describing Morphosyntax*, 210, example #97.
[38] Joan Bybee, *Morphology: A Study of the Relation Between Meaning and Form*. Typological Studies in Language 9 (Amsterdam: John Benajmins, 1985), 29-31.
[39] Bybee, *Morphology*, 30.

verbs, a possible role of the *n*-prefix can be suggested. Valency will also be applied to less common affixes, analyzed in Chapter 6. A particular valency alternation that increases the number of a verb's arguments, specifically causative derivation, is described in the next section, together with its semantic background.

2.2. The theory of causative constructions

A causative derivation is a valency-increasing operation, which adds a new argument into a clause. The argument introduced into the clause is a new agent, i.e., the *causer*, that can be an animate or inanimate entity, or even an event.[40] The original subject of a non-causative clause becomes an object, i.e., the *causee*, in a causative clause, and can play the role of an agent or patient.[41] Thus, the two main participants in a causative event are the causer and the causee. A causative construction expresses a complex situation characterized by two events. As defined by Song,[42] these are "(1) the causing event in which the causer does something, and (2) the caused event in which the causee carries out an action or undergoes a change of condition or state as a result of the causer's action."

Formally, we can distinguish between three different types of causative expressions, namely *lexical* (synthetic), *morphological*, and *periphrastic* (analytic or syntactic).[43] The lexical type contains those verbs that show suppletion, i.e., no morphological similarity between the base verb and its derived counterpart; labile verbs,

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[40] Robert Dixon, "A Typology of Causatives: Form, Syntax and Meaning," in *Changing Valency: Case Studies in Transitivity*, eds. Robert Dixon and Alexandra Aikhenvald (Cambridge: Cambridge University Press, 2000), 32.

[41] Dixon, "A Typology of Causatives," 31-3.

[42] Joshua Song, "Causatives: Semantics," in *Encyclopedia of Language and Linguistics*, ed. Alex Barber (Elsevier, 2005), 265; Masayoshi Shibatani and Prashant Pardeshi, "The Causative Continuum," in *Grammar of Causation and Interpersonal Manipulation*, ed. Masayoshi Shibatani (Philadelphia: John Benjamins, 2002), 85-6.

[43] Song, "Causatives: Semantics," 265.

i.e., verbs of the same form in both transitive and intransitive uses; and also verbal pairs distinguished by internal sound changes.[44] The morphological type involves a derivational affix that expresses the cause, while the base verb to which the affix attaches expresses the effect of that causation.[45] The syntactic type contains two clauses and two verbs, one of which expresses the cause and the other one the effect.[46] However, the boundaries between these types of causation are not clear-cut and rather represent a continuum.[47] The following paragraphs will outline the theoretical background of causative constructions rooted in semantics, necessary for the study of causative derivation in Old Egyptian.

2.2.1. Semantic categories and parameters

Languages differ in the constraints placed on the arguments that allow causative constructions or that discern multiple causative strategies within a language. Dixon[48] proposes nine parameters that can help to distinguish multiple causatives in a language, which stem from the characteristics of the verb and its arguments: the first two relate to the verb: (1) state/action, (2) transitivity; the next three concern the causee: (3) control, (4) volition, (5) affectedness; and the rest relate to the causer: (6) directness, (7) intention, (8) naturalness, (9) involvement. However, not all of them need to be present in a language.

A causative process is commonly applied to intransitive verbs, although transitive and ditransitive verbs can often be causativized in some languages as well.[49] An important consideration is that the processes of causativization are "organized largely according to

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[44] Song, "Causatives: Semantics," 265; Shibatani and Pardeshi, "The Causative Continuum," 90-91.
[45] Song, "Causatives: Semantics," 266.
[46] Song, "Causatives: Semantics," 266.
[47] Shibatani and Pardeshi, "The Causative Continuum," 103.
[48] Dixon, "A Typology of Causatives," 61-74.
[49] Dixon, "A Typology of Causatives," 41-61.

the semantics of the base verbs".[50] However, ever since Perlmutter's Unaccusative Hypothesis,[51] it has been recognized that the mere division of verbs into transitive and intransitive is not sufficient in analyses of causative constructions. In fact, at least four different semantic groups of verbs need to be distinguished: (1) inactive intransitives, (2) middle/ingestive verbs, (3) active intransitives, and (4) transitive verbs.[52]

Intransitive verbs can be divided into two groups: *active* and *inactive*, also known as *unergative* and *unaccusative* in Perlmutter's terminology, respectively. The former express a volitional action by the agent, while the latter denote an action that happens seemingly spontaneously. The contrast between them is exemplified by the English sentences in 2(19): 2(19a)) is an example of an active intransitive verb, while 2(19b)) is an example of an inactive intransitive verb.

2(19)   a) *John ran.*
        b) *The tree fell.*

Another group of verbs includes *ingestive* verbs, i.e., verbs denoting "food consumption and information acquisition such as seeing, knowing/learning," as well as middle verbs that denote a situation in which the agent acts upon himself/herself, such as *shaving*, *dressing*, *washing one's hands*.[53] The verbs in this group can be transitive (e.g., "eat something") or intransitive (e.g., "sit down").[54] The last group contains all other transitive verbs.

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[50] Shibatani and Pardeshi, "The Causative Continuum," 96.
[51] David Perlmutter, "Impersonal Passives and the Unaccusative Hypothesis," *Proceedings of the Annual Meeting of the Berkeley Linguistics Society* 38 (1978): 157-189.
[52] Masayoshi Shibatani, "Introduction: Some Basic Issues in the Grammar of Causation," in *Grammar of Causation and Interpersonal Manipulation*, ed. Masayoshi Shibatani (Philadelphia: John Benjamins, 2002), 6.
[53] Shibatani, "Introduction," 5.
[54] Shibatani, "Introduction," 6.

From a semantic perspective, Song[55] divides causation into *direct* vs. *indirect* and *manipulative* vs. *directive*. The former pair concerns a distinction in the spatiotemporal realization of the causing and caused events, while the latter is based on the proximity of the causer and the causee. The direct causation expresses a situation in which the causing event directly precedes the caused event, without any intermediary event that would be needed to bring about the caused event.[56] Such situations often involve the causer as the agent and the causee as the patient, which means that the caused event can only be carried out with the volition of the agent, hence the spatiotemporal overlap between the causing and caused events.[57] Such a situation is shown in 2(20), where John breaks Tom's arm during their mutual combat, in which they are aggressively attacking each other. Thus, the causing event of the *fight* directly precedes, or overlaps with, the caused event of *breaking the arm*.

2(20) *John broke Tom's arm during a fight*.

In contrast, indirect causation expresses a situation in which the caused event might be separated by another event that takes place between the causing and the caused events, which are thus spatiotemporally disconnected.[58] These situations usually involve an agentive causer as well as an agentive causee, which means that the causee also has a certain degree of volition and autonomy in bringing about the caused event.[59] For instance, in 2(21) John again broke Tom's arm, but this time by lending him a defective pair of skis, on which Tom fell down while he was skiing. Thus, in this case, an intermediary event of

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[55] See Song, "Causatives: Semantics," 266-7.
[56] Song, "Causatives: Semantics," 266.
[57] Shibatani and Pardeshi, "The Causative Continuum," 89.
[58] Song, "Causatives: Semantics," 266.
[59] Shibatani and Pardeshi, "The Causative Continuum," 89.

skiing spatially as well as temporally separates the causing event of *lending the skis* and the caused event of *breaking the arm*.

2(21) *John caused Tom's arm to break by lending him old skis*.

However, since it is also possible to have a patientive causee in an indirect causative situation, the agent/patient parameter is not a very reliable distinguishing feature between direct and indirect causation. It will be, however, used in this study in order to demonstrate whether it might play any role at all in the formation of Egyptian causatives. The best diachronic criterion, though, is the "spatiotemporal configuration" of the causative event.[60]

Furthermore, a causative situation is said to be *manipulative* if "the causer physically manipulates the causee" (as in 2(20)), while it is *directive* if the causer uses other means than physical, e.g., verbal, to bring about the caused event.[61] Therefore, it is commonly observed that the causee in a manipulative situation that requires physical contact is patientive and often inanimate, while in a directive situation that does not involve physical contact the causee is animate and human.[62]

However, the opposition between direct/indirect causation and manipulative/directive causation is not sufficient in describing causative constructions. As Shibatani and Pardeshi[63] have demonstrated, an intermediate category exists between these two types of causation and all three form a continuum. They have termed this category "sociative causation," which denotes a situation in which the causer and the causee carry

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[60] Shibatani and Pardeshi, "The Causative Continuum," 90.
[61] Song, "Causatives: Semantics," 267.
[62] Shibatani, "Introduction," 14; Masayoshi Shibatani, "The Grammar of Causative Constructions: A Conspectus," in *Syntax and Semantics, Volume 6. The Grammar of Causative Constructions*, ed. Masayoshi Shibatani (New York: Academic Press, 1976), 32-6.
[63] Shibatani and Pardeshi, "The Causative Continuum," 96-103.

out an action together or a similar thing happens to both of them.[64] Furthermore, they recognize three types of sociative causation: (1) joint-action, (2) assistive, and (3) supervision.[65] The entire continuum of semantic causation corresponds to the following schema: *direct – joint-action – assistive – supervision – indirect.*

2.2.2. Typological observations

It has been observed that the typology of the hierarchy of the processes of causativization is "inactive intransitives > active intransitives > transitives".[66] Inactive intransitives are the easiest to form morphologically causative counterparts, since such verbs have a patientive participant rather than an agentive one.[67] A causative process introduces a new agent, i.e., causer, into the argument structure, which in the case of inactive intransitives is not there yet. Thus, the causative agent simply takes up the available place in the argument structure.[68] In contrast, the agent is already present in the structure in the case of active intransitives or transitives, which means that the causative agent cannot directly assume this position.[69] In such cases, a language has to employ the periphrastic causative construction that allows the presence of two agents.[70] Moreover, active intransitives are easier to causativize than transitives, since less effort is required for the causative event to take place. Unlike active intransitives, transitives display an action that does not stay with the agent only but has to be extended to the patient as well.[71]

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[64] Shibatani and Pardeshi, "The Causative Continuum," 97-100. Other terms for this causation include associative/assistive/comitative-causative/instrumental-causative.
[65] Shibatani and Pardeshi, "The Causative Continuum," 100.
[66] Shibatani, "Introduction," 7.
[67] Shibatani, "Introduction," 5.
[68] Shibatani, "Introduction," 6.
[69] Shibatani, "Introduction," 6-7.
[70] Shibatani, "Introduction," 8.
[71] Shibatani, "Introduction," 7.

In addition, many languages prohibit the formation of morphological causatives of transitive verbs. However, those languages that do allow such causativization usually derive causatives of abstract verbs like "see/show, remember/remind" and verbs that denote food or drink consumption like "drink/give to drink, eat/feed, and suck/suckle".[72] This is because transitive ingestive verbs behave differently from other transitive verbs in that they have participants who are both agentive (resembling active intransitives and transitives) and patientive (resembling inactive intransitives). This means that the subject carries out an action but also affects himself/herself by that action,[73] e.g., when taking something into the body.

Furthermore, in situations that include animate (mainly human) causees, the causer must put a lot of effort into the causing event in order to overcome the causee who can act volitionally. Typologically, such situations are reflected in the grammar of a language in that they require a more elaborate (bi-clausal) causative expression.[74] Having to overcome a free will of an animate causee explains why periphrastic causation is generally indirect, while morphological causation with a patientive causee with no volition is generally direct. If languages tend to avoid forming morphological causatives out of active verbs, they instead choose to attribute the sociative function to such verbs.[75] The sociative function correlates with the applicative meaning expressed by "comitative, instrumental and benefactive forms".[76] In these cases, the causer is actively involved in bringing about the

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[72] Vladimir Nedyalkov and Georgij Silnitsky, "The Typology of Morphological and Lexical Causatives," in *Trends in Soviet Theoretical Linguistics*. Foundations of Language 18, ed. Ferenc Kiefer (Dordrecht: D. Reidel Publishing Company, 1973), 7.

[73] Shibatani, "Introduction," 6; Shibatani and Pardeshi, "The Causative Continuum," 95.

[74] Shibatani, "Introduction," 10.

[75] Shibatani and Pardeshi, "The Causative Continuum," 118.

[76] Shibatani and Pardeshi, "The Causative Continuum," 118.

caused event, often carrying out the same action as the causee.[77] This explains why in some languages the causative of such verbs as *walk* or *go* has the semantic value of *lead*.[78] In fact, those verbs that are likely to have the applicative meaning in their causative forms are verbs denoting motion or position.[79]

2.2.3. Causatives and ancient Egyptian

The typological considerations and semantic categories described in this section represent the most recent and the most suitable linguistic approach for the study of Egyptian causative constructions, presented in Chapter 4. Some of the parameters will need to be adjusted or omitted, due to ambiguous or missing evidence in Egyptian or their general inapplicability to Egyptian data. The most important parameters to be included in the study of Egyptian causative verbs will be the semantic categories of verbs, the animacy of the causee, and the directness continuum. The following section provides a description of a different linguistic model that does not strictly belong to the theory of valency, but which will be needed for the examination of a particular derivational operation in Old Egyptian, namely reduplication.

2.3. The theory of reduplication and gemination

Reduplication is a widespread phenomenon found in numerous languages across the world, regardless of the morphological type of the language (synthetic/isolating/agglutinative).[80] Inkelas and Downing define reduplication as a process of the "doubling of some component

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[77] Shibatani and Pardeshi, "The Causative Continuum," 118.
[78] Shibatani and Pardeshi, "The Causative Continuum," 118.
[79] Shibatani and Pardeshi, "The Causative Continuum," 119; Nedyalkov and Silnitsky, "The Typology," 18.
[80] Caroline Wiltshire and Alec Marantz, "Reduplication," in *Morphology: An International Handbook on Inflection and Word-Formation, Volume 1*. Handbücher zur Sprach- und Kommunikations-wissenschaft 17.1, eds. Geert Booij, Christian Lehmann, and Joachim Mugdan (Berlin: Walter de Gruyter, 2000), 561.

of a morphological base for some morphological purpose".[81] Phonological or morpho-semantic "properties of the root, stem, or word" provide an input for reduplication, on which the "reduplicative morphemes" are dependent.[82] However, reduplication can also copy "non-lexical bases," e.g., affixes, and even "supralexical bases," e.g., phrases.[83] Indeed, reduplication can be analyzed from two standpoints: forming a part of phonological theories or morpho-semantic theories, with the former being dominant for a couple of decades since the 1990s.[84] The phonology of reduplicative constructions is not unique; often being dependent on morphology.[85] However, it is not an intention of this section of the chapter to discuss the historical development of various proposed theories associated with reduplication. Instead, this section will describe different types of reduplication and their functions, illustrated by examples from modern languages.

2.3.1. Types of reduplication

In general, we can distinguish between *total* and *partial* reduplication. The former doubles the entire morphological form of the base, while the latter copies only some segment of the base. For instance, total reduplication can be illustrated by the formation of plural nouns in Warlpiri, as in 2(22).[86]

2(22) *kurdu*   "child"
       kurdu-kurdu "children"

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[81] Sharon Inkelas and Laura Downing, "What is Reduplication? Typology and Analysis Part 1/2: The Typology of Reduplication," *Language and Linguistics Compass* 9/12 (2015): 502.
[82] Inkelas and Downing, "What is Reduplication? Part 1/2," 502.
[83] Inkelas and Downing, "What is Reduplication? Part 1/2" 502.
[84] Inkelas and Downing, "What is Reduplication? Part 1/2" 502; Sharon Inkelas and Cheryl Zoll, *Reduplication: Doubling in Morphology* (Cambridge: Cambridge University Press, 2009), 2.
[85] Inkelas and Zoll, *Reduplication*, 67 and 105.
[86] Example from Inkelas and Downing, "What is Reduplication?" 503.

Partial reduplication can be exemplified by the formation of plurals in Agta in 2(23), where only the first (C)VC sequence of the base is copied and prefixed.[87]

2(23)   *takki*   "leg"
        tak-takki   "legs"

In some cases, the difference between total and partial reduplication is dependent on the length of words. For instance, in Marshallese, partial reduplication is seen with bisyllabic words, as in 2(24a)) while total reduplication with monosyllabic words, as in 2(24b)):[88]

2(24)   a) *takin*   "socks"   b) *wah*   "canoe"
           takinkin   "wear socks"   *wahwah*   "go by canoe"

Phonologically, it is also possible to distinguish between *exact* and *inexact* reduplication. An exact reduplicative morpheme agrees with the base completely, as in Warlpiri in 2(22). In contrast, inexact reduplication contains some phonological material that is not wholly dependent on the base. An example of inexact reduplication can be found in 2(25) from Yoruba, which forms deverbal nouns by the prefixation of the first consonant of the stem followed by an *í*, even if this is not the first vowel of the base.[89]

2(25)   *dùn*   "be sweet"
        dí-dùn "sweetness"

Reduplication can also be *continuous* or *discontinuous*; the former being more likely to occur in a language.[90] The latter involves non-adjacency of the reduplicant and the base,

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[87] Example from Wiltshire and Marantz, "Reduplication," 558.
[88] Example from Edith Moravcsik, "Reduplicative Constructions," in *Universals of Human Language I*, ed. Joseph Greenberg (Stanford: Stanford University Press, 1978), 306.
[89] Example from Wiltshire and Marantz, "Reduplication," 558.
[90] Carl Rubino, "Reduplication: Form, Function and Distribution," in *Studies on Reduplication*. Empirical Approaches to Language Typology 28, ed. Bernhard Hurch (Berlin: Mouton de Gruyter, 2005), 18.

which are separated by a segment: for instance, in Dholuo in 2(26), "mitigation" is expressed by reduplication accompanied by the insertion of the vowel *a* between the base and the reduplicant.[91]

2(26)   *tedo*   "cook"

            tedo atédâ   "just cooking"

Moreover, some languages also exhibit "triplication," the doubling of the base twice.[92] For instance, Mokilese uses reduplication to mark a progressive verb, while triplication marks a continuative verb, as in 2(27).[93]

2(27)   *soang*   "tight"

            soang-soang   "being tight"

            soang-soang-soang "still tight"

Finally, reduplication can copy some other material in addition to the base, a process known as "exfixation".[94] For instance, Kihehe reduplicates the base as well as the inflectional infinitival morph in order to form the verbal moderative, as illustrated in 2(28).[95]

2(28)   *kwíita-kw-íita*

            MODERAT-INF-pour

            "to pour a bit"

Because the prefix preceding a vowel, taking the shape of *kw-*, forms a syllable with the stem, it is subject to reduplication as well. However, if the prefix is found before a

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[91] Example from Rubino, "Reduplication," 17.
[92] Wiltshire and Marantz, "Reduplication," 559.
[93] Example from Wiltshire and Marantz, "Reduplication," 559.
[94] Sharon Inkelas and Laura Downing, "What is Reduplication? Typology and Analysis Part 2/2: The Analysis of Reduplication," *Language and Linguistics Compass* 9/12 (2015): 521.
[95] Example from Wiltshire and Marantz, "Reduplication," 559.

consonant, it takes the form of *ku-* and does not become reduplicated in the moderative, as in 2(29).[96]

2(29) *ku-tova-tova*
       INF-MODERAT-beat
       "to beat a bit"

These two examples from Kihehe show that reduplication is not restricted to doubling "material from only a single morph nor from the stem to which the reduplicating affix is morphologically attached".[97]

Since reduplication is essentially a process of affixation,[98] the reduplicative morphemes can be attached to the base as prefixes, infixes, or suffixes.[99] An example of prefixed reduplication was given in 2(23) in Agta. Suffixed reduplication exists in Chukchi, forming the absolutive singular, as in 2(30).[100]

2(30) noun: /nute-/
       absolutive singular: /nute-nut/
       "earth, ground"

An example of infixal reduplication in 2(31) comes from Chamorro, creating the verbal continuative.[101]

2(31) *hugándo*   "play"
       hugágando "playing"

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[96] Example from Wiltshire and Marantz, "Reduplication," 559.
[97] Wiltshire and Marantz, "Reduplication," 559.
[98] Inkelas and Downing, "What is Reduplication? Part 2/2," 520; Eric Raimy, *The Phonology and Morphology of Reduplication*. Studies in Generative Grammar 52 (Berlin: Mouton de Gruyter, 2000), 4-5.
[99] Wiltshire and Marantz, "Reduplication," 559.
[100] Example from Wiltshire and Marantz, "Reduplication," 560.
[101] Example from Inkelas and Downing, "What is Reduplication? Part 1/2," 507.

2.3.2. Functions of reduplication

An important observation across languages is that the meaning of a "reduplicative construction" almost always *includes* the meaning of "its unreduplicated counterpart".[102] Reduplication is associated with a variety of functions that range from its iconic meanings to non-iconic ones. As a duplicative process, reduplication often carries iconic meanings, such as pluralization, repetition, intensity, etc. Basically, an *extension* in form is reflected in the *extension* in meaning. Such an extension can take place in the "quantity of referents" or in the "amount of emphasis".[103] The referents are either "participants of event," found both in noun and verbal reduplication, or "events themselves" found only in verbal reduplication.[104] In nouns, reduplication can signal "simple plurality," "plurals of diversity," or "distributive plurals,"[105] examples of these in 2(32) come from Malay, Mandarin, and Twi.[106]

2(32)   a) Malay: *anak*   "child"

                       anakanak   "various children"

        b) Mandarin: *ren*   "man"

                       renren   "everybody"

        c) Twi: *dú*   "ten"

                       dú dú   "ten each"

In verbs, reduplication shows "a repeated occurrence with the same participants," "repeated occurrence with multiple participants," "reciprocal action," or "added intensity".[107] For

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[102] Moravcsik, "Reduplicative Constructions," 316.
[103] Moravcsik, "Reduplicative Constructions," 317.
[104] Moravcsik, "Reduplicative Constructions," 317.
[105] Wiltshire and Marantz, "Reduplication," 561.
[106] Examples from Moravcsik, "Reduplicative Constructions," 318.
[107] Example from Inkelas and Zoll, *Reduplication*, 15.

instance, in Nadrogā, reduplication forms frequentatives out of agent-oriented verbs, as in

2(33a)).[108] Other examples come from Yami, Twi, Samoan, and Sundanese.[109]

2(33)   a) Nadrogā: *tola-vi-a*   b)   *tola-tola-vi-a*

                   see-TR-3SG   "look repeatedly at it"

                   "look at it"

       b) Yami: *palu*   "strike"

                   mipalupalu   "strike each other"

       c) Twi: *wu*   "die (of one or several persons)"

                   wuwu   "die (in numbers)"

       d) Samoan   *mate*   "he dies"

                   mamate "they die"

       e) Sundanese   *rame*   "jolly"

                   ramerame   "be very jolly"

However, reduplication, especially partial reduplication, can also express non-iconic

meanings, often in the realm of derivation and inflection.[110] For instance, it can form nouns

out of verbs, as in Banoni in 2(34a)), verbs out of nouns, as in Ulithian in 2(34b)),[111] or

even comparatives out of adjectives, as in Ilocano in 2(34c)).[112]

2(34)   a) Banoni: *resi*   "grate coconut"

               re-resi   "coconut grater"

       b) Ulithian: *sifu*   "grass skirt"

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[108] Example from Inkelas and Downing, "What is Reduplication? Part 1/2," 503.
[109] Examples from Moravcsik, "Reduplicative Constructions," 320-1.
[110] Inkelas and Zoll, *Reduplication*, 14.
[111] Examples from Inkelas and Downing, "What is Reduplication? Part 1/2," 503.
[112] Example from Rubino, "Reduplication," 20.

<div align="center">

sif-sifu   "wear a grass skirt"

</div>

c) Ilocano: *dakkel*   "big"

  dak-dakkel   "bigger"

In addition, reduplication can create intransitives out of patient-oriented verbs in Nadrogā, as in 2(35a)),[113] or transitives out of intransitive verbs in Sundanese, as in 2(35b)).[114]

2(35)   a) Nadrogā: *vuli*   "[to be] turned over"

  vuli-vuli "turn over"

  b) Sundanese: *panas*   "to be angry"

  mapanas/mamanas   "to anger"

Reduplication expressing inflectional categories is found, for instance, in Tarok, where it marks "third person singular possession" in nouns, illustrated by 2(36).[115]

2(36)   *a-[fini]*   "yarn"

  a-[fini-fini] "his/her yarn"

Contrary to its expected iconic meaning, reduplication may even form diminutives or contempt, in contrast to augmentation and endearment.[116] Such opposite meanings are sometimes attested even in the same language.[117] An example of reduplication forming diminutives in 2(37a)) comes from Agta, while an example of attenuation in 2(37b)) comes from Thai.[118]

2(37)   a) Agta: *kwák*   "my thing"

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[113] Example from Inkelas and Zoll, *Reduplication*, 15.
[114] Example from Moravcsik, "Reduplicative Constructions," 325.
[115] Example from Inkelas and Downing, "What is Reduplication? Part 1/2," 503.
[116] Moravcsik, "Reduplicative Constructions," 317.
[117] Moravcsik, "Reduplicative Constructions," 317.
[118] Example from Moravcsik, "Reduplicative Constructions," 322.

> *kwalakák*   "my small thing"

    b) Thai: *kàw*   "old (of things)"

           kàw- kàw   "oldish"

Although reduplication is often seen as a phenomenon operating within the word-level, it can occur at the phrasal level as well and carry a syntactic function.[119] For instance, in Fongbe, phrasal verbal reduplication occurs in a) temporal adverbials, b) causal adverbials, c) factitives, and d) predicate clefts.[120] The situation in a) is illustrated in 2(38).

2(38)   *sísɔ́ʃí   Kɔ́kú   sísɔ́   tlóló   bɔ́ xɛ̀sí   ɖì Bàyí*
       tremble   Koku   tremble as.soon.as   and fear   get Bayi
       "As soon as Koku trembled, Bayi got frightened."[121]

Since reduplication is usually seen as affixation, such reduplicative strategies as shown in 2(38) tend to be analyzed as compounding.[122] However, in some cases, reduplication cannot be described as a compounding or an affixation. A duplication of stem segments can be phonologically conditioned in order to comply with a syllable structure or prosody in a language.[123] In such cases, we are talking about *compensatory reduplication*. A similar problem arises with "semantically empty reduplication," in which a morpheme is copied as a "filler segment" due to phonological or syntactic reasons.[124] For instance, in Nitinaht, stems reduplicate when one of around 40 different suffixes attaches to it, as is the case with the suffix "resemble" in 2(39).[125]

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[119] Inkelas and Downing, "What is Reduplication? Part 1/2," 507.
[120] Inkelas and Downing, "What is Reduplication? Part 1/2," 508.
[121] Example from Inkelas and Downing, "What is Reduplication? Part 1/2," 508.
[122] Inkelas and Downing, "What is Reduplication? Part 1/2," 508.
[123] Inkelas and Downing, "What is Reduplication? Part 2/2," 525.
[124] Inkelas and Downing, "What is Reduplication? Part 2/2," 524.
[125] Inkelas and Downing, "What is Reduplication? Part 2/2," 524.

2(39)   pi:la:q   "liver"

         pi:-pi:la:q-k'uk   "RED-liver-resembles" = "resembles liver (= yellow pond

         lily)"

Based on the cross-linguistic studies of reduplication, it is clear that this morphological

process concerns a large number of semantic and syntactic functions, which can be

derivational or inflectional.[126] Thus, reduplication is not restricted to expressing plurality,

intensity, or repetition, but is associated with numerous non-iconic functions as well.

Whether iconic or non-iconic functions are more likely to be expressed by reduplication is

not clear at the moment, since statistical investigations need to be carried out first.[127] In

any case, when it comes to reduplication, it is not possible to provide any "explanatory or

predictive generalizations" about its meanings.[128] In addition, reduplication can often be

polysemous in a particular language.[129]

2.3.3. Predicting reduplication

It is important to consider how the presence or absence of reduplication in a sentence can

be predicted. Moravcsik proposes several ways in which such a prediction could be

achieved: "a) from meaning only, b) from meaning and intrasentential structural properties,

c) from meaning and intralingual (but not intrasentential) structural properties, d) from

meaning and non-structural properties of the language or style in question, e) from any

combination of b), c) and d)."[130] Firstly, it would be possible to predict it based on the

meaning of the sentence, but only if reduplication had no synonymous constructions, which

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[126] Inkelas and Downing, "What is Reduplication? Part 1/2," 504.
[127] Inkelas and Downing, "What is Reduplication? Part 1/2," 504.
[128] Moravcsik, "Reduplicative Constructions," 325.
[129] Raimy, *The Phonology and Morphology of Reduplication*, 62-3.
[130] Moravcsik, "Reduplicative Constructions," 326.

is not the case.[131] The meanings that reduplication can denote can be expressed by an alternative form, whether in the same or a different language.[132] Thus, the proposition a) is not tenable and nor is b), since special "semantic or form-related property" exists in the sentences with reduplication.[133] The proposition c) contains two hypotheses: 1) "if a prefix has a reduplicative synonym in the language, it will be initial reduplication; if a suffix has a reduplicative synonym in the language, it will be final reduplication; and if an infix has a reduplicative synonym in the language, it will be internal reduplication," and 2) "all languages that have partial reduplication also have total reduplication…there is no language with partial reduplication only."[134] While the first hypothesis has exceptions, the second one seems to be universally upheld.[135] As for the proposition d), Moravcsik states that reduplication is present in "all pidgins and creoles and all baby talk registers".[136] These observations further point to the difficulty of predicting the presence or absence of reduplication in a language or a sentence.

2.3.4. Gemination

In connection with reduplication, it is necessary to also discuss gemination. Gemination is primarily a phonological process that doubles a sound, usually a consonant, thus resulting in two identical adjacent sounds. Therefore, gemination as a process of consonant lengthening could be regarded as a type of partial reduplication.[137] For instance, in Ilocano, the consonant doubling is employed to form animate or kin plural noun, as in 2(40).[138]

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[131] Moravcsik, "Reduplicative Constructions," 326.
[132] Moravcsik, "Reduplicative Constructions," 327.
[133] Moravcsik, "Reduplicative Constructions," 327.
[134] Moravcsik, "Reduplicative Constructions," 327.
[135] Moravcsik, "Reduplicative Constructions," 328.
[136] Moravcsik, "Reduplicative Constructions," 328-9.
[137] Rubino, "Reduplication," 11.
[138] Example from Rubino, "Reduplication," 12.

2(40)   *laláki*   "male"   *babái*   "female"

          lalláki   "males"   *babbái*   "females"

In fact, Niepokuj in her study on reduplication in the Indo-European languages has suggested that gemination could represent the last stage in the grammaticalization of reduplication.[139] Thus, total reduplication is simplified to only partial reduplication, which is over time reduced to gemination.[140]

      However, there are numerous ways in which geminates can arise as a result of phonological operations rather than morphological ones. Blevins lists as many as seven general pathways for the development of long consonants: "a) assimilation in consonant clusters, b) assimilation between consonants and adjacent vowel/glides, c) vowel syncope, d) lengthening under stress, e) boundary lengthening, f) reinterpretation of a voicing contrast, g) reanalysis of identical C+C sequences."[141] The following examples illustrate some of these developmental pathways:

   a) *nhakka* "see" < **nha-t-ka* (<*nha-l-ka) (Nhanda)
   b) *-dduka-* "run" < **-jiduk-* (Luganda)
   c) *ttún* vs. *tu-tún* "crocodile" (Dobel, change still in progress)
   d) *atta* "now!" vs. *ata* "now" (Bengali and Marathi)

Thus, the doubling of one consonant can be motivated either by phonology or morphology.

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[139] Mary Niepokuj, *The Development of Verbal Reduplication in Indo-European*. Journal of Indo-European Studies, Monograph Series 24 (Washington D.C.: Institute for the Study of Man, 1997), 63.

[140] Niepokuj, *The Development of Verbal Reduplication in Indo-European*, 63.

[141] Juliette Blevins, *Evolutionary Phonology: The Emergence of Sound Patterns* (Cambridge: Cambridge University Press, 2004), 170-8.

2.3.5. Telicity approach

The theory of valency cannot be applied in the study of reduplication since reduplication is not a valency-changing operation in ancient Egyptian. Therefore, an important criterion in assessing this phenomenon in Egyptian will concern *telicity*. Verbal predicates can be described as either *telic* or *atelic*. Comrie describes a telic situation as involving a "process that leads up to a well-defined terminal point, beyond which the process cannot continue," while an atelic situation does not have such a terminal point.[142] However, it has been recently argued that the terminal-point approach is not tenable in some cases and that a better way to describe telicity is in terms of homogeneity.[143] According to this approach, "telic predicates refer to eventualities which are viewed as having subparts, whereas atelic ones refer to the eventualities homogenously".[144] Atelic predicates refer to situations in which "any part of the process is of the same nature as the whole".[145] Moreover, verbs that denote "states and activities" are homogenous, while those expressing "achievements and accomplishments" are non-homogenous.[146] Thus, 2(41a)) contains two examples of an atelic predicate, since every part of *loving* (state) or *walking* (activity) is the same as the whole, while the predicates in 2(41b)) are telic, since the subparts of *arriving home* (achievement) and *breaking the vase* (accomplishment) are different from their wholes. Importantly, telicity is a property of verbal predicates, i.e., verbs and their arguments, rather

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[142] Bernard Comrie, *Aspect: An Introduction to the Study of Verbal Aspect and Related Problems*. Cambridge Textbooks in Linguistics (Cambridge: Cambridge University Press, 1976), 44.

[143] Olga Borik, *Aspect and Reference Time*. Oxford Studies in Theoretical Linguistics (Oxford: Oxford University Press, 2006), 37-9.

[144] Borik, *Aspect and Reference Time*, 37.

[145] Zeno Vendler, *Linguistics in Philosophy* (New York: Cornell University Press, 1967), 101.

[146] Borik, *Aspect and Reference Time*, 48.

than just verbs alone. This is because a verb can be both telic and atelic depending on which argument(s) it takes in a clause.

2(41)   a) *Ann loves John. Mary is walking.*
        b) *Mary has arrived home. John broke the vase.*

2.3.6. *Reduplication and ancient Egyptian*

The last linguistic model described in this chapter concerned the theoretical preliminaries for the study of reduplication and gemination. Even though the forms and functions of reduplication can significantly vary from language to language, this model will be of particular importance in the investigation of Old Egyptian reduplicative patterns, described in Chapter 5. Two main reduplicative types will be investigated, namely total and partial, both of which had several subtypes in Old Egyptian. A distinction will be made between telic and atelic predicates whose forms could be reduplicated. The following chapters present the evidence from Old Egyptian for each type of verbal derivation and analyze the data based on the linguistic models and theoretical considerations presented in the current chapter.

CHAPTER 3. THE *N*-PREFIX
IN OLD EGYPTIAN

The present chapter investigates the morphological process of prefixation by the morpheme *n-* in Old Egyptian, employing the theory of valency discussed in the previous chapter (Chapter 2, section 2.1.). The first part of the chapter outlines the previous research on the *n*-prefix in ancient Egyptian (section 3.1.), while the second part is devoted to a description of morphologically and semantically related verbal pairs that serve as evidence for the function(s) of the *n*-prefix in Old Egyptian (section 3.2.). These include desubstantival verbs, intransitive *n*-prefixed verbs with transitive bases, intransitive *n*-prefixed verbs whose base forms are also intransitive, transitive *n*-prefixed forms derived from transitive counterparts, and less certain *n*-prefixed verbs. This is followed by a short discussion of *n*-prefixed substantives (section 3.3.), a description of the cognate *n*-prefix in the Afroasiatic languages (section 3.4.), a speculation on the origin of the *n*-prefix (section 3.5.), and phonological considerations of the *n*-prefix in ancient Egyptian (section 3.6.). The chapter is concluded with a suggested interpretation of the role(s) of the *n*-prefix in Old Egyptian (section 3.7.).

3.1. Previous research of the n-prefix

The possibility of augmenting a verbal (as well as substantival) stem in ancient Egyptian by the prefixation of the morpheme *n-* has long been known among linguists studying the

ancient Egyptian language. Already at the end of the 19th century some scholars collected examples of Egyptian words with the structure $nR_1R_2R_1R_2$, where *R* stands for a radical of the root, and their unprefixed simple forms. For instance, Victor Loret in his *Manuel de la langue égyptienne* (1889) noted the existence of the *n*-prefix, which, according to him, played a double role. The prefix, he asserted, could either be derived from the verb *jnj* 'bring' or from the negation *nn*. In the former case, the role of the prefix was similar to that of *m-* that derives instrument, agent, and place substantives, whereas in the latter case, the *n*-prefix created lexemes with a meaning opposite to their underived counterparts.[1]

In addition, Adolf Erman in his *Äegyptische Grammatik* (1894) devoted a couple of sentences to the *n*-prefix, noting that it corresponds to the so-called Semitic "Niphal" with an intransitive meaning and that it belongs to the oldest stages of the language.[2] Thus, he viewed 5-radical verbs beginning with the consonant *n* as remnants of an older conjugation pattern.[3] Kurt Sethe in his *Das aegyptische Verbum im Altaegyptischen, Neuaegyptischen und Koptischen I* (1899) also focused only on 5-radical verbs and noted the connection between the Egyptian *n*-prefixed verbs with an intransitive meaning and the Hebrew "Niphal" or the Arabic 7th conjugation.[4] Thus, both Erman and Sethe recognized the existence of the *n*-prefix and its related forms in the Semitic languages, but they never elaborated on its exact function.

At the beginning of the 20th century, a more extensive discussion of the *n*-prefix

[1] Victor Loret, *Manuel de la langue égyptienne: grammaire, tableau des hieroglyphs, textes and glossaire* (Paris: Ernest Leroux, 1889), §191-192.

[2] Adolf Erman, *Ägyptische Grammatik: Mit Schrifttafel, Litteratur, Lesestücken und Wörterverzeichnis*. Porta Linguarum Orientalium 15 (Berlin: Reuther and Reichard, 1894)*,* §177.

[3] Adolf Erman, "Das Verhältniss des Aegyptischen zu den semitischen Sprachen," *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 46 (1892): 100.

[4] Kurt Sethe, *Das aegyptische Verbum im Altaegyptischen, Neuaegyptischen und Koptische I* (Leipzig: J. C. Hinrichs, 1899), §357-8, §428-9.

was done by Pierre Montet (1911). He listed all 3-5-radical verbs prefixed by the *n-* that he could find at the time as well as some *n*-prefixed substantives.[5] He discarded the possibility of the *n*-prefix as an Egyptian variant of the Semitic "Niphal,"[6] and noted two problems concerning this prefix: firstly, the meanings of some *n*-prefixed verbs and their unprefixed counterparts seem to be the same, and secondly, the examples of these verbs come from various periods of Egyptian history.[7] Thus, he came to the conclusion that the only explanation for the observed verbs and their meanings is that in all cases the consonant *n* was part of the root, but later on disappeared from the spoken language.[8] In this way, he believed that the *n-* did not play the role of a prefix, but in fact that of the first radical of a verbal root, which weakened in pronunciation over time.

In the second half of the 20th century, several Egyptologists took up the topic of the *n*-prefix again. For example, Elmar Edel in his *Altägyptische Grammatik I* (1955) maintained that the Egyptian *n-* morphologically matches the Semitic "Niphal" forms, but its function is different since it does not appear with strong 3-radical verbs in Egyptian.[9] Furthermore, Maria-Theresia Derchain-Urtel in her analysis of the *n*-prefix (1973), where she was looking at 5- as well as 3-radical verbs, came to the conclusion that the *n*-prefix denotes the middle voice,[10] which is a very well-known phenomenon from the Indo-European languages.[11] She stated that the relationship between the form and the subject is

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[5] Pierre Montet, "Le préfixe *n* en égyptien," *Sphinx* 14, no. 6 (1911): 203-226.
[6] Montet, "Le préfixe *n* en égyptien," 217-8.
[7] Montet, "Le préfixe *n* en égyptien," 226-8.
[8] Montet, "Le préfixe *n* en égyptien," 229-230.
[9] Elmar Edel, *Altägyptische Grammatik I.* Analecta Orientalia 34 (Rome: Pontifical Biblical Institute, 1955), §427.
[10] For a detailed discussion of the middle voice, see Suzanne Kemmer, *The Middle Voice.* Typological studies in Language 23 (Amsterdam: John Benjamins, 1993).
[11] Maria-Theresia Derchain-Urtel, "Das n-Präfix im Ägyptischen," *Göttinger Miszellen* 6 (1973): 45-6.

reflexive, but that the form itself is not reflexive, but rather medial.[12] She described the function of the *n*-prefix as an event in which: "das Subjekt eine Handlung an einem außerhalb seiner selbst liegenden Objekt vollzieht, beim präfigierten jedoch dieses Subjekt die gleiche Handlung an sich selber, in seinem eigenen lnteresse, in einer Bewegung auf sich selbst bezogen, ausführt".[13] In contrast, Christian Cannuyer (1983) viewed the verbs with the *n*-prefix as "expressive" or "intensive,"[14] even though in the Semitic languages, as he noted, such a prefix denotes the passive or reflexive and in the Berber languages the passive or reciprocal.[15] In addition, Giovanni Conti in his *Studi sul bilitterismo in semitico e in egiziano* (1980) provided a list of *n*-prefixed verbs in Egyptian and Ethiopic, discussing their 2-radical nature.[16]

In the Egyptological linguistic publications of the recent past, any discussions of the *n*-prefix have been brief and usually contained in a couple of sentences. For instance, Antonio Loprieno in his *Ancient Egyptian: A Linguistic Introduction* (1995) simply stated that roots can be augmented by the *n*- for "singulative nouns and reflexive verbs,"[17] whereas James Allen in *The Ancient Egyptian Language: An Historical Study* (2013) mentioned that the consonant *n*- prefixed to some verbs "seems to signal medial/intransitive/passive meaning".[18] Helmut Satzinger in 2007 observed that the prefix *n*- occurs only with 3-radical weak and reduplicated 2-radical verbs, and not strong 3-

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[12] Derchain-Urtel, "Das n-Präfix im Ägyptischen," 46-7.

[13] Derchain-Urtel, "Das n-Präfix im Ägyptischen," 43.

[14] Christian Cannuyer, "Les formes derivées du verbe en ancien Egyptien. Essai de systématisation," *Göttinger Miszellen* 63 (1983): 27.

[15] Cannuyer, "Les formes derivées du verbe en ancien Egyptien," 25.

[16] Giovanni Conti, *Studi sul biliterismo in semitico e in egiziano 1. Il tema verbal N1212*. Quaderni di semitica 9 (Firenze: Instituto di linguistica e di lingue orientali, Università di Firence, 1980).

[17] Antonio Loprieno, *Ancient Egyptian: A Linguistic Introduction* (Cambridge: Cambridge University Press, 1995), 54.

[18] James Allen, *The Ancient Egyptian Language: An Historical Study* (Cambridge: Cambridge University Press, 2013), 94.

radical verbs, as already noted by Edel.[19] According to him, *n*-prefixed verbs can have a reflexive or intransitive meaning, or a meaning similar or the same as their unprefixed counterparts.[20]

The most recent analysis of the *n*-prefix in ancient Egyptian was done by Pascal Vernus in 2009. He showed that it was used with reduplicated 2-radical verbs, which are transitive, while their prefixed versions are intransitive,[21] as had been recognized before. The function of the prefix, according to Vernus, was to "exclude any agentivity" and thus the prefix can be associated with "détransitive," and specifically "anticausative,"[22] values, a term already introduced by Stauder.[23] Importantly, Vernus recognized that the prefix *n*-indeed disappears from the spellings of some verbs in the later stages of the language and that that is the reason for the synchronic occurrence of such verbs as *gmgm* that has both transitive and intransitive values, while the latter value is, in fact, the successor of the original *n*-prefixed verb *ngmgm*.[24]

Lastly, Andréas Stauder devoted a section to the description of the *n*-prefix in his publication *The Earlier Egyptian Passive: Voice and Perspective* (2014). He also observed that the *n*-prefix mostly occurs with 2-radical simple or reduplicated verbs, whose second consonant is often a liquid.[25] Moreover, he correctly drew a parallel with the Semitic

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[19] Helmut Satzinger, "Modifizierung ägyptischer Verbalwurzeln durch Reduplikation," *Wiener Zeitschrift für die Kunde des Morgenlandes* 97 (2007): 483.

[20] Satzinger, "Modifizierung ägyptischer Verbalwurzeln durch Reduplikation," 483.

[21] Pascal Vernus, "Le préformant *n* et la détransitivité. Formation $nC_1C_2C_1C_2$ versus $C_1C_2C_1C_2$. A propos de la racine √gm 'notion de trituration'," *Lingua Aegyptia* 17 (2009): 291-317.

[22] Vernus, "Le préformant *n* et la détransitivité," 291 and 306-7.

[23] Andréas Stauder, "*La détransitivité, voix et aspect. Le passif dans la diachronie égyptienne*," (PhD diss., University of Basel, 2007).

[24] Vernus, "Le préformant *n* et la détransitivité," 312; Pascal Vernus, "La racine √*gm*, notion de <rencontre, contact avec>, et ses radicaux dérivés (*gmḥ*, *ngmgm* et *gmgm*)," in *Lotus and Laurel: Studies on Egyptian Language and Religion in Honour of Paul John Frandsen*. CNI Publications 39, eds. Rune Nyord and Kim Ryholt (Copenhagen: Museum Tusculanum Press, 2015), 419-430.

[25] Andréas Stauder, *The Earlier Egyptian Passive: Voice and Perspective*. Lingua Aegyptia Studia Monographica 14 (Hamburg: Widmaier Verlag, 2014), 213.

evidence for the N-stem, which originally formed verbs out of non-verbal elements, including onomatopeia.[26] Stauder showed that the Egyptian *n*-prefix could also have originally had this function and later developed into a prefix deriving intransitive verbs from both transitive and intransitive base verbs with the subject as "the locus of the event, affected by the event, or self-affecting".[27]

As becomes clear from this survey of previous research on the Egyptian *n*-prefix, a certain amount of discrepancy can be found in the results of these studies, however extensive they were. Early scholars distanced themselves from putting forward any proposal for the function of this prefix, mostly equating it with the Semitic N-stem and Arabic 7th form, while others even denied its existence. Later scholars connected the intransitiveness of *n*-prefixed verbs with the function of the prefix as creating *expressive*, *medial*, *reflexive*, *intransitive*, or *passive* meanings from their transitive simple forms. While these labels for the *n*-prefix are all related, they are in essence different concepts. Thus, a better description of the *n*-prefix would be needed that could synthesize these variations of its proposed roles, which in all probability developed from one original function. The best linguistic analyses of the *n*-prefix so far were done by Vernus and Stauder, who proposed the anticausative meaning of the *n*-prefix and its original function as a verbalizer, similar to the Semitic N-stem in origin. The following study of Egyptian verbal roots prefixed by the consonant *n*- elaborates on their findings.

One of the major shortcomings of most investigations of the *n*-prefix has to do with the fact that the authors used as evidence examples of *n*-prefixed words collected from the entire history of the ancient Egyptian language, ranging from the Old Egyptian Pyramid

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[26] See section 3.4. on the *n*-prefix in the Afroasiatic languages.
[27] Stauder, *The Earlier Egyptian Passive*, 214 and 217.

Texts to inscriptions in Ptolemaic hieroglyphs, thus spanning a period of more than two thousand years. During this very long time, many phonological, morphosyntactic, semantic as well as orthographic changes occurred in the language. Comparing an Old Egyptian prefixed verb with its unprefixed Late Egyptian counterpart does not constitute a desirable methodological approach, since the *n*-prefix gradually drops out of the language, as demonstrated by Vernus. Thus, a study of diachronically attested verbal pairs, one of which is prefixed by the *n*- and one which is not, is futile. Therefore, the following analysis of the *n*-prefix is based on a synchronic standpoint, taking into account only Old Egyptian verbs attested both in their prefixed and unprefixed forms, whether reduplicated or not. Even though the origin of the *n*-prefix precedes the earliest stage of ancient Egyptian attested in writing, it is nevertheless possible to speculate about its original function and make observations about its usage in the language, which is the subject matter of the following discussion. The following paragraphs thus present and discuss the available evidence for the *n*-prefix in Old Egyptian.

3.2. The n-prefix in Old Egyptian

The first step in the present analysis of the *n*-prefix in Old Egyptian is to identify, with as much certainty as possible, pairs of verbs, or a pair of a verb and a substantive, relevant for the study of the *n*-prefix. This is done in a twofold way, since both the morphological as well as semantic connections must be established. On the morphological level, a verb with the *n*-prefix needs to have its unprefixed counterpart in the category of either verbs or substantives. On the semantic level, the pair of verbs needs to indicate similarity in order to make sure that we are dealing with a base verb and its *n*-prefixed verb, rather than two morphologically similar, but semantically unrelated forms. Our lack of the knowledge of

exact semantic values of many ancient Egyptian words makes linguistic interpretations very difficult and sometimes wrong. Therefore, the semantic values of verbs with the *n*-prefix, whose function we are trying to determine, are derived from the meanings of their base counterparts, whether verbal or substantival. The *n*-prefixed verbs are left untranslated in the glosses and translations in order to avoid any prior linguistic bias before the semantic connection with the unprefixed form is established.

Identified *n*-prefixed verbs will be described in terms of the syntactic functions and semantic roles characteristic of the theory of valency, introduced in Chapter 2 (section 2.1.). In the examination of the *n*-prefix in this chapter, I assume no prior identification of its role, given the vast range of its previous interpretations. I will observe how the valency of *n*-prefixed lexemes changes in contrast to their base counterparts: whether it increases, decreases, or remains the same. In the case of desubstantival *n*-prefixed verbs, valency of the bases cannot be observed since they are substantives. Therefore, valency coding will be provided only for derived verbs. Based on the comparisons of the valency of the verbs identified as *n*-prefixed, I will suggest possible functions of the *n*-prefix. It is essential to note that not all verbs with the *n* as the first radical are *n*-prefixed verbs, as sometimes the *n* is part of the verbal root, and that not all pairs of verbs have a satisfying semantic link visible between them. Moreover, the reduplicative aspect of some verbs is only alluded to and is not described in detail in this chapter, since reduplication is the topic of Chapter 5.

The following section is divided into six parts, each corresponding to a description of different types of verbs, based on the available evidence. The first group contains those *n*-prefixed verbs that are transitive and that do not have an unprefixed counterpart in the category of verbs, but rather in that of substantives. The second group contains those

desubstantival verbs that are intransitive. The third group includes verbal pairs consisting of an intransitive *n*-prefixed verb and a transitive unprefixed verb. The fourth group contains those verbal pairs in which both prefixed and unprefixed forms are intransitive. The fifth group contains those verbal pairs that are both transitive. The last group contains those *n*-prefixed verbs that were derived in different ways than those mentioned above or those verbs that represent highly uncertain derivations.

3.2.1. Transitive n-prefixed desubstantival verbs

The first group of verbs is composed of transitive desubstantival verbs, i.e., verbs that have been derived by the *n*-prefix from substantives. The substantives themselves are not attested as verbs.

a) *nḥr*[28]

3(1) *jn:n:(j)*   *n:k*   *nḥr:w*   *ḥr:k*

    get:ANT:(1SG)   for:2SG.M   *nḥr*:PTCP.ACT:M.PL   face:2SG.M

    "I have gotten for you those that *nḥr* your face."[29]

The verb *nḥr*, usually translated as 'resemble', is a transitive verb in all its attestations, taking a direct object with the semantic role of *theme*. The subject of the verb has the semantic role of *patient*, as it is the entity that undergoes the effects of the predicate. The object can be either an inanimate entity, such as *tr* 'season', as in PT606(1693a-b), or an implied animate entity, such as *ḥr* 'face', as in 3(1) (since a face is part of a person or an animal, the animacy of the object is indirectly implied). This verb thus consists of the initial

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[28] Wb 2, 298.1-10; TLA lemma #86500. The verb *nḥr* is also attested in its totally reduplicated forms (see Chapter 5 on reduplication).
[29] PT114, 74a.

morpheme *n-* and the substantive *ḥr* 'face'.[30] The core semantic value of the verb that would incorporate the meaning of the substantive and lead to the common translation of the verb seems to be: *nḥr* 'have the face of (someone/something)' > 'resemble (someone/something)'. Thus, the semantic connection between the substantive and the derived verb should be obvious.

b) *nḏrj*[31]

3(2) *dj:k*   *nḏr*   *wnjs*   *pn*   *qbḥ:w*

    cause:ACT:2SG.M   *nḏr*:ACT   Unas   this:M   cool_waters:M.PL

    "You may make this Unas *nḏr* the Cool Waters."[32]

Another *n*-prefixed transitive verb derived from a substantive is *nḏrj*, usually translated as 'grasp, seize'. The subject has the semantic role of *agent*, while the object is the *theme*. The substantive from which this transitive verb is derived is *ḏrt* 'hand'.[33] I do not agree with the proposed derivation in the opposite direction, i.e., *nḏrj* > *ḏrt*,[34] since the word for *hand* belongs to the primary lexicon: the origin of a designation for *hand* as a body part that is used on daily basis most likely precedes a designation for an action that uses that body part. Moreover, an identification of *nḏrj* as an *n*-prefixed verb derived from a substantive is supported by the inflectional behavior of this verb.[35] Therefore, I believe that the derivation *nḏrj* < *ḏrt* is more likely. Since the main characteristic of a hand is the ability

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[30] Wb 3, 125.6-127.14; TLA lemma #107510.
[31] Wb 2, 382.18-383.26; TLA lemma #91670.
[32] PT222, 202a.
[33] Wb 5, 580.3-585.10; TLA lemma #184630.
[34] For instance, Wolfgang Helck, "Bemerkung zu den Bezeichnungen für einige Körperteile," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 80 (1955): 144-5; Antonio Loprieno, "Sprachtabu," in *Lexikon der Ägyptologie, Band V: Pyramidenbau – Steingefäße*, eds. Wolfgang Helck and Eberhard Otto (Wiesbaden: Otto Harrassowitz, 1983), 1211-1214; Pierre Lacau, *Les noms des parties du corps en égyptien et en sémitique* (Paris: Imprimerie Nationale, 1970), §24, #5, and §290-9.
[35] See Andréas Stauder, "Interpreting Written Morphology: The *sḏm.n.f* in the Pyramid Texts," *Journal of Near Eastern Studies* 73, no. 2 (2014): 253-271, especially 257-9.

to hold things, the semantic connection between the substantive and the verb is clear. A likely explanation for the missing final *-t* in the verb is that the feminine *-t* was left out on purpose, because the Egyptians knew that the final *-t* carried a grammatical function in that it could mark feminine substantives. Therefore, it would play no comparable role in the verbal system.

3.2.2. Intransitive n-prefixed desubstantival verbs

The second group of verbs consists of those desubstantival verbs that are always intransitive. Again, the substantives themselves are not attested as verbs.

a) *nḫt*[36]

3(3) *s:nḫt:n*   *p:t*   *jȝḫ:w*   *n:j*

     CAUS:*nḫt*:ANT   sky:F   sunlight:M   for:1SG

     "The sky has made the sunlight *nḫt* for me."[37]

The verb *nḫt* does not take any object and is always intransitive, but in 3(3) the verb has a direct object because it is causative, marked by the prefix *s-*, which raises the valency of the verb (see Chapter 4). In this case, the subject of the verb *nḫt* has the semantic role of *theme*. It is probably composed of the *n*-prefix followed by the substantive *ḫt* 'stick'.[38] To use a stick means to exert force on an object or a person, as shown orthographically by the use of the man/forearm-with-a-stick determinatives.[39] Thus, the literal semantic value of *nḫt* seems to be 'have the quality of a stick' > 'be(come) forceful'.

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[36] Wb 2, 314.6-315.4; TLA lemma #87560.
[37] PT523, 1231a.
[38] Wb 3, 339.10-341.11; TLA lemma #121200.
[39] Signs A24 and D40 in Gardiner's sign list.

b) *nkꜣkꜣ*[40]

3(4) *jmj:k*   *ꜥnḫ*   *jb:k*   *nkꜣ~kꜣ*   *ḥꜥ:k*

    cause:ACT:2SG.M   live:ACT   mind.M:2SG.M   *nkꜣkꜣ*:ACT   body.M:2SG.M

    nṯr

    god.M

    "You shall make your mind live and *nkꜣkꜣ* your god's body."[41]

Even though this is the only attestation of the intransitive verb *nkꜣkꜣ*, making it more difficult for us to determine its exact semantic value, the elements of which it is composed make its meaning more than certain. The verb consists of the *n*-prefix and the substantive *kꜣ*,[42] appearing in its totally reduplicated form, which normally marks iterativity (see Chapter 5). The *kꜣ* is an entity that denotes the vital force of a person, leaving the body upon death. The quoted passage in this spell expresses the need for the dead person, their mind as well as their body, to become alive again. Therefore, the *kꜣ* of the deceased that had left the body upon their death is supposed to return to the body so that the deceased can be reborn in the afterlife and continue to live forever. The word *kꜣ* also denotes sustenance provided for the deceased.[43] Therefore, the *kꜣ* is an element that enables the deceased's body and mind to function again in the afterlife. The subject of the verb has the semantic role of *theme*, as it undergoes the effects of the action. Various translations of this verb can be used, e.g., 'animate', 'enliven', but the true semantic value of *nkꜣkꜣ* would be 'have the (quality of) *kꜣ*'. Thus, 3(4) can be literally translated as "You shall make your body have *kꜣ* (again)".

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[40] Wb 2, 345.15; TLA lemma #89270.
[41] PT690, 2114a-b.
[42] Wb 5, 86.10-89.11; TLA lemma #162870.
[43] Wb 5, 91.3-13; TLA lemma #162890.

c) *ndsds*[44]

3(5) *nds~ds:w:sn*   *n:k*

　　　ndsds:ACT:3PL   for:2SG.M

　　　"They *ndsds* for you."[45]

The substantive from which *ndsds* was derived is *ds* 'flint'.[46] The same form of the substantive can also be used as the verb 'cut, be sharp',[47] but it is attested only since the New Kingdom and therefore the verbal category was most likely a secondary development. Due to the lack of a clear piece of evidence for the employment of *ds* as a verb in Old Egyptian, the verb *nds* is discussed in this group of desubstantival verbs, rather than deverbal ones in the following sections. Interestingly, we also find the substantive *mds* 'knife'[48] in Old Egyptian, having been derived from *ds* 'flint' by the prefixation of *m*. The *m*-prefix marks nouns of instrument, agent, place, or time (see Chapter 6, section 6.2.), hence the literal meaning of *mds* as 'an instrument of flint'.[49]

　　　The exact meaning of *ndsds* is uncertain. However, considering that *ndsds* is derived from *ds* 'flint', the literal semantic value of the verb should be 'have (the quality of) flint', analogous to the previous examples. It possibly refers to the sharpness of flint tools or knives, the action of cutting an object with a flint knife, or even the action of stabbing someone with a flint knife. In the context of the Pyramid Texts, the connotation of the verb *ndsds* seems to be injurious, since it appears in a presentation of weapons to the king. Therefore, the verb *ndsds* should predominantly include the harmful aspect of a flint

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[44] Wb 2, 368.16; TLA lemma #855349.
[45] PT67, 46b-c.
[46] Wb 5, 485.16-487.1; TLA lemma #180610 and #180620.
[47] Wb 5, 487.2-3; TLA lemma #180630.
[48] TLA lemma #78310.
[49] Note also the use of *mds* 'flint-er' as an agent noun (TLA lemma #78280).

tool in its meaning, while its totally reduplicated form points to the action as being iterative.[50] Thus, we may translate the verb as 'be(come) flinted'. The subject of the intransitive verb *ndsds* has the semantic role of *patient*.

d) *nbḏbḏ*[51]

Another possible verb derived from a substantive by the *n*-prefix is the intransitive *nbḏbḏ*, translated by Allen as 'bounce',[52] but unfortunately this verb is attested only once in Old Egyptian.

3(6) *nbḏ~bḏ*   *jr:t*   *ḥrw*   *dpj*   *ḏnḥ*   *ḏhwtj*   *m*   *gs*
　　nbḏbḏ:ACT   eye:F   Horus   upon   wing.M   Thoth   in   side.M

　　jꜣb   *n*   *mꜣq:t*   *nṯr*
　　eastern   of   ladder:F   god.M

　　"Horus's eye *nbḏbḏ* upon Thoth's wing on the eastern side of the god's ladder."[53]

Based on the pellet determinative,[54] it is clear that the substantive *bḏ*, attested, for instance, in PT254(279d), refers to some kind of a small round object, hence the dictionary translation 'ball' or 'pellet'.[55] Now, the occurrence of this substantive together with the verb *sq(r)* 'strike' in PT254(279d) suggests that we might be dealing with a weapon-like object that would use pellets. One is immediately reminded of sling stones, which would be small pebbles that are, unfortunately, difficult to recognize in the archaeological record. It is certain that the ancient Egyptians knew and used slings since they were depicted in

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[50] See Chapter 5 on reduplication.
[51] Wb 2, 247.9; TLA lemma #82960.
[52] James Allen, *The Ancient Egyptian Pyramid Texts*. 2nd ed. Writings from the Ancient World 38 (Atlanta: Society of Biblical Literature Press, 2015), 275.
[53] PT478, 976a-b.
[54] Sign N33 in Gardiner's sign list.
[55] Wb 1, 488.8; TLA lemma #58530.

tomb scenes at Beni Hassan and since even a few of them have survived from Egypt.[56] However, due to their perishable nature, the earliest attestation of a sling comes only from Dynasty 12 at Kahun (Figure 3.1.),[57] but due to their easy manufacturing process they might have been used since very early times. The interpretation of *bḏ* as a possible designation of a weapon, or its part, such as a sling stone, could also explain the attestation of the words *nbḏ* and *nbḏt*.[58] Written with the determinative of the arm holding a stick,[59] their meaning is connected with *destruction*, most likely alluding to an action involving some kind of weapon.

Figure 3.1. *Dynasty 12 sling from Kahum (The Manchester Museum).*[60]

However, the negative connotation of *nbḏ* 'destroy(?)' does not seem to be favorable in the context of the verb *nbḏbḏ* in 3(6). That spell is about the deceased ascending to the sky on a ladder of the gods, which is a joyous occasion. In addition, the absence of any determinative in *nbḏbḏ* makes any interpretation difficult. One possible explanation might

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[56] Nicholas Wernick, "Slings in the Ancient Near East with Reference to the Egyptian Material," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 141, no. 1 (2014): 97 and 102.
[57] Wernick, "Slings in the Ancient Near East," 98.
[58] PT*753, 6 and 33, respectively. Unfortunately, these spells are quite fragmentary.
[59] Sign D40 in Gardiner's sign list.
[60] Wernick, "Slings in the Ancient Near East," 98, Fig.1.

stem from the fact that the verb is totally reduplicated, and so we are dealing here with an iterative action (see Chapter 5). Thus, we could imagine an event in which multiple pellets like sling stones are fired rapidly and repeatedly. The verb might then refer to such a movement of the pellets. Horus's Eye is climbing the ladder on top of Thoth's wing and is shooting upwards to the sky, which might be an action referred to by this verb. Unfortunately, due to an insufficient number of this verb's attestations as well as those of its simple substantive counterpart, this proposition is highly hypothetical. In any case, *nbḏbḏ* could be perhaps best translated as 'shoot up'. The subject of the verb would have the semantic role of *theme*.

e) ***nbꜣbꜣ***[61]

3(7) *m*   *n:k*   *jr:t*   *ḥrw*   *j:s*   *nbꜣ~bꜣ:s*

    take:IMP to:2SG.M eye:F   Horus   GRND:3SG.F   *nbꜣbꜣ*:ACT:3SG.F

    "Accept Horus's eye: it is *nbꜣbꜣ*-ing."[62]

An interpretation of this intransitive verb is problematic since it is attested only a couple of times in the Pyramid Texts. However, we might speculate about its possible semantic value based on our knowledge of the Egyptians' conception of the world, and the fact that the word is composed of the *n*-prefix followed by the substantive *bꜣ*.[63] The *bꜣ* is another entity forming a part of human beings that leaves the body after death, and then regularly returns to it in the form of a bird. We know that the *bꜣ* could fly around outside of the tomb, but on occasions it would come back to the deceased's abode. Some Egyptian representations depict the *bꜣ* with a human head hovering above the deceased body.

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[61] Wb 2, 243.14; TLA lemma #82490.
[62] PT165, 98a. Allen, *The Ancient Egyptian Pyramid Texts*, 30.
[63] Wb 1, 411.6-412.10; TLA lemma #52840.

Therefore, here we are dealing with a verb that is connected with the *bꜣ*-bird. However, which exact characteristic of the *bꜣ*-bird is meant is unclear. Perhaps the verb *nbꜣbꜣ* could be translated as 'flutter', as suggested by Ward based on parallels from the Coffin Texts.[64] In that case, the subject would have the semantic role of *theme*.

f) *nšbšb*[65]

3(8) *m*   *n:k*   *jr:t*   *ḥrw*   *nšb~šb:t:n:k*   *ḥr:s*

     take:IMP   to:2SG.M eye:F   Horus   *nšbšb*:REL:F:ANT:2SG.M   because_of:3SG.F

     "Accept Horus's eye because of which you have *nšbšb*-ed."[66]

Unfortunately, 3(8) is the only attestation of the verb *nšbšb*, translated by Allen as 'burst forth',[67] lacking any determinative. However, it is significant that this spell occurs among those that refer to the preparation of an offering table and the presentation of offerings, especially food and drinks, that can be placed on such a table. Therefore, I would argue that the verb *nšbšb* is derived by the *n*-prefix from the substantive *šb(w)* 'food, main meal',[68] which is commonly found in Old Kingdom tomb offering formulas and lists, or from its related verb *wšb* 'feed',[69] whose first radical *w* dropped out after the prefixation of *n*-. The verb *wšb* usually takes a subject in the semantic role of *agent* and a prepositional phrase denoting the *theme*. Thus, *nšbšb*, in its totally reduplicated form with an iterative meaning could have the semantic value of 'become feasted/fed',[70] with the subject being

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[64] William Ward, *The Four Egyptian Homographic Roots B-3: Etymological and Egypto-Semitic Studies.* Studia Pohl: Series Maior, Dissertationes Scientificae de Rebus Orientis Antiqui 6 (Rome: Biblical Institute Press, 1978), 27-8.

[65] Wb 2, 338.20; TLA lemma #88610.

[66] PT94, 64b.

[67] Allen, *The Ancient Egyptian Pyramid Texts*, 26.

[68] Wb 4, 437.6-9; TLA lemma #153330.

[69] Wb 1, 371.3-4; TLA lemma #50320.

[70] See Chapter 5 on reduplication.

most likely the *patient*.

g) *nbj*[71]

3(9) *nbj:n:f*   *qs:w:f*

    nbj:ANT:3SG.M   harpoon:M.PL:3SG.M

    "He has *nbj*-ed his harpoons."[72]

3(10)   *nbj*   *n:k*   *p:t*

    nbj:ACT   for:2SG.M   sky:F

    "The sky *nbj* for you."[73]

This verb represents a very conjectural suggestion of an *n*-prefixed verb. It can be used

both transitively: 'melt, cast metal'[74] as in 3(9), and intransitively: 'be aflame'[75] as in 3(10).

It is significant that the verb refers to the melting and casting of metal, which in ancient

Egyptian was termed *bjꜣ*.[76] In Coptic, this substantive survives only in the expression *bjꜣ*

n pt 'metal of the sky' > ⲃⲉⲛⲓⲡⲉ, with the final sound of *bjꜣ* represented by the vulture sign

having disappeared. Is it possible that this final-word disappearance of the *aleph* had started

already in Old Egyptian or earlier, so that it was no longer represented orthographically in

the verb *nbj*? However, why would the Egyptian scribes not choose to preserve the

etymological writing with the *aleph*, when it was commonly written out in the substantive?

We may not be able to answer this question, but I find it significant that the verb's meaning

is related to the substantive for metal. Since melting metal required very high temperatures,

the verb might have become to be associated with fire and open flame as well, hence its

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[71] Wb 2, 236.6-9 and Wb 2, 244.3-6; TLA lemma #82520 and #82580.
[72] PT669, 1968b.
[73] PT685, 2063b.
[74] Wb 2, 236.6-9; TLA lemma #82520.
[75] Wb 2, 244.3-6; TLA lemma #82580.
[76] See Erhart Graefe, "*Untersuchungen zur Wortfamilie bjꜣ-*," (Inaugural diss., Universität zu Köln, 1971), 26-66.

different translations. Thus, perhaps the two verbs had originally come from the same root,

but over time they became separated and once writing was invented, this difference was

represented orthographically as well, since the two words are written with different signs.

Alternatively, *nbj* could instead be connected with the substantive *nbw* 'gold',

which was one of the most important metals. Orthographic support for this derivation could

be found in the writing of some examples of the verb *nbj* that employ the collar sign, which

commonly represented the word for *gold* in hieroglyphs, even though such a spelling might

simply be a word play. The evidence for the ancient Egyptians processing metal comes

already from the Predynastic times, especially for the working of copper and gold.[77] Thus,

it would be interesting to know whether *nbj*, *nbw*, and *bjꜣ* could all potentially come from

the same root. If so, then the meaning of *nbj* in 3(10) would be 'become aflame', with the

subject in the role of *theme*. Thus, the connection between the base and derived verbs would

be: *nbj* 'have (the quality of) metal/gold' > 'become aflame'.

h) *nwn*[78]

A very speculative example of desubstantival derivation concerns the verb *nwn* in 3(11).

3(11)   *nwn:sn*   *n:k*   *m*   *smꜣ:w.sn*
             nwn:ACT:3PL   for:2SG.M   with braid:M.PL:3PL
             "They *nwn* for you with their braids."[79]

The action that the intransitive verb expresses belongs to the activities and expressions

associated with mourning: "The *bas* of Pe drum for you, hitting their flesh for you, striking

[77] Bernd Scheel, *Egyptian Metalworking and Tools*. Shire Egyptology 13 (Aylesbury: Shire Publications, 1989), 8-14.
[78] Wb 2, 222.5; TLA lemma #81310.
[79] PT482, 1005c and PT670, 1974c.

their arms for you, shaking for you with their braids."[80] Scenes of mourning are also present in the ancient Egyptian iconography, depicting mourning women with some of their hair pulled to the sides at the temples or towards the front. An example of such a scene comes from the Dynasty 6 Tomb of Idu at Giza (Figure 3.2.).[81] The scene of mourning in his tomb, in which the mourners pull at their hair, is very indicative of the ears of a desert hare, which in ancient Egyptian was called *wn*.[82] It would be interesting to know whether the ancient Egyptians made the same parallel or not. The word *smꜣ* could also be translated as 'temple (of the head)', while *smꜣw* in this context is determined with the signs of locks hanging on one side.[83] Thus, *smꜣw* seems to be really referring to the hair hanging on the sides of the head, i.e., 'temple locks'. These temple locks are exactly the part of hair that the mourning women in the depiction in the tomb of Idu are pulling.

Now, in 3(11) it is not stated that "the temple locks are *nwn*-ed" or that "they *nwn* their temple locks," but rather that "they *nwn* <u>with</u> their temple locks". Therefore, the verb must mean that they assume the form of a hare, i.e., ear-stretched, but it is not the ears that are stretched out but their hair. In this way, they become "hair-stretched with their temple locks," i.e., their hair becomes elongated like the ears of a desert hare. The subject as the undergoer of the action would have the semantic role of *patient*. Thus, the meaning of *nwn*

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[80] PT482, 1005a-c. Allen, *The Ancient Egyptian Pyramid Texts*, 136.
[81] G7102, North Wall, at the side of the entrance. See William Simpson, *The Mastabas of Qar and Idu: G7101 and 7102*. Giza Mastabas, Volume 2 (Boston: Department of Egyptian and Ancient Near Eastern Art; Museum of Fine Arts, Boston, 1976), Plate 18a and Figure 35.
[82] TLA lemma #46110.
[83] Sign D3 in Gardiner's sign list.

seems to be 'become hair-stretched'.[84]

Figure 3.2. *A scene of mourning from the Tomb of Idu at Giza.*[85]

3.2.3. Intransitive n-prefixed verbs with transitive base verbs

The third group of Old Egyptian verbs contains those *n*-prefixed verbs whose simple

unprefixed counterparts are transitive verbs, while the *n*-prefixed verbs are all intransitive.

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[84] In the New Kingdom, we find the verb *wn* 'be bald' (Wb 1, 314.15-16; TLA lemma #46100), which could be connected with *nwn*. However, it is not possible to say whether this verb existed already in Old Egyptian or whether it is an example of a verb that has lost its prefix and undertaken a semantic change. Due to the extensive time difference between the attestations of these verbs, any connection between them must be taken with caution.

[85] Simpson, *The Mastabas of Qar and Idu*, Plate 18a and Figure 35.

a) *nhm*[86]

Unfortunately, only one attestation of the base verb of *nhm* without the *n*-prefix exists in

Old Egyptian. It can be found in an inscription on the east wall in the tomb of Henqu II,[87]

as shown in 3(12).

3(12) *n-zp*   *ḥm:j*   *zj*   *n*   *wsr:j*   *r:f*
          not-ever *ḥm*:ACT:1SG   man.M   because   be_strong:ACT:1SG   than:3SG.M
          "I have never *ḥm*-ed a man because I am stronger than him."

In this case, *ḥm* is clearly a transitive verb and expresses a kind of activity in which one's

voice is raised, as exemplified by the use of the determinative of a man with hand to his

mouth.[88] It seems that the verb carries a negative connotation based on this context and that

to '*ḥm* someone' is considered an act not worth a moral and well-behaved person. Thus,

most likely the verb *ḥm* means 'yell at someone' or something similar. The subject of the

verb is the *agent*, while its object is the *patient*. Because of the sole attestation of the verb,

its meaning is unclear, which in turn complicates the interpretation of the semantic value

of *nhm*/*nhmhm*.

3(13) *nhm*   *n:f*   *p:t*   *sḏꜣ*   *n:f*   *tꜣ*
          nhm:ACT   for:3SG.M   sky:F   shake:ACT   for:3SG.M   land.M

          ḥsr   *n:f*   *šnj:t*   *nhm~hm:f*   *m*   *stš*
          dispell:PASS   for:3SG.M   storm:F   *nhmhm*:ACT:3SG.M   as   Seth
          "The sky *nhm* for him, the earth shakes for him, the storm is dispelled for him

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[86] Wb 2, 285.7-18; TLA lemma #85580.
[87] Norman Davies, *The Rock Tombs of Deir el Gebrâwi. Part II-Tomb of Zau and Tombs of the Northern Group.* Archaeological Survey of Egypt 12 (London: Egypt Exploration Fund, 1902), Plate 25.
[88] Sign A2 in Gardiner's sign list.

when he *nhmhm* as Seth.”[89]

In 3(13), Geb and Nut, i.e., the earth and the sky, rejoice when the deceased king is ascending to the sky. The sky is said to be chuckling (*nṯḫṯḫ*) and *nhm*, while the earth is laughing (*zbt*) and shaking (*sḏꜣ*). The verb *nhmhm* is also associated with the god Seth in 3(13), one of whose roles was that of a storm-god. This verb can describe an action carried out by Seth during a storm, when all that can be heard is thunder. Thus, *nhmhm* most likely means something similar to *roaring*. The god Seth roars as a thunder during storms, but the storm clouds are made to part for the deceased to safely ascend to the sky. This is what the sky does when welcoming the deceased, while the earth trembles. Thus, they both express their joy in visible and sensory ways: as a thunderclap and an earthquake. However, in the context of 3(13) these are not regarded as negative events, but positive expressions of the sky and earth's happiness over welcoming the deceased king in the sky.

In addition, in PT218(163c), the deceased king is described as one "who surpassed you and surpasses you, wearier than you and greater than you, sounder than you and more *nhmhm* than you," which Allen translates as "more acclaimed than you".[90] In this context, the verb *nhmhm* has clearly a positive connotation, expressing a desirable quality. Therefore, it appears that the verb expresses a situation in which the subject of the verb undergoes the action of *hm*, whether in a positive or negative way, and has the semantic role of *patient*. Based on the use of *nhm*/*nhmhm* in these two different contexts, it is likely that the verb was polysemous at the time of Old Egyptian. Its interpretation is made difficult due to the sole attestation of its base verb *hm* and its unclear meaning. Therefore, the

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[89] PT511, 1150a-b.
[90] Allen, *The Ancient Egyptian Pyramid Texts*, 37.

semantic value of *nhm/nhmhm* could be 'become roared at/acclaimed'.

b) ***nhp***[91]

3(14)   *m*   *n:k*   *jr:t*   *ḥrw*   *hp:t*   *m-ꜥ*   *stš*

        take:IMP   to:2SG.M   eye:F   Horus   *hp*:REL.PASS:F   from   Seth

        nḥm:t   *n:k*

        save:REL.PASS:F   for:2SG.M

        "Accept Horus's Eye that was *hp*-ed from Seth and that was saved for you."[92]

The verb *hp* occurs only in two identical passages in the Pyramid texts in an unclear syntactic construction. However, based on the fact that the verb is in later times attested as a transitive verb, but more importantly because it is used in parallel with the verb *nḥm* 'take away, save',[93] which is a transitive verb and which shows the same morphological marking as *hp* in this clause, I would interpret *hp* as a transitive verb with a passive meaning in parallel with *nḥm* in this context. The dictionary translation is given as 'wrest from, escape'. However, if we take it to be transitive, then it really means: 'free someone (from someone or perhaps even from something)'. The subject of the verb has the semantic role of *agent*, while the object has the role of *patient*. In contrast, *nhp* occurs in several different spells as an intransitive verb, as in 3(15).

3(15)   *m*   *nhp:f*   *m-ꜥ:k*

        do_not:IMP   *nhp*:ACT:3SG.M   from:2SG.M

        "He is not to *nhp* from you."[94]

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[91] Wb 2, 283.8-284.4; TLA lemma #854520 and #85440.
[92] PT54, 39a and PT47, 36a.
[93] Wb 2, 295.12-297.4; TLA lemma #86430.
[94] PT356, 582b.

In this context the subject of the verb clearly undergoes the effects of the action and is thus the *patient*. The verb *nhp* is usually translated as 'jump' or 'move fast', determined with the walking legs.[95] However, if the verb is derived from *hp* 'free (someone)', then a better translation for *nhp* would be 'break free'.[96]

c) *nḫbḫb*[97]

Another pair of verbs in this group is *ḫbj* and its derived reduplicated form *nḫbḫb*. The verb *ḫbj* is clearly transitive in the periods after the Old Kingdom.[98] It seems to be transitive in the Old Kingdom as well, even though it is attested only in one example,[99] specifically in a Dynasty 6 letter.[100] The verb is usually translated as 'reduce, diminish',[101] and indeed it refers to the *reduction* of a day in this context. The sentence is passive, which means that the subject has the semantic role of *theme*. However, in an active clause, the subject would be the *agent*, while the object would be the *theme*.

3(16)	*sk*	*hr:w*	*js*	*pw*	*wꜥ*	*ḫb:t:f*	*n*
	SBRD	day:M	FOCZ	this	single	*ḫb*:REL.PASS:3SG.M	for

	ṯꜣz(:t)	*tn*	*ḥbs:t:s*
	troop:F	this:F	clothe:PASS:3SG.F

[95] Sign D54 in Gardiner's sign list.
[96] *Nhp* is also a verb used to label a scene with a bull mounting a cow. In the metaphorical sense, the verb could refer to the act of the bull's being freed from tethers and freely engaging in copulation. Another possibility is that the verb refers to the bull's semen *being freed* in order to impregnate the cow, which is suggested by the use of the penis determinative (sign D52 in Gardiner's sign list) in one of the Old Kingdom tomb scene inscriptions (Mastaba of Senedjemib Inti at Giza, G2370).
[97] Wb 2, 309.12-14; TLA lemma #87190.
[98] For instance, the Dynasty 11 stela of Megegi (The Metropolitan Museum of Art 14.2.6) contains the following statement in which *ḫbj* takes a direct object: *nj ḫb:n:(j) tr ḫnt hrw* "I have not deducted time from the day." (line 6).
[99] The verb in PT486, 1041d; PT*736, 5 is *ḫbn*, and not *ḫbj* with the indirect genitive *n*, as suggested by the TLA (see lemma #87190). That the *n* is part of the root of the word is very clear in its writing in PT302, 462b (*nj ḫbn:t:f*).
[100] Papyrus Cairo JE 49623. See e.g., Alan Gardiner, "An Administrative Letter of Protest," *Journal of Egyptian Archaeology* 13, no. 1 (1927): 75-8.
[101] Wb 3, 251.3-19; TLA lemma #115570.

"It is a single day that should be wasted for this troop when it is clothed."[102]

The verb *ḫbj* with the *n*-prefix is attested in its reduplicated form in the following example.

3(17)　*wn:t*　　　*n:k*　　　*ʿꜣ:wj*　　　*ḥꜣ:t*　　　*nḫb~ḫb*

open:PASS　　for:2SG.M　　door:M.DU　　mastaba:F　　*nḫbḫb*:ACT

　　　n:k　　　*ʿꜣ:wj*　　　*nwt*

　　　for:2SG.M　　door:M.DU　　Nut

"The mastaba's door is opened for you, and Nut's door *nḫbḫb* for you."[103]

Since the passive in Old Egyptian could be expressed in multiple ways, both in marked as well as unmarked ways in writing, it is difficult to interpret some sentences as either passive or active. In 3(17) though, the verb *wn* is marked by the *-t* suffix, which can be interpreted as the passive marker. Since the verb *nḫbḫb* does not show any additional morphological marking in the sentence that would parallel the passive *-t* suffix of *wn*, it can be most likely interpreted as active in this case. This would mean that we are dealing with an intransitive verb that refers to the action of opening doors or doorbolts. If indeed derived from *ḫbj*, then *nḫbḫb* marks an activity in which the doorbolts are "reduced" or removed for a door to be opened. The *removal* meaning of *nḫbḫb* and the *reduction* meaning of *ḫbj* are semantically closely related. In this case, the subject has the semantic role of *theme*, since it undergoes the effects of the action. Thus, we may translate *nḫbḫb* as 'become reduced'.

However, problems arise when other copies of the same spell are examined. For instance, the other Pyramid Text copy of the passage in 3(18) uses the verb *sḫbḫb* instead of *snḫbḫb*.

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[102] The translation follows the interpretation by Gardiner, "An Administrative Letter of Protest," 78.
[103] PT553, 1361b.

3(18)   *wn*   *n:k*   *ꜥꜣ:wj*   *p:t*   *snḫb~ḫb/sḫb~ḫb*

open:ACT   for:2SG.M   door:M.DU   sky.F   *snḫbḫb*:PASS

n:k   *z:wj*   *wr:w*

for:2SG.M   doorbolt:M.DU   great:M.PL

"The sky's door is opened for you, the two great doorbolts are made to *nḫbḫb*/
ḫbḫb for you."[104]

Does the variant spelling *sḫbḫb* of the expected form *snḫbḫb* reflect an instance of the
disappearance of the *n*-prefix with the transitive *ḫbḫb* used for both intransitive and
transitive meanings (see Chapter 4, section 4.4.4.)? Vernus has demonstrated that this is
indeed what happens to *n*-prefixed verbs in the later stages of the language.[105] This trend
might be visible already in Old Egyptian, since the *n*-prefix does not seem to be very
productive at this time. Alternatively, *sḫbḫb* could be explained as an unmarked passive
form of the verb. However, the use of the causative form of the intransitive *nḫbḫb* in 3(18)
must imply that the verb is passive, since the causer (implied by the causative prefix that
increases the verb's valency) is not expressed in the sentence: "the two great doorbolts are
made to *nḫbḫb* for you". But if *ḫbḫb* is transitive, then the variant with *sḫbḫb* expresses
neither the causer nor the agent in the sentence, and the translation "the two great doorbolts
are made to be *ḫbḫb* for you" seems semantically superfluous. This points to the more
likely scenario that we are dealing here with an instance of the *n*-prefix being lost. The
same complication is encountered in PT676(2009a), where the use of the unmarked verb
ḫbḫb without a direct object seems to be an example of the verb starting to lose its *n*-prefix.

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[104] PT355, 572d.
[105] Vernus, "Le préformant *n* et la détransitivité," 291-317.

d) *snfḫfḫ*[106]

A similar problem concerns the reduplicated form of the verb *fḫ* 'loose',[107] whose causative

n-prefixed and unprefixed forms are used alongside each other in the variant morphologies

of the same passage. Is this also an instance of the *n*-prefix dropping out of the language

(see Chapter 4, section 4.4.4.)?

3(19) *s:nfḫ~fḫ/s:fḫ~fḫ*   *n:k*   *nmt:wt*   *jꜣḫ:w*

      CAUS:*nfḫfḫ*:ACT   for:2SG.M   stretch:M.PL   sunlight:M.PL

      "The sunlight's stretches are made to *nfḫfḫ/fḫfḫ* for you."[108]

The verb *fḫ* 'loose' is a very well attested and always transitive verb, which means that its

reduplicated form *fḫfḫ* must be transitive as well, since reduplication does not alter verbal

valency. In 3(20), the subject is the *agent*, while the object is the *theme*.

3(20) *jfḫ*   *n:k*   *s*   *zꜣ:k*   *ḥrw*

      fḫ:ACT   to:2SG.M 3SG.F   son.M:2SG.M   Horus

      "Your son Horus releases it (i.e., the Eye) to you."[109]

Unfortunately, **nfḫfḫ* is attested only with the causative morpheme *s-*, but we can assume

that **nfḫfḫ* would have been intransitive. If the causative *s-* raises the verb's valency, then

the verb form in this context should be interpreted as an unmarked passive form, since the

causer is unexpressed. The problem again arises with the variant *sfḫfḫ*, which should be a

causative transitive verb, but lacking both the causer as well as the agent. This situation,

together with the fact that *fḫ* is attested with the *n*-prefix only once despite this verb's

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[106] Wb 4, 163.16-18; TLA lemma #137390.
[107] Wb 1, 578.6-15; TLA lemma #63970.
[108] PT456, 852e.
[109] PT219, 192b.

numerous occurrences, points to the possibility that *fḫfḫ* had almost completely lost its *n*-prefix already in Old Egyptian. The subject of the verb **nfḫfḫ* must be the *theme* as it undergoes the effects of the action. Thus, an appropriate translation for **nfḫfḫ* would be 'become loosened/untangled'.

e) *nḫꜣ/nḫꜣḫꜣ*[110]

The verb *ḫꜣj* is another example of a transitive verb with a derived intransitive counterpart with the *n*-prefix, appearing predominantly in Old Kingdom tomb inscriptions. Its basic meaning is 'measure/weigh'.[111] This verb can be used in the context of measuring barley, figs, papyrus, oil, and other commodities, thus both solids and liquids. This measuring can be done using a special vessel, a measuring cup, or also by the authorities. Its literal sense is thus connected with the activity of determining a quantity of something. The subject of the verb would be the *agent*, while its object would be the *theme*. Its reduplicated form, *ḫꜣḫꜣ*, is used to label winnowing events.[112] However, the semantic connection in this case is not entirely clear. Winnowing is an agricultural process during which the grain is separated from the chaff by the air. Usually, it is women who are shown in Egyptian reliefs carrying out this task. Perhaps the semantic connection between *ḫꜣj* and *ḫꜣḫꜣ* has to do with determining the quantity of pure grain, as opposed to grain with the chaff, but this is very speculative.

The verb *ḫꜣj* with the *n*-prefix, as well as its prefixed reduplicated form *nḫꜣḫꜣ*,[113] occurs several times in the Pyramid Texts, usually in a connection with the breasts of the

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[110] Wb 2, 306.6; TLA lemma #86830 and Wb 2, 306.10; TLA lemma #86880.
[111] For examples, see TLA lemma #86830.
[112] See Chapter 5 on reduplication.
[113] A variant spelling of *nḫꜣḫꜣ* is *ngꜣgꜣ* in, for instance, PT582, 1566b-c.

cow goddess, as in 3(21).

3(21)   *mw:t:k*   *sꜣm:t*   *wr:t*   …   *nḫꜣ:t*   *mnḏ:wj*
        mother:F:2SG.M wild_cow:F   great:F   nḫꜣ:REL.F   breast:M.DU

        "Your mother is the great wild cow … *nḫꜣt* of breasts."[114]

The only way to explain the use of this intransitive verb to describe the cow's breasts is to connect it with one particular measuring equipment, specifically an ancient balance scale. Interestingly, the Egyptians had a word for *scale* in their language derived by the *m*-prefix from the verb *ḫꜣj*, specifically *mḫꜣt*, literally 'an instrument for weighing', from which the verb *mḫꜣ* 'make level'[115] was derived (see Chapter 6, section 6.2.). The word *mḫꜣt* uses the determinative of balance scales,[116] with two plates hanging on a beam attached to the vertical central pole. It is presumably this *hanging* aspect of the balance scales that *nḫꜣ* primarily expresses. Therefore, its meaning could be extended to other items that also hang, like the cow's breasts. Clearly, the subject has the semantic role of *theme* in this case. Thus, an appropriate translation for *nḫꜣ* could be 'dangle'.

This interpretation is strengthened by the fact that the word *nḫꜣḫꜣ* is also a name for 'flail',[117] determined by the flail hieroglyph,[118] and attested already in the Old Kingdom. Since the flail is not connected with the activity of weighing or measuring, the application of *nḫꜣḫꜣ* to this tool can be explained by the fact that the swipple of a flail is suspended from the stick that is held in hands, i.e., it dangles just like the two plates on balance scales. Since the flail was an important royal symbol but was also primarily an agricultural

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[114] PT675, 2003a-b. The ellipsis in this example contains: *ḥr:t-jb nḫb ḥd:t ꜥfn:t ꜣw:t šn* "in the midst of Nekheb, white of headcloth, long of hair."
[115] Wb 2, 130.14-131.5; TLA lemma #74280.
[116] Sign U38 in Gardiner's sign list.
[117] Wb 2, 306.11-14; TLA lemma #86890.
[118] Sign S45 in Gardiner's sign list.

implement used for threshing, i.e., separating grain from the plant, it is possible to imagine

its connection with the word for winnowing ḫ₃ḫ₃. However, winnowing is an activity that

follows threshing, and is not part of it. Therefore, the exact semantic connection and the

process of derivation between these words is not entirely clear.

f) njk[119]

The following discussion of the verb *njk* is very speculative and its derivation from the

verb *jkj* remains unclear. Firstly, the transitive verb *jkj* 'attack'[120] can be found in several

different contexts in the Pyramid Texts, as in 3(22).

3(22)   *j:f*   *wnnt*   *jk:n:f*   *wj*
        GRND:3SG.M indeed   *jk*.ANT:3SG.M   1SG
        "Indeed, he has been *jk*-ing me."[121]

However, *jkj* can employ various items as its direct object: a nail, breasts, a person or the

earth can all be *jk*-ed.[122] Thus, its subject has the semantic role of *agent*, while the object

has the role of *patient* or *theme*. Moreover, several other Old Egyptian words are known

from this period that are possibly derived from the same root. For instance, *jky* seems to

refer to a stonemason,[123] *jkw* denotes a quarry,[124] while *jkjk* describes contractions of a

woman's womb.[125] Thus, the inherent meaning of the verb seems to be associated with a

beating or *striking* movement, mainly that of arms, either with or without a tool: mourning

women repeatedly beat their arms on their chest, Seth hacks the earth, and a nail is chopped

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[119] Wb 2, 305.9-13; TLA lemma #80270.
[120] Wb 1, 139.1; TLA lemma #3242o.
[121] PT477, 959a-b.
[122] See PT283, 424a; PT337, 550b-c; PT477, 959a-b.
[123] Wb 1, 139.10; TLA lemma #32450.
[124] Wb 1, 139.12; TLA lemma #32480.
[125] TLA lemma #858979.

off with one sharp blow. Moreover, stonemasons repeatedly beat small stone instruments over the stone that they want to quarry. Therefore, one of the possible translations of this verb could be 'beat/hit something/someone' or similar, even though this does not seem to apply to *jkjk* denoting womb's contractions.

3(23) *jtm:jw*   *njk*   *jtm:jw*   *ḥbn*   *ḥr:w:sn* …
     not:PTCP.ACT *njk*:ACT   not:PTCP.ACT unjust(?)   voice:M:3PL

     nj   *njk:j*
     not   *njk*:ACT:1SG

     "(Those) who are not *njk*-ed, who are not unjust of voice...I am not *njk*-ed."[126]

The verb *njk* is usually translated as 'be accused'. In this context, it is indeed connected with placing blame on someone for being wrong or for having done something evil, in parallel with the expression *ḥbn ḥrw* that refers to condemning someone as guilty in a trial, an exact opposite of *mꜣꜥ ḥrw* 'true of voice'.[127] If someone beats or hits themselves, then they are inflicting self-punishment on them. Thus, the subject of the verb has the semantic role of *patient*. In fact, it is possible to envision a path for the semantic change of the verb *njk*. Originally, it might have referred to the physical beating or hitting of the subject, but then its meaning was metaphorically extended to include also non-physical forms of punishment, especially verbal accusations. Unfortunately, none of these hypotheses about the verb's meanings are indisputable. In any case, a possible translation of the verb could be 'become punished'.

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[126] PT486, 1041d.
[127] Rudolf Anthes, "The Original Meaning of *Mꜣꜥ ḥrw*," *Journal of Near Eastern Studies* 13, no. 1 (1954): 21-51.

g) *nqrqr*[128]

Another *n*-prefixed verb with a simple intransitive counterpart is *nqrqr*, which is perhaps derived from the verb *qrj* 'heat (up)'. It is attested only as a partially or totally reduplicated verb in the Pyramid Texts, as in 3(24), but it is known in its simple form from numerous tomb scene inscriptions, mainly labeling the process of firing pottery.[129] Its semantic connection with heat is straightforward due to the flame determinative of the verb.[130] In an active clause, the subject of the verb would be the *agent*, while the object would be the *theme*.

3(24) *m* *ḥꜣ* *jḫ:t:j* *r* *nṯr:w* *qr~r:t*
       as   excess:M meal:F:1SG with_respect_to god:M.PL *qrr*:RES:3SG.F

       n:j *m* *qs:w:sn*
       for:1SG with bone:M.PL:3PL
       "As the excess of my meal with respect to (that of) gods, boiled for me with their bones."[131]

3(25) *zj* *nw:k* *sjn* *sjn:w:k* *nqr~qr*
       go:ACT envoy:M.PL:2SG.M run:ACT runner:M.PL:2SG.M *nqrqr*:ACT

       ḥwt:jw:k
       announcer:M.PL:2SG.M
       "Your envoys go, your runners run, your announcers *nqrqr*."[132]

It is clear that in 3(25) the verb *nqrqr*[133] expresses a kind of motion, in parallel to the verbs

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[128] Wb 2, 344.19; TLA lemma #89170.
[129] Wb 5, 61.9-10; TLA lemma #161810.
[130] Sign Q7 in Gardiner's sign list.
[131] PT274, 413b.
[132] PT579, 1539c.
[133] There is also the verb *nqr* attested a couple of times in the Old Kingdom, Middle Kingdom, 2nd Intermediate Period and the Ptolemaic Period. Its meaning has been determined as 'sieve'; Wb 2, 344.7-10; TLA #89120. However, its semantic connection with *nqrqr* is not apparent to me.

zj and *sjn*, with its subject both carrying out and undergoing the effects of the action, having the role of *patient*. If *qrj* and *nqrqr* are indeed semantically related, then we can perhaps say that the subject is seen as if on fire and so they move and do things very fast. If this interpretation is correct, then we could see here an example of a semantic connection that is common in many modern languages, specifically the connection between *fire/heat* and doing things *quickly*, *hastily*, or *passionately*. Recall such English words as *feverish*, *fervor*, *fiery*, *frenetic*, *fervid*, etc., and their various meanings and uses. However, this is only a suggestion of a semantic connection between *nqrqr* and *qrj*, but it is also possible that the two verbal roots are not related, or if they had been at some point in time, any semantic changes that might have taken place over time prevent us from seeing their connection clearly.

A problematic part that lacks an explanation is the use of the rope determinative[134] with the verb *nqrqr*, rather than the flame determinative, which suggests a meaning not associated with *heat*. Moreover, it seems that the reduplicated verb without the *n*-prefix, *qrqr*, has the same or very similar sense as *nqrqr*, as in PT506, 1095d. It is also intransitive just like *nqrqr*, which should not be the case since the verb *qrj* is a transitive verb. Therefore, it seems that the verb *qrqr* is another example of an *n*-prefixed verb that has started to lose its prefix in most environments.

A similar thing could be going on with the verb *ntꜣj*, usually translated as 'run, hurry'.[135] It could be potentially derived from the intransitive verb *tꜣj* 'be hot', which occurs in Old Kingdom tomb labels.[136] The verb *ntꜣj* seems to be used in similar contexts

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[134] Sign V1 in Gardiner's sign list.
[135] Wb 2, 351.4; TLA lemma #89790.
[136] Wb 5, 229.1-15; TLA lemma #168890.

as *nqrqr*, as in 3(26). Perhaps appropriate translations for the two verbs could be 'become fervent/fervid' or similar.

3(26)   *zj*   *jn:w:k*   *sjn*   *sjn:w:k*   *nt₃*
         go:ACT   envoy:M.PL:2SG.M   run:ACT   runner:M.PL:2SG.M   *nt₃*:ACT

         dp:jw   *ꜥ:wj:k*
         upon:ADJZ:M.PL   hand:M.DU:2SG.M
         "Your envoys go, your runners run, those before you *nt₃*."[137]

3.2.4. Intransitive n-prefixed verbs with intransitive base verbs

The fourth group of verbs includes intransitive verbs with the *n*-prefix whose simple unprefixed counterparts are also intransitive verbs.

a) *nḏdḏd/nḏdnḏd*[138]

The first such verb is the verb *nḏdnḏd/nḏdḏd*, unattested in its unreduplicated form *nḏd. It is derived by the *n*-prefix from the base verb *ḏdj* 'last'.[139] Alternatively, it is plausible that *nḏd was derived from the substantive *ḏd* '*djed*-pillar',[140] which is also attested in Old Egyptian. The substantive might have extended its category from the substantive to the verbal one. However, it is not possible to determine with much certainty what the direction of derivation was. Since *nḏdḏd* has its unprefixed verbal counterpart attested as well, it is included in this group of verbs, but it is important to remember that *nḏdḏd* could have originally been a desubstantival verb.

In fact, the verb *ḏdj* and the *djed*-pillar are semantically connected. The *djed*-pillar

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[137] PT578, 1532a-b.
[138] Wb 2, 386.4; TLA lemma #91870 and Wb 2, 386.3; TLA lemma #91860.
[139] Wb 5, 628.6-629.15; TLA lemma #85493.
[140] Wb 5, 626.11-627.4; TLA lemma #185830.

is a very common and well-known symbol in ancient Egyptian art and mythology, denoting *stability*. It is generally assumed to represent a column imitating a bundle of stalks[141] as well as the backbone of the god Osiris, while the ceremony of the raising of a *djed*-pillar was part of the *Heb Sed* festival that rejuvenated the king's powers.[142] Thus, the meaning of the verb *ḏdj* is undisputed and the verb is usually translated as 'last, endure'.[143]

3(27)	*nḏ:n*	*tw*	*ḥrw*	*nj*	*ḏd:n*	*nḏ:f*		*tw*
	protect:ANT	2SG.M	Horus	not	*ḏd*:ANT	protect:ACT:3SG.M		2SG.M

"Horus has protected you and his protecting you cannot *ḏd*."[144]

The exact meaning of the passage in 3(27) is slightly obscure, though. The spell in which this sentence occurs is entirely positive, talking about protecting and providing for the deceased king. Therefore, it is unlikely that the sense of the clause with the verb *ḏdj* is that Horus's protection does not last forever and that the king needs to take care of himself. Instead, the sense maybe has to do with the amount of time needed to provide protection: Horus's protecting the king does not take long, i.e., he provides his protection right away. Therefore, it is more likely that the semantic value of *ḏdj* should be 'take/last a long time'. Its subject has the semantic role of *theme*.

3(28)	*m*	*rn:k*	*jm:j*	*jwnw*	*nḏd~nḏd:f*	*m*
	in	name:2SG.M	in:ADJZ	Heliopolis	*nḏdnḏd*:ACT:3SG.M	in

ḏd:t:f
necropolis:F:3SG.M

[141] Sign R11 in Gardiner's sign list.
[142] Geraldine Pinch, *A Handbook of Egyptian Mythology*. Handbooks of World Mythology (Santa Barbara: ABC-CLIO, 2002), 127-8.
[143] Wb 5, 628.6-629.15; TLA lemma #854593.
[144] PT364, 618b.

"In your identity of the Heliopolitan, it *nḏdnḏd* in his necropolis."[145]

The notions of 'lasting a long time' and the '*djed*-pillar' are semantically connected in a visible way. However, it is not possible to say whether the verb was derived from the substantive or vice versa, which means that we cannot say from which of the two lexemes *nḏdḏd* was derived, either. In any case, the meaning of *nḏdḏd* seems to be very similar to the meaning of its unprefixed counterpart and no syntactic distinction is readily visible between the two verbs. Their subjects have the semantic role of *theme* in both cases. Therefore, it is not surprising that both verbs are commonly translated as 'endure', 'be stable', or 'last', even though they must have been originally distinguished semantically on account of their different morphology. This might be the reason why *nḏdḏd* is no longer attested after the Old Kingdom, having been subsumed by the verb *ḏdj*. We could perhaps translate *nḏdḏd* as 'become stable/lasting'.

b) *nḫrḫr*[146]

Another pair of intransitive verbs in which one is affixed by the *n-* is *ḫr – nḫrḫr*. The meaning of the intransitive verb *ḫr* 'fall'[147] is uncontentious, as substantiated by the determinative of a falling man[148] and its numerous attestations, as in 3(29). Its subject has the semantic role of *theme*.

3(29) *ḫr*   *ḥr*   *r*   *ḥr*   *mȝ:n*   *ḥr*   *ḥr*

     ḫr:ACT   face.M   on   face.M   see:ANT   face.M   face.M

     "Face falls on face, face has seen face."[149]

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[145] PT219, 181a.
[146] Wb 2, 313.1; TLA lemma #87420.
[147] Wb 3, 319-321.5; TLA lemma #119610.
[148] Sign A15 in Gardiner's sign list.
[149] PT228, 228a; TLA lemma #119610.

The *n*-prefixed verb *nḫrḫr*[150] is attested only as a reduplicated verb, as in 3(30).

3(30) *nj   rḏj:n   ḥrw   nḫr~ḫr   ḥr:k*

      not   cause:ANT   Horus   *nḫrḫr*:ACT   face.M:2SG.M

      "Horus has not caused your face to *nḫrḫr*."[151]

We can observe from these examples that the two verbs do not differ in their syntactic employment, i.e., they are both intransitive verbs without any direct object. Based on the context, the subject of the verb is the *theme*, undergoing the effects of the action, which means that also the arguments of both verbs have the same semantic roles. Perhaps a suitable translation for *nḫrḫr* is 'become downcast'.

c) *nznzn*[152]

Another *n*-prefixed verb with its intransitive simple counterpart is *nznzn*. It seems that the base verb *znj* had acquired a polysemous meaning by the time of Old Egyptian: it could refer to the action of someone *going*, *passing*, or *surpassing*, as well as to the action of *opening* something.[153] Thus, the core semantic value of *znj* seems to be 'part (from something/someone)' or 'be apart'. Thus, the subject of the verb seems to be the *theme*.

3(31) *jzn   n:k   ꜥꜣ:wj   p:t*

      jzn:ACT   for:2SG.M   door:M.DU   sky:F

      "The sky's door parts for you."[154]

The verb *nznzn* in 3(32) has an iterative meaning since the verb is totally reduplicated (see

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[150] A phonological variant spelling of *nḫrḫr* is *nḫrḫr* in PT67(46b). See James Allen, *The Inflection of the Verb in the Pyramid Texts* (Malibu: Udena Publications, 1984), 586.

[151] PT369, 644d.

[152] Wb 2, 319.12; TLA lemma #88200.

[153] Wb 3, 454.14-456.13; TLA lemma #136590.

[154] PT676, 2009b.

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3(32)   *nḏ*   *jr:ṯ*   *dp:j*   *jm:f*   *zn:w*
        protect:IMP   with_respect_to:2SG.F   head.M:1SG   do_not:ACT:3SG.M part:ACT

        sꜣq:ṯ   *n:j*   *qsw:j*   *jm:sn*   *nzn~zn/zn:w*
        collect:ACT:2SG.F for:1G   bone:M.PL:3SG.1SG   do_not:ACT:3PL   *nznzn*/part:ACT
        "Care for my head so that it will not part and collect my bones for me so that they
        will not *nznzn*/part."[155]

Similar to the preceding example, the subject of the *n*-prefixed verb as well as the subject
of its base counterpart have the semantic roles of *theme*. A suitable translation for *nznzn*
could be 'become detached' or similar. The fact that another copy of this spell uses the verb
znw instead of *nznznw* shows yet again that the semantic values of these two verbs could
be used interchangeably in the intransitive sense, perhaps only with slight semantic
differences. Therefore, it is not surprising to find out that the verb *nznzn* is no longer
attested in writing after the Old Kingdom.

d) *nsꜣꜣ*[156]

Another *n*-prefixed verb that might have an intransitive simple counterpart is *nsꜣꜣ*.
However, this verb is known only from one attestation in the Pyramid Texts, which,
together with a lack of any determinative, does not allow us to guess at its meaning.

3(33)   *m*   *n:k*   *jr:t*   *ḥrw*   *j:s*   *nsꜣ~ꜣ:s*   *sꜣ:t 1*
        take:IMP to:2SG.M eye:F   Horus   GRND:3SG.F *nsꜣꜣ*:ACT:3SG.F   *sꜣt*:F 1
        "Accept Horus's eye: it *nsꜣꜣ*. 1 *sꜣt*."[157]

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[155] PT415, 739b.
[156] TLA lemma #859214.
[157] PT59, 41b.

The wordplay between *nsꜣꜣ* and *sꜣt*, translated by Allen as "falcon amulet" based on the word's falcon determinative,[158] must be significant, as is the case with many words in numerous contexts in the Pyramid Texts. The simple base verb from which *nsꜣꜣ* could derive is *sꜣj* 'be full, satiated',[159] and its reduplicated form *sꜣꜣ* 'be wise, experienced'[160] with the metaphorical meaning of *being satiated* (with knowledge). The subject of both the base and derived verbs would have the semantic role of *theme*. If the two verbs are indeed related, then we might translate *nsꜣꜣ* as 'become wise', although its exact meaning is unknown.

3.2.5. Transitive n-prefixed verbs with transitive base verbs

Interestingly, we have two possible examples of an *n*-prefixed verb that could be analyzed as transitive just like its simple unprefixed counterpart.

a) *npḏ*[161]

3(34) *jnk*   *pw*   *pḏ*   *rwḏ*   *m*   *ḥrw*
   1SG   this   *pḏ*:PTCP.ACT   string.M   as   Horus
   "I am one who *pḏ* the string as Horus."[162]

The verb *pḏ*[163] refers to the action in which the string of a bow is stretched out, as shown by the bow determinative.[164] In 3(34), *pḏ rwḏ* most likely means 'stretch the string (of a bow)'. Its subject has the semantic role of *agent* and its object that of *theme*.

3(35) *hsq~q*   *n:k*   *smn*   *npḏ~ḏ*   *n:k*   *ṯrp*

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[158] Sign G11 in Gardiner's sign list. Allen, *The Ancient Egyptian Pyramid Texts*, 308.
[159] Wb 4, 14-15.19; TLA lemma #126200.
[160] Wb 4, 16.2-6; TLA lemma #126160.
[161] Wb 2, 250.1-7; TLA lemma #83220.
[162] PT390, 684a.
[163] Wb 1, 568.14-15; TLA lemma #63350.
[164] Sign T9 in Gardiner's sign list.

decapitate:PASS	for:2SG.M	goose.M	*npḏḏ*:PASS	for:2SG.M	white_goose.M

"A Nile goose is decapitated for you, a white goose is *npḏḏ*-ed for you."[165]

In 3(35), the verb *npḏ* is in its passive form due to the reduplication of its last radical (see Chapter 5, section 5.2.3.4.1.). In some contexts, *npḏ* might be interpreted as the imperative with a direct object, for instance in PT71B(1a), while in the Coffin Texts the verb appears to be transitive as well.[166] Therefore, the verb is most likely transitive, with its subject as the *agent* and its object as the *patient*. It is uncertain, though, if the verb was derived from *pḏ* 'stretch' or *pḏt* 'bow'[167]. However, if the former, then the notion of stretching (the string of a bow) does not make much sense in connection with killing a goose in 3(35). Therefore, it is more likely that the verb *npḏ* is actually a desubstantival verb, having been derived from the substantive *pḏt* 'bow'.[168] Its final *-t* most likely dropped out in the process of derivation, as in the case of *nḏrj* (see section 3.2.1.b)). Unlike *nḏrj*, it is uncertain whether *npḏ* was a weak verb due to the lack of the verb's attestations in Old Egyptian. In any case, we may perhaps literally translate *npḏ* as 'bow (someone/something)'.

b) *ndj*[169]

3(36)
wd:k	*n:k*	*wj*	*dpj*	*ḏ:t*	*ꜣ:t*
wd:ACT:2SG.M	for:2SG.M	1SG	on	body:F	vulture:F

"You put me on the vulture's body."[170]

3(37)
gm:n:sn	*jsjr*	*ndj:n*	*sw*	*sn:f*	*stš*	*r*
find:ANT:3PL	Osiris	*ndj*:ANT	3SG.M	brother.M:3SG.M	Seth	to

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[165] PT419, 746a.
[166] See Rami Van der Molen, *A Hieroglyphic Dictionary of Egyptian Coffin Texts*. Probleme der Ägyptologie 15 (Leiden: Brill, 2000), 221.
[167] Wb 1, 569.7-18; TLA lemma #63270.
[168] Wb 1, 569.7-18; TLA lemma #63270.
[169] Wb 2, 367.12-13; TLA lemma #90690.
[170] PT311, 500d.

*t*ꜣ	*m*	*ndj:t*
ground.M	in	Nedit:F

"They found Osiris after his brother Seth *ndj*-ed him to the ground in Nedit."[171]

The verb *wdj* is usually translated as 'lay, put'.[172] In fact, it is a ditransitive (trivalent) verb, just like its English equivalent *put*, requiring a direct object (*patient*) and a prepositional phrase denoting *location*. Based on their close semantic connection, *ndj* is clearly related to *wdj*. The verb *ndj* is a transitive (bivalent) verb, requiring only one object, as is evident in PT442, 819a. Therefore, the prepositional phrase *m ndjt* in 3(37) is an adjunct rather than complement. Therefore, the verb after the *n*-prefix turns from a ditransitive to a transitive verb. If the two verbs are indeed related, then *ndj* perhaps means 'lay (something)' or similar.

3.2.6. Other and uncertain n-prefixed verbs

Several *n*-prefixed verbs do not seem to have any verbal or substantival base. Instead, their bases are onomatopoeic expressions, which were turned into verbs by the employment of the *n*-prefix (see also Chapter 5, sections 5.2.3.1.1.). To this group of verbs belong **nṯḫṯḫ** 'chuckle'[173] and **ngjgj** 'cackle',[174] as demonstrated by Stauder.[175] The former verb has base counterparts attested only since the New Kingdom, such as *ṯḫw* 'joy' and *ṯḫḥ* 'exult',[176] but not in earlier times. Both verbs are intransitive with the subject in the semantic role of *agent*.

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[171] PT 532, 1256a-b.
[172] Wb 1, 384.15-386.10; TLA lemma #51510.
[173] Wb 2, 366.17; TLA lemma #90620.
[174] Wb 2, 350.9-12; TLA lemma #89720.
[175] Stauder, *The Earlier Egyptian Passive*, 217; Andréas Stauder, "Splitting the *sḏm.n.f*? A Discussion of Written Forms in Coffin Texts, Part 2," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 141, no. 2 (2014): 197-9. See also Chapter 5, section 5.2.3.1.1.
[176] Wb 5, 389.6; TLA lemma #176530 and Wb 5, 395.5-7; TLA lemma #176740.

The intransitive verbs *nšfšf* 'drip'[177] (together with its apparent phonetic variant *ndfdf*) and *ndbdb* 'sip, slurp'[178] might also be *n*-prefixed onomatopoeic verbs, but their derivation is less certain. The former verb's base could alternatively be *šfỉ* 'swell', but their semantic connection is rather obscure. The subject of the verb *nšfšf* has the semantic role of *theme*. As for the latter, the verb *sdb* 'chew'[179] is known from the Coffin Texts, but it is hard to say if this is the causative form of the unattested **db*, which is the root in *ndbdb*. In any case, the subject of *ndbdb* has the semantic role of *agent*.

The rest of the possible *n*-prefixed verbs represent highly uncertain derivations, due to unclear semantic connections with underived base verbs or due to insufficient evidence from the same synchronic stage of the language. The verb *nwꜣwꜣ*[180] is attested only once in Old Egyptian in connection with bones, but it is unknown what exactly its meaning is and with which unprefixed forms it could be semantically connected. The verb *nhd*[181] 'tremble, rage' varies with *ꜣhd*[182] of the same meaning. As can be observed multiple times in the Pyramid Texts, the sign *n* varies with the sign *ꜣ* orthographically. This suggests that the two signs represented sounds close in the point or manner of articulation. Indeed, it appears that *ꜣ* was originally a grapheme for a kind of liquid that later on changed into the glottal stop, but which sound this was exactly is unclear and disputed.[183] However, it is uncertain whether the verb *nhd* is an *n*-prefixed verb, since its simple counterpart without

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[177] Wb 2, 339.12; TLA lemma #88660 and Wb 2, 368.13; TLA lemma #90840, respectively.
[178] Wb 3, 368.12; TLA lemma #90820.
[179] Wb 4, 368.12-369.2; TLA lemma #149770.
[180] Wb 2, 222.3; TLA lemma #81210.
[181] Wb 2, 288.2-3; TLA lemma #85810.
[182] Wb 1, 12.9; TLA lemma #181. *ꜣhd* is attested in the Pyramid Texts in its causative form *sꜣhd*, specifically in PT251, 270d.
[183] See, for instance, Allen, *The Ancient Egyptian Language*, 39-42; Carsten Peust, *Egyptian Phonology: An Introduction to the Phonology of a Dead Language*. Monographien zur Ägyptischen Sprache 2 (Göttingen: Peust and Gutschmidt, 1999), 127-9; Loprieno, *Ancient Egyptian*, 31.

the *n*-prefix does not appear in writing until the Middle Kingdom. At that point, it is difficult to say whether the simple verb was known in earlier times as well or whether the verb had lost its prefix. The same holds true for the pair **nwr** 'tremble, rage'[184] and **ꜣwr** of the same meaning.[185]

The verb **ꜣgbgb** 'flood up/overflow'[186] might be an orthographic variant of the unattested **ngbgb*. This verb in its reduplicated form is found only twice in the Pyramid Texts. Its meaning is related to the substantive **ꜣgbw** 'flood'.[187] However, there is only one verb without the ꜣ-prefix, specifically *gbj* 'be weak, needy', which is attested in the Old Kingdom only once in a tomb inscription.[188] However, this verb does not seem to be semantically related to **ꜣgbgb**. Therefore, due to the lack of any clear underived counterpart of *ꜣgbgb*, this verb does not seem to be an *n*-prefixed verb.

The verb **ꜣzḥ** 'reap, harvest'[189] is a possible orthographic variant of the unattested **nzḥ*, having been derived from the verb *zḫj* 'beat'.[190] The verb *ꜣzḥ* is attested in several Old Kingdom tomb inscriptions as well as in the Pyramid Texts in connection with barley and emmer.[191] It seems to refer to the activity of reaping and harvesting grain, often with the employment of sickles (*ꜣzḥ* is also the substantive 'sickle'[192] attested since the Middle Kingdom). In one context describing work on the field, *ꜣzḥ* is found alongside *ḥwj* 'hit',[193] a verb of hitting or striking, which makes it more probable that *ꜣzḥ* is in fact derived from

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[184] Wb 2, 222.8-13; TLA lemma #81340.
[185] Wb 1, 5.17; TLA lemma #55.
[186] Wb 1, 22.17; TLA lemma #318.
[187] Wb 1, 22.10-14; TLA lemma #314.
[188] See TLA lemma #166950.
[189] Wb 1, 19.15-16; TLA lemma #264.
[190] Wb 3, 466.13-467.13; TLA lemma #141400.
[191] See TLA lemma #264.
[192] Wb 1, 19.18; TLA lemma #281.
[193] Wb 3, 46.1-48.23; TLA lemma #854530.

such a verb as well, specifically *ẓḫ* 'beat/hit'. However, it is difficult to establish this semantic connection between the two verbs with much certainty. In any case, *ꜣẓḫ* seems to be the only verb that might possibly display the *ꜣ*-variation with the *n*-prefix.

3.2.7. Not n-prefixed verbs

The verbs listed in Table 3.1. are those Old Egyptian verbs whose first radical is *n*, but which either do not have any clear underived form attested or in which the *n* is part of the verbal root, including reduplicated 2-radical verbs, strong 3-radical verbs, and short 2-radical verbs.

Table 3.1. *A list of not n-prefixed verbs.*

njnj 'turn away'	*nfj* 'blow'	*nšm* 'cut(?)'
nmnm 'move around'	*nfꜥ* 'remove'	*nšḏ* 'reduce to small bits'
nhnj '?'[194]	*nfr* 'become good'	*nqm* 'become bald'
nhzj 'awaken'	*nmj* 'traverse'	*nqm* 'suffer'
nḥnj 'rejoice'	*nmḥ* 'be poor'	*nqr* 'sieve'
nḫnḫ 'rejoice'	*nms* 'wrap'	*nkn* 'wound'
nsbj 'taste'	*nmt* 'go'	*ngꜣ* 'cut up'
nšnš 'give birth(?)'	*nnj* 'be weary'	*ntf* 'wet'
nṯrj 'become divine'	*nrj* 'fear'	*nṯb* 'parch(?)'
nṯrj 'purify'	*nrj* 'protect'	*nḏm* 'become sweet/pleasant'

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[194] I believe that the verb *nhnj* could actually be a variant spelling for the verb *hnj* 'rejoice', e.g., PT674, 1997. The verb *nhnj* is attested only once in Old Egyptian, in a context of the Pyramid Texts that is semantically quite obscure. Allen translates this passage in the following way: *nhnj:f n:f zj r:sn* "Those who have gone away have missed him." (PT263, 338b-339b; Allen, *The Ancient Egyptian Pyramid Texts*, 51). A parallel sentence is known from the Coffin Texts, as noted by Allen: *nh:n sw zw jr:sn* "Those who have departed have missed him." (CTVI, 402a). However, I would suggest that the Coffin text example is either a later reanalysis of the earlier verb *nhnj* from the Pyramid Texts, or a case of the employment of a different verb than *nhnj*. In the Pyramid Texts, *nhnj* is clearly intransitive and is followed by the dative *n:f* "for him". The third person suffix pronoun *.f* after *nhnj* is most likely a mistake since "those who have gone away" should act as the subject of this sentence (the suffix *.f* does not have any clear antecedent that it could refer to either). In that case, it is more likely that the verb *nhnj* is in fact the verb *hn(j)n(j)* 'rejoice, ululate', but spelled with the sign *n* preceding the sign *h*. Thus, the sentence in PT263, 338b-339b should probably be read as: *hnnj:{f} n:f zj r:sn* "Those who have gone away rejoice for him."

njs 'call upon'	*nhj* 'avoid'	*nḏr* 'carpenter'
nˁj 'travel'	*nhd* 'tremble'	*nḏs* 'become small'
nˁj 'twist (a rope)'	*nḥꜣ* 'be fierce'	*nj* 'drive away'
nˁw 'tromp(?)'	*nḥj* 'ask for'	*nh* 'protect'
nwj 'cry out'	*nḥb* 'bestow'	*nš* 'gather (grain)'
nwj 'take care of'	*nḥ* 'take away'	*nš* 'expel'
nwj 'return(?)'	*nḥj* 'endure'	*nk* 'copulate'
nwr 'shake'	*nḥn* 'be a child'	*nḏ* 'grind'
nwḥ 'bind'	*nḥḥ* 'become old'	*nḏ* 'consult/greet'
nwḥ 'heat'	*nḥj* 'spit out'	*nḏ* 'appoint'
nwḏ 'yield'	*nsr* 'burn'	*nḏ* 'protect'
nbj 'swim'	*nšj* 'emit'	

3.2.8. Discussion of the evidence

Table 3.2. summarizes the information presented in the preceding sections. It includes the semantic values of base substantives or base verbs from which the *n*-prefixed verbs were derived, the semantic values of the *n*-prefixed forms, and the syntactic functions and semantic roles of the arguments of the unprefixed and *n*-prefixed verbs.

Table 3.2. *Valency alternation in n-prefixed verbs.*

Base verb/substantive (+meaning)	Transitivity	Derived verb (+meaning)	Transitivity
ḥr 'face'	-	**nḥr** 'resemble (someone/something)'	TR
		V VSubj>*Patient* NP>*Theme*	
ḏr.t 'hand'	-	**nḏrj** 'grab (someone/something)'	TR
		V VSubj>*Agent* NP>*Theme*	
pḏ.t 'bow'		**npḏ** 'bow (someone/something)'	TR
		V VSubj>*Agent* NP>*Patient*	
ḥt 'stick'	-	**nḥt** 'become forceful'	INTR
		V VSubj>*Theme*	

kꜣ 'kꜣ'	-	**nkꜣkꜣ** 'become animate'	INTR
		V VSubj>*Theme*	
ds 'flint'	-	**ndsds** 'become flinted(?)'	INTR
		V VSubj>*Patient*	
bḏ 'pellet'	-	**nbḏbḏ** 'shoot up(?)'	INTR
		V VSubj>*Theme*	
bꜣ 'bꜣ'	-	**nbꜣbꜣ** 'flutter(?)'	INTR
		V VSubj>*Theme*	
šb(w) 'food, main meal'	-	**nšbšb** 'become feasted(?)'	INTR
		V VSubj>*Patient*	
bjꜣ 'metal'	-	**nbj** 'become aflame'/'melt'	INTR/TR
		V VSubj>*Theme* / V VSubj>*Agent* NP>*Theme*	
wn 'hare'	-	**nwn** 'become hair-stretched'	INTR
		V VSubj>*Patient*	
onomatopoeia	-	**nṯẖṯẖ** 'chuckle'	INTR
		V VSubj>*Agent*	
onomatopoeia	-	**ngjgj** 'cackle'	INTR
		V VSubj>*Agent*	
onomatopoeia(?)	-	**nšfšf/ndfdf** 'drip'	INTR
		V VSubj>*Theme*	
onomatopoeia(?)	-	**ndbdb** 'sip, slurp'	INTR
		V VSubj>*Agent*	
hm 'raise voice'	TR	**nhm(hm)** 'become roared at/acclaimed'	INTR
V VSubj>*Agent* NP>*Patient*		V VSubj>*Patient*	
ḥp 'free'	TR	**nḥp** 'break free'	INTR
V VSubj>*Agent* NP>*Patient*		V VSubj>*Patient*	
ḥbj 'reduce, deduct'	TR	**nḥbḥb** 'become reduced'	INTR
V VSubj>*Agent* NP>*Theme*		V VSubj>*Theme*	
fḫ 'loose'	TR	*****nfḫfḫ** 'become untangled'	INTR
V VSubj>*Agent* NP>*Theme*		V VSubj>*Theme*	
ḥꜣj 'weigh, measure'	TR	**nḥꜣ(ḥꜣ)** 'dangle'	INTR

V VSubj>*Agent* NP>*Theme*		V VSubj>*Theme*	
jk 'beat/hit'	TR	*njk* 'become punished(?)'	INTR
V VSubj>*Agent* NP>*Patient/Theme*		V VSubj>*Patient*	
qrj 'heat'	TR	*nqrqr* 'become fervent(?)'	INTR
V VSubj>*Agent* NP>*Theme*		V VSubj>*Patient*	
ḏdj 'last a long time'	INTR	*nḏd(n)ḏd* 'become stable/lasting'	INTR
V VSubj>*Theme*		V VSubj>*Theme*	
ḥr 'fall'	INTR	*nḫrḫr* 'become downcast'	INTR
V VSubj>*Theme*		V VSubj>*Theme*	
znj 'part (from something/someone)'	INTR	*nznzn* 'become detached'	INTR
V VSubj>*Theme*		V VSubj>*Theme*	
s33 'be wise(?)'	INTR	*ns33* 'become wise(?)'	INTR
V VSubj>*Theme*		V VSubj>*Theme*	
t3j 'be hot'	INTR	*nt3* 'become fervid(?)'	INTR
V VSubj>*Theme*		V VSubj>*Patient*	
wdj 'put'	2TR	*ndj* 'lay (something)(?)'	TR
V VSubj>*Agent* NP>*Patient* prep+NP>*Location*		V VSubj>*Agent* NP>*Patient*	

Altogether, 28 *n*-prefixed verbs have been identified with a varying degree of certainty. More than one half of these (15) are desubstantival verbs or verbs derived from onomatopoeia. Apart from six exceptions, they are all intransitive verbs whose subjects have the semantic role of *patient*/*theme*, undergoing the effects of the action expressed by the *n*-prefixed verbs. In the case of the transitive desubstantival verbs *nḥr*, *nḏrj*, and *npḏ*, the subject can be either the *agent* or *patient*. The substantives *ḥr* 'face' and *ḏrt* 'hand' are inherent in the verbs *nḥr* and *nḏrj*: they are body parts and as such presuppose the existence of a living entity to which the *face* or *hand* belong. This could explain why both *nḥr* and *nḏrj* are transitive verbs requiring a direct object corresponding to such a living entity that

is composed of the *face* or *hand*. This entity does not need to be animate, which is clear from the direct objects associated with these verbs in Old Egyptian. However, this interpretation cannot be applied to the verb *npḏ* whose inherent object *pḏt* 'bow' does not suggest an animate entity and whose transitivity is thus hard to explain. Furthermore, four verbs were created from onomatopoeic expressions, whose subjects can have the semantic roles of either the *agent* or *theme*. Thus, it is mostly in the category of desubstantival *n*-prefixed verbs where we can find a few examples of *agentive* subjects, in contrast to the majority of *n*-prefixed verbs with *patientive* subjects.

The rest of the *n*-prefixed verbs (13) were derived from transitive or intransitive base verbs, usually 2-radical and weak 3-radical verbs, simple or reduplicated. Apart from one exception, all of the *n*-prefixed verbs (12) are intransitive verbs. The *n*-prefix transforms transitive verbs into intransitive verbs, reducing their valency by one. In all cases, the subject of the transitive base verb has the semantic role of *agent*, while its object has the semantic role of *patient* or *theme*. After the prefixation of *n*-, the subject of the intransitive verb becomes the *patient/theme*. The *agent* is completely suppressed, without being implied (in contrast to passive constructions in which the *agent* can be volitionally expressed and is always implied). Thus, these *n*-prefixed verbs represent a type of *unaccuative* verbs, i.e., intransitive verbs whose subject is not an agent, called *anticausatives*,[195] as already suggested by Stauder (see section 3.1.). Anticausative verbs describe an action that is carried out upon an entity without the presence of any implied agent. Instead, the emphasis is placed upon the action and the entity affected by the action. The one exception in this study concerns the verb *ndj*, which is a transitive deverbal *n*-

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[195] See Chapter 2, section 2.1.3.2.

prefixed verb. However, its valency is also reduced by one after the prefixation of the morpheme *n-*: the verb changes from ditransitive (trivalent) *wdj* to transitive (bivalent) *ndj*. However, the agent remains in the clause after the prefixation of the *n-*, in contrast to the other transitive verbs. Thus, it is not certain if this is a unique example of the valency-reducing function of the *n*-prefix, since no other ditransitive verbs with similar alternation are attested in Old Egyptian.

In the case of intransitive base verbs, their prefixed derived forms remain intransitive. Interestingly, the subjects of both base and derived verbs have the semantic role of *patient/theme*. This means that no change occurs in their valency after the employment of the *n*-prefix. This could be the reason why *none* of these *n*-prefixed verbs with intransitive bases are attested in writing after the Old Kingdom. It seems that the semantic differences between them had been quite blurred by the time of Old Egyptian, and that the use of the *n*-prefixed verbs had been taken on by their corresponding base verbs. Thus, Old Egyptian preserves a stage of the transformation of the *n*-prefix into an unproductive and optional affix, as exemplified by variant spellings of some verbs with or without the *n*-prefix, like *nfḫfḫ, *nḫbḫb*, *nqrqr*.

It is possible that the *n*-prefixed verbs were originally derived from a category other than the verbal one. Firstly, more than half of the identified examples have only a substantival or onomatopoeic base. Secondly, some deverbal *n*-prefixed verbs might have originally been derived from a substantive as well, for instance *nḏdḏd < ḏd* 'djed-pillar' rather than the verb *ḏdj* 'take/last a long time'. It is likely that the *n*-prefix would originally turn non-verbal lexemes into verbs. However, in some cases, the non-verbal element did not survive into the language of the age of the invention of the Egyptian hieroglyphic

writing and thus is not always discernible in the surviving evidence.

Lastly, apart from one exception, all *n*-prefixed verbs are written with the 1-radical sign *n*, rather than 2- or 3-radical signs that include the *n* as the first consonant. This means that the Egyptians must have been able to recognize the *n*-prefix as a separate morpheme that could be prefixed to words and reflected this knowledge in their writing system. The exception concerns the verb *nbj* which can be spelled with the 2-radical sign *nb* following the *n*-sign. Therefore, it is possible that this verb is not an *n*-prefixed verb, or that if it originally was, by the time of the invention of writing, it was no longer recognized as one. Alternatively, it is possible that the *n*-prefix could be followed by other 2- or 3-radical signs with the *n* as the first consonant, but *nbj* would be the sole example of that.

3.3. n-prefixed substantives

There are a few substantives that seem to be prefixed by the morpheme *n* in Old Egyptian. Therefore, a few words need to be said about these formations, even though this study is concerned with verbal derivation. Overall, very few substantives with an identifiable *n*-prefix are attested in Old Egyptian, most of which are substantivized *n*-prefixed verbs, representing secondary derivations from their verbal counterparts. These include *nḫꜣ(ḫꜣ)* 'flail',[196] *nhpw* 'dawn',[197] and possibly *nḫb* 'lotus(?)'[198] (literally 'that which becomes reduced(?)', i.e., which closes itself in the evening and sinks under the water).

Then, there are two examples of *n*-prefixed substantives with a substantival base. These are *nḥḥ* 'eternity'[199] and *nswt* 'king'.[200] In both cases, it appears that the *n*-prefix is

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[196] Wb 2, 306.4 and 306.11-14; TLA lemma #86810 and #86890.
[197] Wb 2, 284.9-12; TLA lemma #85570.
[198] Wb 2, 307.3-8; TLA lemma #87020.
[199] Wb 2, 299.2-302.9; TLA lemma #86570.
[200] Wb 2, 325.1-329.10; TLA lemma #88040.

related to the adjectival genitive *n(j)*: *nḥḥ* = *n(j)-ḥḥ* 'the belonging one to a million (of years)'[201] and *nswt* = *n(j)-swt* 'the belonging one to the sedge'.[202] The relationship between the *n*-prefix and the genitival adjective will be discussed in section 3.5.

The last identified substantive with the *n*-prefix in Old Egyptian is *npr* 'grain'.[203] This lexeme is composed of *n* + *prj* 'go forth',[204] since grain is something that grows and *goes forth*. However, the morpheme *n* might not be the *n*-prefix but rather the *m*-prefix, as suggested by Conti.[205] In the presence of an initial labial in Egyptian, the *m*-prefix dissimilates to an *n*.[206] The initial *p* of *prj* is a labial that prompted the dissimilation of the *m*-prefix to an *n*. The function of the *m*-prefix was to derive nouns of agent, instrument, time, or place (see Chapter 6, section 6.2.). Thus, *npr* < **mpr* < *m* + *prj* 'that which goes forth'.[207]

It can be concluded that the *n*-prefix belonged to verbal derivation and not substantival. Most *n*-prefixed substantives were derived from their verbal counterparts. A couple of *n*-prefixed substantives were created with the genitival adjective, which might or might not be related to the verbal *n*-prefix (see section 5.1.). In the other cases, the initial *n* represents the dissimilated *m*-prefix.

Lastly, establishing the semantic values of Old Egyptian verbs can also allow us to

[201] Roman Gundacker, "On the Etymology of the Egyptian Crown Name *mrsw.t*: An "Irregular" Subgroup of *m*-prefix Formations," *Lingua Aegyptia* 19 (2011): 53.
[202] James Allen, *Middle Egyptian: An Introduction to the Language and Culture of Hieroglyphs.* 3rd ed. (Cambridge: Cambridge University Press, 2014), 81.
[203] Wb 2, 249.4-5; TLA lemma #83140.
[204] Wb 1, 518-525.3; TLA lemma #60920.
[205] Giovanni Conti, *Rapporti tra egiziano e semitico nel lessico egiziano dell'agricoltura.* Quaderni di semitistica 6 (Firenze: Instituto di linguistica e di lingue orientali, Università, 1978), 113.
[206] Gundacker, "On the Etymology of the Egyptian Crown Name *mrsw.t*," 44.
[207] However, Gundacker believes that this is an *n*-prefix formation mistaken for an *m*-prefixed word, denoting a "singulative". See Gundacker, "On the Etymology of the Egyptian Crown Name *mrsw.t*," 54; and Vernus, "Le préformant *n* et la détransitivité," 291, #3.

interpret the meanings of some substantives and understand how the Egyptians perceived the world around them. For instance, if we suppose that the substantive *nhpw* is derived from the verb *nhp*, then *nhpw* can be interpreted as 'the one that breaks free'. This substantive is determined with the sun disc[208] and is usually translated as 'dawn' or 'early morning',[209] as in 3(38).

3(38)   *jw*   *ḫꜥ:w:j*   *m*   *nhp:w*
         GRND   appearance:M:1SG   as   break_free:PTCP.ACT
         "My appearance is as (the sun) that (just) broke free."[210]

We know that the sun travels through the Duat during the night, where he meets various dangers and obstacles, such as the snake Apophis, but with the help of his entourage, each night he concludes his journey safely so that he can rise again at dawn. Thus, *nhpw* in fact designates the sun that just broke free from the Duat and rose in the horizon to start his day-time journey through the sky.

3.4. Evidence for the n-prefix from related languages

The languages related to ancient Egyptian might contain some evidence for the role of the *n*-prefix, since the *n*-prefix is certainly a common Proto-Afroasiatic feature, which survived in some languages but disappeared in others. The following paragraphs will briefly address this point.

Reflexes of the original *n*-prefix can be found in some Berber and Cushitic languages. In Berber languages, the prefix *mm-/nn-* can have different functions in different dialects, including the middle or the reciprocal, for instance *rdəl* 'fall, make fall' vs. *m-*

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[208] Sign N5 in Gardiner's sign list.
[209] Wb 2, 284.9-12; TLA lemma #85570.
[210] PT294, 437b, 437d.

ərdal 'make each other fall' in Central Morrocan Berber.[211] It can be also used to express the passive in those eastern Berber languages that lack other, more common, passive markers.[212] In some Cushitic languages, the passive is formed by the suffix *-am*, while in the Dullay languages it can denote both the passive and the middle.[213] The Rendille language actually has two passive formations: "the neuter-passive *-am*" that expresses a situation as if occurring without any agent, e.g., *fur-m-a* 'get opened'; and "the true passive *-nam*" that expresses a situation with an agent that is not, however, expressed, e.g., *fur-nam-a* 'be (able to be) opened'.[214]

The Semitic *n*-prefix, originally *n(i/a)-*,[215] is characteristic of the N-stem and attested primarily in Akkadian, Hebrew, Phoenician, Arabic (Stem VII), and Ugaritic.[216] In some other Semitic languages, such as Ge'ez and Modern South Arabian, the *n*-prefix is used only with certain 4-radical verbs that are mainly expressive.[217] It seems that the N-stem has been lost in most Ethiopian languages.[218] The *n*-prefix is visible only in some forms, usually getting assimilated to the first radical. Moreover, the different vocalic patterns across verbal classes result in a complex N-stem paradigm.

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[211] Maarten Kossmann, "Berber," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 37.

[212] Kossmann, "Berber," 37.

[213] Maarten Mous, "Cushitic," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 408.

[214] Mous, "Cushitic," 408.

[215] Stefan Weninger, "Reconstructive Morphology," in *The Semitic Languages. An International Handbook.* Handbücher zur Sprach- und Kommunikations-wissenschaft 36, ed. Stefan Weninger (Berlin: De Gruyter Mouton, 2011), 157.

[216] The presence of the N-stem in Ugaritic has been disputed. See, for instance, Edward Lipiński, *Semitic Languages: Outline of a Comparative Grammar.* Orientalia Lovaniensia Analecta 80 (Leuven: Uitgeverij Peeters and Departement Oosterse Studies, 1997), 393; Dennis Pardee, "Ugaritic," in *The Semitic Languages. An International Handbook.* Handbücher zur Sprach- und Kommunikations-wissenschaft 36, ed. Stefan Weninger (Berlin: De Gruyter Mouton, 2011), 468.

[217] Aaron Rubin, *A Brief Introduction to the Semitic Languages.* Gorgias Handbooks 19 (Piscataway: Gorgias Press, 2010), 44; Norbert Kouwenberg, *The Akkadian Verb and Its Semitic Background.* Languages of the Ancient Near East 2 (Winona Lake: Eisenbrauns, 2010), 314.

[218] Rubin, *A Brief Introduction*, 44.

The N-stem does not seem to have only one function in the Semitic languages, but a range of roles depending on the nature of the base verb. Just like in ancient Egyptian, it has been variously called passive,[219] medio-passive,[220] reflexive,[221] reciprocal,[222] or more generally "de-agentifying,"[223] being derived from the base G-stem. The N-stem, which primarily forms intransitive verbs, can be derived from both transitive and intransitive G-stem verbs, and occasionally also from transitive D-stem as well as causative verbs.[224] Kouwenberg asserts that the main function of the N-stem that concerns 80% of Akkadian verbs is a "marker of detransitivity," while the rest of the verbs become "ingressive" in the N-stem, but this function is "sporadic" and "marginal".[225] The former can be divided into several sub-functions, specifically "(medio-)passive, reciprocal, reflexive, and a few idiosyncratic uses".[226]

Despite the vast range of the possible functions of the N-stem, Testen has shown that a single original role of the *n*-prefix can be proposed.[227] According to his analysis, the vocalic pattern of the N-stem was derived from the verbal adjective of the G-stem, rather than the G-stem itself.[228] This finding would then allow for a more synthesized description of the N-stem, in that "the N-stem verb describes the entry of the subject into the state

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[219] Patrick Bennett, *Comparative Semitic Linguistics. A Manual* (Winona Lake: Eisenbrauns, 1998), 53.

[220] Rubin, *A Brief Introduction*, 44; Holger Gzella, "Northwest Semitic in General," in *The Semitic Languages. An International Handbook.* Handbücher zur Sprach- und Kommunikations-wissenschaft 36, ed. Stefan Weninger (Berlin: De Gruyter Mouton, 2011), 444.

[221] Weninger, "Reconstructive Morphology," 157.

[222] Lipiński, *Semitic Languages*, 393.

[223] Pardee, "Ugaritic," 468.

[224] David Testen, "The Derivational Role of the Semitic N-stem," *Zeitschrift für Assyriologie und Vorderasiatische Archäologie* 88, no. 1 (1998): 127.

[225] Kouwenberg, *The Akkadian Verb*, 294.

[226] Kouwenberg, *The Akkadian Verb*, 294. See also Norbert Kouwenberg, "Assyrian Light on the History of the N-Stem," in *Assyria and Beyond: Studies Presented to Mogens Trolle Larsen*. Uitgaven van het Nederlands Instituut voor het Nabije Oosten te Leiden 100, ed. Jan Dercksen (Leiden: Nederlands Instituut voor het Nabije Oosten, 2004), 333-352.

[227] See Testen, "The Derivational Role of the Semitic N-stem," 127-145.

[228] Testen, "The Derivational Role of the Semitic N-stem," 132-5.

denoted by a given adjective," e.g., in Akkadian the verbal N-stem of the adjective *nadrum* "furious" is *nandurum* "entering the state of being furious".[229] Thus, Testen has proposed that the *n*-prefix originally had a syntactic role, deriving ingressive, i.e., aspectually denoting the beginning of the action of the verb, forms of verbs from adjectives, and that the middle voice or passive function were a by-product of this derivation.[230]

Furthermore, Kouwenberg has proposed an even more detailed path of the development of the Semitic N-stem. He agrees with Testen that the main function of the *n*-prefix was to derive fientive verbs, i.e., verbs denoting dynamic or progressive action performed by the subject, from the stative.[231] Kouwenberg further proposes that since the *n*-prefix is a "conjugational prefix," forming verbs out of nouns and adjectives without the *n*-prefix, it is very likely that it had been an independent verb in its origin that over time became grammaticalized.[232] He suggests that it was a "light verb,"[233] i.e., a verb that does not inherently carry much semantic content and which forms a predicate with another element such as a noun. He states that one of the radicals of this light verb was an *n*, that the verb could have had the meaning *do*, *say*, *be/become*, or *go*, and that it was conjugated with "personal prefixes".[234] Since it appears as a prefix in the other branches of the Afroasiatic language family, it was probably grammaticalized before the split of the branches, but in Cushitic it retained its form of a light verb.[235] In Proto-Semitic, the light verb became a prefix that could form verbs out of non-verbal elements,[236] and with

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[229] Testen, "The Derivational Role of the Semitic N-stem," 137.
[230] Testen, "The Derivational Role of the Semitic N-stem," 138.
[231] Kouwenberg, *The Akkadian Verb*, 300.
[232] Kouwenberg, *The Akkadian Verb*, 316.
[233] Kouwenberg, *The Akkadian Verb*, 316. Examples of English light verbs are *give*, *take*, *make*, *have*.
[234] Kouwenberg, *The Akkadian Verb*, 317.
[235] Kouwenberg, *The Akkadian Verb*, 317.
[236] Kouwenberg, *The Akkadian Verb*, 317.

numerous linguistic changes constantly taking place, it gradually acquired various functions nowadays visible in Semitic N-stem verbal descendants.

In contrast, Lieberman has suggested that the N-stem is in fact a reflex of the Proto-Afroasiatic "*n* determinative-relative".[237] According to him, it is this pronoun that is connected with the genitival adjective in ancient Egyptian.[238] Moreover, he proposes that this original Afroasiatic pronoun, vocalized as *ini*, was an indefinite pronoun that developed into the "determinative-relative" pronoun most likely before the split of individual branches, since its reflexes can be found across the Afroasiatic family.[239] In the Semitic languages, this reflex lies behind the N-stem, whose main function is to denote "actorless action," which would agree with the original use of the *n*-prefix as an indefinite pronoun expressing the agent of the verb.[240] He argues that similar developments occurred in other stems as well, and that the causative *š*, the *n*, as well as the reflexive *t* were all deictic demonstratives in origin with specific semantic values:

/š/~/h/ demonstrative = "the one visible to the speaker or in his linguistic focus"

/n/ demonstrative = "the one not visible to the speaker and not in his linguistic focus"

/t/ demonstrative = "the aforementioned (whether visible to the speaker or not)".[241]

3.5. Possible origin of the n-prefix?

It would be interesting to speculate whether the *n*-prefix could be indeed related to the genitival adjective *n(j)*, as already suggested by Feichtner.[242] This adjective is mainly used

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[237] Stephen Lieberman, "The Afro-Asiatic Background of the Semitic N-stem: Towards the Origins of the Stem-Afformatives of the Semitic and Afro-Asiatic Verb," *Bibliotheca Orientalis* 43, no. 5 (1986): 577-628.
[238] Lieberman, "The Afro-Asiatic Background of the Semitic N-stem," 582-4.
[239] Lieberman, "The Afro-Asiatic Background of the Semitic N-stem," 590.
[240] Lieberman, "The Afro-Asiatic Background of the Semitic N-stem," 593 and 599.
[241] Lieberman, "The Afro-Asiatic Background of the Semitic N-stem," 619.
[242] Max Feichtner, "Die erweiterten Verbalstämme im Ägyptischen," *Wiener Zeitschrift für die Kunde des Morgenlandes* 38 (1932): 221-228.

in Egyptian indirect genitive constructions and commonly translated by the English genitive 'of', e.g., *pr n zj* "the house of a man". In fact, this genitival adjective is a *nisbe* derived from the preposition *n* 'to, for', hence its core meaning 'belonging to'.[243] This can still be seen in some Egyptian words such as *nswt* 'king', literally *n(j)-swt* "he who has the sedge"/"the belonging one of the sedge".[244] It can be also used in a special nominal construction of the type *nj* A B 'A belongs to B'/'B belongs to A', where A is usually a pronoun and B is a noun. Thus, the genitival adjective *n(j)* primarily expresses possession.

The relationship of the genitival adjective and the *n*-prefix could be most visibly implied by such verbs as *nḥr* 'resemble (someone/something)', composed of the morpheme *n* and the substantive *ḥr* 'face', thus literally *n(j)-ḥr* 'belong to/have the face (of someone/something)', or *nḫt* 'be forceful', composed of the *n*-prefix and the substantive *ḫt* 'stick', thus literally *n(j)-ḫt* 'belong to/have (the quality of) a stick'. The subject of these verbs is described as *belonging to* or *having* something, i.e., being in the possession of a quality that is expressed in the second element, whether a verb or a substantive. If *n*-prefixed verbs really mean 'belong to/have A', where A is as the object of the verb and is possessed by the subject, then this would explain why most *n*-prefixed verbs are intransitive: the element A is inherently included in the verb itself, which prevents it from taking further direct objects. However, since the *n*-prefix consists of only one consonant in Egyptian, it is possible to connect it with many other Egyptian morphemes of a similar form, such as the previously proposed verb *jnj* 'bring', negation *nn*, *n*-demonstrative, or the genitival adjective *n(j)*. However, none of these proposed relationships can be

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[243] For instance, Allen, *Middle Egyptian*, 50.
[244] Allen, *Middle Egyptian*, 81.

demonstrated with much certainty at the present moment.

3.6. Phonological considerations of the n-prefix

Before concluding this chapter, a few words need to be said about the original vocalization of the *n*-prefix in ancient Egyptian. [245] Based on the Coptic descendants of few ancient Egyptian verbs that were formed with the *n*-prefix, it is possible to determine the original vocalization of this prefix in the language and its phonetic development at least in some types of verbs. Two examples of 3-radical verbs that were derived by the employment of the *n*-prefix are *nhp* 'break free' and *nḫt* 'be forceful' (see sections 3.2.3.b) and 3.2.2.a), respectively). Its Coptic descendants are ⲚⲞⲨϨⲂ (S) [246] and ⲚⲞⲨⲰⲦ (S)/ ⲚⲞⲨϨⲦ (A), [247] respectively. As can be seen from these examples, the first vowel of the word found in an open syllable was ⲞⲨ in Coptic, which comes from the original vowel *-a-* that changed into the *-o-* by the time of Demotic. [248] Therefore, the original reconstruction of the *n*-prefix present in 3-radical verbal roots and its development was most likely *na-* (Old-Late Egyptian) > *no-* (Demotic-Coptic).

Unfortunately, in the case of 5-radical *n*-prefixed verbal roots, it is not possible to determine the vocalization of the *n*-prefix due to insufficient evidence from Coptic. We can observe a general vocalic pattern in Egyptian verbs based on their Coptic descendants: transitive reduplicated verbs display the vowel *-a-* in the infinitive, while intransitive reduplicated verbs display the vowel *-i-*. [249] For instance, the reduplicated verb *ḫtḫt* > ϨⲞⲦϨⲦ

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[245] See Chapter 1, section 2.5. on ancient Egyptian phonology.

[246] Walter Crum, *A Coptic Dictionary*. Ancient Language Resources (New York: Oxford University Press, 1939), 243; Werner Vycichl, *Dictionnaire étymologique de la language Copte* (Leuven: Peeters, 1983), 151.

[247] Crum, *A Coptic Dictionary*, 237; Vycichl, *Dictionnaire étymologique de la language Copte*, 148-9.

[248] James Allen, *Ancient Egyptian Phonology* (Cambridge: Cambridge University Press, in press), 65.

[249] Allen, *Ancient Egyptian Phonology*, 66.

(S)[250] 'examine' can be vocalized originally as [xát-xat], while the reduplicated intransitive verb *hmhm* > ϩⲙϩⲙ (S)[251] 'roar' is vocalized as [hím-him]. Since most of the *n*-prefixed 5-radical verbs are intransitive, they probably also contain the vowel *-i-* in the segment that is being reduplicated as well as in the reduplicant itself. However, the exact phonetic value of the vowel connected with the *n-* remains unknown, due to the fact that very few *n*-prefixed 5-radical verbs survive in Coptic and because these do not show any vowel after the *n*. For instance, *nqdqd* 'sleep' has the Coptic descendant ⲛⲕⲟⲧⲕ (S),[252] which is written with the syllabic ⲛ. Thus, the original vowel connected with the *n*-prefix in 5-radical verbs cannot be determined with certainty: it might have been either *-i-* or *-a-*.

Unfortunately, Coptic preserves only a handful of *n*-prefixed verbs, mainly because these had become obsolete quite early on in the attested history of the language and almost disappeared by the time of Coptic. Therefore, we cannot discard the possibility that the *n*-prefix in 5-radical verbs was vocalized as *ni-* at least in some environments, but as *na-* in others. Perhaps the 3-radical verbs with the *n*-prefix would show the phonetic variation between *ni-* and *na-* as well, but that is not possible to confirm. Thus, we can postulate the vocalization of the *n*-prefix predominantly as *na-* in 3-radical verbs, and as *ni-* or *na-* in 5-radical verbs.

3.7. Conclusions

To conclude this chapter, I will make several key observations about the ancient Egyptian *n*-prefix, its function, development, and place in Afroasiatic linguistics. Firstly, it appears

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[250] ϩⲁⲧϩⲧ (A), ⲃⲟⲧⲃⲉⲧ (B), ϩⲁⲧϩⲉⲧ (F), ϩⲁⲧϩⲧ (L). Crum, *A Coptic Dictionary*, 728. This verb can be used both transitively and intransitively.

[251] ϩⲙϩⲙⲉ (A), ϩⲉⲙϩⲉⲙ (B), ϩⲏⲙϩⲉⲙ (F), ϩⲙϩⲙ (L). Crum, *A Coptic Dictionary*, 682.

[252] Vycichl, *Dictionnaire étymologique de la language Copte*, 142; Crum, *A Coptic Dictionary*, 224.

that the *n*-prefix of most verbs was vocalized as *na-* in Old Egyptian, even though not enough evidence survives to confirm this for 5-radical verbs. Apart from one exception, the *n*-prefix was most likely recognized by scribes as a separate morpheme and affix, which is suggested by the almost invariable use of the 1-radical sign *n* for the prefix, rather than 2- or 3-radical signs with an *n* as the first consonant. Thus, the orthography could be also indicative of identifying possible *n*-prefixed verbs. In addition, the *aleph* is not used as a variant of the *n*-prefix, perhaps with one exception, although the phonetic variation of the sounds represented by the hieroglyphic signs *n* and *ꜣ* is relatively common in Old Egyptian. Moreover, it has been previously noted that *n*-prefixed verbs usually contain a kind of liquid as the second radical of the base verb.[253] However, based on the sample of *n*-prefixed verbs in this study, no such conclusion can be reached, since out of 28 verbs only nine have either *ꜣ* or *r* as the second radical of the base element. This means that a liquid in the base verb was not necessary in the formation of *n*-prefixed verbs, but rather reflects a chance of the survival of the available evidence.

Secondly, it appears that the primary function of the *n*-prefix as a derivational prefix was to create verbs from non-verbal elements. The derived verbs could be transitive or intransitive, even though the latter predominate in the dataset. More than half of the attested *n*-prefixed verbs have only a substantival or onomatopoeic base. Such commonly used words denoting everyday concepts like *ḥr* 'face', *ḫt* 'stick', *ḏrt* 'hand' are unlikely to be radically affected by semantic change, which means that their *n*-prefixed derivatives might have undergone no or very little semantic change since their origin. Thus, desubstantival *n*-prefixed verbs are likely to preserve the most original function of the *n*-prefix that is

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[253] For instance, Stauder, *The Earlier Egyptian Passive*, 213.

possible to notice in the earliest attested stage of the hieroglyphic writing, i.e., that of the verbalizer. Moreover, most of these verbs are totally reduplicated verbs denoting iterativity (see Chapter 5), with some of them having been turned into verbs by the *n*-prefix from onomatopoeic expressions, such as *ngjgj* and *nthth*. It is clear that in these cases, the primary goal was to verbalize such expressions since the subject of these *n*-prefixed verbs is mostly agentive, in contrast to the patientive subject of the other *n*-prefixed verbs. The main role of the *n*-prefix as a verbalizer of substantives and onomatopoeia agrees with the same findings in the Semitic languages.

Thirdly, all transitive verbs after the prefixation of the morpheme *n*- are detransitivized and their original agents are suppressed. Thus, the main function of the *n*-prefix with transitive verbs was to turn them into *anticausatives*, thus reducing their valency by one. The only remaining argument, i.e., the subject, has the semantic role of *patient* or *theme*, since the focus in anticausatives is on the object rather than the agent, which is not even implied in these constructions. Therefore, anticausative constructions are lexically restricted: they can be derived only from "verbs expressing actions that are performed without any specific instruments or methods, so that they can be thought of as happening spontaneously, without a (human) agent's intervention".[254] Thus, the schematic representation of the valency alternation in anticausatives formed by the *n*-prefix can be found in 3(39).

3(39) V VSubj>*Agent*   NP>*Patient*/*Theme*   => *n*V VSubj>*Patient*/*Theme*

The only transitive *n*-prefixed verb derived from a transitive verb is *ndj*. In contrast to the

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[254] Martin Haspelmath and Thomas Müller-Bardey, "Valence change," in *Morphology: A Handbook on Inflection and Word Formation, Volume 2*, ed. Geert Booij, Christian Lehmann, and Wolfgang Kesselheim (Berlin: De Gruyter, 2004), 1134.

other transitive verbs, *wdj* is ditransitive (trivalent), requiring three arguments. After the prefixation of the *n-*, the number of its arguments is reduced to two. Hence, the valency alternation in 3(40) takes place. However, in contrast to the other transitive verbs, the *n-*prefix does not suppress the *agent*, but the prepositional phrase denoting *location*. Therefore, we might wonder if this is indeed an *n*-prefixed verb if the agent remains in the clause, or whether this is a unique alternation seen only with ditransitive verbs. Unfortunately, no other example survives from Old Egyptian.

3(40)   V   VSubj>*Agent*   NP>*Patient*   prep+NP>*Location*   =>
          V   VSubj>*Agent*   NP>*Patient*

In the case of intransitive verbs, no syntactic or semantic change is observed after the employment of the *n*-prefix. Their valency representation is [V   VSubj>*Patient*/*Theme*] in both base and derived forms. Most of these verbs are in fact adjectival verbs, e.g., *tȝj* 'be hot', or verbs denoting motion, e.g., *znj* 'part'. It is possible that the *n*-prefix would turn them into ingressives, describing the beginning of the action, analogous to the observed phenomenon in Semitic, e.g., *ḫr* 'fall' > *nḫrḫr* 'enter into the state of being fallen' > 'become downcast'. However, the examples from Egyptian are not numerous to confirm this observation. In any case, the meanings of the base intransitive verbs and their *n*-prefixed forms are very similar, if not almost identical, which is the reason why the *n*-prefixed verbs were no longer used after the Old Kingdom, correlating with the loss of productivity of the *n*-prefix. In the Semitic languages, the base stem can express the ingressive notion of verbs, leading to the same or similar meanings in both the G-stem and N-stem, [255] which we observe in Egyptian too. Therefore, there was no need for the

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[255] Kouwenberg, *The Akkadian Verb*, 298.

morphological nor semantic employment of the *n*-prefix in the case of intransitives after the Old Kingdom: only the base verbs remained in the lexicon, having replaced their *n*-prefixed forms.

Table 3.3. *Functions of the n-prefix in Old Egyptian.*

Base	Transitivity		Function of the *n*-prefix
	Base verb	**Derived verb**	
substantive	-	intransitive (patientive subject)	***verbalizer***
substantive	-	transitive (agentive/patientive subject)	***verbalizer***
onomatopoeia	-	intransitive (agentive/patientive subject)	***verbalizer***
verb	transitive (agentive subject)	intransitive (patientive subject)	***anticausative***
verb	ditransitive (agentive subject)	transitive (agentive subject)	***valency-reducing***
verb	intransitive (patientive subject)	intransitive (patientive subject)	***ingressive***

Table 3.3. summarizes all the preceding information and offers possible interpretations of the *n*-prefix. It seems that all the functions of the *n*-prefix are by-products of its original role as a verbalizer, just like in the Semitic languages. It is likely that the *n* had been a light verb before the split of the Afroasiatic branches, which developed into a prefix deriving verbs out of non-verbal elements in Boreafrasan (i.e., when Semitic and ancient Egyptian were one language). Indeed, its functions are especially similar to the role of the N-stem in the Semitic languages. However, the *n*-prefix in Egyptian does not seem to have ever been as productive as in Semitic, where it represents one of the major inflectional stems in the verbal system. Thus, after the split of Egyptian and Semitic, the *n*-prefix followed different developmental pathways in the two branches. By the time of Old Egyptian, the *n*-prefix

was no longer a productive prefix, gradually becoming obsolete and dropping out even in pronunciation, which is already visible in the variant spellings of some Old Egyptian *n*-prefixed verbs.

The only visible constraint in the derivation of *n*-prefixed verbs has to do with the number of radicals of the base root. It appears that the *n*-prefix is used solely with 2-radical roots, whether strong or weak, simple or reduplicated, and weak 3-radical roots. One might wonder if the predominance of 2-radical roots with the *n*-prefix could be connected with the suggested, albeit disputed, shift of biradicalism to triradicalism in the Semitic languages. It has been proposed that the Semitic roots originally consisting of two consonants had been extended to three-consonantal roots by various affixes in order to derive new lexical items, even though the exact developmental pathway is uncertain (see Chapter 6, section 6.10.1.).[256] For instance, in Akkadian, 2-radical onomatopoeic expressions were extended by the *n*-prefix in order to be conjugated according to the 3-radical verbal paradigm, e.g., *našāqu* "to kiss (to make a *šiq* sound)", *nabāḫu* "to bark (to say *buḫ*)", *natāku* "to drip (to do *tuk*)", and others.[257] If this process belonged to the age of Proto-Afroasiatic or Boreafrasan, then Egyptian formed a part of it. Perhaps the *n* was also a way to create 3-radical verbal roots from 2-radical substantives and other non-verbal elements in Egyptian.

It is important to bear in mind that our evidence for the *n*-prefix might be considerably skewed. As mentioned above, the *n*-prefix drops out of the language and is unproductive already in Old Egyptian, which is the first stage of the language that we can analyze. This means that perhaps most verbs had lost the *n*-prefix by this time, leaving us

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[256] For a good overview of the history of this research, see Gregorio Del Olmo Lete, *Questions of Semitic Linguistics. Root and Lexeme. The History of Research.* Translated by Wilfred G. E. Watson (Bethesda: CDL Press, 2008), 53-77.
[257] Kouwenberg, *The Akkadian Verb*, 317-9.

with 28 examples to examine. These examples in turn seem to represent already lexicalized *n*-prefixed verbs or verbs in the process of being lexicalized. Thus, we cannot determine whether the *n*-prefix was once productively applied to verbs of all or most verbal classes. In any case, it is hoped that this chapter has helped to shed more light on the enigmatic role of the *n*-prefix in Egyptian.

CHAPTER 4. CAUSATIVE CONSTRUCTIONS IN OLD EGYPTIAN

The present chapter investigates causative verbs in Old Egyptian, using the theoretical preliminaries described in Chapter 2 (section 2.2.).[1] The first part of the chapter (section 4.2.) outlines the semantic parameters used in the analysis of morphological and periphrastic causative mechanisms in Old Egyptian. Sections 4.3. and 4.4. investigate causatives derived from intransitive and transitive verbs, respectively. This is followed by a brief description of double causatives (section 4.5.), the vocalization of the *s*-prefix (section 4.6.), and causative parallels in the other Afroasiatic languages (section 4.7.). The chapter is concluded with some observations on the process of lexicalization associated with Egyptian causatives (section 4.8.) and a summary of the findings of this study (section 4.9.).

A causative construction is an operation that increases the valency of a verb by one. It adds a new argument into the clause, called the *causer*. The causer assumes the syntactic role of the subject and the semantic role of agent, while the original subject becomes the object. The object in a causative clause is called the *causee*. A causative situation is characterized by the causing and caused events. There are three main types of a causative

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[1] For a description of the findings of the present analysis of Old Egyptian causatives, see Silvia Štubňová, "Where Syntax and Semantics Meet: A Typological Investigation of Old Egyptian Causatives," *Lingua Aegyptia* 27 (2019, in press).

construction that can be distinguished, namely *lexical* (synthetic), *morphological*, and *periphrastic* (analytic or syntactic).

All these types of causatives can be found in ancient Egyptian as well. However, due to the scope and topic of my dissertation, the following analysis excludes lexical causatives, i.e., those suppletive or labile verbs that need to be looked up in the dictionary separately from their non-causative counterparts. An example of such a verbal pair is *m(w)t* 'die'[2] (non-causative) and *smꜣ* 'kill'[3] (causative). This study predominantly examines morphological causative verbs in Old Egyptian, derived by the prefix *s-*, as illustrated in 4(1). This causative mechanism is mono-clausal. In addition, ancient Egyptian was using at least one other causative strategy, namely a periphrastic one, characterized by the employment of the verb *rḏj* 'give' followed by a complement verb,[4] as in 4(2). This causative construction is thus bi-clausal.

4(1) **s:ꜥḥꜥ:n**   *ṯw*   *ḥrw*

     CAUS:stand_up:ANT   2SG.M   Horus

     "Horus has made you stand up."[5]

4(2) **rḏj:n**   *ḥrw*   *ꜥḥꜥ:k*

     cause:ANT   Horus   stand_up:ACT:2SG.M

     "Horus has had you stand up."[6]

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[2] Wb 2, 165.8-166.9; TLA lemma #69300.

[3] Wb 4, 122.7-123.11; TLA lemma #134370.

[4] Old Egyptian might have had another type of a periphrastic causative construction with the lexical causative verb *jrj* 'make/do', as in the following example: *stt jr:s ꜥnḫ:f* "She is the one who made him live." (PT211, 131e). However, instances of this periphrastic construction in Old Egyptian can be counted on one hand, which suggests it being a by-product of the verb's meaning. Whether this causation was at some point prior to Old Egyptian at all productive is not possible to say.

[5] PT364, 617c.

[6] PT369, 640a-b.

4.1. Previous research

Previous studies of causative constructions in ancient Egyptian have predominantly focused on the morphological causation formed with the prefix *s-*. This causative strategy was recognized by scholars very early on due to its numerous attestations as well as multiple parallels in the other Afroasiatic languages (see section 4.7.). For instance, Elmar Edel in his *Altägyptische Grammatik I* (1955) observed that the *s*-prefix can occur with both simple and reduplicated verbs, that it can have a range of meanings, such as causative and factitive, and that if the first radical of the verbal root is *w-* or *j-*, this radical can drop out after the prefixation of *s-*.[7] Interestingly, he noted that the transitive bases in causatives have a passive meaning, for instance *srḫ* (< *rḫ* 'know') does not mean 'let someone know', but rather 'make something known'.[8] Similarly, Alan Gardiner in his important work *Egyptian Grammar: Being an Introduction to the Study of Hieroglyphs* (1957) observed that some causative verbs, especially those of base transitives, do not have a causative meaning but an idiosyncratic one, e.g., *swḏ* 'hand over, bequeath' from *wḏ* 'command'.[9] He also noted that the causatives of 2-radical verbs have feminine infinitives.[10]

Most descriptions of the *s*-prefix are confined to a few paragraphs within grammar books, without any extant analysis of its function. For instance, Antonio Loprieno in his monograph *Ancient Egyptian: A Linguistic Introduction* (1995) simply mentioned the existence of the causative *s*-prefix with some examples,[11] while James Allen in *The Ancient*

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[7] Elmar Edel, *Altägyptische Grammatik I.* Analecta Orientalia 34 (Rome: Pontifical Biblical Institute, 1955), 194-7, §440-445.
[8] Edel, *Altägyptische Grammatik I*, 194-5, §440.
[9] Alan Gardiner, *Egyptian Grammar: Being an Introduction to the Study of Hieroglyphs*, 3rd ed. (Oxford: Griffith Institute, 1957), 211-2, §275.
[10] Gardiner, *Egyptian Grammar*, 215, §282.
[11] Antonio Loprieno, *Ancient Egyptian: A Linguistic Introduction* (New York: Cambridge University Press, 1955), 53-4.

Egyptian Language: An Historical Study (2013) as well as *Grammar of the Pyramid Texts I: Unis* (2017) suggested that the omission of the radicals *w-* or *j-* in some morphological causatives is most likely a dialectal or phonological phenomenon.[12] Allen also stated that the morphological causative process is over time replaced by the periphrastic causative construction, which can already be seen in Old Egyptian.[13] More recently, Allen noted that the derivation of verbs by the *s*-prefix did not seem to have any "lexical or semantic restrictions," but that some verbs are never attested with this prefix, such as the verb *rdj* 'give'.[14] This is true of a number of verbs, which, however, are found in the periphrastic causative construction instead (see below). A more detailed analysis of causative verbs was given by Wolfgang Schenkel (1999). He looked at morphological, periphrastic, and lexical causatives in the Coffin Texts. He correctly observed, as will be demonstrated in this chapter, that the periphrastic construction expresses indirect causation, while the *s*-prefix expresses direct causation,[15] although the semantic difference between the two types of causation is not as clear-cut. The causative construction with *rdj* has been mostly studied for the later stages of the ancient Egyptian language,[16] while the earlier periods have been largely neglected.

The causative derivation, whether morphological or periphrastic, seems to be the least problematic and controversial topic in ancient Egyptian linguistics, and as a

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[12] James Allen, *The Ancient Egyptian Language: An Historical Study* (Cambridge: Cambridge University Press, 2013), 94; James Allen, *Grammar of the Pyramid Texts I: Unis*. Languages of the Ancient Near East 7 (Winona Lake: Eisenbrauns, 2017), 35.

[13] Allen, *The Ancient Egyptian Language*, 94-5.

[14] James Allen, *Ancient Egyptian Phonology* (Cambridge: Cambridge University Press, in press), 68.

[15] Wolfgang Schenkel, "ś-Kausativa, t-Kausativa und "innere" Kausativa. Die ś-Kausativa der verben I.ś in den Sargtexten," *Studien zur Altägyptische Kultur* 27 (1999): 319.

[16] For instance, see Alla Elanskaya, "The *t-causativa* in Coptic," in *Studies Presented to Hans Jakob Polotsky*, ed. Dwight Young (East Gloucester: Pirtle and Polson, 1981), 80-130; Carsten Peust, "*rdj*+Pseudopartizip – eine mögliche Konstruktion," *Göttinger Miszellen* 211 (2006): 67-70.

consequence, it is also the least discussed. However, a more detailed description of the causative mechanisms in ancient Egyptian is needed that would clarify certain issues briefly touched upon in the above-mentioned works. The most troubling aspects of Egyptian causatives concern the different causative strategies in the language and the semantic difference between them, as well as the morphological causatives of transitive verbs. These issues will be the subject matter of the present chapter.

4.2. Semantic parameters of causative constructions

The present study focuses on an examination of two causative mechanisms in Old Egyptian: morphological (with the *s*-prefix) and periphrastic (with the verb *rḏj* 'give').[17] Both seem to be used quite productively in Old Egyptian, i.e., a large number of both causative types is attested from this stage of the language. However, with the exception of Schenkel's study, these causative types have not come under much scrutiny. As a result, the difference between these two causative mechanisms, as exemplified by the intransitive verb *ꜥḥꜥ* 'stand'[18] in 4(1) and 4(2), remains largely unanswered.[19] However, if a language employs more than one causative strategy, then there will always be a semantic difference between them.[20] Therefore, the following paragraphs briefly outline the methodological approach that I have developed for the analysis of Old Egyptian causative verbs, which is based on the most recent linguistic framework of causative constructions, described in Chapter 2 (section 2.2.). This approach is first and foremost rooted in verbal semantics.

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[17] The complement verb in the periphrastic causative construction does not seem to be ever negated.
[18] Wb 1, 218.3-219.20; TLA lemma #40110.
[19] An exception is Schenkel's study on causatives in the Coffin Texts. See Schenkel, "ś-Kausativa, t-Kausativa und "innere" Kausativa," 313-352.
[20] Robert Dixon, "A Typology of Causatives: Form, Syntax and Meaning," in *Changing Valency: Case Studies in Transitivity*, eds. Robert Dixon and Alexandra Aikhenvald (Cambridge: Cambridge University Press, 2000), 33; William Croft, *Typology and Universals*. Cambridge Textbooks in Linguistics (Cambridge: Cambridge University Press, 1990), 175.

The entire present study is divided into an examination of the causatives of intransitive verbs on the one hand, and the causatives of transitive verbs on the other. The two Egyptian causative constructions, morphological and periphrastic, are separately analyzed for both the intransitive and transitive groups of verbs. I apply the semantic classification of verbs described in Chapter 2 to Old Egyptian causatives, only with minor adjustments. The nine parameters proposed by Dixon in analyses of causative constructions are not applicable to ancient Egyptian, mainly due to our poor knowledge of the exact semantic values and nuances of numerous Egyptian words, as well as unclear contextual information. This makes an investigation of some of Dixon's parameters impossible. Nevertheless, some of his parameters are included in the examination of Egyptian causatives to a certain degree, albeit with further adjustments and additions based on a more recent typological theory of causatives, most prominently proposed by Shibatani (see Chapter 2, section 2.2.).

Firstly, while I retain the categories of active and inactive intransitives, I include a separate category of motion verbs. This is due to the fact that the semantics of many verbs of motion is ambiguous, since the agent of a verb of motion is sometimes also affected by the action of movement and can play a role different than that of the agent. Thus, the distinction between active and inactive use is often blurred. Even though some of them might be closer to middle verbs, I include them all together under one category. Secondly, the category of transitive verbs includes not only ingestive verbs, i.e., verbs denoting information acquisition or food consumption, and their opposites egestives, but also verbs that express a kind of transfer, either away from the subject or towards the subject. Lastly,

the category of ingestive verbs is supplemented by egestive verbs as well, as these also seem to be prominent in ancient Egyptian causatives.

Another examined parameter is the animacy of the causee, which can be either animate (and thus agentive) or inanimate (and thus patientive). The animacy of the causee is in each case determined from the attestations provided by the online *Thesaurus Lingua Aegyptia*. However, this determination is based on the available attestations, which do not need to reflect real usage in the language. For instance, if the causee is animate, this does not mean that it would have to be exclusively animate in all cases, only that it is usually animate as reflected in the preserved instances of the verb, and vice versa. In many cases, the causee can in fact be both animate or inanimate.

Another parameter applied to the two Egyptian causative mechanisms is the *directness* continuum (see Chapter 2, section 2.2.1.). It consists of *direct*, *sociative*, and *indirect* causation, while the sociative causation can be further subdivided into *joint-action*, *assistive*, and *supervision*. This parameter will be discussed outside of the tables that summarize the information from the other parameters. This is mainly due to the lack of evidence for each verb from Old Egyptian and the ambiguity of the context, which cannot be resolved because of the absence of current native speakers.

The above-mentioned semantic parameters will be used in the following sections to try to identify any distinguishing features between the two causative mechanisms in Egyptian, namely morphological and periphrastic. A distinction will be made in the usage of parameters relevant to each particular causative mechanism, based on their occurrence with a specific group of verbs. For intransitive verbs, the following parameters will be used:

1. semantic categories of verbs:
    a) verbs of motion/position

b) active intransitives

c) inactive intransitives

2. animacy of the causee

3. directness continuum

a) direct

b) sociative (joint-action/assistive/supervision)

c) indirect

In contrast, for transitive verbs, the parameters used will be:

1. semantic categories of verbs:

a) verbs of motion/position

b) other action verbs

c) transfer to/from verbs

d) ingestive/egestive verbs

2. animacy of the causee (only for periphrastic causatives)

3. directness continuum

a) direct

b) sociative (joint-action/assistive/supervision)

c) indirect

4.3. Causatives of Old Egyptian intransitive verbs

4.3.1. Morphological causatives of intransitive verbs

Table 4.1. lists all Old Egyptian intransitive verbs whose roots can be augmented by the causative prefix *s*-, always represented by the folded-cloth sign.[21] For each verb, an English translation is provided, followed by the two parameters outlined above, namely the semantic verbal categories and the animacy of the causee. The *directness* continuum parameter is investigated in the section below the table. In addition, if a verb is highlighted

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[21] Sign S29 in Gardiner's sign list. See Gardiner, *Egyptian Grammar*, 507. The only "exception" to this rule could be the verb *sꜣhd* 'make tremble' (an orthographic variant of *snhd*), which in addition to the *s*-sign (S29) also uses the *sꜣ*-sign (Aa17).

in the green color, then the base verb of this causative is also attested in the periphrastic causative construction in Old Egyptian. The blue color highlights those causatives whose base verbs are ambitransitive and each one is accompanied with a short explanation in a footnote.

It is important to state that not all verbs with the first radical being *s-* are morphological causatives; in many cases the radical *s* is part of the verbal root. Moreover, this study includes only those causative verbs that have a corresponding base verb attested in Old Egyptian (or a corresponding substantive/*nisbe*).[22] Also, as noted before, if the first radical is a *w-* or *j-*, it often drops out after the prefixation of the morpheme *s-*.[23] These variant spellings are noted in the table. In addition, the prototypical causative verb in English is *make*, rather than *cause*, and therefore all my English translations of Egyptian morphological causatives utilize the verb *make*. In this way, the semantic value of each base verb will be readily visible in translations as the element following the verb *make*. Furthermore, no distinction is made between simple causative forms and reduplicated causatives, since the process of reduplication is the subject matter of Chapter 5.

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[22] The morphological causatives that have no attested base verb or substantive in Old Egyptian and those verbs that are not certain causatives or do not have clear attestations in Old Egyptian are: *sꜣqḥ* 'make strong(?)', *sjwj* 'make say (loud)(?)', *sꜥrq* 'make tied/completed(?)', *s(w)ḫꜣ* 'make dark', *swšr* 'make dry(?)', *sbꜣ* 'make ba(?)', *sfkk* 'make desolate(?)', *smꜣr* 'make miserable', *smḥ* 'make filled', *snꜥ* 'make smooth', *snfj* 'make breathe', *snḫ* 'make protected', *sḫwn* 'make ?', *sḫsf* 'make oppose', *sšwj* 'make dry', *sqdj* 'make travel', *sqfn* 'make bake(?)', *skm* 'make complete', *sgrḥ* 'make still', *stšj* 'make ?'.
[23] See Eberhard Otto, "Die Verba Iae inf. und die ihnen verwandten im Ägyptischen," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 79 (1954): 41-52.

Table 4.1. Morphological causatives of intransitive verbs.

VERB	TRANSLATION	DERIVED FROM VERB			ANIMACY OF CAUSEE	
		MOT	ACT	INACT	ANIM	INANIM
s3wj	make long[24]			x	x	x
s3ḫ	make *akh*			x	x	
s3ḫ3ḫ	make verdant			x		x
s3q	make climb up	x				x
sjˁr/sˁr/sjˁ	make ascend	x			x	
sˁnḫ	make live/alive			x	x	
sˁḥˁ	make stand (up)	x			x	x
sˁḥ	make burn					x
sˁq (r)	make enter (into)	x			x	
s(w)3ḏ	make green			x	x	x
swˁj	make alone			x	x	
s(w)ˁb	make pure			x	x	x
s(w)bn	make rise (up)/swell			x	x	
swnj	make hurry	x			x	x
s(w)sḫ	make wide			x		x
swtj	make old			x	x	
s(w)ḏ3	make sound			x		x
s(w)ḏ3	make proceed	x			x	
sb3qj	make bright			x	x	x
sb3gj	make weary			x	x	
sbjn	make bad			x		x
sp3j	make fly	x			x	
sm3ˁ	make right			x		x
smˁr	make fortunate/better			x		x
smn	make enduring			x		x
smnḫ	make efficient			x		x
snfr	make perfect			x		x
snfḫfḫ	make untangled			x		x
snḫbḫb	make reduced			x		x
snhd/s3hd	make tremble(?)[25]			x	x	
snḫt	make victorious/powerful			x	x	x

[24] The verb *3wj* is ambitransitive, i.e., it can be used both transitively ('extend something') or intransitively ('be(come) long'). Based on the contexts in which its morphological causative occurs (e.g., PT527, 1248a; PT650, 1836b), it seems that the causative verb was derived from its intransitive usage and therefore it is included in this table.

[25] As noted in the previous chapter, the verbs *nhd – 3hd* might be orthographic variants (see Chapter 3, section 3.2.6.). The verb *3hd* is attested only with the *s*-prefix in Old Egyptian.

sntrj	make natronized				x	
sndm	make sweet/pleasant			x		x
srwj	make go (away)	x			x	
srwd	make firm			x		x
srs	make awake			x	x	
srd	make grow			x		x
sh3j	make come down	x				x
shrj	make content			x	x	
sh3j	make bare			x		x
sh3bj	make festive			x		x
shmj	make go back	x			x	x
shrj	make distant			x		x
shtp	make content			x	x	x
shtm	make perish[26]			x		x
shd	make bright			x		x
sh'j (m)	make appear (as)	?	?			x
shpj	make walk/go	x				x
shpr	make happen/come into being			x	x	x
shnj	make alight	x			x	
shntj	make be in front				x	x
shr	make fall	x			x	x
shtj	make go back	x			x	x
shdhd	make go (upside) down	x			x	x
szj	make go (off)	x				x
sz(w)nj	make suffer			x		x
szn	make part			x		x
ss3j	make sated			x	x	
sšwj	make rise up	x			x	
sšwj (m)	make empty/free (from)			x		x
sšp	make blind[27]			x		x
sšmj	make go	x			x	x
sšnj	make round[28]			x	x	

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[26] The verb *ḥtm* is an ambitransitive verb, i.e., it can be used both transitively ('destroy something') or intransitively ('perish'). Because on the context in which its morphological causative occurs (e.g., PT254, 279c), the causative is probably derived from its intransitive meaning and is therefore included in this table.

[27] The verb *šp* is an ambitransitive verb, i.e., it can be used both transitively ('blind someone') or intransitively ('be(come) blind'). Because on the context in which its morphological causative occurs (e.g., east wall of the sacrificial chamber of Iby in the mastaba of Wepemnefret at Giza), the causative seems to be derived from its intransitive meaning and is therefore included in this table.

[28] The verb *sšnj* is an ambitransitive verb, i.e., it can be used both transitively ('encircle') or intransitively ('be(come) round'). Because on the context in which its morphological causative occurs (e.g., PT146, 89a),

sškr	make adorned			x	x	
sšt₃	make inaccessible			x	x	x
sq₃j	make high			x	x	x
sqbb	make cool			x		x
sgnn	make weak/soft			x		x
sgr	make still			x	x	
st₃	make hot			x		x
stm	make complete			x		x
sdmj (r)	make touch (onto)			x		x
sdḫ	make hide (?)	?	?		x	
sdšr	make red			x		x
sḏw	make bad			x	x	

4.3.1.1. Verbal semantic categories and the animacy of the causee

Based on the table, we can observe that the majority of morphological causatives were derived from inactive intransitive verbs, and quite a large number of them from verbs of motion or position. Interestingly, most of the inactive intransitives also have corresponding deverbal adjectives. It seems that one constraint placed on the derivation of causative verbs is the *prohibition of morphological causative derivation from active intransitives other than verbs of motion*. Two uncertain cases of causative derivation from motion/active/inactive intransitives concern the verbs *ḫꜥj* 'appear'[29] and *dḫ* 'hide(?)'.[30] The former most likely refers to a kind of movement represented by the sun rising above the horizon and appearing in the sky. Therefore, it could probably be classified as a verb of motion. The latter also seems to refer to a kind of movement of going and searching for a shelter, or to a kind of position of crouching down and hiding behind something. This

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the causative seems to be derived from its intransitive meaning and is therefore included in this table. It should be noted that its transitive counterpart is attested in the periphrastic causative construction (see Table 4.4.).

[29] Wb 3, 239.4-241.2; TLA lemma #114740.

[30] Wb 5, 483.16; TLA lemma #180520. Collombert suggests the following translations: *dḫ* 'be hidden' and causative *sdḫ* 'hide'. See Philippe Collombert, *Le Tombeau de Mérérouka. Paléographie.* Paléographie hiéroglyphique 4 (Cairo: Institut français d'archéologie orientale, 2010), 4, #15 and #16.

suggestion could be supported by the fact that it occurs in the Pyramid Texts in parallel with *pȝj* 'fly',[31] also a verb of motion.[32] However, it cannot be ruled out that these verbs represent exceptions. Despite that, the general tendency is that the ancient Egyptian language did not form morphological causatives from active intransitives.

In addition, the parameter of the animacy of the causee is not significant in establishing the features of the morphological causatives of intransitive verbs. The causee can be either animate, inanimate, or even both. Moreover, no correlation seems to exist between the parameter of the animacy of the causee and the parameter of verbal semantic categories. Both animate and inanimate causees can be used with verbs of motion as well as inactive intransitives.

Furthermore, a number of morphological causative verbs is derived from *nisbes*, i.e., adjectives formed from nouns and prepositions, as well as directly from substantives. For instance, the verb *sḫnt* 'make be in front of'[33] is derived from the verb *ḫntj* 'be in front of'[34] derived from the *nisbe ḫntj* 'being in front of (i.e., foremost)',[35] which itself is derived from the preposition *ḫnt* 'in front of'.[36] The same holds for the verb *sḥrj* 'make distant'.[37] An example of desubstantival morphological causative is probably *snṯrj* 'make natronized',[38] derived from the noun *nṯrj* 'natron',[39] as this causative does not have a base verb attested in Old Egyptian. This is also true of the verb *sꜥḥ* 'make burn',[40] perhaps

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[31] Wb 1, 494.1-12; TLA lemma #58780.
[32] PT302, 459a.
[33] Wb 4, 255.6-256.11; TLA lemma #142720.
[34] Wb 3, 308.13-18; TLA lemma #119130.
[35] Wb 3, 304.10-306.4; TLA lemma #119050.
[36] Wb 3, 303.10-25; TLA lemma #119040.
[37] Wb 4, 219.9-220.12; TLA lemma #140980.
[38] Wb 4, 180.3-6; TLA lemma #138690.
[39] Wb 2, 366.8-11; TLA lemma #90510.
[40] Wb 4, 54.10; TLA lemma #129230.

derived from the substantive ꜥḥ 'fire(?)'.[41] Since these verbs do not have any underived

verbal counterparts, a verbal semantic category could not be chosen for them. Another

example could be sḥꜣbj 'make festive',[42] derived from the noun ḥꜣb 'festival'.[43] There

could be more instances of desubstantival causatives in Old Egyptian, but they are less

certain. For instance, the verb sḏw 'make bad'[44] could have also been directly derived from

the substantive ḏw 'evil',[45] or the verb sꜣḫ 'make akh'[46] might have been derived from the

noun ꜣḫ 'akh',[47] rather than the verb 'be(come) akh'.[48] Due to the existence of the adjective

form of this verb as well, it is impossible to say whether the causative was derived directly

from the substantive or indirectly via the intermediate derivation through the adjective. In

any case, it is clear that, in addition to verbs, the morphological process of causativization

involved also *nisbes* and substantives. Thus, causative derivation was not restricted to verbs

only.

4.3.1.2. Directness continuum-inactive intransitives

This section investigates the last parameter selected for the analysis of Old Egyptian

causatives, namely the *directness* parameter, which investigates the semantic continuum of

direct-sociative-indirect causation. This parameter is investigated only for some verbs, for

which the context seems to be more obvious than for others. In many cases, it is impossible

to say whether the causer is present in the event and whether the causer carries out the

action by themselves. Therefore, three verbs have been chosen from the previous table that

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[41] Wb 1, 223.13-16; TLA lemma #40500.
[42] Wb 4, 213.8-214.13; TLA lemma #140620.
[43] Wb 3, 57.5-58.21; TLA lemma #103300.
[44] Wb 4, 380.7-10; TLA lemma #150420.
[45] Wb 5, 548.18-549.20; TLA lemma #182860.
[46] Wb 4, 22.11-23.20; TLA lemma #127110.
[47] Wb 1, 15.17-16.10; TLA lemma #203.
[48] Wb 1, 13.7-14.25; TLA lemma #200.

have a rather clear context and for which it is possible to investigate this parameter. Lastly, the base verbs and their chosen contexts are provided as well, in order to demonstrate that the morphological causative mechanism for intransitive verbs in Egyptian is indeed valency-increasing.

a) *sꜣḫ* 'make *akh*'[49]

The first verb examined in this section is *ꜣḫ* 'be(come) *akh*',[50] which is a very common verb in religious texts like the Pyramid Texts, referring to the deceased's transformation in the afterlife. By comparing the base verb with its causative counterpart, we can observe an increase in the valency of the verb, with the original subject (*patient*) moving into the slot of direct object, as in 4(3) and 4(4).

4(3) *ꜣḫ:n*   *ḥrw*   *ḥr:k*   *m* *rn:k*   *n*   *ꜣḫ:t*
     become_*akh*:ANT   Horus   with:2SG.M   in   identity.M:2SG.M   of   Akhet:F
     "Horus has become *akh* with you in your identity of the Akhet."[51]

4(4) *s:ꜣḫ:t*   *sw*   *ḥr:t*
     CAUS:become_*akh*:ACT:2SG.F   2SG.M   under:2SG.F
     "You shall make him *akh*, wearing you."[52]

The Pyramid Text spell in which 4(4) occurs talks about the process of anointing the deceased king, and the pronoun *you* in fact refers to the oil that was put on the king's forehead. With the help of this ointment, the deceased can be transformed into an *akh* after death. Thus, the causer of the process of becoming *akh*, which is in this case the oil, is in

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[49] Wb 4, 22.11-23.20; TLA lemma #127110.
[50] Wb 1, 13.7-14.25; TLA lemma #200.
[51] PT357, 585a.
[52] PT77, 52c.

direct physical contact with the causee and is the sole causer of the event, carrying out the action by himself, or rather by itself in this context.

b) *sḥḏ* 'make bright'[53]

The verb *ḥḏ* 'be(come) bright/white'[54] is most often attested in Old Egyptian in its attributive usage, i.e., following and modifying a noun, as in 4(5). However, it is clear that this verb is intransitive with the subject in the semantic role of *theme*. In the causative clause, the original subject assumes the place of direct object.

4(5) *jn   n:k   jbḥ:w:f   ḥḏ:w   wḏꜣ:w*
     get:IMP   for:2SG.M   tooth:M.PL:3SG.M   white:M.PL   sound:M.PL
     "Get for yourself his white and sound teeth."[55]

4(6) *jṯ   n:k   sn   jr   mḫn:t:k   s:ḥḏ:sn*
     take:IMP for:2SG.M   3PL to   forehead:F:2SG.M   CAUS:become_white:ACT:3PL

     ḥr:k
     face.M:2SG.M
     "Take them for yourself to your forehead so that they might make your face bright."[56]

The pronoun *them* in 4(6) refers to the two eyes of Horus. The deceased receives these eyes of Horus during the ritual of the opening of the mouth in order to restore his sight in the afterlife. By being placed directly on the deceased's face, the two eyes act as the sole causer of the event of *brightening the face*, and they are in direct physical contact with the causee.

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[53] Wb 4, 224.16-226.6; TLA lemma #141250.
[54] Wb 3, 207.17-208.6; TLA lemma #112301.
[55] PT125, 79a.
[56] PT43, 33a.

c) *sdšr* **'make red'**[57]

Another verb examined in this section is *dšr* 'be(come) red'.[58] The subject (*theme*) of the base verb becomes the direct object after the prefixation of *s-*, as exemplified in 4(7) and 4(8).

4(7) *dšr*   *sḏ:t*   *ꜥnḫ*   *ḫpr~r*

   become_red:ACT   fire:F   become_alive:ACT   beetle.M

   "The fire becomes red and the beetle becomes alive."[59]

4(8) *s:dšr:n:sn*   *ḥ(w):t:f*

   CAUS:become_red:ANT:3PL   beat:INF:3SG.M

   "They have made his beating red."[60]

The subject in 4(8) refers to Horus's children who came to fight against the deceased's opponent. The whole passage reads as follows: "Your opponent has been struck by Horus's children. They have reddened his beating and captured him, restrained and his smell bad."[61] That "they made his beating red" most likely refers to the opponent's becoming bloody from this beating. Thus, Horus's children fought with him and hurt him so badly that he was bleeding. In the end, they seized and tied him. This description of the battle is quite vivid and there is no doubt that all the participants in the fight were in direct physical contact with each other. Again, it is possible say that the causer of this event, i.e., Horus's children, is the sole causer and is in direct physical contact with the causee.

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[57] Wb 4, 372.1-3; TLA lemma #149970.

[58] Wb 5, 490.7-13; TLA lemma #180690.

[59] PT346, 561c.

[60] PT369, 643b.

[61] PT369, 643b-644a. Translation by James Allen, *The Ancient Egyptian Pyramid Texts*, 2nd ed. Writings from the Ancient World 38 (Atlanta: Society of Biblical Literature Press, 2015), 86.

4.3.1.3. Directness continuum-intransitive verbs of motion/position

It is only in the group of the verbs of motion that we could look for non-active intransitives. However, as mentioned above, many verbs of motion are ambiguous in Egyptian and the distinction between their active/inactive/middle use is often unclear. Those verbs of motion that seem to be the closest to active meaning should have an animate subject, playing the role of *agent* and acting with volition. Such a subject/*agent* would then become an object/*patient* in the causative construction. Therefore, it is important to examine those causatives of the verbs of motion that have an animate causee, in order to see if these verbs behave differently from inactive intransitives.

Unfortunately, most causatives of the verbs of motion with an animate causee occur in ambiguous contexts, from which it is not possible to say to what extent the causer is involved in the causing event, whether the causer exerts force on the causee, whether the causer is in direct physical contact with the causee, or whether the causee acts with volition. It is only in a couple of instances that we could guess at the reconstruction of the causing situation.

Firstly, the verb *spꜣ* 'make fly'[62] is used in several Pyramid Text spells in connection with the deceased king. The king is said to have "arms of a falcon" and "wingtips of Thoth," while "Geb makes him fly (*spꜣ*) to the sky among his brothers the gods".[63] In another spell, it is said that the deceased "flies" (*pꜣ*) and "lands" (*ḫnj*) on Geb's wings or is "made to fly" (*spꜣ*) in the Sokar boat.[64] In this case, we can imagine an event in which Geb helps the king reach the sky by providing the means to travel there, i.e., his

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[62] Wb 4, 100.21; TLA lemma #132670.
[63] PT*790, 11-13.
[64] PT669, 1970b-1971.

wings, or a boat is prepared to transport him to the sky. It seems that the causee in this case has a certain degree of volition, which is common with agentive causees, and that Geb is not physically exerting power over the causee to move his wings and thus fly him to the sky. Rather, Geb assists the deceased in the transportation to the sky, who is also accompanied by other gods besides Geb. Therefore, in this situation, the causer seems to be less directly involved in the causing event, while the causee seems to have more autonomy.

Secondly, the verb *sꜥq* 'make enter'[65] occurs in a spell in which Isis takes the arm of the deceased so that she might "make him enter" into a pavilion.[66] Again, it is probably that she is not ushering the king inside the building against his will, but rather she accompanies and leads him inside by holding his hand. Thus, while they are in direct physical contact, the causee seems to act with volition, while the causer accompanies the causee in the event of *entering*.

Thirdly, a similar situation as the one just described concerns the verb *sšmj* 'make go'.[67] In one spell, Geb takes the deceased's arm and "makes him go", i.e., leads him through the sky's gates.[68] We can envisage this event as one in which Geb guides the deceased through the gates by taking his arm and walking alongside him. As in the previous examples, the causer accompanies the causee, who acts with a certain amount of volition.

Lastly, an interesting example involves the verb *sjꜥr* 'make ascend'.[69] In one spell, it is the storm-clouds (*šnjt*) that play the role of the causer in connection with this verb,

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[65] Wb 4, 55.21-56.7; TLA lemma #129310.
[66] PT419, 744a.
[67] Wb 4, 285.7-287.20; TLA lemma #144980.
[68] PT508, 1115a-b.
[69] Wb 4, 32.9-33.17; TLA lemma #128000.

while in another part of the spell the causer is "the god's word" (*mdw-nṯr*). Thus, here we have inanimate causers that bring about the causing event. In the first case, the clouds provide the means for the transportation of the causee to the Sun by "taking" (*šd*) him. Thus, the causer and the causee are in direct physical contact, but the causee seems to act with some volition. This is especially obvious in the second case, in which the causee was instructed to arrive, and not physically forced to ascend. These examples are slightly strange in that the causers are inanimate, even though they can still be interpreted as agents.[70]

4.3.2. Intransitive verbs in the periphrastic causative construction

Table 4.2. includes a list of all Old Egyptian intransitive verbs that occur in the periphrastic causative construction with the structure *rḏj* + a complement clause. This causative mechanism is thus bi-clausal. The first clause consists of the lexical causative verb *rḏj* 'give'[71] and its subject that is the *agent* and causer of the causative event. These are followed by a complement clause, which represents the object of *rḏj*, with another verbal predicate and its arguments. Thus, the periphrastic causative mechanism introduces the causative verb *rḏj* and its subject as the causer into a clause, while the valency of the base verb remains the same in the complement clause, but with the subject assuming the role of the causee.

The parameters examined for this causative strategy are the same as for the morphological causatives, i.e., whether the base verb is an active or inactive intransitive or

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[70] David Dowty, "Thematic Proto-Roles and Argument Selection," *Language* 67, no. 3 (September 1991): 571-575.

[71] A development of the verb *give* into a causative complementizer, auxiliary, or affix, is attested in other languages as well, e.g., Thai, Vietnames, Khmer, Luo or Somali. See Bernd Heine and Tania Kuteva, *World Lexicon of Grammaticalization* (New York: Cambridge University Press, 2002), 152.

a verb of motion/position, and whether the causee is animate or inanimate. The last

parameter, the *directness* continuum, is investigated separately in the following section.

Table 4.2. Intransitive verbs in the periphrastic causative construction.

VERB	TRANSLATION	MOTION	ACTIVE	INACT	ANIMACY OF CAUSEE	
					ANIM	INANIM
ꜣḫ	be(come) *akh*			x	x	
jwj	come	x			x	
ꜥnḫ	live, be alive			x	x	
ꜥḥꜥ	stand (up)	x			x	
ꜥq (r)	enter (into)	x			x	
wꜥj	be(come) alone			x	x	
wn (m)	be, exist (as)			x	x	
wr	be(come) great			x		x
bnj	disappear		x		x	
prj	come out	x				x
pšr/pḫr (n)	turn around (for)	x				x
mn	be(come) enduring			x		x
mr	be(come) painful			x		x
nfr	be(come) perfect			x		
nḫrḫr	be(come) downcast			x		x
nqm	be(come) bald			x		x
nḏm	be(come) sweet/pleasant			x	x	
rwḏ	be(come) firm			x	x	x
hꜣj	descend	x			x	
ḥꜣbj	be(come) festive			x	x	
ḥmsj	sit down	x			x	
ḥrj	be(come) away/far			x	x	
ḥtp	be(come) content			x	x	
ḥꜥj (m)	appear (as)	?	?		x	
ḥpj	go, walk	x			x	
ḥpr	happen/come into being			x		x
ḥr	fall	x			x	
z(w)nj	suffer			x	x	

znbꜣ	slip (?)	x			x	
sꜣj	be(come) sated			x	x	
swꜣ	pass	x			x	
sḫm (*m*)	have control (of)/be(come) powerful			x	x	
sḏb	be(come) revived (?)			x	x	
sḏm (*r*)	listen (to)[72]		x		x	
sḏr	lie down		x		x	
šwj (*m*)	be(come) free/empty (from)			x	x	
ksj	bow		x		x	
ḏbꜣ	fall (over) (?)	x			x	

4.3.2.1. Verbal semantic categories and the animacy of the causee

Based on the table above, we can observe that all three kinds of intransitive verbs can appear in the periphrastic causative construction. While most of these are again inactive intransitives and verbs of motion, a couple of active intransitives are attested as well. In most cases, the causee represents an animate entity, with a handful of examples being inanimate causees. No correlation exists between the two parameters of verbal semantic categories and the animacy of the causee. Interestingly, approximately half of all the base intransitive verbs in the periphrastic causative construction have a morphological causative counterpart.

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[72] The verb *sḏm* can be used transitively ('hear something') or intransitively with the preposition *r* ('listen to something/someone'). For this kind of valency alternation, see Jean Winand, "Le verbe et les variations d'actance. Les constructions réversibles (=Études valentielles, 2)," in *Lexical Semantics in Ancient Egyptian*, Lingua Aegyptia Studia Monographica 9, eds. Eitan Grossman, Stéphane Polis, and Jean Winand (Hamburg: Widmaier Verlag, 2012), 459-486. Since only the latter usage is attested in the periphrastic causative construction, the verb is included in this table.

4.3.2.2. Directness continuum

a) *swꜣ* 'pass'[73]

The first verb examined in the periphrastic causative construction for the *directness continuum* parameter is the verb of motion *swꜣ* 'pass'.

4(9) *kꜣ*   *ḥtp:wt*   *qꜥḥ*   *ꜥb:k*

      bull.M   contentment:F bend_down:IMP   horn.M:2SG.M

      ḏj   *swꜣ*   *NN pn*

      cause:IMP   pass:ACT   NN this:M

      "Bull of contentment, bend down your horn, let this NN pass!"[74]

The part of the Pyramid Text spell in which 4(9) occurs is a dialog between the deceased and the ferryman, the great wild bull, whose boat can transport the deceased to the sky. The deceased asks the bull to step aside so that he can board the boat and travel to the sky. In this case, the main event of *passing* in this causative situation is still carried out by the same agent as in a non-causative clause with this verb (the subject/*agent* of the base verb stays the same, only now becomes the causee). The causer, introduced as the subject of *rḏj*, is not carrying out the action expressed by the complement verb, only the action expressed by the causative verb *rḏj*. The causer merely *allows* the deceased to pass but does not *make* him pass by a direct physical contact, e.g., by pushing him into the boat with hands. By stepping aside, the causer clears the way for the deceased to continue his journey, who acts with a high amount of volition.

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[73] Wb 4, 60.8-61.20; TLA lemma #129740.
[74] PT470, 914a-b.

b) *jwj* **'come'**[75]

Another verb of motion investigated for the *directness* continuum parameter is *jwj* 'come'.

4(10) *ḏj* *jw:t:f* *ḏj* *jw:t:f* *jn* *ḥrw*
       cause:IMP come:ACT:3SG.M cause:IMP come:ACT:3SG.M say:ACT Horus
       "'Let him come, let him come!' says Horus."[76]

The Pyramid Text spell that contains 4(10) is concerned with a description of the rising sun at dawn, referred to in the pronoun *him*. Thus, the sun as the causee is the *agent* of the action of *coming* expressed by the verb *jwj*. The causer is not pushing the sun to rise in the sky via a direct physical contact, but simply *allowing* the sun to appear at dawn. The event of *passing* is rather volitional on the part of the causee.

c) *nqm* **'be(come) bald'**[77] **and** *mr* **'be(come) painful'**[78]

Two inactive intransitive verbs, namely *nqm* 'be(come) bald' and *mr* 'be(come) painful', appear alongside each other in the excerpted Pyramid Text spell and therefore are examined together as well.

4(11) *nj* *rḏj* *NN pn* *mr:f*
       not cause:ACT NN this:M become_painful:ACT:3SG.M

       nj *rḏj* *NN pn* *nqm:f*
       not cause:ACT NN this:M become_bald:ACT:3SG.M
       "This NN does not let it become painful and does not let it become bald."[79]

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[75] Wb 1, 44.1-45.6; TLA lemma #21930.
[76] PT575, 1492c.
[77] Wb 2, 344.4-5; TLA lemma #89100.
[78] Wb 2, 95.1-15; TLA lemma #71790.
[79] PT684, 2055b-c.

The Pyramid Text spell in which 4(11) occurs, together with another spell,[80] talk about the action of spitting on one's temple as a way to prevent injury, in this case Osiris's temple becoming painful and bald. It is clear from these passages that the temple becomes painful or bald on its own, it is not the causer who intentionally or by direct contact makes it more painful or bald. The causer simply supervises the event, not allowing it to become worse, but it is the causee that carries out the action of *becoming painful/bald.*

4.3.3. Summary: causatives of intransitives

The first third of this chapter investigated Old Egyptian intransitive verbs in the two causative constructions. It has been confirmed that morphological causative derivation affects the argument structure of an intransitive verb. It is a valency-increasing operation that adds a new subject (*agent*=causer) into a clause, with the original subject assuming the position of an object (*patient*/*theme*=causee). In very few cases, the object may be omitted if it is implied, as in 4(12).

4(12)   *s:nḏm:t*   *n:f*
         CAUS:become_pleasant:2SG.F   for:3SG.M
         "You shall make (it) pleasant for him."[81]

An intransitive verb in the periphrastic causative construction keeps its argument structure, but the entire clause becomes a complement clause, i.e., the object of the lexical causative verb *rḏj*. Thus, the periphrastic construction contains two agents, one of which is the causer and the other one is the causee. The causer carries out the causing action expressed by the verb *rḏj*, while the causee performs the action expressed by the complement verb.

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[80] PT324, 521a-b.
[81] PT77, 52c.

It has been observed that morphological causative derivation prefers inactive intransitive verbs. It seems that no active intransitives, with the exception of the verbs of motion, can have a corresponding morphological causative. This restriction does not apply to the periphrastic causative construction, which can be applied to any semantic type of intransitive verbs.

The animacy of the causee does not represent a defining feature of any of the two causative strategies. However, the causee is almost always an animate entity in the periphrastic causative construction, and thus plays the role of *agent*. Since the agent usually acts with a certain amount of volition, the causer does not exercise as much control over the agent as the causer in the morphological causative, who is in direct contact with and physically manipulates the causee. Physical contact is not required in the case of periphrastic causation. Thus, we can conclude that the most important distinguishing feature between morphological and periphrastic causation is the *directness* parameter.

Basically, morphological causatives express *direct* causation, while periphrastic causatives denote *indirect* causation. Morphological causation is rather *manipulative*, while periphrastic causation is *directive*. Therefore, a suitable translation for the morphological causatives of intransitive verbs would include the English prototypical causative verb *make* (or a lexical causative verb), while the periphrastic causative construction of intransitives should rather use English verbs of permission such as *allow* or *let*. In fact, based on the examples in this study, the periphrastic construction seems to have a permissive-causative function.

However, as noted above, the *directness* parameter represents a continuum and so this distinction between the two causative strategies is not as clear-cut. On the one hand,

all inactive intransitives and those verbs of motion that have a patientive causee in the morphological causative construction express direct causation. The causing and the caused event overlap, without any spatial or temporal separation of the causer and the causee. On the other hand, those verbs of motion that have an agentive causee in the morphological causative construction express sociative causation, specifically joint-action or assistive. This is because the causee who is an agent has a degree of autonomy and the causer must exert more force or persuasion to make the causee carry out a certain action.

Table 4.3. Directness continuum of Egyptian causatives.

DIRECT	JOINT-ACTION	ASSISSTIVE	SUPERVISION	INDIRECT
Morphological causatives			**Periphrastic causatives**	
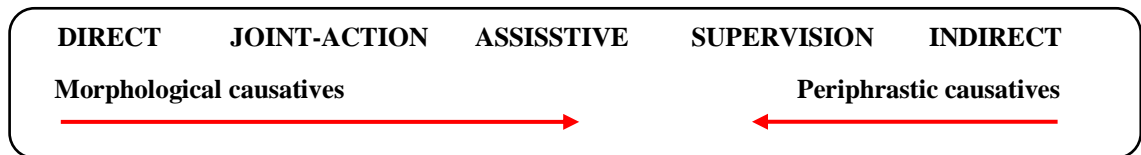
The degree of the autonomy of the causee is even bigger in the case of periphrastic causation, in which the causee is almost always an agent. But since no physical contact is required between them, the causing event and the caused event can be spatially as well as temporally separated. Therefore, periphrastic causation expresses primarily indirect causation with all types of intransitive verbs. Again, the *directness* parameter is a continuum. It has been shown that periphrastic causation can express a little less indirect causation, which goes into the sociative domain, specifically supervision.

Thus, as shown in Table 4.3., periphrastic causation prefers the right side of the continuum, while morphological causation prefers the left side. This division into each type

of a causative situation is further illustrated by the verbs *ḫr* 'fall'[82] and *ꜥq* 'enter'[83] in both

the morphological as well as periphrastic causative constructions:

a) direct (morphological causative)

4(13)   *sṯꜣ:n:[f]*   *n:k*   *sn*   *s:ḫr:n:f*   *n:[k*   *sn]*
        drag:ANT:[3SG.M]   for:2SG.M   3PL   CAUS:fall:ANT:3SG.M   for:[2SG.M   3PL]
        "He (=Thoth) dragged them to you, he made them fall for you."[84]

In this passage, the god Thoth takes care of the deceased's opponents who might stand in

his way of reaching afterlife. Since Thoth "drags" them around and eventually slays them,

he is in a direct physical contact with them. The causee has no autonomy over the event.

b) joint-action/assistive (morphological causative)

4(14)   *s:ꜥq:s*   *ṯw*   *m*   *ḫn:w*   *mnj:w*
        CAUS:enter:ACT:3SG.F   2SG.M   in   interior:M   pavilion:M
        "She makes you enter inside the pavilion."[85]

In this passage, the goddess Nut takes the arm of the deceased and leads him inside the

pavilion. While the physical contact is there, the causee has a certain kind of autonomy.

c) supervision (periphrastic causative)

4(15)   *nj*   *ḥm*   *rḏj:j*   *jḫr:f*
        not   also   cause:ACT:1SG   fall:ACT:3SG.M
        "I also do not let him fall."[86]

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[82] Wb 3, 319-321.5; TLA lemma #119610.
[83] Wb 1, 230.3-232.9; TLA lemma #41180.
[84] PT658A, 1857.
[85] PT419, 744a.
[86] PT484, 1021d.

In this passage, the goddess Nut oversees the deceased and takes care of his well-being. She makes sure that nothing bad happens to him. In fact, this type of *directness* continuum is best applied to negated periphrastic constructions.

d) indirect (periphrastic causative)

4(16)   *ḏj*   *jˁq:f*   [...] *jptw*   [...]
          cause:IMP   enter:ACT:3SG.M   […] these:F   […]
          "Allow him to enter […] those […]."[87]

Even though this spell is slightly fragmentary, the meaning of the passage seems to be clear. One of the deities is supposed to make way for the deceased to enter the sky, presumably by stepping aside.

4.4. Causatives of Old Egyptian transitive verbs

4.4.1. Transitive verbs in the periphrastic causative construction

Table 4.4. contains Old Egyptian verbs that are transitive and found in the periphrastic causative construction. These transitives are divided into several semantic categories, namely verbs of motion, ingestive/egestive verbs, other action verbs, and verbs that express the notions of transfer to or from the subject. The animacy of the causee is included in the table as well. The *directness* continuum is investigated separately in the following section. The verbs that are highlighted in the yellow color (*jrj* 'make', *wn* 'open', *wḫꜣ* 'empty', *mk* 'protect', and *ṯꜣz* 'tie') are attested in the passive form only, characterized by the suffix -*t(j)*. Even though ancient Egyptian could attach the passive suffix -*t(j)* to intransitive verbs as well,[88] the fact that all of these verbs commonly take two arguments in their non-

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[87] PT*706, 2212b.
[88] See Andréas Stauder, *The Earlier Egyptian Passive: Voice and Perspective*. Lingua Aegyptia Studia Monographica 14 (Hamburg: Widmaier, 2014), 71-78, 158-166.

causative form, i.e., the subject and direct object, means that they are usually transitive. In all the attested instances of these passive verbs, the causee is not expressed in the causative construction, most likely because it is insignificant. But since all of these verbs denote an action that would need an animate subject and since an agent is required in the formation of passives, the causee must be agentive in all these cases.

Similar to the intransitive verbs in the periphrastic causative construction, transitive verbs keep their argument structure, but become the object of the lexical causative verb *rḏj*. Transitive verbs in the periphrastic causative construction take a subject that acts as the *agent* (the causee), and a direct object which is the *theme/patient*. The subject of *rḏj* is an agent as well as the causer. It should be noted that the object of the complement verb in the periphrastic construction can sometimes be omitted, especially if it is implied or insignificant (see section 4.4.1.2.).

Table 4.4. *Transitive verbs in the periphrastic causative construction.*

VERB	TRANSLAT	MOT	ACT	TRANSFER		ING	EGE	ANIMACY OF CAUSEE	
				TO	AWAY			ANIM	INAN
jꜣq	rule		x					x	
jꜥb	gather			x				x	
jp	count/take account of		x					x	
jnj	get	x		x				x	
jrj	make		x						
jṯj	acquire, take			x				x	
wꜣḥ	set/lay down				x			x	
wḫꜣ	clear/empty		x						
wn	open		x						
wnm	eat					x		x	
wḥm	repeat		x					x	
wṯz	bear, elevate	x						x	
mꜣꜣ	see					x		x	
mk	protect		x						

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nrj	fear		x					x	
nd̠	tend		x					x	
nd̠r	grasp			x				x	
rd̠j	give				x			x	
ḥtm	provide, complete			x				x	
ḫm	be ignorant of						x	x	
ḥmꜥ	gather			x				x	
zw(r)	drink					x		x	
s3q	collect			x				x	
sḥtj	drive back, return				x			x	
šms	follow	x						x	
šnj	encircle[89]		x					x	
šzp	receive			x				x	
t̠3z	tie		x						
dmd̠	join		x					x	

4.4.1.1. Verbal semantic categories and the animacy of the causee

Based on the table, we can observe that only a couple of transitive verbs of motion appear in the periphrastic construction and that most verbs express a different kind of action. Several ingestive verbs, which denote food/drink consumption and seeing, occur in this construction. Moreover, quite a few verbs express the action of transfer: something is either acquired by the causee or handed over to someone else. Furthermore, the causee is an animate entity in all examples.

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[89] The verb *šnj* is an ambitransitive verb, i.e., it can be used both transitively ('encircle') or intransitively ('be(come) round'). In the periphrastic causative construction, the verb is used in its transitive sense (e.g., PT593, 1632c) and is therefore included in this table. It should be noted that its intransitive usage has a morphological causative, which can be found in Table 4.1.

4.4.1.2. Directness continuum

a) *wnm* **'eat'**[90] **and** *ẕw(r)* **'drink'**[91]

The verbs *wnm* 'eat' and *ẕwr* 'drink' are transitive verbs that usually take a direct object. However, sometimes the object of these verbs is omitted and instead a prepositional phrase with *m* is used, thus "drink/eat from something".[92] This is the case in 4(17), in which the objects of the verbs, i.e., food and water, are implied.

4(17)	*ḏj:sn*		*wnm*	*NN*	*m*		*sḫ:wt*		*ẕw:f*		*m-ꜥ*
	cause:ACT:3PL		eat:ACT	NN	from		marsh:F.PL		drink:ACT:3SG.M		from

mꜥȝꜥ:w		*m*	*ẖn:w*		*sḫ:t*	*ḥtp*
spring:M.PL		in	interior:M		field:F	rest.M

"They may let NN eat from the marshes and drink from the springs inside the Field of Rest."[93]

The spell of which 4(17) is a part talks about the deceased to be ferried to the Field of Rest. The pronoun *they* in this example refers to those who are already in this Field and who take care of the deceased. It is obvious that they would not force-feed the deceased, but that they would provide the king with access to the marshes and springs in the Field of Rest so that he could use them for sustenance.

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[90] Wb 1, 320.1-321.12; TLA lemma #46710.
[91] Wb 3, 428.5-17; TLA lemma #130360.
[92] See Jean Winand, "The Oblique Expression of the Object in Ancient Egyptian," in *Egyptian-Coptic Linguistics in Typological Perspective*. Empirical Approaches to Language Typology 55, eds. Eitan Grossman, Martin Haspelmath, and Tonio Richter (Berlin: Mouton De Gruyter, 2015), 533-560; Jean Winand, *Temps et aspect en égyptien. Une approche sémantique*. Probleme der Ägyptologie 25 (Leiden: Brill, 2006), 137-149; Stauder, *The Earlier Egyptian Passive*, 79-95.
[93] PT518, 1200a-c.

b) *wṯz* **'bear'**[94]

The verb *wṯz* 'bear' is also transitive, taking on a direct object.

4(18) *rḏj:n*   *ḥrw*   *wṯz:f*   *ṯw*
       cause:ANT   Horus   bear:ACT:3SG.M   2SG.M
       "Horus has let him bear you."[95]

The pronoun *him* in 4(18) refers to the deceased's opponent, whom Horus placed underneath the king so that he might "bear" him, as we learn from PT369. Thus, Horus is not directly forcing the opponent to hold the king, he simply sets up the right conditions for the deceased to be carried by his opponent. In order to catch the right sense of this clause, the following translation seems the best: "Horus has had him bear you."

c) *rḏj* **'give'**[96]

The verb *rḏj* 'give' is ditransitive, requiring a direct object (*theme*/*patient*) and an indirect object (*recipient*).

4(19) *rḏj:n*   *gbb ḏj*   *n:k*   *sn ḥrw*
       cause:ANT   Geb give:ACT   to:2SG.M   3PL Horus
       "Geb has had Horus give them to you."[97]

The pronoun *them* in 4(19) refers to the eyes that Geb has provided for the deceased. Apparently, Geb asked Horus to hand them over to the king, but he did not force Horus by pushing his hands to give them to the king. Geb as the agent of the causative verb is not

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[94] Wb 1, 382.16-383.17; TLA lemma #51330.
[95] PT371, 649a.
[96] Wb 2, 464.1-468.11; TLA lemma #96700.
[97] PT357, 583c.

directly involved in the process of *giving*. Again, a suitable translation in this example would incorporate the English phrase *have someone do something*.

4.4.2. *Morphological causatives of transitive verbs*

This section includes two tables with a list of all Old Egyptian transitive verbs whose stems can be augmented with the causative prefix *s-*. The causative morpheme does not seemingly raise the valency of the verb, but rather the transitive verb still takes the subject and direct object, as in a non-causative clause. However, it is possible to say which argument is "missing" in the causative construction. Therefore, these verbs are divided into two groups. The first one consists of those transitives whose original *object* is not expressed in a causative sentence (Table 4.5.), while the second group comprises those verbs whose original *subject* is not expressed (Table 4.6.). For the latter, the parameter of animacy cannot be examined due to the omission of the original subject. As usual, the *directness* continuum parameter is examined separately.

Table 4.5. *Morphological causatives of transitive verbs with omitted object.*

VERB	TRANSLATION	DERIVED FROM		ANIMACY OF CAUSEE	
		INGESTIVE	EGESTIVE	ANIM	INAN
s(j)wr	make conceive			x	
sbš	make emit		x	x	
smꜣꜣ	make see	x			x
smsj	make give birth		x	x	
s(w)nm	make eat	x		x	
szw(r)	make drink	x		x	

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This group contains those transitive verbs whose objects are not expressed in the morphological causative construction. Consider the following three examples with the transitive verb *mꜣꜣ* 'see'.[98]

4(20) *ḥfꜣ:w*   *pnꜥ*   *mꜣꜣ*   *ṯw*   *rꜥ*
       snake:M   turn_over:IMP   see:ACT   2SG.M   sun.M
       "Snake, turn over so that the sun can see you."[99]

4(21) *jwn*   *jr:tj:k*   *mꜣ:k*   *jm:sn*
       open:IMP   eye:F.DU:2SG.M   see:ACT:2SG.M   with:3PL
       "Open your eyes so that you can see with them."[100]

4(22) *m*   *n:k*   *ḏbꜥ*   *stš*   *s:mꜣꜣ*   *jr:t*   *ḥrw*   *ḥḏ:t*
       take:IMP to:2SG.M   finger.M Seth   CAUS:see:ACT:M   eye:F   Horus   white:F
       "Accept Seth's finger, which makes Horus's white eye to see."[101]

In 4(20), the verb is shown in its normal transitive use, while in 4(21) the verb's object is not expressed and instead we see a prepositional phrase marking an instrument. In 4(22), the verb is prefixed by the causative *s-*, but its valency remains the same without any increase. For the morphological causative, the newly-introduced causer is the agent of the verb, while the original subject/*agent* becomes the object/*patient*, and the original object is not expressed. Thus, the valency of the verb stays the same in both causative and non-causative clauses. The same is observed for all other verbs in this group.

However, this does not mean that the verbs are intransitive, but that their objects are implied and thus do not need to be always expressed, as we have also seen above in

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[98] Wb 2, 7.1-10.7; TLA lemma #66270.
[99] PT226, 226b.
[100] PT167, 99a.
[101] PT69, 48a.

4(17). For instance, the verb *s(w)nm* 'make eat'[102] has the implied object *food*, the verb *szw(r)* 'make drink'[103] has the implied object *liquid*, while the verbs *sjwr* 'make conceive'[104] and *smsj* 'make give birth'[105] have the implied object *child*. A similar observation can be found in many modern languages. For instance, in English it is possible to say *I am eating chicken*, but also *I am eating at the moment*, implying that I am eating some kind of food.

Another reason for a deletion of the object of the morphological causatives of a transitive verb is the fact that a language disallows the presence of two direct objects in a clause. In such a case, however, the second object *can* still be expressed indirectly in an optional adverbial phrase. This not-uncommon process can be exemplified by the Austroasiatic language Kammu.[106] When the object is expressed, it is marked by the instrumental preposition, since the language cannot have more than one direct object, as in 4(23).[107] A similar process can be observed in the Bantu language Babungo, in which the causative suffix -*sə* raises the valency of an intransitive verb.[108] In the case of transitive verbs, the original subject becomes the direct object and the original object disappears or is expressed in an optional adverbial phrase.[109]

4(23) a) kɔ́ɔn   tɛ́ɛk   màh   któŋ

       child   NN   eat   egg

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[102] Wb 4, 164.1-16; TLA lemma #137400.
[103] Wb 4, 273.16-17.
[104] Wb 4, 34.9-11; TLA lemma #128090.
[105] Wb 4, 141.19-142.5; TLA lemma #135700.
[106] Jan-Olof Svantesson, *Kammu Phonology and Morphology*. Travaux de l'Institut de linguistique de Lund 18 (Malmö: CWK Gleerup, 1983), 103-7.
[107] Svantesson, *Kammu Phonology*, 104.
[108] Willi Schaub, *Babungo* (London: Croom Helm, 1985), 211.
[109] Schaub, *Babungo*, 211.

"Tέεk's children eat eggs."[110]

b) tέεk   pńmàh   kɔ́ɔn   tèe yʌ́ʌ któŋ

   NN   feed   child   RFL with egg

"Tέεk gave his children eggs to eat."[111]

A causative object does not need to be expressed if it is clear based on the context in which it occurs or if it is not very important.[112] Often, however, such a construction without the expressed object is regarded as complete rather than a syntactic ellipsis.[113] This phenomenon can also be observed in Chuvash, Yukaghir, Finnish, and other languages.[114]

In fact, we can observe a similar practice in Egyptian as well. For example, the original object of the transitive verb *msj* 'give birth',[115] as illustrated in 4(24), can be expressed in the morphological causative with the preposition *m* 'with/in', as in 4(25). Unfortunately, this example comes from the Second Intermediate Period from the famous Papyrus Westcar, since the verb *smsj* 'make give birth'[116] is attested only once in the Old Kingdom without any object.[117] Thus, the original direct object has to be deleted since the language disallows the presence of two direct objects in a clause, but it can be expressed optionally in a prepositional phrase.

4(24)   *ms:n*   *ṯw*   *jḫ:t*   *wr:t*

        give_birth:ANT   2SG.M   thing:F   great:F

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[110] Svantesson, *Kammu Phonology*, 104.

[111] Svantesson, *Kammu Phonology*, 104.

[112] Vladimir Nedyalkov and Georgij Silnitsky, "The Typology of Morphological and Lexical Causatives," in *Trends in Soviet Theoretical Linguistics*, ed. Ferenc Kiefer (Dordrecht: D. Reidel, 1973), 31.

[113] Nedyalkov and Silnitsky, "The Typology," 31.

[114] Nedyalkov and Silnitsky, "The Typology," 31.

[115] Wb 2, 137.4-138.17; TLA lemma #74950.

[116] Wb 4, 141.19-142.5; TLA lemma #135700.

[117] In an inscription from the chapel of Sechemanchptah: *smsj jd.t* "Make the cow give birth."

"The Great Thing has given you birth."[118]

4(25)   *s:msj:tn*   *r(w)d-ḏt:t*   *m*   *pꜣ*   *ḫrd:w*   *3*
         CAUS:give_birth:ACT:2PL   Ruddedet   with this:M   child:M.PL   3
         "May you make Ruddedet give birth to (lit. "with") the 3 children."[119]

Finally, from a typological perspective, if just a handful of transitive verbs can be causativized morphologically, then these verbs are very likely to denote an "abstract action," such as "see/show," "remember/remind," "understand/explain," and "drink" and "eat,"[120] a sample of verbs that is quite well represented among the Egyptian transitive verbs. Interestingly, all of these verbs are semantically either ingestive or egestive verbs, which means that they refer to something that is taken inside or outside of the body or mind, whether in the literal or metaphorical sense.

Table 4.6. *Morphological causatives of transitive verbs with omitted subject.*

VERB	TRANSLATION	DERIVED FROM					
		MOT	ACT	TRANSFER		ING	EGE
				TO	AWAY		
sjp	make counted/take account of		x				
sjḏ	make censed		x				
swḏ	make commanded		x				
sfḫ	make loosened		x				
smḫ	make not known						x
smz	make brought	x		x			
srḫ	make known/learnt					x	
sḥwj	make hit/struck		x				
sḥnj	make equipped		x				
sḫwj	make protected		x				
sḫbḫb	make reduced		x				
sḫmḫ	make diverted (?)		x				
ssn	make nosed		x				

[118] PT221, 198b.
[119] Papyrus Westcar, 9, 23-4.
[120] Dixon, "A Typology of Causatives," 64; Nedyalkov and Silnitsky, "The Typology," 16.

sšn/snš	make free/avoided (?)		x				
sšdj	make taken out/away		x				
sqbḥ	make cooled/refreshed		x				
st̲(ꜣ)z	make tied		x				
st̲nj	make raised/distinguished		x				
s(w)t̲z	make elevated		x				

The second group of Old Egyptian verbs contains causatives of those transitive verbs whose original subject is not expressed in a morphological causative clause, where it would play the role of the (agentive) causee. These are listed in Table 4.6. Let us consider three verbs from this group in both non-causative and causative clauses, with the morphological causatives left untranslated for the moment.

a) *sjdj*[121]

4(26)   *jdy*   *ꜣḫ:t*   *n*   *ḥrw*   *nḫny*

cense:PASS   Akhet:F   for   Horus   Nekhen

"The Akhet is censed for Horus of Nekhen."[122]

4(27)   *js:d:s*   *spd:w*   *jm:jw:sn*

CAUS:cense:ACT:3SG.F   sharp:PTCP.ACT:M.PL   in:ADJZ:M.PL:3PL

"(That) she might *sjdj* the sharp ones and those who are in them."[123]

b) *swd̲*[124]

4(28)   *wdp:w*   *n*   *rꜥ*   *wd̲*   *n:f*   *sw*

cupbearer:M   of   sun.M   command:ACT:M   for:3SG.M   3SG.M

       rꜥ   *d̲s:f*

       sun.M   self.M:3SG.M

[121] James Allen, *The Inflection of the Verb in the Pyramid Texts* (Malibu: Udena Publications: 1984), 595, §753.

[122] PT255, 295a.

[123] PT502I, 1074.

[124] Wb 4, 78.6-17; TLA lemma #130950.

"The cupbearer of the sun whom the sun commands himself."[125]

4(29) *s:wḏ:sn*   *ṯw*   *ḥnt:j*   *psḏ:wt*
       CAUS:command:ACT:3PL   2SG.M   front:ADJZ   Ennead:F.PL
       "They *swḏ* you to the fore of the Enneads."[126]

c) *smz*[127]

4(30) *m*   *n:k*   *jr:t*   *ḥrw*   *mzȝ:t:n:f*
       take:IMP to:2SG.M   eye:F   Horus   bring:REL:F:ANT:3SG.M
       "Accept Horus's eye, which he has brought."[128]

4(31) *s:mz*   *n:f*   *sw*   *jr:f*
       CAUS:bring:IMP   to:3SG.M   3SG.M   with_respect_to:3SG.M
       "*smz* it to him."[129]

It is clear that these transitive verbs take two main arguments in a basic clause: a subject, which acts as the *agent*, and an object, which acts as the *patient/theme*. Their morphological causative counterparts take on two arguments as well: a subject (*agent*/causer) and an object (*patient/theme*). The causer of the event is the new agent introduced into a causative clause, while the original object stays in the role of *patient/theme*. It is obvious that the actions of *censing*, *commanding*, and *bringing* are carried out on the objects: the *sharp ones* are censed in 4(27), the referent in *you* is commanded in 4(29), and *it* is brought in 4(31). This means that the original subject is not expressed in the causative clause, not even in an optional adverbial phrase, in contrast to the original object of ingestives/egestives. Therefore, these morphological causative verbs have a passive sense.

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[125] PT205, 120b.
[126] PT*716, 11.
[127] Wb 4, 141.14; TLA lemma #135630.
[128] PT138, 85c.
[129] PT18, 10c.

The actions in the above examples are performed by the expressed subject, who consequently must be the direct causer. For instance, in 4(27) it is evident that *she* – Sothis – performs the action of censing the sharp ones, i.e., the stars, after having come "clad in her tailed kit and her sharp garment".[130] Moreover, as established above, morphological causatives imply direct causation. The fact that the subject of the morphological causatives of transitive verbs is the direct causer performing the action denoted by the verb explains why the causee is not expressed (in addition to the language disallowing the presence of two direct objects in a clause). It is impossible to have two agents in a direct causative clause because only one agent can be the direct causer, while the second agent would have to be an indirect one. Egyptian uses the periphrastic causative construction for indirect causation with two agents. The morphological causative mechanism thus prevents another agent being expressed in a sentence.

- Basic clause with *jdj* 'cense': Sothis (S>*Agent*) censes the sharp ones (NP>*Patient*).

- Periphrastic causative with *rḏj*: Geb (S_1>*Agent$_1$*) has Sothis (S_2>*Agent$_2$*) cense the sharp ones (NP>*Patient*).

- Morphological causative with *sjdj*: Sothis (S>*Agent*) makes the sharp ones (NP>*Patient*) censed.

Thus, we can literally translate the sentences above with the verb *make* followed by the passive form of the main verb:

4(27) "She might make the sharp ones and those who are in them censed."

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[130] Translation by Allen, *The Ancient Egyptian Pyramid Texts*, 152.

4(29) "They make you commanded to the fore of the Enneads."

4(31) "Make it brought to him."

4.4.3. Summary: causatives of transitives

This section of the chapter examined Old Egyptian transitive verbs in the two causative constructions. It has been found that the argument structure of a transitive verb in the periphrastic causative construction remains the same, but the entire expression becomes a complement clause, just as in the case of the periphrastic causatives of intransitives. The morphological causative strategy adds a new agent, i.e., the causer, into a clause, just as in the case of the morphological causatives of intransitives. However, the language prevents a verb from taking on two direct objects. As a consequence, either the original subject or the original object is deleted. A complete omission of the original object in a morphologically causative clause is due to its implied character and concerns only ingestive and egestive transitives. However, if the language needs to express it, then it can utilize an optional prepositional phrase. In the case of the causatives of transitives without the original subject being expressed, the base verbs' meanings become passive, since morphological causation cannot have two agents that both act with volition because it expresses direct causation (two agents are reserved for indirect periphrastic causatives) and because two direct objects are prohibited in the language. Most such transitive verbs express an action other than motion, transfer, or ingestion.

Moreover, it has been observed that the transitive verbs occurring in the periphrastic causative construction express some kind of action, one that often involves a transfer of some kind, very sporadically ingestion/egestion or motion. Also, the causee is always an animate entity. If the causee is unimportant, the complement clause can be passivized by

the suffix *-t(j)*. This can be easily explained by the sense of the periphrastic causative construction with transitive verbs, specifically that it expresses the event of *have someone do something*. Based on the available attestations of the transitive verbs in the periphrastic construction, it appears that the translation *have someone do something* is applicable to all verbs, with four exceptions. The verbs *mꜣꜣ* 'see' and *ḫm* 'be ignorant of' cannot be translated in this way, and neither can the verbs *wnm* 'eat' and *zwr* 'drink'. All of these verbs, with the exception of *ḫm*, can have implied objects in a sentence,[131] but all of them are either ingestive or egestive verbs. I would conclude that the translation *have someone do something* should be reserved only for those transitive verbs that are not ingestive or egestive.

4.4.4. Peculiarity of the morphological causatives of transitives?

Morphological causatives of transitive verbs without the original subject expressed are considered to have a rather peculiar character in that they are not strictly causative, since their bases in the causatives have a passive sense. How is this group of verbs different from those morphological causatives of transitives without the original object being expressed? Is there perhaps an alternative explanation for their derivation and meaning? We have established above that the action denoted by the morphological causative of a transitive verb is performed by the subject in the causative clause, e.g., *Sothis makes the sharp ones censed* (*sjdj*) with Sothis directly carrying out the action of *censing*. The question is, why is the basic form of the transitive verb not used in this case? Why say *Sothis makes the sharp ones censed* (*sjdj*) instead of the simpler *Sothis censes* (*jdj*) *the sharp ones*? Could it

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[131] For instance, PT524, 1240a: *ḏj:j mꜣꜣ:f m jr:tj:f tm:ty* "I may let him **see** with his two eyes complete."; PT341, 555e: *wnm NN ḥnꜥ:f m hrw pn* "NN **eats** with him on this day."; PT210, 129a: *zwr:f m zwr:t.ṯn jm* "He may **drink** from what you drink from."

be that the answer to this question lies in the phenomenon examined in the previous chapter?

In many languages, a transitive verb cannot be directly causativized.[132] A possible solution is to first detransitivize the verb to reduce the number of arguments to one, and then causativize it to bring the number of arguments to two again.[133] For instance, in Hipibo-Konibo, lexical causative verbs such as *meno-* 'burn' can be detransitivized by the suffix *-t* (*meno-t-* 'burn(self)') and then causativized by the productive suffix *-ma*.[134] A similar process can be observed in other languages as well, e.g., Blackfoot (Algonquian language), Halkomelem (Salish language), Bandjalang (Australian Aboriginal language).[135]

Now, let us look at a couple of excerpts with variant passages from the Pyramid Texts. These verbs were already quoted in Chapter 3 in 3(18) and 3(19), but are reproduced here for the clarity of the argument:

a) *fḫ* **'loose'**[136]

4(32) a) *s:n:fḫ~fḫ*   *n:k*   *nmt:wt*   *jꜣḫ:w*

        b) *s:fḫ~fḫ*   *n:k*   *nmt:wt*   *jꜣḫ:w*

           CAUS:(ANTIC:)untangle:PASS   for:2SG.M   stretch:M.PL   sunlight:M.PL

           "The sunlight's stretches are made untangled for you."[137]

[132] Dixon, "A Typology of Causatives," 43. See also Bernard Comrie, "The Syntax of Causative Constructions: Cross-Language Similarities and Divergences," in *Syntax and Semantics, Volume 6. The Grammar of Causative Constructions*, ed. Masayoshi Shibatani (New York: Academic Press, 1976), 261-312.

[133] Dixon, "A Typology of Causatives," 43; Joshua Song, "Causatives: Semantics," in *Encyclopedia of Language and Linguistics*, ed. Alex Barber (Elsevier, 2005), 179.

[134] Masayoshi Shibatani, "Introduction: Some Basic Issues in the Grammar of Causation," in *Grammar of Causation and Interpersonal Manipulation*, ed. Masayoshi Shibatani (Philadelphia: John Benjamins, 2002), 9.

[135] Song, "Causatives: Semantics," 179-180.

[136] Wb 1, 578.6-15; TLA lemma #63970.

[137] PT456, 852e.

b) *ẖbj* '**reduce**'[138]

4(33) a) *s:n:ẖb~ẖb*   *n:k*   *z:wj*   *wr:w*

     b) *s:ẖb~ẖb*   *n:k*   *z:wj*   *wr:w*

        CAUS:(ANTIC:)reduce:PASS   for:2SG.M   doorbolt:M.DU   great:M.PL

        "The two great doorbolts are made reduced for you."[139]

In all examples, the forms of the verbs are passive, with the causer not expressed. Both basic verbs *fḫ* 'loose' and *ẖbj* 'reduce' are transitive verbs. What distinguishes the examples in 4(32a)) and 4(33a)) from 4(32b)) and 4(33b)) is the transitivity of the verbs without the *s*-prefix: the former are intransitive verbs, while the latter are transitive. However, the number of arguments that each verb takes is the same: the subject (*theme*) and dative (*recipient*), which is strange since the first two verbs are the causatives of intransitives, while the other two are the causatives of transitives. This would mean that the causatives of both kinds of verbs, the intransitive *n*-prefixed verbs and their unprefixed transitive counterparts, would have identical meanings: 'make untangled' and 'make reduced'. However, a formal difference suggests a semantic difference, which is *not* observed here. This points to the verity of the suspicion raised in the previous chapter, specifically that these examples represent cases of the *n*-prefix dropping out of use. In this way, the verbs *sfḫfḫ* and *sẖbẖb* in 4(32b) and 4(33b), respectively, represent the original *snfḫfḫ* and *snẖbẖb*, with the *n*-prefix having disappeared.

Already in Old Egyptian, the occurrence of the *n*-prefix is rather sporadic, although it must have been a productive affix at some point before the invention of writing. I would suggest that the prefixation by the morpheme *n*- could be exactly the process of

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[138] Wb 3, 251.3-19; TLA lemma #115570.
[139] PT355, 572d.

detransitivization needed for the causativization of transitive verbs, whose only argument, the subject, would have the semantic role of *patient/theme*. This argument then becomes the causee/*patient* in a causative clause. The process of this possible causative derivation and the argument structure of the verb is shown in Table 4.7.

Table 4.7. *Possible process of the causativization of transitive verbs.*

	Verb	**Argument 1**	**Argument 2**
transitive verb	$R_1R_2(j)$	Subject=Agent	Object=Patient/Theme
detransitivization	$\boldsymbol{n}R_1R_2(j)$	Subject=Patient/Theme	
causativization	$\boldsymbol{s}nR_1R_2(j)$	Subject=Agent= Causer	Object=Patient/Theme= Causee

Even though this process cannot be seen anymore with every transitive verb that takes the *s*-prefix in Old Egyptian (only two causative verbs are attested with the *n*-prefix: *snfḫfḫ*, *snḫbḫb*), due to unknown linguistic changes that took place during the *n*-prefix's productive stage and its remnants at the time when writing was invented, the fact that at least few examples of variant verbs with and without the *n*-prefix survive should point to the validity of this suggestion. Once the *n*-prefix ceased to productively derive intransitive verbs out of transitives, the spelling of the morphological causative of a transitive verb could alternate between *n*-prefixed and unprefixed forms. In fact, most of the verbs in the table showing morphological causatives of transitive verbs with the deleted original subject are 2-radical verbs or 3-radical weak verbs,[140] which are exactly the classes of verbs whose stems can be augmented with the *n*-prefix (see Chapter 3, section 3.2.8.), at least based on the available evidence.

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[140] The only exceptions would be *qbḥ* (which is, however, probably a suffixed 2-radical verb), *ḫmḫj* (which is a reduplicated 2-rad verb), and *ṯ(ꜣ)z* and *(w)ṯz* (which sometimes omit ꜣ or *w*, respectively).

4.5. Double causatives

Interestingly, I have found several examples of double causatives, i.e., morphological causative verbs that occur in the periphrastic causative construction. These examples include the verbs *swḏꜣ* 'make sound' (causative inactive intransitive), *srḫ* 'make known' (causative ingestive transitive), *sḥtj* 'make go back' (causative intransitive verb of motion) and *sšmj* 'make go' (causative intransitive verb of motion). The verb *sḥtj* is the best example of a double causative with a very clear meaning, as shown in 4(34).

4(34) *rḏj:n:f*   *s:ḥt*   *n:k*   *ḏḥwtj* *jm:jw*
       cause:ANT:3SG.M CAUS :go_back:ACT   to:2SG.M   Thoth   in:ADJZ:M.PL

       ḫt   *stš*
       wake.M   Seth

       "He (= Horus) had Thoth make the followers of Seth go back to you."[141]

The causer of periphrastic causation, i.e., Horus, indirectly manipulated the causee, i.e., Thoth, probably by verbal communication. Then, Thoth as the causer of morphological causation directly and physically manipulated the causee, i.e., the followers of Seth. This example inserts a morphological causative verb expressing direct/sociative causation into the periphrastic causative construction expressing indirect/sociative causation, and thus represents a true double causative.

The other three examples are less iconic in the correspondence of their morphological form and meaning. In fact, the causer in the periphrastic construction seems to be the same as the causee of the morphological causative verb, which would make double causatives superfluous.

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[141] PT356, 575b.

4(35)   *jmj*   *s:wḏꜣ*   *jrṯ:t*
        cause:IMP   CAUS:become_sound:INF   milk:F
        "Cause that the milk is made sound."[142]

The verb *swḏꜣ* could have a passive sense in this example, hence the translation. The causer is supposed to find someone who would take care of the milk, and so the causee does not need to be expressed in the sentence. However, it is also possible that the causer is supposed to carry out the action of *making the milk sound* all by himself, that is why he is given the order to do so: "(You) cause that (you) make the milk sound." In this case, the meaning of the sentence does not correspond to double causation. This is also probably true of the following examples in 4(36) and 4(37).

4(36)   *ḏj*   *zḫꜣ:k*   *s:rḫ:t*   *ꜥwꜣ*
        cause:ACT   scribe.M:2SG.M   CAUS:known:PASS   robbery.M
        "Your scribe causes that robbery is made known."[143]

This clause seems to have the meaning *Your scribe causes that your scribe makes the robbery known* by putting it down in writing or verbally talking about it.

4(37)   *ḏj:(j)*   *ḥm s:šmj*   *ḏbꜥ:k*   *r*   *pr*   *qs:w*
        cause:ACT:[1SG]   also CAUS:go:ACT   finger.M:2SG.M   to   field.M   bone:M
        "I also cause that your finger is made to go to the (game) field 'bone'."

This clause also seems to have the meaning *I cause that I make your finger go to the (game) field 'bone',* i.e., your finger is led to the field 'bone'.

What is interesting about these instances of double causatives is that the true double causative comes from the Pyramid Texts, while the other ones that are not real double

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[142] Tomb of Nebet at Saqqara, Room C, Eastern wall.
[143] Papyrus Berlin 8869, recto, K5.

causatives come from a couple of centuries later. The latter thus contain a younger language, which suggests that the morphological causatives were more lexicalized at this time than at the time of the composition of the Pyramid Texts. Unfortunately, we do not have more examples of true double causatives from the Pyramid Texts to confirm this hypothesis. It is clear, however, that the language could employ double causation, even if this was very rare.

4.6. Vocalization of the s-prefix

Unfortunately, not enough evidence survives to establish the exact phonetic value of the *s*-prefix in Earlier Egyptian. Allen prefers the reconstruction *su-*, based on such Coptic descendants as ϣⲉⲝⲉ (A), ⲥⲁⲝⲓ (B), ⲥⲉⲝⲓ (F), ⲥⲉⲝⲉ (L/M), ϣⲁⲝⲉ (S) from *sḏd* 'relate'.[144] Some Coptic verbs display the alternation of the vowels ⲁ/ⲟ after the *s*-prefix, for instance ⲥⲟⲟⲩⲧⲛ (S), ⲥⲁⲩⲧⲛⲉ (A), ⲥⲱⲟⲩⲧⲛ (B), ⲥⲁⲩⲧⲛ (F) (< *swdn* = *sdwn* 'stretch'), which Allen explains as a case of "dissimilation of *[uw] > *[ɔw]".[145] However, not enough examples of *s*-prefixed verbs survive in Coptic to confirm the proposed original phonetic value *su-*. Coptic often does not preserve the vowel following the first radical ⲥ-, or we observe multiple vowels across attested verbs. Also, it cannot be excluded that several different vocalizations of the *s*-prefix existed (e.g., *su-*/*sa-*) that would reflect dialectal differences or differences across verbal classes. Therefore, it is not possible to establish the vocalization of causatives with much certainty.

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[144] Allen, *Ancient Egyptian Phonology*, 68-9.
[145] Allen, *Ancient Egyptian Phonology*, 69.

4.7. Evidence for the s-prefix from related languages

The morphological causative stem is attested across the Afroasiatic language family. Firstly, the Berber languages employ the sibilant prefix *ss-* to a) derive transitive or intransitive verbs from nouns and onomatopoeia, b) to turn intransitive or ambitransitive verbs into transitive, and c) to make transitive or ambitransitive verbs causative.[146] In the Chadic group, some languages do not have any causative mechanisms, while others have more than one.[147] For instance, Gidar can mark the causative with the suffix *-g*, which is also used to mark the subject as not participating in the event.[148] The causative morpheme in the Cushitic languages varies: in some it is the suffix *-s* or *-š*, in others the suffix *-d*, while some have the prefix *s-*.[149] The functions of these affixes include causation as well as the creation of an intensive meaning.[150]

In the Semitic languages, causation is expressed by verbal forms in the Š-stem. The prefix associated with the Š-stem is *ša-/šu-* in the East Semitic languages.[151] As for the West Semitic languages, parallel causative sibilant morpheme can be found in Ugaritic, the Epigraphic South Arabian languages (with the exception of Sabaic), and Old Aramaic.[152] The other languages from the West Semitic group employ a guttural morpheme: the

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[146] Maarten Kossmann, "Berber," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 37.

[147] Zygmunt Frajzyngier and Erin Shay, "Chadic," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 288.

[148] Frajzyngier and Shay, "Chadic," 289.

[149] Maarten Mous, "Cushitic," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 404; Edward Lipiński, *Semitic Languages: Outline of a Comparative Grammar*. Orientalia Lovaniensia Analecta 80 (Leuven: Uitgeverij Peeters and Departement Oosterse Studies, 1997), 387.

[150] Mous, "Cushitic," 404.

[151] Norbert Kouwenberg, *The Akkadian Verb and Its Semitic Background*. Languages of the Ancient Near East 2 (Winona Lake: Eisenbrauns, 2010), 324.

[152] Kouwenberg, *The Akkadian Verb*, 350.

attested prefix *ha-* and the later *ʔa-* or *a-*.[153] Some of these languages display remnants of the *s*-prefix in prefixed fossilized words.[154] In any case, the original Proto-Semitic derivational marker seems to have been *šu-*.

The Š-stem is normally characterized as providing a causative meaning to the verb, but it can also have other meanings, such as factitive.[155] In fact, Kouwenberg distinguishes four main functions of the Š-stem in Akkadian, namely the causative function of transitive verbs, the causative/factitive function of intransitive verbs, "elative" function and denominal function.[156] Firstly, transitive verbs, whose only causative form is that in the Š-stem, become ditransitive. Secondly, some intransitive verbs use both the Š-stem and the D-stem to express causation, in some cases with observable slight semantic differences. In general, the Š-stem creates causative transitive counterparts of intransitive verbs, especially "motion and atelic activity verbs," while intransitive process verbs, especially "change-of-state and adjectival verbs," become agentive with the help of the D-stem.[157] Thirdly, the "elative" use of the Š-stem, which intensifies the basic verb's meaning, is mostly confined to Babylonian literary works.[158] Lastly, Kouwenberg also cites a few examples of possible Š-stem verbs derived from substantives.[159]

Unlike some other derived stems in Akkadian, the Š-stem seems to have always been used productively.[160] Interestingly, in Assyrian and Babylonian, the Š-stem is closely

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[153] Aaron Rubin, *A Brief Introduction to the Semitic Languages* (Piscataway: Gorgias Press, 2010), 45; Lipiński, *Semitic Languages*, 390.
[154] Kouwenberg, *The Akkadian Verb*, 351.
[155] Lipiński, *Semitic Languages*, 387-8.
[156] Kouwenberg, *The Akkadian Verb*, 327.
[157] Kouwenberg, *The Akkadian Verb*, 328.
[158] Kouwenberg, *The Akkadian Verb*, 331-2; Ephraim Speiser, "The 'Elative' in West-Semitic and Akkadian," in *Oriental and Biblical Studies. Collected Writings of E. A. Speiser*, eds. J. J. Finkelstein and Moshe Greenberg (Philadelphia: University of Pennsylvania Press, 1967), 465-493.
[159] Kouwenberg, *The Akkadian Verb*, 332-3.
[160] Kouwenberg, *The Akkadian Verb*, 327.

related to the D-stem, which is visible in their identical paradigms, their "valency-increasing function," and some unexpected verbal forms in the Š-stem.[161] Moreover, in literary works, it is possible to combine the Š-stem and the D-stem into the resulting ŠD-stem, which usually takes on the meaning characteristic of the D-stem rather than the Š-stem.[162]

Finally, Kouwenberg[163] postulates a historical development for the *s*-prefix similar to that of the *n*-prefix that "started as a light verb, became a verbalizing prefix, a secondary radical in I/n verbs, and finally a grammatical marker to indicate detransitivization". Since the *s*-prefix is also verbalizing or a secondary radical in some verbs in Akkadian, while in others it is a grammatical morpheme, Kouwenberg[164] argues that the *s*-prefix might go back to a light verb as well. Other scholars suggest a pronominal origin for the *s*-prefix as well as the *n*-prefix (see Chapter 3, section 3.4.).[165] This suggestion is strongly rejected by Kouwenberg who criticizes them for not being able to show a "plausible grammaticalization path" from a pronoun to a verbal prefix.[166] Kouwenberg's proposed historical development of the *s*-prefix is best cited here in full:

> The verb in question…was doubtless conjugated by means of personal
> prefixes and was used with nouns as direct object with sufficient frequency
> to develop into a light verb and subsequently a prefix serving to verbalize
> the following noun. This is the direct source of the verbalizing and

[161] See Kouwenberg, *The Akkadian Verb*, 324-5.
[162] Kouwenberg, *The Akkadian Verb*, 333-4.
[163] Kouwenberg, *The Akkadian Verb*, 352.
[164] Kouwenberg, *The Akkadian Verb*, 352-3.
[165] For instance, Ephraim Speiser, "Studies in Semitic Formatives," in *Oriental and Biblical Studies. Collected Writings of E. A. Speiser*, eds. J. J. Finkelstein and Moshe Greenberg (Philadelphia: University of Pennsylvania Press, 1967), 404-16; Stephen Lieberman, "The Afro-Asiatic Background of the Semitic N-stem: Towards the Origins of the Stem-Afformatives of the Semitic and Afro-Asiatic Verb," *Bibliotheca Orientalis* 43, no. 5 (1986): 577-628; Burkhart Kienast, *Historische Semitische Sprachwissenschaft* (Wiesbaden: Harrasowitz, 2001).
[166] Kouwenberg, *The Akkadian Verb*, 316, #108.

denominal use of the S-prefix. The development of the causative function must have been triggered either by its combination with a deverbal form (a noun or an adjective) or by its use as an auxiliary verb beside a finite main verb. This kind of development would explain the remarkable parallel in the use of *š-* and *n-*, especially in quadriradical verbs…and their opposite meaning if they occur in the same group…Whereas the intransitive N forms may go back to a verb meaning 'to be(come),' 'to do,' 'to say,' the transitive Š forms may owe their contrasting function to a verb meaning 'to make,' 'to cause,' 'to put down,' etc.[167]

What the original source of the *s*-prefix was in Egyptian cannot be determined. Typologically, causative affixes often develop from independent lexical units that include such verbs as *make*, *do*, *put*, *take*, *give*.[168] Therefore, it is probable that the causative function of the *s*-prefix originates with a light verb of one of these or similar meanings, as suggested by Kouwenberg. Based on these cross-linguistic tendencies, this proposal of a historical development seems more likely than that of the pronoun origin. Moreover, the use of the *s*-prefix as a verbalizer, parallel to that of the *n*-prefix, is supported by the fact that some morphological causatives in Old Egyptian were derived from substantives or *nisbes*, thus lacking their unprefixed base verbs.

4.8. Lexicalization of causatives

In this section, I present several comments on the process of the lexicalization of causative verbs. Firstly, it is observed across languages that productive forms express indirect causation, while less productive forms express direct causation.[169] The same applies to

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[167] Kouwenberg, *The Akkadian Verb*, 352-3.
[168] Heine and Kuteva, *World Lexicon of Grammaticalization*, 117-9, 150-2, and 286-7. The verb *wdj* 'put, place' is not used as a causative verb in Old Egyptian.
[169] Masayoshi Shibatani and Prashant Pardeshi, "The Causative Continuum," in *Grammar of Causation and Interpersonal Manipulation*, ed. Masayoshi Shibatani (Philadelphia: John Benjamins, 2002), 112.

Egyptian, in which periphrastic causation is productive since it can be applied to any type of a verb, while morphological causation is lexically restricted, occurring only with certain types of verbs. In general, morphological causatives are susceptible to lexicalization.[170] This is because various activities can occur under the concept of causation, depending on the type of the base verb, which means that over time the derivatives of the morphological causative type can acquire unpredictable meanings and become lexicalized, and the speakers eventually lose the ability to apply the process productively.[171] Lexicalized causatives acquire idiosyncratic meanings,[172] e.g., Old Egyptian *swḏ* 'hand over, bequeath' < *wḏ* 'command'[173] and Middle Egyptian *snḏm* 'sit/make oneself comfortable'[174] (< *nḏm* 'be(come) pleasant') and *sḏd* 'relate'[175] (< *ḏd* 'say'). Such idiosyncrasy would have been strengthened not only by the lexicalization process but also by changes in the meaning due to the disappearance of the *n*-prefix (if it indeed played a role in the morphological causativization of transitives). An ongoing change in the causative formation in Old Egyptian is also reflected in the occurrence of sociative causation with applicative meanings, which tend to signal an advanced level of lexicalization.[176]

Secondly, as the process of lexicalization progresses, the periphrastic causative type assumes the role of filling in the gap.[177] This is the reason why the periphrastic causative mechanism gradually replaces the morphological causative type in ancient Egyptian. Already in Old Egyptian, the morphological causative type slightly loses its productivity.

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[170] Joan Bybee, *Morphology: A Study of the Relation Between Meaning and Form* (Amsterdam: John Benjamins, 1985), 18.
[171] Bybee, *Morphology*, 18.
[172] Bybee, *Morphology*, 18.
[173] Wb 4, 78.6-17; TLA lemma #130950.
[174] Wb 4, 185.10-187.26; TLA lemma #851678.
[175] Wb 4, 394-395.12; TLA lemma #150940.
[176] Shibatani and Pardeshi, "The Causative Continuum," 121.
[177] Shibatani and Pardeshi, "The Causative Continuum," 114.

We can see this in some rare examples of the periphrastic construction expressing rather direct causation, as in 4(38). In this instance, the causer physically manipulates the causee, which is a type of causation normally reserved for morphological causatives. Even though the choice of the periphrastic construction might have been intentional due to the word play with the first part of the clause that also uses the verb *ḏj* 'give', it is clear that the shift of the periphrastic construction from the indirect towards the direct spectrum of the causative continuum had already been under way at this time.

4(38) *ꜥḥꜥ*   *ḏj*   *n:k*   *ꜥ:k*   *n*   *ḥrw*
        stand_up:IMP   give:IMP   to:2SG.M   arm.M:2SG.M   to   Horus

        ḏj:f   *ꜥḥꜥ:k*
        cause:ACT:3SG.M   stand_up:ACT:2SG.M

        "Stand up! Give your arm to Horus so that he may make you stand up."[178]

Thirdly, the degree of the lexicalization of causatives is reflected on the formal continuum as well (Figure 1).[179] The formal and semantic continua map onto each other in that direct/manipulative causation tends to be expressed by the causative types on the left side of this continuum, while indirect/directive causation tends to be reflected on the right side of the continuum.[180] The grammaticalization process leads to less transparent forms as well as to semantic bleaching. This means that less productive constructions are more "compact" than productive constructions.[181] As is clear from the figure, periphrastic causative forms have the lowest level of synthesis and lexicalization as well as irregularity

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[178] PT593, 1627a.
[179] Shibatani and Pardeshi, "The Causative Continuum," 109, Table 3.
[180] Song, "Causatives: Semantics," 267.
[181] For the scale of compactness, see Dixon, "A Typology of Causatives," 74-5; Shibatani and Pardeshi, "The Causative Continuum," 115.

and unproductivity. This observation agrees with the language at the time of Old Egyptian. However, periphrastic causation gradually shifts towards the left as it becomes more grammaticalized. Interestingly, the grammaticalization of the verb *give* into a causative affix involves a stage where the verb *give* has also a permissive function.[182] This stage seems to be represented by Old Egyptian, since the periphrastic causative construction can have a permissive function at this time, as demonstrated above. Furthermore, morphological causation in Old Egyptian finds its place somewhere in the middle of this scheme. It still shows a considerable degree of regularity and productivity, and a relatively low level of grammaticalization, although its shift towards the left side of the spectrum is already visible. In the later stages of the language, all morphological causatives become lexicalized. In contrast, pure lexical items have the highest degree of synthesis/lexicalization as well as irregularity/unproductivity.

Lexical causatives not only display the most direct causation, but they are also likely to contain the causee that is a non-human patient.[183] Indeed, cross-linguistic studies have shown that lexical causatives tend to be transitive verbs that denote direct causation.[184] Also in Egyptian, we never find morphological causatives of such verbs as *m(w)t* 'die', which only exist in the lexicon, e.g., *smꜣ* 'kill (=cause to die)'. It would be very interesting and helpful to study lexical causatives in Egyptian, to the extent that our understanding of the script and grammar allows us to do so. For instance, could the absence of the morphological causatives of verbs like *wn* 'open' be explained by their seeming employment both as causatives (*He opened the door.*) and inchoatives (*The door opened.*),

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[182] Heine and Kuteva, *World Lexicon of Grammaticalization*, 152.
[183] Shibatani, "Introduction," 11.
[184] Shibatani and Pardeshi, "The Causative Continuum," 96.

or does the causative verb have a different internal structure, e.g., different vowel pattern, not visible in writing, than its inchoative counterpart? How many other lexically causative verbs like that exist in ancient Egyptian?

```
HIGH <-----------degree of synthesis/lexicalization/grammaticalization------------>LOW
LOW <-------------------------degree of regularity/productivity----------------------->HIGH
pure lexical        <    fusional   <    agglutinative    <    analytic/syntactic
```
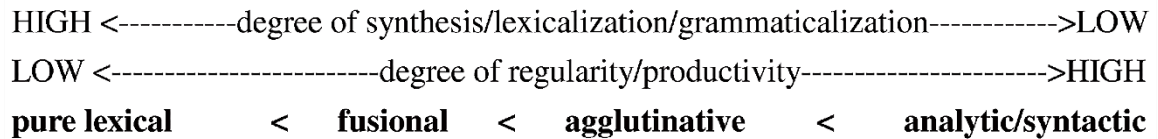
Figure 4.1. *Formal causative continuum.*[185]

4.9. Conclusions

The present chapter investigated the derivation of causatives from Old Egyptian intransitive and transitive verbs. The two most productive causative mechanisms were examined, namely the morphological causative type (with the prefix *s-*) and the periphrastic causative type (with causative verb *rḏj*). It was found that they can even combine: a morphological causative can be inserted into the periphrastic construction, but this is not very common. The alternation and semantic roles of the arguments of intransitive and transitive verbs in the two causative constructions are presented in Table 4.8. Both causative constructions were analyzed in their application to a range of semantic categories of base verbs. Indeed, the semantics of base verbs and the semantic role of the subject of the base verb (whether it is agentive, patientive, or both) play a significant role in the process of causativization in Old Egyptian. This process follows the typological hierarchy inactive intransitives – active intransitives – transitives.

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[185] Shibatani and Pardeshi, "The Causative Continuum," 109, Table 3.

Table 4.8. Valency alternation in causative derivation.

Intransitive verb	
Base	V VSubj>*Agent*/*Patient*
Morphological	*s*V VSubj>*Causer* NP>*Causee*
Periphrastic	*rdj* VSubj$_1$>*Causer* COMP[V VSubj$_2$>*Causee*]
Transitive verb	
Base	V VSubj>*Agent* NP>*Patient*
Morphological	*s*V VSubj>*Causer* NP>*Causee* (*m*+NP>*Patient*) (in/egestives)
	*sn*V VSubj>*Causer* NP>*Causee(=Patient)* (other transitives)
Periphrastic	*rdj* VSubj$_1$>*Causer* COMP[V VSubj$_2$>*Causee* NP>*Patient*]

In Old Egyptian, the morphological causative type shows preference for inactive intransitives, which are the easiest to causativize morphologically, due to their patientive participant, and ingestive/egestive verbs, which are both agentive and patientive. The ancient Egyptian language did not allow the morphological causativization of active intransitives other than verbs of motion with agentive participants. In addition, if we accept the hypothesis that the morphological causatives of transitive verbs, with the exception of ingestive/egestive verbs, derive in fact from their intransitive *n*-prefixed forms, then we could state that, in addition to active intransitives, ancient Egyptian did not allow morphological causativization of transitive verbs. In contrast, due to the easy incorporation of two agents in the bi-clausal periphrastic causative construction, this causative type could be applied to all types of verbs: inactive and active intransitives, verbs of motion, as well as transitives that include ingestive/egestive verbs and transfer verbs. Thus, the periphrastic causative construction could accommodate any verb that the language prohibited to causativize morphologically.

Table 4.9. *Semantic causative continuum in Old Egyptian.*

DIRECT   JOINT-ACTION   ASSISSTIVE   SUPERVISION   INDIRECT

morphological causation   **periphrastic causation**

inactive intransitives   inactive intransitives

transitives

active intransitives

verbs of motion/position (agentive causee)

verbs of motion/position   verbs of motion/position
(patientive causee)   (patientive causee)

ingestive/egestive verbs
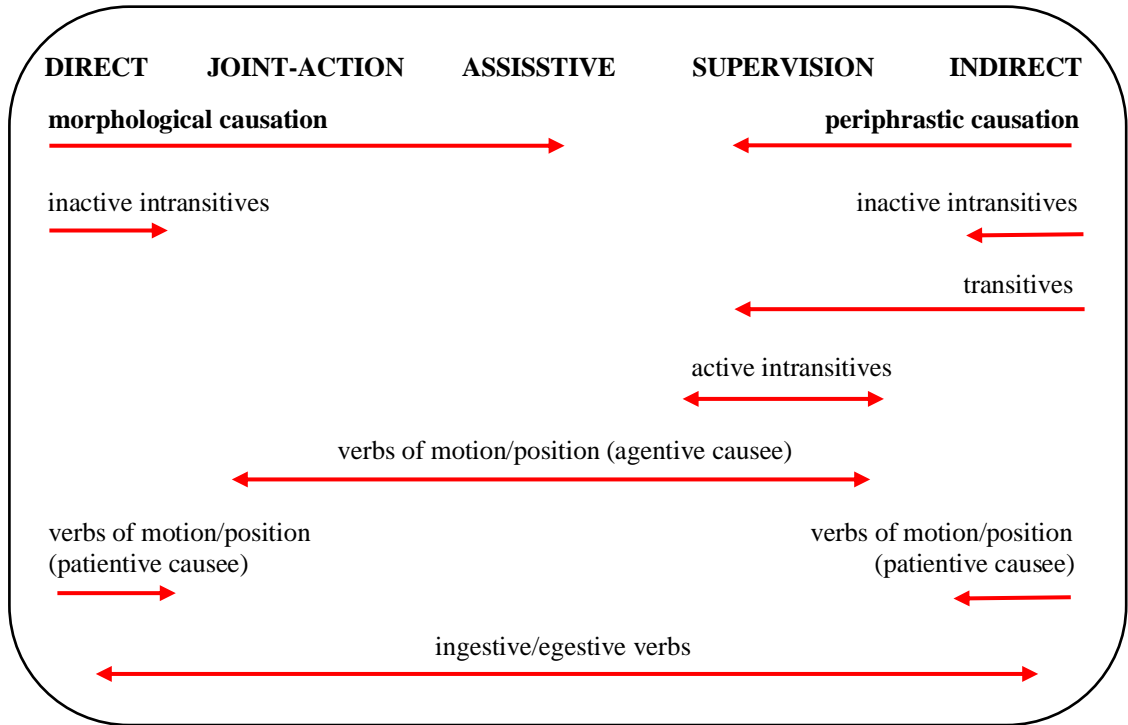
The main difference between the two types of causative mechanisms is reflected on the directness continuum. Table 4.9. summarizes the semantic continuum of Egyptian causatives as expressed in the morphological and periphrastic constructions. Morphological causatives derived from inactive intransitives primarily express direct causation. The periphrastic causative construction denotes indirect causation with inactive intransitives, but mainly supervision causation with active intransitives. Both indirect and supervision causations are attested with transitives in the periphrastic causative type. Furthermore, causatives of the verbs of motion can have an entire range of causative meanings, depending on whether the causee is agentive or patientive. In general, causatives with an agentive causee are found in the middle of the spectrum, with a tendency to express sociative causation correlating with the applicative meaning, e.g., the morphological causative of *šmj* 'go' is best translated as 'lead' rather than 'make go'. In contrast,

causatives of verbs of motion with patientive causees are found on the edges of the spectrum. Moreover, ingestive and egestive verbs can probably express a whole range of meanings as well, but only few examples of these are attested.

In addition, Egyptian morphological causatives are best translated in English with the use of a lexical causative verb or as *make someone go* (for intransitives) and *make someone do something* (for transitives). The most appropriate suggestions for translating Egyptian verbs in the periphrastic causative construction into English are: *allow/let someone go* (for intransitives, and transitive ingestives/egestives), and *have someone do something* (for transitives except for ingestives/egestives).

Lastly, it should be noted that the results of this study are based on a few verbs whose contexts were clear enough to study. This means that the findings are not necessarily final and might need to be adjusted if new evidence comes to light. Despite these limitations, I hope that my study has somewhat contributed to our understanding of Egyptian causatives, specifically their earliest attestations that set the stage for the development of causative constructions observed in the later periods of the language. Maybe we are now one step closer to providing a more complete historical narrative of causatives in ancient Egyptian.

CHAPTER 5. REDUPLICATION AND GEMINATION IN OLD EGYPTIAN

The previous two chapters investigated the roles of the most common prefixes in Old Egyptian: the anticausative *n-* and the causative *s-*. The present chapter examines another very common and productive phenomenon in verbal derivation in Old Egyptian, namely reduplication. This analysis is based on the theoretical considerations from the field of linguistics presented in Chapter 2 (section 2.3.). Even though this dissertation is primarily concerned with verbal derivation, I will also briefly describe the role of reduplication in substantive formation (section 5.2.2.). The rest of the chapter will be devoted to reduplication in verbs. In the ancient Egyptian language, we can distinguish between several types of reduplication: total reduplication will be analyzed in sections 5.2.3.1. and partly in 5.2.3.2., while partial reduplication will be examined in sections 5.2.3.2.-5.2.3.5. The latter will encompass middle radical and final radical reduplication (sections 5.2.3.3.-5.2.3.4.). Section 5.2.3.6. will briefly address reduplicated verbs in the *sḏm.n.f* form. Reduplication in the other Afroasiatic languages will be described in section 5.3. The final section of the chapter (5.4.) will summarize the findings of this analysis and provide concluding remarks.

5.1. Previous research

Reduplication is a morphological process usually mentioned in a few paragraphs in most grammar books on ancient Egyptian. For instance, Elmar Edel in his *Altägyptische Grammatik I* (1955) provided numerous examples of reduplicated verbs, showing which reduplicative patterns occur with which verbal classes. He noted that total reduplication is most common with 2-radical verbs and weak 3-radical verbs, but very rare with strong 3-radical verbs.[1] He also noted different patterns of partial reduplication, including "AB.A" which represents the original "AB.AB," then "AB.B" type, and also "ABC.BC," which is a pattern commonly seen with the *n*-prefix.[2] As for the function of reduplication, Edel argued that "dass eine Handlung aus vielen Einzelhandlungen besteht oder dass sich die Handlung auf eine Vielzahl von Dingen erstreckt,"[3] which will be also observed in this chapter. Lastly, he mentioned that the semantic difference between the base verb and its reduplicated form can be so small that a text can alternate between the two verbs.[4] Similarly, Gardiner included several paragraphs on reduplicative patterns and their examples in his *Egyptian Grammar* (1957).[5]

More detailed descriptions of reduplication in Egyptian have been provided by a number of linguists, most commonly by Chris Reintges, who published two articles on the topic in 1994. He distinguished between "full morpheme" and "partial" reduplication, which he saw as "functional equivalents of each other" without any discernible semantic

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[1] Elmar Edel, *Altägyptische Grammatik I.* Analecta Orientalia 34 (Rome: Pontifical Biblical Institute, 1955), §429-431.
[2] Edel, *Altägyptische Grammatik I*, §432-437.
[3] Edel, *Altägyptische Grammatik I*, §439.
[4] Edel, *Altägyptische Grammatik I*, §439.
[5] Alan Gardiner, *Egyptian Grammar: Being an Introduction to the Study of Hieroglyphs*, 3rd ed. (Oxford: Griffith Institute, 1957), §274.

difference.[6] Moreover, Reintges presupposed the function of reduplication in Egyptian to be "intensive/repetitive" or "imperfective" without providing any evidence for this assertion, claiming that these original meanings have been "lost beyond recognition".[7] However, while the meaning of reduplication is in some cases less transparent than in others, the original function is still visible in some Old Egyptian verbs. Reintges also stated that reduplication and gemination are "two instances of one and the same copying process," which differ only "with respect to derivation."[8] While the former is indeed true, as will be shown later in this chapter, it is not clear what evidence supports the conclusion that they differ in terms of "derivation". Lastly, he asserted that the process of affixation follows that of reduplication,[9] but this is not clear due to the existence of such verbs as *nḥrnḥr* "look forward to,"[10] in which the affixation by the *n*- precedes the reduplication of the stem, unless we are dealing with a lexicalized *n*-prefixed verb.

Reintges's 2009 article, co-authored with Sabrina Bendjaballah, clarifies certain issues from his earlier articles. In this paper, they distinguish between three different types of reduplication, namely "pluractional," "imperfective," and "prospective passive," which differ "in terms of morphological form" as well as "in terms of syntactic structure".[11] They state that the three examples of reduplicative processes are "incompatible with one another" and occur with different verbal classes.[12] They clarify that the pluractional verbs

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[6] Chris Reintges, "Egyptian Root-and-Pattern Morphology," *Lingua Aegyptia* 4 (1994): 232.
[7] Reintges, "Egyptian Root-and-Pattern Morphology," 231.
[8] Reintges, "Egyptian Root-and-Pattern Morphology," 233-4; Chris Reintges, "Reduplicative Copying in Ancient Egyptian," in *Linguistics in the Netherlands*, eds. Reineke Bok-Bennema and Crit Cremers (Amsterdam: John Benjamins, 1994), 204.
[9] Reintges, "Reduplicative Copying in Ancient Egyptian," 205.
[10] TLA lemma #861073.
[11] Sabrina Bendjaballah and Chris Reintges, "Ancient Egyptian Verbal Reduplication: Typology, Diachrony, and the Morphology-Syntax Interface," *Morphology* 19 (2009): 135-6.
[12] Bendjaballah and Reintges, "Ancient Egyptian Verbal Reduplication," 138.

are derived by "stem doubling" and the imperfective verbs by "consonant spreading".[13]

However, it is not evident to me how this conclusion was reached, since the two types of

verbs are the result of the same derivational operation. Many assertions that Reintges made,

such as the existence of pluractional or imperfective reduplication, semantic values of

verbs, the iconic function of reduplication, or the prospective aspect, are presented as well-

known facts and taken for granted. However, all of these are problematic categories and

one needs to first demonstrate their existence in the language before any other conclusions

can be made.

Another linguist who has discussed partial reduplication in Egyptian was Andréas

Stauder, mainly in connection with his research on passive forms. In his book *The Earlier*

Egyptian Passive: Voice and Perspective (2014), he stated that final radical reduplication

concerns the finite *sḏmm.f* form and the non-finite participial *ḏdd* form, both of which, he

said, are inflectional, i.e., they have a "grammatical function" and do not "affect the lexical

meaning of the event".[14] He took reduplication in the *sḏmm.f* form to be a marker of the

prospective.[15] He showed that 2-radical verbs in the passive participle reduplicate their last

consonant due to phonological reasons in order to extend the stem to the vocalic pattern of

the participle.[16] In his 2008 article, he correctly postulated that the passive reduplicated

sḏmm.f form does not represent the passive "*marked* by reduplication".[17] Instead, he

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[13] Bendjaballah and Reintges, "Ancient Egyptian Verbal Reduplication," 145.

[14] Andréas Stauder, *The Earlier Egyptian Passive: Voice and Perspective*. Lingua Aegyptia Studia Monographica 14 (Hamburg: Widmaier, 2014), 44.

[15] Stauder, *The Earlier Egyptian Passive*, 52. On the previous research of the prospective form, see Leo Depuydt, "A History of Research on the Prospective *sḏm.f* Forms in Middle Egyptian," *Journal of the American Research Center in Egypt* 30 (1993): 11-31.

[16] Stauder, *The Earlier Egyptian Passive*, 56-7.

[17] Andréas Stauder, "Earlier Egyptian Passive Forms Associated with Reduplication," *Lingua Aegyptia* 16 (2008): 193.

viewed the verbs in this form as "realizations of V-passives, under particular morphophonological circumstances," which currently cannot be determined due to our poor knowledge of ancient Egyptian phonology,[18] which stems mainly from the non-alphabetic nature of the hieroglyphic script, concealing vowels and internal stem modifications.

Helmut Satzinger also briefly investigated reduplication in ancient Egyptian in his article published in 2007, stating that reduplication can have a range of meanings, including intensive, plural, causal/factitive, reflexive, and passive.[19] The main problem with his analysis of reduplicated verbs is that he used examples of verbal pairs from various time periods, which is a highly inadequate approach due to the diachronic language change apparent not only in morphology but semantics as well.

Furthermore, "gemination" in ancient Egyptian was traditionally viewed as a syntactic phenomenon, different from the process of reduplication. Firstly, there are verbs with identical second and third radicals that have been termed "geminated". Secondly, there is a class of weak 3-radical verbs which can "geminate" in particular contexts. Both of these types of verbs are sometimes written with two identical hieroglyphic signs in writing, and sometimes only with one. Under the influence of the Berlin School, the geminated forms of these verbs were traditionally thought to be "imperfective," while the non-geminated forms represented the "perfective".[20] The former used to be also labeled "emphatic" or "nominal," according to the Standard Theory.[21] Thus, visible gemination

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[18] Stauder, "Earlier Egyptian Passive Forms Associated with Reduplication," 193.
[19] Helmut Satzinger, "Modifizierung Ägyptischer Verbalwurzeln durch Reduplikation," *Wiener Zeitschrift für die Kunde des Morgenlandes* 97 (2007): 480-1.
[20] E.g., Gardiner, *Egyptian Grammar*, 273, §356 and 351, §438.
[21] Hans-Jakob Polotsky, *Études de syntaxe Copte*. Publications de la Société d'Archéologie Copte (Cairo: Publications de la Société d'Archéologie Copte, 1944), 78-82, §28.

seems to be associated only with certain classes of verbs and is found only in particular contexts, although it has been postulated that other verbs might geminate too, but their doubled radicals are not visible in writing.[22]

In fact, the existence of a geminated stem has recently been advocated for by Francis Breyer in 2006, due to some evidence of geminated verbs from Coptic, the parallel geminated stem expressing the factitive in the Semitic languages, and some factitive uses of base verbs in Old Egyptian.[23] Breyer's arguments have been refuted by Marc Brose in 2011, who provided alternative explanations for the Coptic and Old Egyptian evidence suggested by Breyer.[24] The two competing views result from the fact that gemination is invisible in writing and we cannot apply linguistic features from related languages to Egyptian and assume that they worked in the same way. What is clear, though, is that visibly geminated verbs in Egyptian are instances of reduplication, since the two identical radicals are separated by a vowel, while true gemination, i.e., doubled adjacent sounds, are concealed in the hieroglyphic script, although their existence cannot be disproved.

The question of geminating and non-geminating forms is tightly connected with the issue of a number of distinct *sḏm.f* forms in Egyptian. For instance, Gardiner recognized two forms of active *sḏm.f*: perfective and (geminating) imperfective,[25] Edel distinguished between three forms: *sḏm.f*, geminating *sḏm.f*, and *sḏmw.f*,[26] Allen originally recognized four forms: perfective, imperfective, prospective, and subjunctive,[27] while recently he

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[22] For instance, Gardiner, *Egyptian Grammar*, 350-1, §438; more recently James Allen, *Ancient Egyptian Phonology* (Cambridge: Cambridge University Press, in press), 67-8.

[23] Francis Breyer, "Ein Faktitiv-Stamm im Ägyptischen," *Lingua Aegyptia* 14 (2006): 97-105.

[24] Marc Brose, "Zur Existenz von Faktitivstämmen im Ägyptischen," *Lingua Aegyptia* 19 (2011): 17-35.

[25] Gardiner, *Egyptian Grammar*, 350-379, §438-459.

[26] Edel, *Altägyptische Grammatik I*, §465-531.

[27] James Allen, *Middle Egyptian: An Introduction to the Language and Culture of Hieroglyphs*, 2nd rev. ed. (Cambridge: Cambridge University Press, 2010), 245-290.

distinguished only between the marked and unmarked *sḏm.f*s.[28] Already the representatives

of the Berlin School discussed how one can identify verb forms in our textual corpora,

leading to varying methodological approaches.[29] Some of the issues are whether the

geminating form of certain weak verbs is a feature of that verbal class or if it is a feature

of all classes, albeit not detectable in some classes in writing,[30] and how one identifies

actual (spoken) forms based on their written forms.[31]

The issues associated with reduplication/gemination in Egyptian are indeed

complex, leading to almost as many different interpretations of the verbal system as there

are researchers. In any case, in this chapter I simply present an alternative view of

reduplicated and geminated verbs in Old Egyptian and offer explanations for their

behavior. The following description is in no way a comprehensive treatment of the topic,

and the findings will need to be reinterpreted, or even refuted, with new evidence and

studies.

5.2. Reduplication in Old Egyptian

5.2.1. Preliminary considerations

What has become apparent from the cross-linguistic survey of reduplication outlined in

Chapter 2 is that its function and form cannot be predicted in a language. While very often

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[28] James Allen, *Grammar of the Pyramid Texts I: Unis*. Languages of the Ancient Near East (Winona Lakes: Eisenbrauns, 2017), 175-203.

[29] For a historical overview of this problem, see Sami Uljas, "Methodological Remarks on Defining 'Verb Forms' in Earlier Egyptian, With Specific Reference to the *sḏm=f* Formation," *Lingua Aegyptia* 16 (2008): 197-212.

[30] Uljas, "Methodological Remarks," 198-202.

[31] Sami Uljas, "To See an Invisible Form: Paradigms, Parallels, and Practices Once Again," in *Coping with Obscurity: The Brown Workshop on Earlier Egyptian Grammar*. Wilbour Studies in Egyptology and Assyriology 4, eds. James Allen, Mark Collier, and Andréas Stauder (Atlanta: Lockwood Press, 2016), 97-108. See also Sami Uljas, "Syncretism and the Earlier Egyptian *sḏm=f,* Speculations on Morphological Interconnections across Paradigms," *Lingua Aegyptia* 19 (2011): 155-174.

reduplication carries iconic meanings, many examples demonstrate that this is not always the case. Therefore, we cannot rely on the iconicity of reduplication when analyzing Egyptian reduplicated patterns. Function(s) of reduplication must first be established in the most satisfying way, as allowed by the evidence. Possible functions of reduplication range greatly; they may be derivational or inflectional in nature. The ancient Egyptian language had different formal types of reduplication, both total and partial, and we might therefore expect to find differences in meaning between these types. This analysis will include reduplicative patterns operating within a word only, and not at the phrase-level, which, however, also existed in Egyptian and is briefly noted in section 5.3.2. Thus, the following are the most important principles on which this study of reduplication in Egyptian is based on:

a) Only word-internal reduplication will be investigated
b) Reduplication is not always iconic
c) Reduplication can be derivational and/or inflectional
d) Reduplication can be semantically empty and purely phonologically motivated
e) There will be a difference in meaning between partial and total reduplication
f) Especially partial reduplication can carry non-iconic meanings
g) What is called "gemination" in Egyptological introductory grammars is in fact partial reduplication and will be treated here as such
h) Reduplicated words should include the meaning of its unreduplicated counterparts
i) Iconic meanings of reduplication can be reflected in the participants of an event or in the event itself
j) Participants of an event can be the same or different as those in unreduplicated constructions

5.2.2. Noun reduplication in Old Egyptian

Total noun reduplication in Old Egyptian existed at the phrasal level as well as at the word-internal level. In the case of the former, it seems to denote the notion of 'every/each' and/or 'X by X', as in 5(1).

5(1) *rꜥ*   *rꜥ*   *wn~n:[f*   *ḏ]t*   **grḥ**   **grḥ**

     day.M   day.M   exist:ACT[:3SG.M   for]ever   night.M   night.M

     wn~n:f   *ḏt*

     exist:ACT:3SG.M   forever

     "Each day/Day by day [he] will exist, forever; each night/night by night will he exist, forever."[32]

Perhaps the second translation 'X by X' is more feasible in this case, since the notion of 'every/each' is usually denoted by the adjective *nb* 'every, each, all'.[33] In any case, this type of reduplication is not very common in Old Egyptian.

Total noun reduplication at the word-internal level is also uncommon. In most cases, such nouns have reduplicated verbal counterparts attested as well. In this case, we may perhaps talk about substantivized verbs, although the exact derivational path cannot be known, i.e., whether the noun was derived from the verb or vice versa. For instance, the word *zḥzḥ*[34] has no base counterpart attested in ancient Egyptian, while it can be used both as a noun to refer to a type of bird as well as a verb to refer to the sound that the bird makes.[35] Moreover, some reduplicated nouns do not seem to have any base root, such as

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[32] PT574, 1419b-c.
[33] Wb 2, 234.3-236.5; TLA lemma #81660.
[34] Wb 3, 466.12; TLA lemma #141050 and #855028.
[35] For instance, as a noun in PT271, 389a-b, and as a verb in PT501C, 3.

tbtb[36] that refers to a kind of grain. This could be either due to the lack of the attestation of the base root or due to its non-existence. In the latter case, these seemingly reduplicated nouns would thus represent 4-radical base roots. Whether they were initially derived from a base by reduplication thus cannot be ascertained.

However, there are a couple of instances of totally reduplicated nouns that might hint at an older function of noun reduplication. For instance, the noun *zšzš*[37] refers to a water lily type of plant, as suggested by its determinative.[38] It is perhaps derived from the transitive base verb *zšj*[39] that denotes an activity of pulling something out, such as a papyrus. Other examples might include the following: the noun *bꜣbꜣ* 'hole' [40] likely derived from the transitive verb *bꜣ* 'break up earth',[41] *bnbn* '*benben* stone'[42] from the intransitive verb *wbn* 'rise (of the sun)' [43] or the New Kingdom *bnbn* 'swell'.[44] Based on these examples, it seems that total reduplication could change word categories, specifically turning verbs, whether transitive or intransitive, into nouns. However, the given sample is too small to confirm this observation.

As shown in Chapter 2, noun reduplication is cross-linguistically most often associated with plurality, whether it is creating simple plurals, diversity plurals, or distributive plurals. However, it appears that noun reduplication in Old Egyptian did not

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[36] Wb 5, 262.12; TLA lemma #170800.
[37] Wb 3, 486.17; TLA lemma #145560.
[38] Similar to sign M9 in Gardiner's sign list.
[39] Wb 3, 486.18; TLA lemma #145600 and #850590.
[40] Wb 1, 419.1-5; TLA lemma #53420. William Ward, *The Four Egyptian Homographic Roots B-3: Etymological and Egypto-Semitic Studies.* Studia Pohl: Series Maior, Dissertationes Scientificae de Rebus Orientis Antiqui 6 (Rome: Biblical Institute Press, 1978), 47-9.
[41] Wb 1, 415.12-17; TLA lemma #52890. Ward, *The Four Egyptian Homographic Roots B-3*, 40-45.
[42] Wb 1, 459.5-11; TLA lemma #55720.
[43] Wb 1, 292.9-294.3; TLA lemma #45050. See Pierre Lacau, "Les verbes [ouben], «poindre» et [pesedj], «culminer»," *Bulletin de l'institut français d'archéologie orientale* 69 (1969): 1-5.
[44] Wb 1, 459.19-20; TLA lemma #55770.

play any prominent role. This might be explained by the fact that the language employed a different morphological strategy to create plurals, namely the ending *-w* for masculine nouns and *-wt* for feminine nouns, most commonly reflected in writing by plural strokes, or occasionally by the corresponding sound graphemes. Another (older) way of marking the plural was to write either the entire noun or its determinative three times. One might wonder whether such writing of the plural could stem from an older tradition of total reduplication creating plural nouns: reduplication would mark the dual (e.g., *nṯr-nṯr* 'two gods'), while triplication would mark the plural (e.g., *nṯr-nṯr-nṯr* 'gods'). Whether this way of marking plural nouns indeed existed in Pre-Egyptian and/or Proto-Afroasiatic is uncertain. Most Afroasiatic languages mark plurals by affixation, although the Cushitic languages employ reduplication as well.[45] In any case, it is clear that total noun reduplication did not mark plurality by the time of Old Egyptian.

Moreover, Jürgen Osing in his *Die Nominalbildung des Ägyptischen* (1976) argued that nominal reduplication, especially partial, can create diminutives,[46] while Pascal Vernus in his *Bestiaire des pharaons* (2005) collected numerous (totally or partially) reduplicated substantives that denote animals from the lexicon of ancient Egyptian.[47] Some of these seem to have been derived from onomatopoeia (see also *n*-prefixed onomatopoeia in this chapter, section 5.2.3.1.1.), others from verbs, while some denote animal diminutives.[48] For instance, the word *ḫprr* 'beetle'[49] is derived from *ḫpr* 'come into being,

[45] Maarten Mous, "Cushitic," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 357-9.
[46] Jürgen Osing, *Die Nominalbildung des Ägyptischen. Textband* (Mainz: Verlag Philipp von Zabern, 1976), 290-308.
[47] Pascal Vernus, "Les animaux dans la langue égyptienne," in *Bestiaire des pharaons*, eds. Pascal Vernus and Jean Yoyotte (Paris: Perrin, 2005), 76-93.
[48] Vernus, "Les animaux dans la langue égyptienne," 79.
[49] Wb 3, 267.5-8; TLA lemma #500094 and #116410.

evolve'.[50] Other examples of diminutives might be *ḫwrr* and *ḥqrr*, translated by Allen as "fledgling" (PT218, 161a) and "starveling" (PT520, 1222b), respectively.[51] The former lexeme does not have an attested base, while the latter is derived from *ḥqr* 'be(come) hungry'. It appears as if, in these cases, partial reduplication could change word categories, turning verbs into substantives. However, the diminutive meaning is not readily visible in these substantives. Perhaps a better example of a diminutive is *jȝrrwt* 'grapes',[52] most likely derived from *jȝrw* 'rushes(?)'.[53] All other Osing's examples come from later stages of the languages or his verbal pairs are not attested synchronically. In any case, it is possible that partial reduplication could indeed create diminutives within nominal formation, while the creation of reduplicated forms with animal designations seems to be clear, as shown by Vernus.

5.2.3. Verbal reduplication in Old Egyptian

The following analysis of verbal reduplication in Old Egyptian is divided into several parts, each of which looks at a different type of reduplication. The first part describes total reduplication that copies the entire stem, including prefixed total reduplication, especially the *n*-prefix (section 5.2.3.1.). The second part examines the reduplication of weak verbs (section 5.2.3.2.), the middle radical reduplication of strong verbs (section 5.2.3.3.), and the final radical reduplication of both strong and weak verbs (section 5.2.3.4.). The problematic spellings of 2-radical and geminated 2-radical verbs are treated separately in section 5.2.3.5. The occurrence of reduplicated verbs in the *sḏm.n.f* form is discussed in

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[50] Wb 3, 260.7-264.17; TLA lemma #854383.
[51] James Allen, *The Ancient Egyptian Pyramid Texts*, 2nd ed. Writing from the Ancient World 38 (Atlanta: Society of Biblical Literature Press, 2015), 37 and 166.
[52] Wb 1, 32.12-14; TLA lemma #20830.
[53] Wb 1, 32.5-8; TLA lemma #20810.

section 5.2.3.6. Other suggested reduplicative verbal patterns are briefly addressed in 5.2.3.7.

Just as in the previous chapters, an emphasis is placed on analyzing base verbs and their reduplicated counterparts that are both synchronically attested, in order to minimize the impacts of language change on morphology and semantics. Moreover, the analysis of reduplication in this chapter will focus on the *telic* and *atelic* properties of verbal predicates (see Chapter 2, section 2.3.5.), since the theory of valency is not applicable in this case (reduplication was not a valency-changing operation in ancient Egyptian).

5.2.3.1. Total verbal reduplication

Total reduplication is characteristic of 2-radical as well as weak 3-radical verbal roots. Both classes of verbs are copied according to the same reduplicative pattern, resulting in the written form $R_1R_2R_1R_2$. Only two clear instances of reduplicated strong 3-radical verbs are attested, both of which are *n*-prefixed verbs, discussed below.

Table 5.1. *Possible onomatopoeic totally reduplicated verbs.*

Verb	Translation
ꜥjꜥj	ululate
bꜥbꜥ	slurp
ršrš[54]	?
ẓẖzẖ	rasp
gmgm(?)[55]	break

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[54] In the context where this verb occurs (PT691C, 2127b), it seems more likely that it denotes a negative action that involves the nose, rather than having the meaning "exult," which is attested in later periods, but this is unclear.

[55] Whether this verb is indeed onomatopoeic is uncertain. As suggested by Vernus, its root *gm* might be the same as the root in *wgm* (with the *w*-prefix, see Chapter 6, section 6.5.), a lexeme attested only once in the Old Kingdom (Wb 1, 377.0; TLA lemma #50870). Vernus recognized two different roots *gm*, which, however, have later attestations than the verb *gmgm* in this study. See Pascal Vernus, "Le préformant *n* et la détransitivité. Formation *n*C₁C₂C₁C₂ versus C₁C₂C₁C₂. A propos de la racine √*gm* 'notion de trituration'," *Lingua Aegyptia* 17 (2009): 291-317; Pascal Vernus, "La racine √*gm*, notion de <rencontre, contact avec>, et ses radicaux dérivés (*gmḥ*, *ngmgm* et *gmgm*)," in *Lotus and Laurel: studies on Egyptian language and*

Unfortunately, many totally reduplicated verbs do not have a clear base from which they were derived. However, in several instances it seems that these reduplicated verbs are onomatopoeic, in which case they would not have any base root and we could classify them as 4-radical verbs. These possibly include the verbs in Table 5.1.

In addition, quite a large number of totally reduplicated verbs seems to have a substantival (or even prepositional), rather than verbal, base. It is thus conceivable that total reduplication could change categories, creating verbs out of substantives (perhaps in addition to creating substantives and diminutives out of verbs, mentioned in section 5.2.2.). Table 5.2. includes a possible list of such derived verbs and their base counterparts.

Table 5.2. Possible category-changing totally reduplicated verbs.

Verb	Translation	Derived from
ȝḥȝḥ	become verdant/flooded	*ʔȝḫt* 'inundation season'[56]
bnbn	croak (like the heron)	*bn* 'heron'
pḏpḏ	disseminate	*p(ȝ)ḏ* 'ball (of incense)'
nšnš/nẖnẖ	spew	*nš* 'saliva'
ḫtḫt	become throughout	*ḫt* 'through'
snsn	become brotherly	*sn* 'brother'

Totally reduplicated verbs that do not have a clearly attested base form, whether verbal or substantival, are listed in Table 5.3.

Table 5.3. Totally reduplicated verbs without an attested base.

Verb	Translation
jmjm	become powerful(?)
jnjn	chop
ptpt	trample

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religion in honour of Paul John Frandsen. CNI Publications 39, eds. Rune Nyord and Kim Ryholt (Copenhagen: Museum Tusculanum Press, 2015), 419-430.

[56] The verb *ȝḥȝḥ* could also be derived from the verb *jȝḫj* 'be(come) flooded' (Wb 1, 33.2; TLA lemma #20870), depending on which lexeme existed first, *jȝḫj* or *ȝḥ.t*.

mzmz[57]	?
nḥnḥ	become carefree(?)
ḥjḥj	seek
gbgb	fell(?)
dndn	wander
dḥdḥ	hang down

That leaves only four totally reduplicated verbs that have a more or less clear verbal base form.[58] The first such verb is *wnwn*, usually translated as 'move about',[59] derived from *wnj* 'hurry/speed up'.[60]

5(2) **wn~wn:ṯ**   *m*   *ḥt*   *mw:t:ṯ*   *m*   *rn:ṯ*   *n*   *nwt*
      move:ACT:2SG.F   in   belly.M   mother:F:2SG.F   in   identity.M:2SG.F   of   Nut
      "You were moving in your mother's belly in your identity of Nut."[61]

The example in 5(2) describes a situation in which a child occupies the mother's womb before being born, during which time it is being active, stretching and *moving around*. Therefore, this situation is described as taking place on a single occasion without any interruption, even though the occasion lasts for a long time and even though the child might not be moving constantly. This interpretation agrees with the other attestations of the verb *wnwn*. A similar verb could be *nmnm* 'move about',[62] derived from *nmj* 'traverse'.[63] It appears that *nmnm* expresses an action of moving back and forth on a single occasion.

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[57] Possibly derived from *mz* 'bring'.
[58] The totally reduplicated verb in PT684, 2060-2061a has an uncertain reading (e.g., *wꜣḥwꜣḥ*, *sksk*), and so it is not included here.
[59] Wb 1, 318.1-9; TLA lemma #46490.
[60] Wb 1, 313.10-314.6; TLA lemma #46280.
[61] PT430, 780b.
[62] Wb 2, 267.11-14; TLA lemma #84300.
[63] Wb 2, 265.5-13; TLA lemma # 84130.

Another totally reduplicated verb seems to be *njnj* 'turn oneself (away), return',[64] probably derived from the base verb *nj* 'reject, turn (away)'.[65]

5(3) *jn*   *NN* *zj*   *n(j)~nj*   *m-ḫt:ṯ*   *m* *rn:ṯ*   *pw*

     Q   NN go:PTCP.ACT return:PTCP.ACT after:2SG.F   in identity.M:2SG.F   this:M

n   *njw:t*

of   town:F

"NN is the one who went and returned after you in your identity of the town."[66]

If the derivation of these two verbs is correct, then the situation described in 5(3) shows that the action of *returning* occurred on one occasion rather than on several different occasions, since the speaker "returned" only once. The same interpretation holds for the verb *ḫtḫt* 'go back',[67] derived from *ḫtj* 'retreat'.[68] The verb *ḫtḫt* is attested only in the imperative in the Pyramid Texts,[69] without any other arguments, but it seems to also refer to an event that takes place only once.

Therefore, all of these four totally reduplicated verbs seem to carry an *iterative* meaning, i.e., referring to an "event that is repeated on a particular occasion".[70] Thus, *wnwn* refers to a repeated action of *speeding up*, *nmnm* to a repeated action of *traversing*, *njnj* to an uninterrupted repetition of *turning oneself*, while *ḫtḫt* denotes a repeated event of *retreating*, each one of them realized as a single situation, regardless of its duration.

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[64] James Allen, *The Inflection of the Verb in the Pyramid Texts* (Malibu: Udena Publications, 1984), 577, §740.

[65] Wb 2, 201.4-6; TLA lemma #79810.

[66] PT587, 1605b.

[67] Wb 3, 353.13-354.5; TLA lemma #121890.

[68] Wb 3, 342.15-343.4; TLA lemma #121510.

[69] PT500, 1071a.

[70] Joan Bybee, Revere Perkins, and William Pagliuca, *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World* (Chicago: The University of Chicago Press, 1994), 127.

Another totally reduplicated verb might be *qrqr,* derived from *qrj* 'boil'.[71] In Chapter 3, it was shown that the verb *qrqr* most likely represents *nqrqr* 'be(come) fervent/restless(?)' with the *n*-prefix having been lost (see 3.2.3.g)). 5(4) includes an example of this verb.

5(4) *nh:t*   *tf*   *qꜣ:t*   *jꜣb:t:t*   *p:t*   **qr~qr:tj**

    sycamore:F   that:F   high:F   east:ADJZ:F   sky:F   rustle:RES:3SG.F

   ḥms:t   *nṯr:w*   *dpj:s*

   sit:REL:ACT   god:M.PL   upon:3SG.F

   "That high sycamore tree in the east of the sky, rustling, upon which the gods sit."[72]

Similarly, we may look at the tree's leaves *rustling* as one continuous event. Therefore, whether the verb *qrqr* is supposed to be prefixed with the *n-* or not, it seems to have an iterative meaning as well, referring to a continual event of being "heated" and thus being "rustling".

    In addition, two *n*-prefixed verbs are attested as totally reduplicated, namely *nḏdnḏd* in 5(5) and *nḥrnḥr* in 5(6).[73]

5(5) *m*   *rn:k*   *jm:j*   *jwnw*   **nḏd~nḏd:f**   *m*

   in   identity.M:2SG.M   in:ADJZ:M   Heliopolis   last:ACT:3SG.M   in

   ḏd:t:f

   necropolis:F:3SG.M

   "In your identity of the Heliopolitan as he endures in his necropolis."[74]

5(6) **nḥr~nḥr**   *jb*   *nṯr:w*   *m*   *ḫsf:w:k*

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[71] Wb 5, 61.9-10, TLA lemma #161810.
[72] PT470, 1095d.
[73] For these *n*-prefixed verbs, see Chapter 3, section 3.2.4.a) for *nḏdḏd* and section 3.2.1.a) for *nḥr.*
[74] PT219, 181a.

look_forward:ACT   mind.M   god:M.PL in   meeting:INF:2SG.M

"The mind of the gods is looking forward to meeting you."[75]

The former verb does not seem to have a meaning different from *nḏdḏd* 'become stable/lasting'; in fact, the later copies of the spell in which *nḏdnḏd* occurs contain the spelling *nḏdḏd*. Again, the situation is most likely thought of as a continuous action of *lasting*. The latter verb, intransitive *nḥrnḥr*, has a meaning different from its unreduplicated counterpart *nḥr* 'resemble something/someone'. Its semantic value, however, seems to be clear in the given context: 'look forward to something'. Similarly, the reduplicated verb without the *n*-prefix being copied, i.e., *nḥrḥr*, is attested in another spell in exactly the same sentence.[76] Therefore, it seems that no difference existed in meaning between *n*-prefixed verbs reduplicated with or without the *n*-prefix, and that even these verbs might have an iterative meaning. In order to confirm or reject this hypothesis, let us look at other instances of *n*-prefixed reduplicated verbs.

5.2.3.1.1. *Prefixed total verbal reduplication*

It should be noted that based on the occurrence of totally reduplicated *n*-prefixed verbs like *nḏdnḏd* and *nḥrnḥr*, we might state that the morphological phenomenon of prefixation likely preceded reduplication. However, the reverse process cannot be ruled out either, especially if we consider that at least some of these *n*-prefixed verbs were already lexicalized in Old Egyptian and that the *n*-prefix was no longer regarded as a prefix, but rather a part of the root. In any case, all verbs of the type $nR_1R_2R_1R_2$ seem to carry the same or similar semantic value as the totally reduplicated verbs like *nḏdnḏd* and *nḥrnḥr*.

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[75] PT610, 1720b.
[76] PT436, 799b.

In fact, they might simply represent an alternative pattern to $nR_1R_2nR_1R_2$ of the same meaning. Therefore, these verbs will be analyzed as totally reduplicated verbs.

Table 5.4. includes all verbs of the pattern $aR_1R_2R_1R_2$, where a is a prefix. Most of these verbs are *n*-prefixed verbs, which were described in Chapter 3, but the table also includes uncertain *n*-prefixed verbs (including verbs with the prefix's possible orthographic variant ꜣ), and verbs with other prefixes such as *s-*, *ḥ-*, *d-* (for these affixes, see Chapter 6), or a combination of them.

Table 5.4. *Prefixed totally reduplicated verbs.*

Verb	Translation	Derived from[77]
ꜣgbgb[78]	flood up	*ʔꜣgbw* 'flood'
nwꜣwꜣ	extend(?)	
nwtwt	totter(?)	*ʔwt* 'be old'
nbꜣbꜣ	flutter(?)	*bꜣ* 'ba'
nbḏbḏ	shoot up(?)	*bḏ* 'pellet'
snfḫfḫ	make untangled	*fḫ* 'loose'
nhmhm	become roared at/acclaimed	*hm* 'raise voice at' *nhm* 'become roared at/acclaimed'
nḥrḥr	look forward to	*ḥr* 'face' *ʔnḥr* 'resemble'
nḫꜣḫꜣ/ngꜣgꜣ	dangle	*ḫꜣj* 'measure, weigh'
nḫbḫb	become reduced	*ḫbj* 'diminish, reduce'
nḫrḫr	become downcast	*ḫr* 'fall'
nznzn	become detached	*znj* 'part'
nšbšb	become feasted(?)	*ʔšb* '(offering) meal'
nqrqr	become fervent(?)	*qrj* 'heat up'
nkꜣkꜣ	become animate	*kꜣ* 'ka'
ngg (=*ngjgj*)	cackle	
ntḫtḫ	chuckle	
ndbdb	sip	
ndfdf/nšfšf	drip	
ndsds	become flinted	*ds* 'flint'
ndꜣdꜣ	become lasting/stable	*ḏd* 'djed-pillar'

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[77] An initial question mark indicates uncertain derivations.
[78] A possible *n*-prefixed verb, with the ꜣ- as a variant of *n*-. See Chapter 3, section 3.2.6.

		ddj 'last'
ḫbnbn/sḥbnbn	jump around(?)	_bn_ 'swell'
ḥknkn	exult(?)	
sḫdḫd	make go upside down	_ḫdj_ 'go down'
dnḫnḫ	extend protection	_nḫ_ 'protect'

Table 5.5. also includes verbs of the same pattern aR$_1$R$_2$R$_1$R$_2$, where a, however, is not a known prefix, but most likely represents a radical that is part of the verbal root. Therefore, we may call these semi-totally reduplicated verbs. These, however, seem to behave semantically equally to the (prefixed) totally reduplicated verbs and therefore will be discussed here as well.

Table 5.5. *Semi-totally reduplicated verbs.*

Verb	**Translation**	**Derived from**[79]
zbnbn	wander around(?)	_zbn_ 'slide/crawl away'
tpnpn	rejoice(?)	?
trwrw	redden(?)[80]	?_trw_ 'red ochre'
tḥnḥn	glisten	_tḥnw_ 'Libya'

In order to assess the meaning of reduplication of prefixed verbs, we would ideally need to examine the contexts of the base verb (R$_1$R$_2$(j)), the prefixed verb (aR$_1$R$_2$), the reduplicated base verb (R$_1$R$_2$R$_1$R$_2$), and the prefixed reduplicated base verb (aR$_1$R$_2$R$_1$R$_2$). However, no single verb has all these attestations. The problem lies in the fact that the *n*-prefix seems to drop out of the language, as already shown by Vernus,[81] and that some examples of reduplicated verbs show unreduplicated counterparts in other copies of the Pyramid Texts.[82] This means that some instances of intransitive verbs R$_1$R$_2$R$_1$R$_2$ might in reality be

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[79] An initial question mark indicates uncertain derivations.
[80] Translation suggested by Allen, *Pyramid Texts*, 59.
[81] Vernus, "Le préformant *n* et la détransitivité," 291-317; Vernus, "La racine √*gm*," 419-430.
[82] For instance, the verb *nḫꜣḫꜣ* 'dangle' varies with *nḫꜣ* in PT412, 729a-b.

diachronic successors of the original pattern $nR_1R_2R_1R_2$.[83] Therefore, it is difficult to establish precise differences in the nuances of these verbs.

The best example might be the verbs *hm – nhm – nhmhm*. As shown in Chapter 3, *hm* has probably the meaning of 'raise voice at someone', while *nhm/nhmhm* mean 'yell/become roared at' (see 3.2.3.a)). An example from Chapter 3 (3(13)) that includes both *nhm* and *nhmhm* is repeated here for convenience.

5(7) **nhm**   *n:f*   *p:t*   *ḏꜣ*   *n:f*   *tꜣ*   *ẖsr*

    yell:ACT for:3SG.M   sky:F   shake:ACT   for:3SG.M   land.M dispel:PASS

    n:f   *šnj:t*   **nhm~hm**:*f*   *m* *stš*

    for:3SG.M   storm:F yell:ACT:3SG.M   as Seth

    "The sky yells for him, the earth shakes for him, the storm is dispelled for him when he yells repeatedly as Seth."[84]

Thus, the only possible difference between *nhm* and *nhmhm* is that the meaning of *nhmhm* is intensified, probably because he is *yelling* repeatedly, while the sky utters the sound only once, even if it lasts for a long time. Thus, the difference in the semantic values of the two verbs is not very clear-cut, as the intensification might be represented more on the formal level and less on the semantic level.

Additionally, as shown in Chapter 3, more than a half of the identified *n*-prefixed verbs were derived from substantives and onomatopoeia, and thus do not have any verbal base attested. The original function of the *n*-prefix with these verbs was that of a verbalizer, turning their non-verbal bases into verbs. In fact, onomatopoeia are often expressed in their

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[83] Vernus, "Le préformant *n* et la détransitivité," 302 and 311-2.
[84] PT511, 1150a-b.

reduplicated form, especially in Indo-European and Dravidic languages.[85] These are most visibly seen with animal and natural sounds. For instance, the "*snip* of a pair of scissors is *su-su* in Chinese, *cri-cri* in Italian, *riqui-riqui* in Spanish, *terre-terre* in Portuguese, *krits-krits* in modern Greek,"[86] and even *šťuk-šťuk* in Slovak. Similarly, the "*quack* of a duck is *couac-couac* or *coin-coin* in French, *cuac-cuac* in Spanish, *qua-qua* in Italian, *kva-kva* in Russian, *cac-cac* in Vietnamese".[87] Thus, the *n*-prefix attaching to onomatopoeic sounds could naturally result in their reduplicated forms. In fact, in some languages, certain prefixes act as triggers of reduplication and thus cannot occur without it. For instance, in Tagalog a certain affix requires the verbal root to be reduplicated, even though the exact reasons for this combination are not known.[88] Similarly, the combination of the *n*-prefix with a substantive base might have potentially resulted in reduplication in Egyptian too.

Furthermore, only few verbs of the pattern $aR_1R_2R_1R_2$ exist where *a* is a part of the root, as shown in Table 5.5. Perhaps these are historically prefixed verbs as well. For instance, some *n*-prefixed reduplicated verbs were reanalyzed as containing no prefix; with the *n* having become part of the verbal root.[89] However, no evidence exists to suggest that *z*- or *ṯ*- might have been prefixes at some point in the past, though they might have had this role a very long time ago, thus no longer being detectable in Old Egyptian. In any case, an

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[85] Earl Anderson, *A Grammar of Iconism* (Madison: Fairleigh Dickinson University Press, 1999), 112.
[86] Anderson, *A Grammar of Iconism*, 112.
[87] Anderson, *A Grammar of Iconism*, 112-3.
[88] Mary Niepokuj, *The Development of Verbal Reduplication in Indo-European*. Journal of Indo-European Studies, Monograph Series 24 (Washington D.C.: Institute for the Study of Man, 1997), 83 and 87.
[89] Vernus, "Le préformant *n* et la détransitivité," 294.

example of semi-totally reduplicated verb is *zbnbn*,[90] derived from *zbn* 'slide away',[91] most likely denoting a continuous repeated event of *sliding*, as in 5(8).

5(8) ***ẕbn~bn**:w*   *NN pn*   *ḥnꜥ:ṯn*   *m*   *sḫ:t*   *jꜣr:w*
    wander_around:ACT   NN this:M   with:2PL in   field:F   reed:M.PL
    "This NN strolls around with you in the Field of Reeds."[92]

5.2.3.1.2. Summary: total verbal reduplication

Based on these few, more or less clear, examples of base verbs and their reduplicated counterparts, it appears that total reduplication primarily expressed iterativity, although other functions or idiosyncratic readings cannot be excluded either, given the small size of examples. In any case, iteratives are most likely to be derived from telic predicates.[93] The few instances with clear pairs of base and reduplicated verbs suggest that indeed this was the case. The verbal predicates such as *wnj* 'speed up', *hm zj* 'raise voice at a man', *ḥtj* 'retreat', *zbn m* 'slide into something' are all telic because the parts of the situations that they refer to are not homogenous.

Moreover, looking at some of these verbs which do not have a base attested, whether verbal or substantival, we can observe that many of them refer to *inherently iterative* situations, e.g., *nṯḫṯḫ* 'chuckle' (repeated laughter on a single occasion), *ndbdb* 'sip' (repeated drinking of small amounts of liquid on a single occasion), *ndfdf/nšfšf* 'drip' (repeated liquid dropping on a single occasion), *ṯḥnḥn* 'glisten' (repeated sparkling light on a single occasion). Thus, whether these verbs were derived from a substantive or a verb

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[90] Wb 3, 434.2; TLA lemma #131840.
[91] Wb 3, 433.7-16; TLA lemma #131760.
[92] PT473, 936b.
[93] Bybee, Perkins, and Pagliuca, *The Evolution of Grammar*, 127.

no longer attested in Old Egyptian or whether the *n*-prefix triggered reduplication, they were reduplicated in order to denote iterativity. Therefore, these verbs might not have any base forms that would express telic events if their inherent meaning is atelic, e.g., there is no telic counterpart of *glisten*. However, that is not to say that reduplication was a necessary process to express atelicity, of course. Many unreduplicated verbal predicates are atelic. Thus, total reduplication primarily expressed iterativity and those verbs that do not have a non-reduplicated form attested express events that cannot be thought of as non-iterative and thus telic.

This interpretation agrees also with the examples of reduplicated verbs that seem to have been derived from onomatopoeia or substantives, for instance *ngꜣgꜣ* 'cackle' (a repeated action of making a cackling sound on a single occasion), *bꜥbꜥ* 'slurp' (a repeated action of taking a sip and making a sucking sound on a single occasion), *pd̠pd̠* 'disseminate' (a repeated spreading of smell on a single occasion), *nšnš* 'spew' (a repeated expulsion of saliva from the mouth on a single occasion), *jnjn* 'chop' (a repeated cutting into pieces on a single occasion), *ptpt* 'trample' (a repeated stamping of feet on something on a single occasion). It is possible, though, that the iterative meaning might not seem to be applicable in all instances of totally or semi-totally reduplicated verbs. However, this could be due to our lack of understanding of the exact semantic values of these verbs, or due to the intransparency of their meanings as a result of language change. In addition, it appears that over time the iterative meaning of reduplicated verbs could or would be extended to their non-reduplicated counterparts, or the reduplicated forms would become phonologically reduced. For instance, the verbs *nḫꜣ* could be used as a variant of *nḫꜣḫꜣ* (as in PT412, 729a-

b), while the verb *ṯḥn*[94] appears in the New Kingdom with the same meaning as *ṯḥnḥn* in the Pyramid Texts. In any case, we can conclude that in most cases in Old Egyptian, total reduplication seems to be connected primarily with iterativity.

5.2.3.2. Reduplication of weak verbs

5.2.3.2.1. Written forms of weak verbs

Table 5.6. contains those verbs that are semi-totally reduplicated but are weak verbs, in contrast to the verbs listed in Table 5.5., which are strong verbs (or verbs with the third radical -*w* that is always shown in writing, as in *ṯrwrw*). These verbs are sometimes written with the weak radicals in the right order, calligraphically, with only one reed-leaf sign, or even without the weak radicals at all. It is, however, clear that verbs like *hnjnj* and *hnn* 'ululate'[95] are different spellings of the verb whose consonants are separated by vowels, schematically represented as [h˘n˘n˘],[96] where "˘" represents a vowel, as in the following attestations of this verb in the Pyramid Texts:

a) *hnjnj*[97]

b) *hnnjj*[98]

c) *hnnj*[99]

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[94] Wb 5, 391-392.16; TLA lemma #176570.
[95] Wb 2, 493.1; TLA lemma #98680.
[96] For strong roots in the reduplicated stem, the vocalization was [R_1˘R_2˘R_3R_2˘R_3], based on Coptic reflexes, for instance, ϩⲁⲣⲃⲣⲉ (A), ⲃⲟⲣⲃⲉⲣ (B), ϩⲟⲣⲃⲣ (S) < *ḥbnbn* [ħa-ban´-ban] < *ḥbn*. See Allen, *Ancient Egyptian Phonology*, 66.
[97] Variant in PT452, 842c.
[98] Variant in PT479, 991c.
[99] Variant in PT479, 991c.

d) *hjnn*[100]

e) *hnn*[101]

Table 5.6. *Semi-totally reduplicated weak verbs with or without the weak radical(s).*

Verb	Translation	Derived from
nkk	become impregnated[102]	?
hnn	ululate(?)[103]	*hnj* 'ululate'
ḥ^{ˁˁ}	become ecstatic	*ḥˁj* 'become excited'
šnn	encircle/orbit	*šnj* 'become round'

Based on the contexts in which the reduplicated forms of these verbs occur, it appears that they refer to an action that takes place on a single occasion, rather than on multiple occasions. Therefore, they seem to carry an iterative meaning as well. For instance, the verb *hnn* in 5(9) most likely refers to the action of making some kind of noise while beating the chest multiple times in a row by multiple participants, as suggested by the determinative in *hnw* 'ululation'.[104]

5(9) **hnj~nj**:sn   *m   p*
    ululate:ACT:3PL   in   Pe
    "They are ululating in Pe."[105]

Now, the group of verbs in Table 5.7. also consists of reduplicated verbs whose identical consonants are separated by a vowel. However, these verbs never occur with the weak

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[100] Variant in PT452, 842c.
[101] PT311, 500c and PT564, 1422c.
[102] A possibly related verb is *nk* 'copulate', but this is a 2-radical verb, while *nkjkj* is a reduplicated weak verb, hence an unclear morphological connection.
[103] Translation suggested by Allen, *The Ancient Egyptian Pyramid Texts*, 114.
[104] Wb 2, 493.17-23; TLA lemma #98730. The determinative is A8 in Gardiner's sign list.
[105] PT452, 842c.

radicals spelled out in the script. Traditionally, these verbs have been called "geminated".

However, this is an erroneous label from a linguistic point of view. Gemination is a process

of the doubling of a sound that results in two identical *adjacent* sounds. We know, though,

that any adjacent sounds in Egyptian would have been rendered by a single sign in the

hieroglyphic writing.[106] Therefore, any two equal signs that are adjacent in writing were

separated by a vowel in the spoken language. Therefore, verbs like *jrr*, *mrr*, *jnn*, and so on,

are reduplicated forms of weak 3-radical verbs *jrj*, *mrj*, *jnj*, respectively.

Table 5.7. Reduplicated weak 3-radical verbs.

Verb	Derived from
jbb	*jbj* 'thirst'
jnn	*jnj* 'get'
jrr	*jrj* 'act, do, make'
jṯṯ	*jṯj* 'acquire'
wꜣꜣ	*wꜣj* 'be far'
wpp	*wpj* 'part (smth)'
wdd	*wdj* 'put'
bšš	*bšj* 'spit out'
mrr	*mrj* 'like, want'
mss	*msj* 'give birth'
nḥḥ	*nḥj* 'last'
pꜣꜣ	*pꜣj* 'fly'
prr	*prj* 'come forth'
rmm	*rmj* 'weep'
hꜣꜣ	*hꜣj* 'go down'
ḥmm	*ḥmj* 'go back'
ḥzz	*ḥzj* 'praise'
ḥnn	*ḥnj* 'alight, stop'
ẖnn	*ẖnj* 'row'
zꜣꜣ	*zꜣj/zꜣu* 'guard'
znn	*znj* 'part, be apart'
sꜣꜣ	*ʔsꜣj* 'be wise, experienced'
šdd	*šdj* 'take away'
qrr	*qrj* 'heat up'

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[106] E.g., Gardiner, *Egyptian Grammar*, 52, §62, and 207-8, §269.

kss	*ksj* 'bow'
gmm	*gmj* 'find'
ṯzz	*ṯzj* 'lift'
dgg	*dgj* 'look at'
ḏȝȝ	*ḏȝj* 'cross'
ḏdd	*ḏdj* 'last'
ḏḏ	*(r)ḏj* 'give'

To this list we may also add a few weak 4-radical verbs in Table 5.8. that are also found in their reduplicated forms in the Pyramid Texts.

Table 5.8. *Reduplicated weak 4-radical verbs.*

Verb	Derived from
wȝẖẖ	*wȝẖj* 'be(come) sated'
mjnn	*mjnj* 'moor'
msḏḏ	*msḏj* 'not want'
sqdd	*sqdj* 'sail'

Of course, not all verbs with the identical second and third radicals are reduplicated weak 3-radical verbs. Some of them are strong 3-radical verbs that happen to have the same radical in the second and third position of the root (see section 5.2.3.5.). They have been traditionally labeled "2ae geminate" verbs, but again, this is erroneous since the two radicals are not geminated because they are separated by a vowel. However, in some instances, the Egyptian language leaves out the vowel that separates the two identical radicals, in which case they become adjacent (and thus geminated) and are written as a single sign in the script. Thus, sometimes the verbs with two identical radicals in the second and third position are written with only one radical visible due to various phonological reasons, while in other contexts both radicals are spelled out. It is clear, though, that these verbs still contain both radicals, except that they are adjacent and thus represented in writing by one sign only. Therefore, there is no reason to treat them any differently than

the other strong 3-radical verbs, only to keep in mind that occasionally not all three radicals are visible in the script. Despite that, I have retained the label 'geminated 2-radical verbs' for the verbs with identical second and third radicals in this chapter.

It is true that sometimes it might be difficult to determine whether we are dealing with a 3-radical verb with two identical radicals (i.e., a geminated 2-radical verb) or a reduplicated weak 3-radical verb, since both might have a "base verb" attested in which only two radicals (or two radicals with the third radical weak) might be shown in writing. However, based on the attestations of these verbs and all of their forms, we should be able to categorize them correctly. For instance, the strong verbs with two identical radicals do not have a "base verb" attested with the final read leaf, representing the final weak radical of weak 3-radical verbs. Thus, the verbs in Old Egyptian that seem to be strong verbs with two identical radicals, i.e., geminated 2-radical verbs, are presented in Table 5.9. Reduplication of these verbs will be discussed in section 5.2.3.5.

Table 5.9. *Strong 3-radical verbs with two identical radicals (=gem. 2-radical verbs).*

Verb	Translation
ꜣmm	grasp
ꜥnn	turn around
pšš	spread out
mꜣꜣ	see
rnn	embrace(?)
ḥww	announce
ḫtt	shoulder
ḫnn	disturb
tmm	close
ṯbb	step on

5.2.3.2.2. Function of reduplication with weak verbs

In order to determine the function of reduplication with weak 3- and 4-radical verbs, let us look at several contexts in which these verbs occur. The majority of these reduplicated weak verbs is attested as participles and in the *sḏm.f* form (especially in balanced sentences and in relative clauses). Firstly, consider the example of the reduplicated and non-reduplicated participle of the weak verb *msj* 'give birth in 5(10).

5(10)   *NN pj   ḏrṯ   ms   ṯw*
         NN this:M   from_now_on give_birth:PTCP.ACT   2SG.M

         ms~s   *ṯw*
         give_birth:PTCP.ACT   2SG.M
         "NN is from now on the one who gave you birth and who continues to give you birth."[107]

The non-reduplicated form describes a punctual event, whereas the reduplicated form presents the event as occurring repeatedly on different occasions. The former thus denotes a moment in time when the action took place, whereas the latter denotes an action that repeats itself or continues to take place on more occasions than just one moment. These verbs contrast with iterative verbs that denote a repeated action on a *single* occasion. Thus, the best interpretation for the reduplicated participle in this context involves the *continuative* meaning. The iterative, frequentative, or progressive function of reduplication does not fit this example. The same can be said about the example in 5(11), since the act of *liking* one's parent holds constantly, rather than only on one occasion or sometimes, and thus denotes a homogenous event.

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[107] PT307, 486d.

5(11)   *jnk* *zꜣ:k*   ***mr~r***   *ṯw*

        1SG son:M:2SG.M like:PTCP.ACT   2SG.M

        "I am your son who continually/always likes you."[108]

The continuative meaning of reduplicated verbs in contrast to the punctual description of

an event can also be seen in the *sḏm.f* form, as in 5(12).

5(12)   *pꜣ*   *t*   ***pꜣ~ꜣ***   *t*   *r*   *ḥw:w:tj*

        fly:ACT bread.M fly:ACT bread.M towards   compound:ADJZ:F.PL

        ḥw:wt   *n:t*

        compound:F.PL   red_crown:F

        "The bread has flown, the bread continues to fly toward him of the compounds of

        the Red Crown's compounds."[109]

Observe that the verbal predicate *msj ṯw* 'give you birth' is telic, whereas the predicates *pꜣj*

t 'bread flies', and *mrj ṯw* 'like you', are atelic. Therefore, it appears that reduplication with

these verbs can have a continuative meaning with telic and atelic predicates alike. Now,

consider the example in 5(13).

5(13)   *ḏꜣ:k*   *sw*   *(m)* *nẖn:t*   *tw*

        transport:ACT:2SG.M   3SG.M   (in) ferryboat:F   this:F

        ḏꜣ~ꜣ:t:k   *nṯr:w*   *jm:s*

        transport:REL:ACT:F:2SG.M god:M.PL   in:3SG.F

        "You may transport him in the ferryboat in which you transport gods."[110]

The non-reduplicated verb in the *sḏm.f* form at the beginning of this clause expresses a

situation that is punctual, whereas the reduplicated verb in the relative clause denotes a

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[108] PT691C, 2.
[109] PT312, 501.
[110] PT270, 384b.

situation that is repeated on various occasions. In addition, the object of the transitive verb in the relative form is plural. It seems that many reduplicated verbs appear in clauses denoting repeated situations with plural participants, as in 5(14).

5(14) *pr* *NN ḥr* *gs* *pw* *jꜣb:tj* *n* *p:t*
emerge:ACT NN upon side.M this:M east:ADJZ of sky:F

ms~s*:w* *nṯr:w* *jm*
give_birth:REL:PASS:M.PL god:M.PL therein
"NN emerges on the eastern side of the sky where the gods are born."[111]

In fact, the idea that the plurality of participants might trigger reduplication has already been discussed in Egyptology. In 1965, Wolfgang Schenkel investigated the semantics and morphology of participles in biographical inscriptions and came to the conclusion that we can distinguish between "singular" and "plural" participles, the latter of which is associated with reduplicated forms and plurality: "Das 'singularische' Partizip stellt die Handlung als Einheit oder sogar merkmalos dar. Das 'pluralische' Partizip dagegen zeigt die Handlung als Ergebnis des Zusammenwirkens einer Mehrzahl von entweder a) Einzelhandlungen ('Wiederholung'), oder b) Zeitmomenten ('Dauer'), oder c) Handelnden/'Subjekten'."[112] A couple of decades later, James Allen (1984) agreed with Schenkel, extending the observations by the corpus of the Pyramid Texts. In contrast, Allen preferred to characterize the reduplicated forms of participles as "distributive," in which the action is "distributed over time or over a number of adjuncts".[113] Moreover, Karl Jansen-Winkeln

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[111] PT473, 928a.
[112] Wolfgang Schenkel, "„Singularisches" und „pluralisches" Partizip," *Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo* 20 (1965): 114.
[113] Allen, *The Inflection of the Verb*, 425, §609; see also 421-6, §607-610.

(1997) agreed with the findings of Schenkel and Allen, considering them to be proved, but added another meaning for reduplicated participles, namely "intensity".[114] These conclusions were rejected by Leo Depuydt (2008), interpreting some of Schenkel's participles as relative forms instead and providing empirical arguments for the semantic difference between passive past participles and active relative forms.[115] In his response paper, Schenkel argued that the "kontextuelle paradigmatische Relevanz der Gesichtspunkte Pluralität, Distributivität oder Intensivierung" has not yet been disproved.[116]

In order to illustrate the use of reduplicated forms to denote plurality, consider the example in 5(15), in which *jrrw* contrasts with the non-reduplicated *jnw* and *dw*. Only the reduplicated *jrrw* takes a plural prepositional phrase, which might give a sense of an action that needs to be repeated with each "foreleg," thus triggering reduplication, an example given by Allen.[117]

5(15)	*jpw*	*nṯr:w*	*jn:w*		*mw*	*d:w*	
	these:M	god:M.PL	get:PTCP.ACT:M.PL		water.M	give:PTCP.ACT:M.PL	

	ꜥb~ꜥb:t	*jr~r:w*		*hy*		*m*	*ḫpš*
	scrubbing:F	make:PTCP.ACT:M.PL		jubilation.M		with	foreleg:M

	n	*jt:w:sn*
	of	father:M.PL:3PL

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[114] Karl Jansen-Winkeln, "Intesivformen und "Verbale Pluralität" im Ägyptischen," *Lingua Aegyptia* 5 (1997): 126.

[115] Leo Depuydt, "Zum Nebeneinander von An- und Abwesenheit der Gemination in der Wendung *mrjj jt.f mrrw snw.f*," *Lingua Aegyptia* 16 (2008): 27-38.

[116] Wolfgang Schenkel, "Merkmalloses versus pluralisches/distributives/intensives Partizip," *Zeitschrift für ägyptische Sprache und Altertumskunde* 138 (2011): 78.

[117] Allen, *Grammar of the Pyramid Texts I: Unis*, 128.

"Those gods who get water, provide scrubbing, and make jubilation with the foreleg of their fathers."[118]

Thus, the plurality of participants might trigger reduplication if the action itself is presented as being repeated. In this case, we may talk about the *pluractional* function of reduplication that signals both the plurality of participants as well as of the action. However, the plurality of participants is not alone a sufficient condition for the presence of reduplication, since plural subjects occur with non-reduplicated forms as well. Thus, the combination of both the plurality of participants and repetition of the action seems to lie behind the reduplicated forms of participles and the *sḏm.f*.

Furthermore, reduplicated forms of weak verbs are also attested in the *sḏm.f* in "emphatic" constructions, including "balanced" and "setting" sentences. Traditionally, reduplicated forms of the *sḏm.f* in main clauses without any auxiliaries were thought to represent a nominal subject in an adverbial predicative construction.[119] These emphatic sentences were considered to have occurred across the verbal system. Based on the discovery by Polotsly, these "nominal" forms were thought to represent the *theme* and draw attention away from the verb towards adjuncts, or the *rheme*, which is different from the predicate in an emphatic sentence.[120] Afterwards, it became clear that the verb forms in

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[118] PT260, 316b-c.

[119] See especially Hans-Jakob Polotsky, *Egyptian Tenses*. Publications of the Israel Academy of Sciences and Humanities II (5) (Jerusalem: Central Press, 1965); Hans-Jakob Polotsky, "Les transpositions du verbe en égyptien classique," *Israel Oriental Studies* 6 (1976): 1-50.

[120] See James Allen, "Is the "Emphatic" Sentence an Adverbial-Predicate Construction?" *Göttinger Miszellen* 32 (1979): 7-15; Friedrich Junge, "Adverbialsatz und emphatische Formen, Nominalsatz und Negation. Eine "Gegendarstellung"," *Göttinger Miszellen* 33 (1979): 69-88; Friedrich Junge, *"Emphasis" and Sentential Meaning in Middle Egyptian*. Göttinger Orientforschungen, 4. Reihe: Ägypten 20 (Wiesbaden: Harrassowitz, 1989); Mark Collier, "The Circumstantial *sḏm(.f)/sḏm.n(.f)* as Verbal Verb-Forms in Middle Egyptian," *Journal of Egyptian Archaeology* 76 (1990): 73-85; Mark Collier, "The Relative Clause and the Verb in Middle Egyptian," *Journal of Egyptian Archaeology* 77 (1991): 23-42;

these contexts are not nominalized, but function as proper verbs. More recently, "emphatic"

constructions (including balanced sentences and "setting" constructions) have been viewed

as being dependent on "aspect, voice, and event semantics," and occurring only with

certain events, as suggested by Stauder.[121] For instance, the same morphological forms of

the *sḏm.n.f* (with "non-subject-affecting events") and of the prospective active and passive

were used in both "emphatic" and "non-emphatic" contexts.[122] Stauder argued that the

sḏm.f in emphatic constructions "developed out of an aspectual contrast, with the originally

imperfective semantics of the *mrr.f* developing specialized functions in this

construction".[123] He also stated that the function of the emphatic construction is to show

that "the verbal event requires some further elaboration for it to be semantically complete,

and that the scope of assertion is thereby extended to include some broadly adverbial, and

most commonly adjunctal, expression".[124]

Any interpretation of emphatic constructions in Earlier Egyptian is a complex one,

since it would preferably have to take into consideration the phonology of these

constructions, their morphosyntactic behavior, semantic analysis, differences in the active

and passive forms, negation, etc. In order to address all of these points, a monograph of its

own would have to be compiled. Therefore, these issues cannot be addressed in detail in

this chapter alone, which focuses on reduplicated verbs. In any case, reduplicated forms

are found in the *sḏm.f*, participles, as well as relative forms, but the theory of emphatic

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[121] Andréas Stauder, "The Earlier Egyptian "Emphatic" Construction: An Alternative Analysis," in *Coping with Obscurity: The Brown Workshop on Earlier Egyptian Grammar*. Wilbour Studies in Egyptology and Assyriology 4, eds. James Allen, Mark Collier, and Andréas Stauder (Atlanta: Lockwood Press, 2016), 169-199.
[122] Stauder, "The Earlier Egyptian "Emphatic" Construction," 175-180.
[123] Stauder, "The Earlier Egyptian "Emphatic" Construction," 193-6.
[124] Stauder, "The Earlier Egyptian "Emphatic" Construction," 198.

constructions as emphasizing an adjunct in a sentence does not seem to be applicable to reduplicated participles. In that case, at least two different types of reduplication would have to be postulated for Egyptian: reduplication in emphatic constructions to emphasize an adjunct and reduplication in (imperfective) participles. It could be argued that the former developed out of the imperfective aspect of the reduplicated form of the *sḏm.f*, as suggested above by Stauder.

In any case, I prefer to see reduplication as one phenomenon occurring in different verb forms, including the *sḏm.f*, participles, and relative forms, since the semantics and morphology of reduplication is similar in all of them. Moreover, most utterances contain adjuncts, which are found in sentences with reduplicated and non-reduplicated verbs alike. How can we state that in some situations an adjunct is to be emphasized, but not in others, especially if the only feature that distinguishes them is the presence (or absence) of reduplication? In other words, why is the form of the verb reduplicated in 5(16), but not in 5(17), if both have similar adjuncts? Lastly, are there cross-linguistically any instances of reduplication having the function of drawing attention to the adjunct? I am not aware of any. In any case, it appears that emphatic interpretations of sentences in the Pyramid Texts are largely dependent on the context and are not associated with reduplication.

5(16) *pr*   *NN jr* *p:t*   *ḥr*   *šd~šd*   *jm*   *wp:t*
       go_up:ACT   NN to   sky:F   upon   cushion.M   in   prow:F
       "I go up to the sky on the cushion in the prow."[125]

5(17) ***pr~r:k***   *jr* *p:t*   *m*   *ḥrw*   *ḥrj*   *šd~šd*   *p:t*
       go_up:ACT:2SG.M to   sky:F   as   Horus   upon   cushion.M   sky:F

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[125] PT330, 539a.

"You go up to the sky as Horus on the sky's cushion."[126]

Let us now consider an example of a balanced sentence in 5(18), which consists of two situations in two clauses being dependent on each other.

5(18) *mr~r:f*   *jr~r:f*   *msḏ~ḏ:f*   *nj* *jr:n:f*
       like:ACT:3SG.M   act:ACT:3SG.M   not_want:ACT:3SG.M   not act:ANT:3SG.M
       "When he likes, he acts, when he does not want, he does not act."[127]

The first part of this example contains two parallel statements "he keeps liking = he keeps doing," while the second part contains "he keeps hating = he cannot act". The best translations for balanced sentences in English employ the temporals *whenever* or *each time*. However, balanced sentences do contain non-reduplicated forms of verbs as well. Therefore, reduplication seems to be an optional marker in balanced sentences. Another example of a balanced sentence is 5(19).

5(19) *jpꜣ:s*   *ẖn~n:s*
       fly:ACT:3SG.F   land:ACT:3SG.F
       "Whenever it flies, it lands."[128]

The verb in the first clause is the non-reduplicated *pꜣj* 'fly',[129] while the verb in the second clause is the reduplicated *ẖnj* 'land, alight'.[130] We have seen that balanced sentences can contain reduplicated atelic predicates, like *mrj* 'like', and that the verb *pꜣj* has attested reduplicated forms. Why *pꜣj* is then not reduplicated in this context, in parallel to *ẖnj*? One reason could be that reduplication is an optional marker, but another interpretation is

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[126] PT437, 800a.
[127] PT274, 412b.
[128] PT310, 494b.
[129] Wb 1, 494.1-12; TLA lemma #58780.
[130] Wb 3, 287.3-288.3; TLA lemma #117680.

possible in this instance as well. The verbal predicate *pꜣj* is atelic, while the verbal predicate

ḫnj is telic. The balanced sentence in this example is the name of a ferryboat. Therefore,

we can think of this boat as making trips on various occasions, which means it would be

flying and *landing* repeatedly. However, *ḫnj* expresses a punctual situation and is non-

homogenous. Thus, in order to make this statement hold constantly, which is a

characteristic of balanced sentences, the non-homogenous telic predicate needs to be turned

into one that can be repeated on more occasions than just one. This is not necessary for the

verb *pꜣj*, which can be used to denote a situation taking place once or multiple times, since

it is atelic. Thus, the meaning of the balanced sentence would be: "it flies = each time it

lands". This observation can be found in the *sḏm.f* form in non-balanced sentences as well.

In the example in 5(20), the reduplicated form can be rendered by the English *always* or

every time.

5(20)   **gm~m:j**   *n:j*   *štṯ*

               find:ACT:1SG for:1SG   fare.M

               "I always find a fare for myself (because the abomination of Summoner, the

               doorkeeper of Osiris, is ferrying without a toll having been paid to him)."[131]

Again, *gmj* 'find (something)'[132] is a telic predicate in this example. In order to strengthen

the truth of the statement over multiple occasions, the verb is reduplicated. Finally,

consider 5(21).

5(21)   *jw*   *mꜣ:n*   *<NN>* *nṯr:w*   *m*   *ḫꜣ:wt*

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[131] PT511, 1157a. Translation by Allen, *The Ancient Egyptian Pyramid Texts*, 159.

[132] Wb 5, 166.6-169.8; TLA lemma #167210. See Pascal Vernus, "Le verbe *gm(j)*: essai de sémantique lexical," in *Lexical Semantics in Ancient Egyptian*. Lingua Aegyptia Studia Monographica 9, eds. Eitan Grossman, Stéphane Polis, and Jean Winand (Hamburg: Widmaier Verlag, 2012), 387-438.

GRND   see:ANT   <NN>   god:M.PL in   nakedness:F

ks~s*:sn*   *n*   *NN* *m* *jꜣ*

bow:ACT:3PL to   NN in   praise.M

"For NN has seen the gods naked as they are bowing to NN in praise."[133]

In this context, the event of bowing is probably shown as occurring on a single occasion, since the *seeing* took place just once. The reduplicated form of *ksj* 'bow down'[134] might be explained variously: the verb is iterative since each god bows multiple times; the subject of the intransitive verb is plural; the situation is ongoing relative to the event of *seeing*; or any combination of the preceding. In this example, we might also have an early instance of the progressive function of reduplication, but maybe it is solely the iterative aspect in combination with plural participants that triggered reduplication. However, the progressive interpretation could explain the example in 5(17) above.

The verb *prj* in 5(17) is in the *sḏm.f* form, but it is not a balanced sentence, nor does it have a continuative or pluractional meaning. The subject is singular and the context in which this clause occurs does not seem to be described as repeated. Thus, the best interpretation for this reduplicated verb is that it denotes a progressive action. Indeed, in the language of the Pyramid Texts, the distinct morphological progressives that developed from locative expressions (*ḥr* "upon," *m* "in") did not yet exist. Reduplication might have thus represented a way to mark progressives, at least in some instances. Therefore, we could translate 5(17) as "You are going up to the sky as Horus on the sky's cushion."

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[133] PT256, 303a-b.
[134] Wb 5, 139.7-18; TLA lemma #165430.

However, such examples are very rare and therefore this suggested interpretation is uncertain.

To summarize, reduplicated weak 3-radical verbs are attested mostly as participles and in the *sḏm.f* form in balanced sentences. Reduplicated verbs express a continuative meaning that signals that the situation continues to take place, a pluractional meaning that denotes the plurality of the action as well as of participants, a repeated action on multiple occasions, or perhaps also added intensity, or any combination of the preceding. The meaning of a repeated action could be expressed by the English temporals *every/each time*, *when(ever)*, *always*, and similar. Thus, it is clear that the main meaning of the reduplicated form of these verbs is associated with an action that continues to take place or is repeated on different occasions. Therefore, we may label all these various interpretations of reduplication by the term *recurrent*, and let the context decide which translation in English is the most appropriate. In general, it seems that reduplicated forms are found with both telic and atelic predicates, but atelic predicates tend to express a continuative meaning, while telic predicates can express any recurrent meaning. Lastly, it should be remembered that reduplicated verbs may have also carried a progressive meaning before the invention of progressive forms in the language.

In this way, these verbs contrast with totally reduplicated verbs that primarily carry an iterative meaning. Both strong as well as weak verbs (like *hnj* 'ululate') can be iteratives. What distinguishes iterative weak verbs from recurrent weak verbs is that the latter are never spelled with the weak radicals. It appears that their reduplicated form was more "compact" and that their meaning might have developed from a repeated action on a single

occasion (iterative meaning) to a repeated action on multiple occasions (recurrent meaning).

5.2.3.3. *Recurrent strong verbs and partial middle radical gemination?*

What is peculiar about the attestations of the reduplicated verbs discussed in the previous section is that it is only weak 3- and 4-radical verbs that seem to occur in them. However, the recurrent meaning associated with reduplication must have been possible to be expressed with verbs from other classes as well, as long as the semantics of the verb could include recurrent events. Consider the example in 5(22).

5(22)   *jrj:j*   *n*   ***jr~r***   *nfr:t*   *wḏ:j*
        act:ACT:1SG   for   act:PTCP.ACT good:F   command:ACT:1SG

        n   *wḏ*   *nfr:t*
        for   command:PTCP.ACT   good:F
        "I act for him who always acts well, I command for him who always commands well."[135]

5(22) contains two parallel clauses, but only one verb is reduplicated, despite the fact that the notion of *always* is valid for the verb *wḏ* as well. Indeed, no verbs from classes other than weak 3- and 4-radical verbs and geminated 2-radical verbs (see below) seem to be found reduplicated in the contexts denoting a recurrent action. The only logical explanation is that the formal marker of the meaning associated with reduplication is concealed in the script. The morphological phenomenon closest to reduplication that would not be visible in the hieroglyphic writing is gemination, i.e., doubling of a radical resulting in two identical adjacent sounds.

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[135] PT 506,1099c.

It seems to me that there is semantically or morphosyntactically no reason why a verb of any verbal class could not express a recurrent action, as long as the semantics of the verb allows it. For instance, the word *mwt* 'die' could never have a reduplicated form, since it is not possible to die recurrently. Thus, if a verb could lexically express a recurrent action, then it could have had a reduplicated form. However, reduplicated forms are observed only in certain verbal classes. If they could be expressed in all of them, though, then it means that the reduplicated forms of verbs from the other classes were not visible in writing. Let us thus hypothesize that all verbal classes could have the base as well as reduplicated stem. What follows is a very conjectural hypothesis, since what I am suggesting cannot be directly observed in writing. However, the aim here is to present a different explanation for the occurrence of reduplicated verbs in Old Egyptian and it is up to the reader to agree or disagree with it.

If geminated verbs expressed a recurrent action, then the reduplicant must have been shorter than the root itself, since totally reduplicated verbs would have an iterative meaning. Therefore, the reduplicant must have involved only one syllable of the root, specifically that involving the middle radical, since final radical reduplication is associated with the passive voice (see section 5.2.3.4.). However, the reduplicated syllable involving the middle radical was most likely further reduced due to the vowel syncope, since this syllable was unstressed and since the stress in Egyptian was commonly placed on the ultimate or penultimate syllable.[136] Let us illustrate this hypothetical reduction in form in the infinitive in Table 5.10. The vocalization of the infinitive in the most common verbal

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[136] Allen, *Ancient Egyptian Phonology*, 45.

classes is based on the evidence from Coptic.[137] For clarity, vowels are marked by the symbol " ˘ ", while stressed syllables are indicated by the red " ˘ ". Underneath each reconstructed vocalization is the verb in transliteration as it would be found written in hieroglyphs. Derived verbs are discussed in section 5.2.3.4.2.

Based on the hypothetical reconstruction of the reduplicated stem, we can identify what written forms of verbs in each class would look like. Since the two radicals of 2-radical verbs are separated by a vowel, these verbs would probably reduplicate this middle vowel only, which would not be visible in writing. Geminated 2-radical verbs, 3-radical verbs, as well as weak 3-radical verbs would geminate the middle radical as a result of vowel syncope after the doubling of the middle syllable. In the case of weak 4-radical verbs, middle syllable reduplication must have resulted in the stress shift since stress could not have fallen on the first syllable of a 3-syllable word. Based on the table, the basic pattern of the reduplicated infinitive might have been $R_1 \breve{~} R_2 R_2 \breve{~} R_3$. This means that weak 4-radical verbs would most likely conform to this pattern, with R_3 being the final vowel and with the stress probably moved to the middle syllable (the particular question mark indicates the uncertainty of the reconstructed pattern). We can observe that the infinitive in both the base and reduplicated stems would have been indistinguishable from each other in the hieroglyphic script. This is because the reduplication of the middle syllable was reduced to the gemination of the middle radical as a result of vowel syncope and was thus concealed in the script.

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[137] Allen, *Ancient Egyptian Phonology*, 65.

Table 5.10. *Vocalic reconstructions of infinitive in the base and reduplicated stems.*

Verb	Infinitive	
	Base stem	**Middle reduplicated stem**
2-strong	m˘n *mn*	m˘˘n *mn*
2-gem	m˘l˘l *mꜣꜣ*	*m˘l˘l˘l > m˘ll˘l *mꜣꜣ*
3-strong	w˘b˘n *wbn*	*w˘b˘b˘n > w˘bb˘n *wbn*
3-weak	m˘r˘t *mrt*	*m˘r˘r˘t > m˘rr˘t *mrt*
4-weak	m˘sd˘ *msḏj*	m˘s˘tʲtʲ˘(?) *msḏj*

However, a difference between the base and reduplicated stem *can* be observed with some verbal classes in certain verbal forms, such as the active participle and the *sḏm.f* form, which are taken to be case studies in this chapter. The doubling of the middle radical would have resulted in two adjacent sounds that were hidden in the hieroglyphic writing, with the exception of weak 3- and 4-radical verbs and geminated 2-radical verbs. This doubling of the middle radical could occur with any verb that could semantically express a recurrent action, whether the verb was present in an atelic or telic predicate. I will first offer an explanation for why we can see the doubling of the middle radical only with certain verbal classes, and then I will support my hypothesis with actual examples in which the semantic difference between the base and reduplicated stems is visible.

Firstly, I will outline the possible vocalization of the most common verbal classes in both their base and reduplicated stems. I will illustrate this difference in the verbal forms

of the active masculine singular participle and the *sḏm.f* form, since these two verbal forms contain a visible difference between the base and reduplicated stems. The vocalization of the base stem of both the participle and the *sḏm.f* form is based on Coptic descendants. Thus, the original vocalization of the *sḏm.f* form has been reconstructed from the Coptic causative construction ⲧ + verb + ⲟ, which is descended from *dj(t)* + *sḏm.f*.[138] It appears that the basic vocalic pattern of this form for all verbal classes was $R_1\,\breve{}\,R_2R_3\,\breve{}$ + suffix/NP, with the second syllable stressed. As for the active participle, the following are Coptic reflexes of some of the verbal classes: 2-radical ⲟ < ꜥꜣ [ʕ ̆ l] 'big',[139] geminated 2-radical ⲕⲁⲙⲉ/ⲕⲉⲙⲓ < *km* [kʰ ̆ mm ̆] = *kmm* 'dark',[140] 3-radical ⲛⲟⲩϥⲉ < *nfr* [n ̆ᵖf ̆r] 'good',[141] weak 3-radical ⲥⲱϩ < *zḥj* [s ̆ xʲ ̆] 'deaf'.[142] Thus, it seems that the basic pattern for active participles was $R_1\,\breve{}\,R_2\,\breve{}\,R_3$ with the first syllable stressed.[143] The exception seems to be geminated 2-radical verbs. However, the Coptic reflexes, like ϣⲏⲣⲉ/ϣⲏⲣⲓ that derives from *šrr* [xʲ ̆ r ̆ r] 'little', suggest that geminated 2-radical verbs might have originally followed the same pattern, but that in at least some of them the second syllable was metathesized, most likely due to phonotactic reasons, hence [k ̆ m ̆ m] > [k ̆ mm ̆].[144]

Now, let us suppose that the reduplicated middle syllable resulted in the middle radical gemination in all of these verbal classes, based on the reduplicated stem in the infinitive in Table 5.10. Now, Table 5.11. contains both base and reduplicated forms of

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[138] Allen, *Ancient Egyptian Phonology*, 73-4.
[139] Allen, *Grammar of the Pyramid Texts I: Unis*, 120.
[140] Allen, *Grammar of the Pyramid Texts I: Unis*, 120.
[141] Allen, *Ancient Egyptian Phonology*, 75.
[142] Allen, *Ancient Egyptian Phonology*, 75.
[143] The vowels were most likely *a – i*, but these are not important for the present argument. See Allen, *Ancient Egyptian Phonology*, 74-5 and Allen, *Grammar of the Pyramid Texts I: Unis*, 120-2.
[144] Allen, *Grammar of the Pyramid Texts I: Unis*, 121.

verbs and their possible vocalizations as active participles and in the *sḏm.f* form. We may see that the basic pattern of the verb in the reduplicated stem of the active participle is R_1˘ R_2R_2˘R_3˘, while that of the verb in the reduplicated stem of the *sḏm.f* form is R_1˘R_2R_2˘ R_3˘, which differed in the actual values of the vowels and the placement of the stress. It appears that the reduplicated stem of weak 3- and 4-radical verbs was altered in order to fit this pattern. This meant extending the stem in weak 3-radical verbs by reduplicating the last syllable (*m˘rr˘- > m˘rr˘**r**˘) and placing both the second and third radicals in the sequence -R_2R_2- in the case of weak 4-radical verbs (thus [-st^j-]).

As far as the forms of the geminated active participle are concerned, some of the reduplicated forms of weak verbs and geminated 2-radical verbs occasionally display a vocalic ending in both singular and plural forms of the active participle.[145] Two interpretations are possible: either all of the reduplicated forms in all verbal classes ended in a vowel, or only the verbal classes whose base forms ended in a vowel had a vocalic ending in the reduplicated form as well. Since the vocalic ending is attested also with 3-radical verbs such as *sbq* 'wise'[146] alongside the reduplicated form *sꜣꜣjw* 'experienced ones', we may suppose that all of the verbal classes ended in a vowel in their reduplicated form. It is likely that the stress would have moved from the first syllable to the second one due to phonotactic reasons. Observe that the argument for the reconstruction of the reduplicated forms of the active participle does not change much if it was only the weak verbs and geminated 2-radical verbs that ended in a vowel; the pattern of weak 3-radical verbs would still have been changed to the pattern of the reduplicated forms of geminated

[145] Allen, *Grammar of the Pyramid Texts I: Unis*, 119.
[146] PT269, 380b.

2-radical and weak 4-radical verbs that also end in a vowel in their base forms. Furthermore, the gemination of the middle radical of verbs in the *sḏm.f* form would either not lead to a stress shift or the stress would shift to the penultimate syllable, but this is not entirely certain. Therefore, the indication of the stressed vowel is rather hypothetical in this case. Whether the vowels remained the same in the reduplicated stem of the participle and the *sḏm.f* form as in their respective base stems or their values changed after the reduplication, as could happen in some Semitic languages, is not clear. However, the argument important for the explanation of reduplication in this section is not dependent on the actual values of the vowels.

Table 5.11. Possible vocalic reconstructions of the base and reduplicated stems.

Verb	Active ms participle		*sḏm*(.f)	
	Base stem	**Reduplicated stem**	**Base stem**	**Reduplicated stem**
2-rad	m˘n *mn*	m˘˘n˘ *mn*	m˘n˘(f) *mn(.f)*	m˘˘n˘(f) *mn(.f)*
2-gem	m˘ll˘ *mꜣ*	m˘ll˘l˘ *mꜣꜣ*	m˘ll˘(f) *mꜣ(.f)*	m˘ll˘l˘(f) *mꜣꜣ(.f)*
3-rad	w˘b˘n *wbn*	w˘bb˘n˘ *wbn*	w˘bn˘(f) *wbn(.f)*	w˘bb˘n˘(f) *wbn(.f)*
3-weak	m˘r˘ *mr*	m˘rr˘r˘ *mrr*	m˘r˘˘(f) *mr.f*	m˘rr˘r˘(f) *mrr(.f)*
4-weak	m˘stʲ˘ *msḏ*	m˘stʲ˘tʲ˘ *msḏḏ*	m˘stʲ˘˘(f) *msḏ(.f)*	m˘stʲ˘tʲ˘(f) *msḏḏ(.f)*

It becomes apparent that the alternation between base verbs and their reduplicated forms would be visible in writing only in several instances, which are highlighted in red in the table. These are exactly the environments in which base and reduplicated verbs alternate in the attested instances from the Pyramid Texts. Let us now consider several examples

and see whether the semantics of the different forms of these verbs agrees with their morphology.

The following are several attestations of the geminated 2-radical verb *mꜣꜣ* 'see'.[147] Examples 5(23) and 5(24) show *mꜣꜣ* in the *sḏm.f* form as a base and reduplicated verb, respectively.

5(23)　　*j:n*　　　　*NN m₃:ṯn*　　　*sw*　　*ḫpr*　　　　　　*m*　*nṯr*　　　ꜥꜣ
　　　　　come:ANT　　NN　see:ACT:2PL　3SG.M　evolve:RES:3SG.M　into　god.M　　great
　　　　　"NN has come so that you can see him evolved into the great god."[148]

5(24)　　*ḏd*　　　　*NN n:ṯn*　　*nṯr:w*　　*m₃~₃:ṯn*　　*NN pn*　　*sḏm:ṯn*
　　　　　speak:ACT　　NN　to:2PL　god:M.PL　　see:ACT:2PL　NN　this:M　hear:ACT:2PL

　　　　　md:w:f
　　　　　speech:M:3SG.M
　　　　　"Every time NN speaks to you, gods, you see NN and hear his speech."[149]

5(24) is a balanced sentence and thus can be translated with the English temporal *every time*. It is clear that the plurality of the subject of *mꜣꜣ* does not trigger reduplication since the subject is plural also in 5(23), but the form is not reduplicated. What distinguishes these two examples is that the first one expresses a simple ability to spot the deceased on a single unrepeated occasion of turning into the *great god*, whereas the other example denotes an event that constantly holds true on multiple occasions. The semantic contrast between the two forms is best seen in 5(25).

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[147] Wb 2, 7.1-10.7; TLA lemma #66270.
[148] PT252, 272b.
[149] PT753, 16-7.

5(25) *mꜣ:n*   *n:tn*   *NN / mꜣ*   *n:tn*   *NN mr* **mꜣ~ꜣ**   *ḥrw*   *n*   *jst*

  look:ANT at:2PL   NN / look   at:2PL   NN as   look:ACT Horus   at   Isis

  "NN has looked at you / NN looks at you as Horus always looks at Isis."[150]

Even though the first instance of *mꜣꜣ* is in the *sḏm.n.f* form, which is always written with

an unreduplicated form of *mꜣꜣ* (see section 5.2.3.6.), later copies of the spell have the *sḏm.f*

form, so it is clear that the unreduplicated form of *mꜣꜣ* is intended. This form of the verb

expresses an event of the deceased king *seeing* the gods as he enters the sky. It is thus a

single event at a specific point in time and place. In contrast, the situation of Horus *seeing*

Isis is meant as something that takes place every time Horus and Isis see each other,

something that happens regularly and repeatedly.

  The same contrast between the base and reduplicated *mꜣꜣ* can be seen in the verb's

participial forms in 5(26) and 5(27).

5(26) *n*   *twt*   *js*   *mꜣ*   *ḥr*   *dp*   *ntr:w*

  for   2SG.M   FOCZ   look:PTCP.ACT   upon   head.M   god:M.PL

  nj   *ntr*   *nb* *mꜣ*   *ḥr*   *dp:k*

  not   god.M   any   look:PTCP.ACT   upon   head:M:2SG.M

  "For you are the one who looks at the head of the gods, there is no god who can

  look upon your head."[151]

5(27) *sdꜣ*   **mꜣ~ꜣ:w**   *ḥp*   *ḥ:f*

  shake:ACT   see:PTCP.ACT:M.PL   inundation.M   surge:ACT:3SG.M

  "Those who see the inundation every time it surges shake."[152]

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[150] PT308, 489a.
[151] PT573, 1479b.
[152] PT581, 1553b.

5(26) describes a situation that refers to the general ability of *seeing* from above, a statement that is generally valid, whereas 5(27) denotes an action that occurs repeatedly on different occasions, specifically every time the inundation comes to Egypt.

In fact, when looking at every single attestation of the verb *mꜣꜣ* as a participle and in the *sḏm.f* form, in both cases in its unreduplicated as well as reduplicated form, the semantic distinction between the two forms is apparent. The base verb expresses a generic ability to see or an event of *seeing* on a specific single occasion, while the reduplicated form refers to *seeing* as a repeated action on different occasions.

This contrast is observable for weak 4-radical verbs too. 5(18) was an example of a balanced sentence with the reduplicated form of *msḏj* 'not want',[153] while 5(28) denotes a generally valid description of what one does *not want*.

5(28)   *bwt:f*   *qdd*   *msḏ:f*   *bꜣgj*
        abomination:M:3SG.M   sleep.M   not_want:ACT:3SG.M   slackness.M
        "His abomination is sleep, he does not want slackness."[154]

Examples of the difference between the base and reduplicated forms of weak 3-radical verbs have already been given in section 5.3.3.2. Now, if we accept the proposed vocalization of the base and reduplicated stems as given in Table 5.11., then examples like the one in 5(22) can easily be explained. We see that both *jrr* and *wḏ* are supposed to denote a person who *always* does the action expressed by the meaning of the two verbs, but that only the former is reduplicated. Since *wḏ* is a middle weak radical, then the doubling of its middle radical would probably be the reduplication of its vowel, which would still be

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[153] Wb 2, 154.1-9; TLA lemma #76210.
[154] PT576, 1500c.

concealed in the hieroglyphic writing. (The problematic nature of 2-radical verbs and their reduplicated forms will be discussed in section 5.2.3.5.). Thus, weak 3-radical verbs extend their stem through reduplication according to the pattern of the reduplicated stem, but all verbal classes can have their middle radical geminated. Thus, only some verbal classes show the distinction between the base and reduplicated forms in writing, but based on the context and semantics, we can postulate the presence or absence of the reduplication of the middle radical for the other classes as well.

5.2.3.4. Partial final radical reduplication

5.2.3.4.1. Strong verbs

In contrast to the later stages of ancient Egyptian, Old Egyptian also shows evidence for the reduplication of the final radical of a verb, traditionally called the *sḏmm.f* form. Since the meaning in the attested examples of these reduplicated verbs is passive, it has been assumed that reduplication is one method of marking the passive in Old Egyptian, specifically the prospective passive (see section 5.1.). Stauder viewed these verbs as "realizations of V-passives, under particular morphophonological circumstances" denoting the prospective.[155] Indeed, as already observed by Stauder, reduplication as a marker of the passive is typologically very unlikely, although not impossible.[156] In order to determine the function of final radical reduplication in Old Egyptian, let us look at the evidence itself. Note that the final radical reduplication of 2-radical verbs will be treated in section 5.2.3.5.

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[155] Stauder, *The Earlier Egyptian Passive*, 44-60. See also Stauder, "Earlier Egyptian Passive Forms Associated with Reduplication," 193.

[156] Keenan and Dryer mention an example of a passive formed by reduplication in Hanis Coos, western USA. See Edward Keenan and Matthew Dryer, "Passive in the World's Languages," in *Language Typology and Syntactic Description, Volume 1*: *Clause Structure*, 2nd ed., ed. Timothy Schopen (Cambridge: Cambridge University Press, 2006), 333.

Table 5.12. contains a list of all 3-radical verbs with the final radical reduplicated that can be found in the Pyramid Texts. All these verbs are strong transitive verbs with the exception of the verbs *nḏrj* and *swꜣj*.

Table 5.12. *Verbs with the final radical reduplicated.*

Verb	Derived from
ꜣbḫḫ	*ꜣbḫ* 'join, mix'
jwrr	*jwr* 'conceive'
wḏꜥꜥ	*wḏꜥ* 'separate, judge'
nḥmm	*nḥm* 'take away'
npḏḏ	*npḏ* 'bow (smth), butcher'
nḏrr	*nḏrj* 'grasp'
rḫss	*rsḫ* 'slaughter'
ḥsqq	*ḥsq* 'cut off'
ḫbss	*ḫbs* 'hack up'
ḫsff/ḫsbb	*ḫsf/ḫsb* 'bar'
zḫnn	*zḫn* 'seek out, embrace'
swꜣꜣ	*swꜣj* 'pass'
stpp	*stp* 'choose'
šꜣss	*šꜣs* 'go through'
šnṯṯ	*šnṯ* 'revile'
šzpp	*šzp* 'receive'
dbḥḥ	*dbḥ* 'ask for'

Now, consider some of the occurrences of these reduplicated verbs in 5(29).

5(29)   a)   **ḥsq~q**   n:k   smn   **npḏ~ḏ**   n:k

decapitate:PASS   for:2SG.M   Nile_goose.M   butcher:PASS   for:2SG.M

ṯrp

white_goose.M

"A Nile goose is decapitated for you, a white goose is butchered for you."[157]

b)   **ḫsb~b**   NN   m   wꜣ:t   tn   **ḫsb~b**   tm

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[157] PT419, 746a.

bar:PASS NN from   path:F   this:F   bar:PASS Atum

"When(ever) NN is barred from this path, Atum is barred."[158]

c) *jntjsn*   **stp~p**   *n:sn*   *stp:wt:sn*

3PL   select:PTCP.PASS   for:3PL   select_cuts_of_meat:3PL

"They are the ones for whom their select cuts of meat will be selected."[159]

d) **dbḥ~ḥ:f**   *m-ˤ:k*   *m*   *rdj:*[*k*   *sw*]

demand:PASS:3SG.M   from:2SG.M   do_not:IMP   give:ACT[:2SG.M   3SG.M]

"Any time it is demanded from you, do not give [it]."[160]

e) *nj* *jṯ~w*   *jb*   *n*   NN *nj* **nḥm~m**   *ḥꜣ:t:f*

not acquire:PASS mind.M of   NN not take_away:PASS   heart:F:3SG.M

"The mind of NN is not acquired, his heart is not taken away."[161]

f) *nj* **ndr~r:k**   *jn* *ꜣkr:w*   *nj* **ḫsf~f:k**   *jn* *sḥd:w*

not seize:PASS:2SG.M by horizon:M.PL not bar:PASS:2SG.M   by   star:M.PL

"You are not seized by the horizons, you are not barred by the stars."[162]

The example in 5(29a)) is part of offerings that include "thousands" of such commodities as beer, bread, linen, ointment, etc. Therefore, it is likely that more than one goose was offered and that their slaughtering was performed continually, hence "A Nile goose is *always* decapitated for you." 5(29b) and d)) are balanced sentences, which are best translated by English *when(ever)*, *any time*, or the like, as shown above. 5(29c)) describes an action performed for gods in return for taking care of the deceased's pyramid for the course of eternity. Based on the context, "select cuts of meat will continue to be selected"

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[158] PT310, 492d.
[159] PT599, 1651c.
[160] PT664D, 1892a.
[161] PT419, 748d.
[162] PT374, 658d-e.

for the gods if they keep providing good things for the deceased. The examples in 5(29e) and f)) are parts of spells that encourage the deceased to enter into the Akhet. It appears that the deceased is comforted by being told that he does not need to be afraid to reach the Akhet as no one will stand in his way and no one will take his heart, hence "His heart will never be taken away" and "You will never be barred by the stars". Note that the progressive meaning is possible in these instances as well: "You are not being barred by the stars" = you can enter the Akhet right now since the stars are not standing in your way.

Thus, it seems that the verbs with the final radical reduplicated occur in balanced sentences and in contexts that express the notion of *always* or *ever*, whether in the affirmative or negative. These are exactly the contexts in which we find partially reduplicated verbs with the active meaning. Indeed, if it is possible to express the notion of a recurrent action in the active voice, why would it not be possible to express such an action in the passive voice as well? There is no semantic obstacle that would prohibit its appearance in the language.[163] In addition, observe that all of the above verbal predicates in 5(29) are telic. Therefore, it seems that final radical reduplication comes into play when telic predicates need to express a recurrent action in the passive voice.

We can observe that in several instances the verbs with the final radical reduplicated are found in negated sentences. The negation of the function of reduplication that expresses the notion of *always* or *whenever* naturally results in the notion of *never*. Such a negated statement is then described as not possible to ever occur, whether now or in the future. These instances of verbs thus give their reduplicated form a "prospective" meaning, which

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[163] The Pyramid Texts of Unas do not have any examples of verbs in the reduplicated stem affixed with the -*t(j)*. The combination of the reduplicated stem and the -*t(j)* passive thus seems to be a later development, as the -*t(j)* passive gradually takes over the unmarked passive.

is also evident in balanced sentences as they might describe situations that have not yet happened. That is the reason why this reduplicated form has been labeled as "prospective" in the past.[164] However, the "prospective" meaning does not actually seem to work in some examples, such as 5(29a)) where the context is not set exclusively to future events. Instead, the action expressed is one that is taking place in the present moment when the offering is presented and will continue to take place in the future as well. Similarly, the examples in 5(29e) and f)) could be read as progressives. Thus, the "prospective" reading of these sentences is only seemingly correct, especially in negated clauses, but was most likely not a distinct verbal form. This should become clear in the following example:

5(30)   *jwr~r*   NN jm   *msj~w*   NN jm
        conceive:PASS NN there   give_birth:PASS   NN there
        "NN is conceived there, NN is given birth there."[165]

The place referred to by *jm* 'there' is the eastern side of Nut, where she gives birth to the sun and the deceased. In another spell,[166] Nut is described as giving birth to the sun every day as well as to the deceased who is born every day like the sun. Thus, the deceased is conceived in and born from Nut each day as the sun. Therefore, the translation in 5(30) does not have a future reading, but rather a continuative one: "NN is continually conceived there, NN is continually given birth there." Thus, we may establish that the final radical reduplication is not a marker of the "prospective form" and that there has never been such a form, contrary to the previous claims.

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[164] On the previous research of the "prospective form," see Depuydt, "A History of Research on the Prospective *sḏm.f* Forms in Middle Egyptian," 11-31.
[165] PT668, 1960b.
[166] E.g., PT606, 1688b-c.

Now, we need to answer the question of why all of these instances of verbs with the final radical reduplicated carry a passive voice. Old Egyptian had two ways of expressing the passive: a) with the suffix *-t(j)* or b) internal stem modification.[167] The former is clearly recognizable in writing, whereas the latter can be determined only by context. The "unmarked" passive, however, is the most common: in the Pyramid Texts of Unas, it amounts to 76% of all passive verbs, attested with every verbal class.[168] The passive in these instances was most likely marked in a way that was not visible in writing, such as through a stress shift or vowel change, unless we are dealing here with ambitransitive verbs (at least in some instances). In any case, we may hypothesize that this modification in the vocalic structure of the reduplicated stem resulted in a structure incompatible with the language's phonological and phonotactic rules. For some reason, the geminated counterpart of the base in the passive voice resulted in the reduplication of the *final* rather than the middle radical. In this way, the active and passive forms would have also been clearly distinguished in the language. This argumentation in addition to the fact that reduplication is almost never a marker of the passive leads to the conclusion that the final radical reduplication was *not* a marker of the passive but rather *a marker of a recurrent action with verbal forms in the passive voice marked by internal stem modification.*

5.2.3.4.2. Weak verbs and derived verbs

Let us now consider weak verbs, which could reduplicate their last radical as well. Since their last radical was a vowel, its reduplicated form resulted in a glide, represented in the hieroglyphic writing by *-w*. Therefore, the verbs *jwrr* and *msjw* in 5(30) both have their

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[167] The best analysis of passives for Earlier Egyptian is Stauder, *The Earlier Egyptian Passive*.
[168] Allen, *Grammar of the Pyramid Texts I: Unis*, 163 and 167.

final radical reduplicated, but the former is a strong verb, whereas the latter is a weak verb. A similar example can be found in 5(29e)). Many other examples of the reduplication of the final vowel in parallel to that of a consonant are attested in the Pyramid Texts, as in 5(31). In this example, we can clearly see the parallel use of weak and strong verbs with the final radical reduplicated, conveying the sense of *when(ever)*, since they occur in balanced sentences.

5(31) *šnj~w* NN *šnj~w* *tm* *šnṯ~ṯ* NN *šnṯ~ṯ* *tm*
      curse:PASS NN curse:PASS Atum revile:PASS NN revile:PASS Atum

      ḥwj~w NN *pn* *ḥwj~w* *tm*
      strike:PASS NN this:M strike:PASS Atum

      ḫsb~b NN *m* *wꜣ:t* *tn* *ḫsb~b* *tm*
      bar:PASS NN from path:F this:F bar:PASS Atum
      "When(ever) NN is cursed, Atum will be cursed; when(ever) NN is reviled, Atum will be reviled; when(ever) I am struck, Atum will be struck; when(ever) I am barred from this path, Atum will be barred."[169]

Table 5.13. includes a list of certain, as well as less certain, weak 2- and 3-radical verbs that are found with their last radical reduplicated in the Pyramid Texts. The verbs highlighted in the orange color are those that are found with the last radical reduplicated in the active, rather than passive voice (see below). Note that, with the exception of the highlighted verbs, all these verbs are telic verbs, just as in the case of the strong verbs in Table 5.12. Apparently, an exception concerns weak 4-radical verbs whose final vowel does not reduplicate in the passive voice, but rather their last syllable, as in the case of *nḏrj*

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[169] PT310, 492a-d.

and *swꜣj*. Thus, the reduplicated stem of these verbs would look the same in writing in both their passive and active forms, which, however, probably differed in pronunciation. This means that these verbs can be distinguished based on their transitivity and context only.

Table 5.13. *Weak verbs with the final radical reduplicated.*

Verb	Derived from
jrw	*jrj* 'make, do'
jtw	*jtj* 'acquire'
mrjw	*mrj* 'like'
msjw	*msj* 'give birth to'
nwjw	*nwj* 'care'
nrw(?)	*nrj* 'be afraid'
rww(?)	*rwj* 'dance'(?)
ḥwjw	*ḥwj* 'hit'
ḥmjw	*ḥmj* 'go back'
zjw	*zj* 'go'
zpjw	*zpj* 'leave'
snw	*snj* "release"
šnjw	*šnj* 'curse'???
šdjw	*šdj* 'take'
ksw(?)	*ksj* 'bow down'
gmw	*gmj* 'find'
ḏswjw	*ḏswj* 'call'

In addition, consider the example in 5(32).

5(32)   **ꜣbḫ~ḫ**   *n:k*   *ꜥ:wj*   **rw~w**   *n:k*   *rd:wj*

link:PASS   for:2SG.M   arm:M.DU   (?):PASS for:2SG.M   foot:M.DU

ḏꜣm   *n:k*   *ḏr:wt*

wave:ACT   for:2SG.M   hand:F.DU

"Arms are being linked for you, feet are (?) for you, hands are waving for you."[170]

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[170] PT419, 743d.

The meaning and the value of the transitivity of *rwj*[171] is not clear and is thus left untranslated. The verb *ꜣbḫ* 'mix, link'[172] is a transitive verb, reduplicating its last radical in the passive voice. Observe that *ḏꜣm* 'wave'[173] is not visibly reduplicated: since it is an intransitive 3-radical verb, its geminated middle radical is not visible in writing. In this way, we can see that the middle radical reduplication of active forms and the final radical reduplication of passive forms is the same phenomenon. This again confirms that the final radical reduplication was not a passive marker, but a way to distinguish active and passive reduplicated forms. This distinction is nicely illustrated in 5(33). In this spell, the sun god calls upon all the gods to carry out good things for the deceased for all of eternity. In return, they will be given offerings, which will also last for eternity. Therefore, the continual and repetitive notion is strengthened in this example, indicated in the translation.

5(33) *jntjsn*   *šzp:sn*   *ḥtp:w:sn*   *nṯr:w*
       3PL   receive:PTCP.ACT:3PL   offering:M.PL:3PL   god:M.PL

       jntjsn   **stp~p**   *n:sn*   *stp:wt:sn*
       3PL   select:PTCP.PASS   for:3PL   select_cuts_of_meat:F.PL:3PL

       jntjsn   **jr~w**   *n:sn*   *ꜥꜣb:wt:sn*
       3PL   make:PTCP.PASS   for:3PL   feast:F.PL:3PL

       jntjsn   *jṯ:sn*   *wr~r:t*   *m-ꜥb*   *psḏ:tj*
       3PL   acquire:PTCP.ACT:3PL   crown:F   amongst   Ennead:F.DU

       "They are the ones who will continue to receive their gods' offerings; they are the ones for whom select meat pieces will continue to be selected; they are the ones

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[171] TLA lemma #856215.
[172] Wb 1, 8.8-20; TLA lemma #89.
[173] Wb 5, 523.3; TLA lemma *182150.

for whom their feasts will continue to be made; they are the ones who will acquire the crown amongst the Dual Ennead."[174]

In this example, the verbs *stp* and *jrj* have the final radical reduplicated since they are passive and convey a recurrent action. The verb *šzp* also conveys a recurrent action, but because it is active and not passive, it is its middle radical that geminates and thus is not visible in writing. The verb *jtj* is not reduplicated because it refers to the single action of *acquiring* – once they receive the crown, they will keep it with them and will not need to receive it again. Thus, the situation does not need to be described as repeated.

Also, it appears that the final reduplicated vowel –(*j*)*w* was optional in writing or in a process of disappearing. For instance, the transitive verb *ṯzj* 'lift' is written only as *ṯz* alongside the reduplicated *zpjw* and *šzpp* in PT548, 1347a-b. However, from the context it is clear that the sense of *ever* is meant. This is the case with the strong verbs as well, since the final radical reduplication disappears after the language of the Pyramid Texts. Already in the texts of Pepy, we find *msjw* in parallel with *jwr* instead of *jwrr*, both in the passive sense.[175]

Apart from weak verbs in the passive voice, the final –(*j*)*w* occurs in other environments too, including some verbs in the active voice, and derived verbs such as causatives (*s*-prefixed) and anticausatives (*n*-prefixed), as shown by Allen and Schenkel.[176] For instance, in 5(34), *ndsds* is an already reduplicated verb, also an intransitive verb, and

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[174] PT599, 1651b-f.
[175] PT577, 1527b-c.
[176] Allen, *The Inflection of the Verb*, §213-399 and Appendix II; Wolfgang Schenkel, "Die Endungen des Prospektivs und des Subjunktivs (*śčm=f, śčm.w=f, śčm.y=f*) nach Befunden der Sargtexte, Mit einem Anhang zum prospektiven Partizip *śčm.t(i)=f(i)*," *Lingua Aegyptia* 7 (2000): 27-112.

expresses an iterative action. Probably in order to convey the meaning of an action repeated on multiple occasions, the verb takes the final -*w*. I would claim that because this verb is already totally reduplicated, its middle radical cannot geminate because it is not conceivable to find a vocalization of the kind [nˇddˇsˇddˇsˇ]. This would mean that total reduplication could not be combined with partially reduplicated forms but only with the final -*w* whose function is tantamount to that of partial reduplication. Such verbs would express an iterative action repeated on multiple occasions. Thus, derived verbs such as causatives and anticausatives behave like weak verbs and do not reduplicate the middle radical but instead take the *w*-ending.

5(34) *ḏ*   *n:k*   *sw*   *m*   *ꜥ:k*   ***nds~ds**:w:sn*   *n:k*
        place:IMP for:2SG.M   3SG.M in   arm.M:2SG.M   be_flinted:ACT:3PL   for:2SG.M
        "Place it in your arm and they will continually be flinted for you."[177]

In addition, the final -*w* also occurs with weak verbs in the active voice that are not totally reduplicated, as shown in Table 5.13. For instance, consider example 5(35). The verb *ḥmj* 'go back'[178] is an intransitive verb and carries the active, rather than the passive, voice. However, the intended meaning of *ever* is clear in the context: "the god *never* goes back on what he has said"!

5(35) *nj*   *ḥmj~w*   *nṯr*   *ḥr*   *ḏd:t:n:f*
        not   go_back:ACT   god.M   on   say:REL:F:ANT:3SG.M
        "The god never goes back on what he has said."[179]

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[177] PT67, 46b-c.
[178] Wb 3, 79.1-21; TLA lemma #105200.
[179] PT675, 2006a.

The final -*w* is also found in affirmative sentences, rather than negative, as in the balanced sentence in 5(36). The entire lengthy spell is concerned with the identification of the deceased with Osiris. Therefore, whatever happens to Osiris, happens to the deceased king as well. Thus, the only possible reading of this balanced sentence is *zj.k = zjw NN pn*, hence the employment of *when(ever)* in the translation.

5(36) *zj:k*   **zj~w**   *NN pn*   **zj~w**   *NN pn*   *zj:k*
       go:ACT:2SG.M   go:ACT NN this:M   go:ACT NN this:M   go:ACT:2SG.M
       "You will go when(ever) this NN is going; when(ever) this NN is going, you will
       go."[180]

Now, consider example 5(37). The verb *ksw* can be translated as progressive: "as they are bowing to Horus," or with the English temporal *always*. The sense is that of a repeated action on multiple occasions, which means that there is no difference in meaning between *kss* in 5(21) and *ksw*. Therefore, it appears that with weak verbs the notion of continual, recurrent, or progressive action can be denoted by both the middle radical or final radical reduplication. I will try to propose an explanation for this behavior in a moment, but firstly I want to note a few observations.

5(37) *ḏj:ṯ*   *ksj*   *tꜣ:wj*   *n*   *NN pn*   *jmr* **ks~w:sn**
       cause:2SG.F   bow:ACT land:M.DU   to   NN this:M   as   bow:ACT:3PL

       n   *ḥrw*
       to   Horus
       "You shall make the two lands bow to this NN as they bow to Horus."[181]

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[180] PT219, 193c.
[181] PT81, 57a.

Firstly, it should be noted that the final -*w* might in some cases simply be an alternate spelling of the final vowel of the verb, e.g., *hꜣw* 'descend',[182] *ḥmsw* 'sit',[183] *gmw* 'find'.[184] Secondly, even some transitive weak verbs can have the final radical reduplicated, even though they carry an active, rather than passive, voice, but still denoting a recurrent action, as in 5(38).

5(38) **mrj~w:f**   *mt:ṯn*   *mt:ṯn*
       want:ACT:3SG.M   die:ACT:2PL   die:ACT.2PL

       mrj~w:f   *ꜥnḫ:ṯn*   *ꜥnḫ:ṯn*
       want:ACT:3SG.M   live:ACT:2PL   live:ACT:2PL
       "When(ever) he wants you to die, you will die; when(ever) he wants you to live, you will live."[185]

Now, how can we account for the presence of the final -*w* in verbs that carry active meaning? One possible answer is to suggest analogical extension: the distinction between the two types of reduplication, i.e., middle and final radical reduplication, was originally associated with the distinction between a recurrent action in the active and passive voice. However, over time this distinction became blurred and the final -*w* was extended to verbs in the active voice as well. Alternatively, we may postulate a different pathway for the formation of the reduplicated stem of weak verbs. Recall from Table 5.11. that weak verbs have the geminated base [m˘ rr˘ -], which means that they have to reduplicate the final radical in order to fit the pattern of geminated strong verbs, thus [*m˘ rr˘ -] > [m˘ rr˘ **r**˘]. Perhaps there existed two ways in which weak verbs' stem could be extended to this

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[182] E.g., PT222, 209a-c.
[183] E.g., PT439, 813a.
[184] E.g., PT534, 1270c.
[185] PT217, 153c.

pattern. Instead of reduplicating the last radical, a glide was inserted into their structure to accommodate for this pattern, thus [*m˘rr˘-] > [m˘rr˘**w**˘]. If that was the case, then the difference between a transitive weak verb with the final radical reduplicated in the active voice and a transitive weak verb with the final radical reduplicated in the passive voice could be told apart only from the context itself. It is possible that the vowels in the active and passive forms were different, though, and so the distinction might have been clear in the spoken language.

In contrast, the roots of strong verbs did not require an insertion of a glide, since their three radicals could easily accommodate to the pattern of the reduplicated stem. In fact, this explanation is more plausible rather than postulating the existence of both middle and final radical reduplication in all verb classes in both the active and passive forms, as hypothesized by Allen,[186] especially when there is no clear difference in meaning between the two types and since the final radical reduplication in the active voice is never visible in any of the other verbal classes.

5.2.3.4.3. *"Negatival complement"*

It has been assumed that the verb following such negative verbs as *jmj* 'not do', *tm* 'fail', and *ḥm* 'not know' is a special verbal form called the "negatival complement". This verb form is sometimes marked by the final -*w* in some verbal classes. Schenkel has shown that in the Coffin Texts the -*w* ending appears with some weak verbs and derived verbs, i.e., causatives and some 5-radical verbs (= *n*-prefixed and reduplicated).[187] He noted that these

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[186] Allen, *Grammar of the Pyramid Texts I: Unis*, 122 and 200-1.
[187] Wolfgang Schenkel, "Die Endungen des Negativkomplements im Spiegel der Befunde der Sargtexte," *Lingua Aegytpia* 7 (2000): 1-26.

are the verbal classes that take the final -*w* in the "prospective" form as well and therefore hypothesized that the two forms might be genetically related.[188] Indeed, could the final -*w* be the same morpheme that we find in negative sentences with *nj* and in the affirmative sentences, denoting the notion of *ever*, *always*, *never*, as shown above? In 5(39), the verb *nẖrẖr* is an intransitive verb that is prefixed by the anticausative *n*- and that is totally reduplicated, thus expressing an iterative action. In this case, the final -*w* might be expressing the sense of *ever*, although the context is too short to confirm this interpretation.

5(39)　　*m*　　　　*nẖr~ẖr:w*　　　*ḥr:k*

　　　　　do_not:IMP　be_downcast:ACT　face.M:2SG.M

　　　　　"Do not ever make your face downcast."[189]

If indeed the same phenomenon as discussed in the previous section, then it could be stated that the final -*w* could mark the notion of *always* and *ever* in both affirmative and negative sentences and that the final -*w* found with weak and prefixed verbs in negated active sentences is the same -*w* that occurs in the "negatival complement" with *jmj* and *tm*.

5.2.3.4.4. Summary: partial final reduplication

To sum up, in most cases the final radical reduplication of weak and strong verbs alike denotes a recurrent action in the passive voice, associated exclusively with telic predicates. In contrast, intransitive weak verbs and some transitive weak verbs could reduplicate their final vowel in the active voice too. This reduplication is found with both telic and atelic predicates. Reduplicated telic predicates express a recurrent action, as in 5(34), whereas atelic predicates can be found in balanced sentences, as in 5(38), or denote a continual or

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[188] Schenkel, "Die Endungen des Negativkomplements," 23-5.
[189] PT67, 46b.

perhaps even a progressive action. A recurrent action could be expressed both in the affirmative and negative sentences. It is probable that the *-w* of weak verbs in the "negatival complement" and the *-w* in the "active prospective" represent the same morpheme. This ending might have originally represented only the reduplicated vowel of weak verbs in the passive voice, which was extended on analogy to active forms as well.

The classes of strong verbs in the active voice geminate their middle radical, which is invisible in writing. In the case of passive geminated 2-radical verbs, their final radical is reduplicated, but this is also invisible in writing (see section 5.2.3.5.). Derived verbs like causatives and anticausatives behave like weak verbs and take the final *-w*. Lastly, intransitive *n*-prefixed verbs most likely could not be passivized since they lack an agent due to their anticausative nature. The exception to this rule is the verb *nḏrj* 'grasp', which could be passivized. However, this *n*-prefixed verb behaves differently from other *n*-prefixed verbs in that it is transitive, whereas most other verbs with the *n*-prefix are intransitive. Therefore, it should hold that *n*-prefixed verbs, as long as they are intransitive, cannot take the final *-w* in the passive. Table 5.14. summarizes these findings.

If the language wanted to employ telic verbs to describe a situation that is recurrent in the passive voice, rather than a situation that is punctual, it had to reduplicate the final radical of these verbs. However, atelic predicates such as *liking* in the passive voice would refer to a state, e.g., "one is liked". Therefore, atelic predicates in the passive voice seem to refer more to a state rather than a recurrent action since they describe a situation that holds constantly true. Therefore, states described by such predicates are homogenous and would be most likely expressed by the *passive participle* in ancient Egyptian. In contrast, atelic predicates could reduplicate the final radical only in the active voice, or rather have

the *-w* inserted into their reduplicated stem, especially in balanced sentences. This method of *w*-insertion most likely occurred as an alternative to the reduplication of the middle radical, as there is no apparent difference in meaning between *mrr* and *mrjw* or *kss* and *ksw*.

Table 5.14. Final radical reduplication in Old Egyptian.

Verbal Class	Negative ("negatival complement")	Affirmative Active ("active prospective") (telic and atelic)	Affirmative Passive ("passive prospective") (telic)
2-strong		invisible middle radical gemination	*wnn.f*
2-gem		invisible middle radical gemination	invisible final radical reduplication
3-strong		invisible middle radical gemination	*wbnn.f*
3-weak	*mrjw*	*mrr* *mrjw*	*mrjw*
4-weak	*msḏjw*	*msḏḏ* *msḏjw*	*msḏḏ*(?) *msḏjw*(?)
***s*-prefix**	*-w*	*-w*	*-w*
***n*-prefix**	*-w*	*-w*	-

5.2.3.5. Partial reduplication of 2-radical and geminated 2-radical verbs

2-radical and geminated 2-radical verbs present a little bit of a problem when it comes to distinguishing between them in their base and reduplicated forms. Firstly, it has been shown above that the reduplicated stem of the active participle of geminated 2-radical verbs is visible in writing, while that of 2-radical verbs is not as their two radicals are separated by a vowel. That means that the reduplicated stems of the two classes can be differentiated in writing, even though the reduplicated stem of 2-radical verbs can be determined only from the context. What about the difference in the *sḏm.f* form?

In the active reduplicated stem of the *sḏm.f*, geminated 2-radical verbs show reduplication of the last radical. The semantic difference between the base and reduplicated stems is obvious, and there is no doubt that the form with the doubled final radical represents the reduplicated stem. Consider the example of *wnn* in 5(40). The base stem of *wnn* 'be'[190] in the *sḏm.f* form is *wn* 'be', while the reduplicated stem is *wnn* 'always/continually be'.

5(40) *wn* *NN m* *wr* *wt:k*
         be:ACT   NN as   great:PTCP:M oldest_son.M:2SG.M

        wn~n *NN m* *wr*   *wt:k*
         be:ACT   NN as   great:PTCP:M oldest_son.M:2SG.M
        "I was the great one, your oldest son, I will always be the great one, your oldest son."[191]

The question is whether the reduplicated stem of 2-radical verbs in the *sḏm.f* form is visible in writing or not, either as a result of analogical levelling or phonological issues. The existence of parallel balanced sentences in 5(41), one of which contains a weak verb with visible reduplication (*jṯṯ*) and the other a 2-radical verb without visible reduplication (*fḥ*), suggests that the doubled middle radical of 2-radical verbs was not visible in writing.

5(41) *jṯ~ṯ*   *NN ꜥ:f*   *jr:k*   *mwt:k*
         acquire:ACT   NN arm.M:3SG.M against:2SG.M die:ACT:2SG.M

        j:fḥ   *ṯw*   ꜥ   *n* *NN nj* *ꜥnḫ:k*
         release:ACT   2SG.M   arm.M   of NN not live:ACT:2SG.M

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[190] Wb 1, 308.1-309.11; TLA lemma #46050.
[191] PT410, 719b.

"When(ever) NN acquires his arm against you, you will die; when(ever) the arm of NN releases you, you will not live."[192]

Thus, if the reduplicated stem of the *sḏm.f* form of 2-radical verbs does not show doubled consonants in writing, then there should be no attested examples of reduplicated verbs in the *sḏm.f* form, which is indeed what we observe in writing.

The biggest challenge in differentiating between the two verbal classes in the *sḏm.f* form concerns a recurrent action in the passive voice, indicated by the reduplication of the last radical, since reduplicated 2-radical verbs would resemble geminated 2-radical verbs. Thus, the best way to distinguish between the two verbal classes is by investigating their context, in order to see if a verb expresses a recurrent action in its reduplicated form or not. Table 5.15. contains those verbs that appear to belong to the class of geminated 2-radical verbs. Whether the origins of these verbs lie in reduplication is uncertain: their radical could have been extended by reduplication to signal a repeated or extended process, as in the case of *qdd* 'sleep', with the extended radical having been later reanalyzed as part of the root. However, such a description does not fit the adjectival verbs like *wrr* 'be(come) great' or *qbb* 'be(come) cool'. Thus, their reduplicated radical does not necessarily carry any semantic meaning, being an inherent part of the root.

Table 5.15. *Geminated 2-radical verbs.*

Verb
wnn 'be'
wrr 'be(come) great'
sww 'be(come) harmful'
qbb 'be(come) cool'
qdd 'sleep'

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[192] PT385, 676b-c.

In addition, the geminated 2-radical verb *tmm* 'close'[193] appears in the same written form in the Pyramid Texts both as an active and passive verb, in 5(42a)) and 5(42b)), respectively.

5(42) a) ***tm~m:s***   *ṯw*   *r*   *sp:tj:k*
           close:ACT:3SG.F   2SG.M   at   lip:F.DU:2SG.M
           "It will close you on your lips."[194]

       b) ***tm~m(:j)***   ***tm~m***   *t3*
           close:PASS(.1SG)   close:PASS   earth.M

           tm~m   *ṯpḥ:wt*   ***tm~m***   *jm:t:sn*
           close:PASS   cavern:F.PL   close:PASS   in:ADJZ:F:3PL
           "When(ever) I am closed, the earth is closed; when(ever) the caverns are closed, what is in them is closed."[195]

Whether the verb in the first example is supposed to be written with its reduplicated stem is not clear, since the sentence is fragmentary and therefore it is not certain if this could have been a balanced sentence or not. If not, then the recurrent action does not fit in this context. In any case, the second example is a balanced sentence with the verb *tmm* having the passive voice, but its reduplicated final syllable leads to a form identical to the active form in writing, as in Table 5.16. However, it is probable that the values of the vowels in the passive were different than those in the active *sḏm.f*. Since the stress is not certain in these examples, its marking is omitted here.

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[193] Wb 5, 308.5-9; TLA lemma #172250.
[194] PT501C, 12.
[195] PT502G, 1-2.

Table 5.16. *Possible reconstruction of the sḏm.f in the passive voice.*

Verb	Passive *sḏm.f*	
	Base stem	**Reduplicated stem**
3-rad	sˇtpˇ(f) *stp*	sˇtpˇpˇ(f) *stpp*
2-gem	tˇmmˇ(f) *tm*	tˇmmˇmˇ(f) *tmm*

As for 2-radical verbs, they can also reduplicate their last radical to mark a recurrent action in the passive voice, as in 5(43).

5(43) *qꜣj:t   nj   dm~m:s*

height:F   not   penetrate:PASS:3SG.F

"Height – it is never penetrated."[196]

Table 5.17. contains a list of 2-radical verbs that show the reduplication of their last radical.

Table 5.17. *2-radical verbs with the final radical reduplicated.*

Verb	Derived from
wnn	*wn* 'open'
wḏḏ	*wḏ* 'command'
fḫḫ	*fḫ* 'loose'
nḏḏ	*nḏ* 'protect'
ḥmm	*ḥm* 'not know'
dmm	*dm* 'penetrate'

However, most of these are attested as passive participles. The fact that only 2-radical verbs "geminate" in the "perfective passive participle" has been considered a peculiarity.[197] However, Stauder has already shown that 2-radical verbs reduplicate their last consonant

[196] PT272, 392a and PT360, 603a.
[197] E.g., Gardiner, *Egyptian Grammar*, 273, §356.

in order to fit the pattern of 3-radical passive participles, probably vocalized as [sut^jímu].[198]

Whether passive participles could semantically also have a reduplicated stem in addition to their base stem is not clear. This is because the verbs in the reduplicated stem would show the same hieroglyphic spelling as in the base stem (e.g., the base stem [sut^jímu] = *sḏm*, the reduplicated stem [sut^jt^jímu] = *sḏm*), and thus they could be determined only by context. However, we may hypothesize that the reduplicated stem would occur only with telic predicates, just as in the case of the reduplicated stem of the *sḏm.f* in the passive voice, since atelic predicates in the passive participle denote states and describe a situation that is homogenous and so there is no need to express it as recurring.

In the table above, *fḫ* and *ḫm* are attested in the causative stem as well. In the case of *fḫ*, its final radical is reduplicated, which might be due to the fact that *sfḫḫ* literally means 'make be loosened', with the base verb in the causative having a passive sense.

5(44)　*m*　　*n:k*　　*mw*　　*jm:w*　*jr:t*　　*ḥrw*
　　　　take:IMP to:2SG.M water.M in:ADJZ eye:F　　Horus

　　　　m　　　　*s:fḫ~ḫ:k*　　　　　　　*jm:s*
　　　　do_not:IMP　CAUS:loosen:PASS:2SG.M　from:3SG.F
　　　　"Accept the water that is in Horus's eye; do not ever make (them) be loosened
　　　　from it."[199]

However, in three instances the recurrent action of the final radical reduplicated verb *fḫ* in the causative stem cannot be applied. In these cases, we may suppose that *sfḫḫ* is a reduced form of the iterative *sfḫfḫ*, as in the case of *ṯḥnḥn > ṯḥnn*. Moreover, *sfḫ* appears with the

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[198] Allen, *Ancient Egyptian Phonology*, 75.
[199] PT62, 43a.

final -*w,* where it also denotes a passive sense, e.g., PT268, 372c with direct object and in PT504, 1083b without any object. This is also true of the transitive verb *ḥm* in the causative stem in 5(45). As shown above, derived verbs behave like weak verbs and therefore take the final -*w* as well.

5(45) *nj* ***smḫ~w:(j)***   *ṯw*
          not   CAUS:be_unknown:PASS(:1SG)   2SG.M
          "I will never make you unknown."[200]

In addition, *wn* 'open'[201] is at the first sight strange as well. It has not been established whether this is an ambitransitive verb, that can be used both transitively or intransitively, and whether it is 2-radical or geminated 2-radical verb. Now, the verb never occurs in balanced sentences nor expresses a recurrent action in any of its attestations. Its reduplicated form *wnn* is found only in the *sḏm.f* form and only in some spells; later variants of the same spell contain only *wn*. Therefore, we may conclude that *wn* 'open' is a 2-radical verb and its reduplicated form denotes the passive.

5(46) ***wn~n***   *n:k*   *sbꜣ*   *p:t*   *jr*   *ꜣḫ:t*
          open:PASS   for:2SG.M   gate.M   sky:F   to   Akhet:F

          nḥr~nḥr   *jb*   *n*   *nṯr:w*   *m*   *ḥsf:k*   *NN*
          look_forward:ACT   mind:M   of   god:M.PL to   meet:INF:2SG.M   NN
          "The gate of the sky to the Akhet is being opened for you, the mind of the gods is looking forward to meeting NN."[202]

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[200] PT690, 2118a.
[201] Wb 1, 311.2-312.11; TLA lemma #46060.
[202] PT610, 1720a.

Later copies contain *wn* rather than *wnn*, which, we might suppose, represents the base passive form of *wn*. This should not be surprising since, as we have seen, the final radical reduplication disappears from the language after the Pyramid Texts, where it is already being replaced by other forms. Similarly, the reduplicated stem of the verb *rḫs* 'slaughter' in the *sḏm.f* in the passive voice is *rḫss*, but in other contexts with a clear recurrent and passive meaning, and in parallel with another final radical reduplicated verb *stpp*, we find the passive form of the verb marked by *-t*.[203] Thus, it appears that the reduplicated stem of the *sḏm.f* in the passive voice is being replaced by the base stem of the two passive forms, i.e., the passives marked by internal stem modification or by the suffix *-t(j)*.

5.2.3.6. *Reduplication and the sḏm.n.f form*

Stauder has shown that there was only one form of the *sḏm.n.f*, disproving the suggestion of two *sḏm.n.f* forms with different vocalizations proposed by Schenkel. The vocalization of the *sḏm.n.f* was [sˇtʲˇmnˇf].[204] In Old Egyptian, the *sḏm.n.f* form seems to express both the anterior that "signals the situation occurs prior to reference time and is relevant to the situation at reference time" and the perfective that signals that "the situation is viewed as bounded temporally".[205] We have established above that reduplication primarily expresses the notion of an iterative, recurrent, and perhaps also progressive action. Therefore, we should not find any reduplicated verbs denoting a recurrent action in the *sḏm.n.f* form. The only reduplicated verbs that can occur in the *sḏm.n.f* form are iterative verbs, since they denote an action as occurring repeatedly on a single occasion, and that single occasion can

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[203] Compare *rḫs.t* in PT485, 1026b to *rḫss* in PT408, 716c.
[204] See Andréas Stauder, "Interpreting Written Morphology: The *sḏm.n꞊f* in the Pyramid Texts," *Journal of Near Eastern Studies* 73, no. 2 (2014): 254.
[205] Bybee, Perkins, and Pagliuca, *The Evolution of Grammar*, 54.

be "bounded temporally" or can have occurred "prior to reference time". In contrast, a recurrent action, especially the one that would take place in the future, cannot be placed in the anterior/perfective. When examining the verbs that occur in the *sḏm.n.f* in the Pyramid Texts, this is exactly what we observe. Only iterative verbs are found in the *sḏm.n.f* such as *nšnš, nšbšb, gbgb, jnjn, nmnm, gmgm, ḫjḫj, ṯpnpn, ršrš, bᶜbᶜ*.

Other than that, it is only geminated 2-radical verbs that we find in the *sḏm.n.f* form. This would suggest that the two identical radicals were separated by a vowel in this form, which agrees with the form's reconstructed vocalization. Other verbs that display both radicals are *qbb, pšš, sꜣꜣ, ṯbb, nḥḥ, jšš*.[206] However, the verb *mꜣꜣ* never has two radicals written in the *sḏm.n.f* form. The likeliest interpretation is that the *ꜣ* got assimilated to the *n*,[207] thus [mˇlˇlnˇf > mˇlˇnnˇf]. In addition, the verb *sfḫḫ* again behaves strangely because it appears once in the *sḏm.n.f* form.[208] The only way to explain its presence is to suppose that the form *sfḫḫ* indeed represents the reduced form of *s(n)fḫfḫ*, as suggested above. In addition, since the verb *snbb* 'converse with' and *sšꜣꜣ* 'land a boat(?)' do not have any base verb attested in the language and since they do occur in the *sḏm.n.f* form, it appears that they are rare examples of 4-radical verbs with two identical radicals rather than final radical reduplicated verbs.

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[206] For the occasional alternation of verbs, e.g., *pš.n* and *pšš.n*, see Stauder, "Interpreting Written Morphology," 255, #9 and Andréas Stauder, "Splitting the *sḏm.n=f*? A Discussion of Written Forms in Coffin Texts, Part II," *Zeitschrift für ägyptische Sprache und Altertumskunde* 141, no. 2 (2014): 195-9.
[207] Andréas Stauder, "Splitting the *sḏm.n=f*? A Discussion of Written Forms in Coffin Texts, Part I," *Zeitschrift für ägyptische Sprache und Altertumskunde* 141, no. 1 (2014): 88-91.
[208] PT556, 1386a.

Lastly, it has been already suggested that the verb *jw* 'come'[209] is the "geminated" counterpart of the verb *jj* 'come'.[210] Since *jj* is a weak 2-radical verb, its reduplicated form results in the final glide, just like with the final radical reduplication of weak verbs (see section 5.2.3.4.2.). The verb *jw* is found numerous times in the *sḏm.n.f* form in the Pyramid Texts, which suggests that it is a totally reduplicated verb signaling an iterative action. It probably denotes a repeated action of moving legs towards someone/something on a single occasion or similar. Allen has also noted that the verb *jw* often occurs in parallel with the verb *šmj* 'go',[211] which might be a lexical iterative counterpart of *zj* 'go',[212] occurring together with *jj*.[213]

5(47) *jšm*   *NN pn*   *ḥnꜥ rꜥ*   *jw*   *NN pn*   *ḥnꜥ*   *rꜥ*

        go:ACT   NN this:M   with sun.M   come:ACT   NN this:M   with   sun.M

        "This NN goes with the sun, this NN comes with the sun."[214]

5.2.3.7. *Other reduplicative patterns?*

Lastly, Bendjaballah and Reintges in their article on reduplication (2009)[215] also included verbs of the pattern $R_1R_2R_1$, e.g., *ḫbḫ* 'burrow into(?)',[216] *nḫn* 'be(come) a child', *sms* 'be(come) old', or *zḫz* 'run away(?)'. However, it is not possible to say whether these verbs are reduplicated or not, since only a handful of them appear in the Pyramid Texts and since none of them have any clear base attested. Therefore, they might simply be 3-radical verbs that happen to have the first and last radical identical, or they are reduced forms of totally

[209] Wb 1, 44.1-45.6; TLA lemma #21930.
[210] E.g., Allen, *Grammar of the Pyramid Texts I: Unis*, 34.
[211] Wb 4, 462.7-465.18; TLA lemma #154340.
[212] Wb 3, 424.13; TLA lemma #127740.
[213] Allen, *Ancient Egyptian Phonology*, 68, #10.
[214] PT259, 310d.
[215] Bendjaballah and Reintges, "Ancient Egyptian Verbal Reduplication," 139-44.
[216] Translation suggested by Allen, *The Inflection of the Verb*, 560.

reduplicated verbs with the iterative meaning. Thus, *ḫbḫ* might represent a reduced form of the reduplicated verb **ḫbḫb*. But due to the lack of evidence, no certain conclusions can be made.

5.3. Evidence for reduplication from related languages

The final part of the chapter will briefly look at reduplication and its functions in the other Afroasiatic languages. In the Semitic languages, reduplication is attested with a varying degree of productivity. It is possible to distinguish several types of reduplication in the Semitic languages. Firstly, there are reduplicated 2-radical roots, such as *gilgēl* "he rolled," in Hebrew.[217] This type is found in Ugaritic, Hebrew, Aramaic, Arabic, Geʿez, Amharic, and others. These reduplicated verbs are often onomatopoeic or denote repetition or intensity.[218] Sometimes one of the radicals in the reduplicated stem dissimilates, which gives rise to stems with three different radicals rather than two. An example of such a dissimilation process to the radical *r* comes from Arabic: *ṭabṭaba > ṭarṭaba* "he gurgled".[219] Another type of reduplication, which is not very common, doubles two final radicals, e.g., *səḥarḥar* "palpitate" in He.[220] It is usually applied to adjectives of colors and "physical defects".[221] The third type of reduplication involves the doubling of the last radical, realized either as reduplication or gemination. This type is rather rare, being productive mainly in Arabic, with some traces seen in Hebrew or Modern South Arabian.[222] For

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[217] Edward Lipiński, *Semitic Languages: Outline of a Comparative Grammar*. Orientalia Lovaniensia Analecta 80 (Leuven: Uitgeverij Peeters and Departement Oosterse Studies, 1997), 405.

[218] Norbert Kouwenberg, *The Akkadian Verb and Its Semitic Background.* Languages of the Ancient Near East 2 (Winona Lake: Eisenbrauns, 2010), 445.

[219] Lipiński, *Semitic Languages*, 405.

[220] Kouwenberg, *The Akkadian Verb*, 446.

[221] Kouwenberg, *The Akkadian Verb*, 446.

[222] Aaron Rubin, *A Brief Introduction to the Semitic Languages* (Piscataway: Gorgias Press, 2010), 46.

instance, Arabic (Stem IX) uses last radical gemination for desubstantival verbs that express colors or "physical features," such as *'iṣfarra* "he became yellow" < *'aṣfaru* "yellow".[223] A similar process is attested in Ethiopic, but here it does not have a derivational function, but rather 4-radical verbs become dissimilated from 3-radical ones, often with the radical *r*, e.g., Amharic *battaʿa > * *bartaʿa* > *bärättäʿä* "he became strong" (root *btʿ*).[224] Semantically as well as morphologically, this type of reduplication is related to the Semitic D-Stem (or Stem II).[225]

The D-stem is characterized by the gemination of the second radical and can be found mainly in Akkadian, Arabic, Hebrew, Geʿez, Syriac.[226] Its primary function seems to be the derivation of "intensive or multiplicative action".[227] However, this stem can have several different meanings and functions, some of which can be even unpredictable.[228] For instance, in Akkadian, the D-stem derives factitives, i.e., agentive verbs, from process verbs, whether intransitive or transitive, e.g., *parāru* "fall apart" (G-stem) > "dissolve, scatter" (D-stem).[229] Those D-stem verbs that are intransitive tend to express an action/activity in contrast to the G-stem process base verbs.[230] Since the D-stem's main function is to express agentivity, only several G-stem intransitive action verbs have a corresponding D-stem form.[231] Such verbs usually denote "sounds," "bodily functions," and "mental activities".[232] If a G-stem action verb is transitive, its D-stem counterpart has

[223] Lipiński, *Semitic Languages*, 406.
[224] Lipiński, *Semitic Languages*, 406.
[225] Lipiński, *Semitic Languages*, 406.
[226] Patrick Bennett, *Comparative Semitic Linguistics. A Manual* (Winona Lake: Eisenbrauns, 1998), 53.
[227] Bennett, *Comparative Semitic Linguistics*, 53. See especially Norbert Kouwenberg, *Gemination in the Akkadian Verb*. Studia Semitica Neerlandica 33 (Assen: Van Gorcum, 1997).
[228] Kouwenberg, *The Akkadian Verb*, 268.
[229] Kouwenberg, *The Akkadian Verb*, 272-4.
[230] Kouwenberg, *The Akkadian Verb*, 273.
[231] Kouwenberg, *The Akkadian Verb*, 274.
[232] Kouwenberg, *The Akkadian Verb*, 274.

an idiosyncratic meaning.[233] For instance, the D-stem might emphasize the "plurality of the event and/or its participants".[234] The latter is usually the direct object, but also plurality of the subject or indirect object can be expressed as well.[235] If no plural participants are present, the D-stem then expresses "a habit or a repetition," or it has a more intensive meaning.[236] It seems that the D-stem does not need to be always used in order to express "plurality of the event or its participants," but that the G-stem can also be commonly employed.[237] In Akakdian, some D-stem verbs do not have a G-stem counterpart. These are called the "D tantum verbs" and are often desubstantival, e.g., *gullulu* "commit (a sin) < *gillatu* "sin," or express an action that is "inherently durative or repetitive," e.g., *qu*ʾʾ*û* "await, wait for".[238] Similarly in Ugaritic, geminated verbs can be derived from nouns, e.g., *ṣḥrrt* "she was heating" < *ṣḥr* "heat".[239] In Syriac, this stem also forms agentive or causative verbs, and often it is desubstantival as well.[240]

Moreover, the D-stem has been convincingly reconstructed for Proto-Semitic, where it supposedly functioned as a tool for deriving verbs from adjectives whose second radical was geminated.[241] In fact, deadjectival verbs represent one of the most common groups of denominal verbs, and often acquire such meanings as "be," "become," or "bring about" the characteristics denoted by the adjective.[242] Kouwenberg shows that Akkadian used the stative for "be," the "fientive forms of the G-stem" for "become," and the factitive

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[233] Kouwenberg, *The Akkadian Verb*, 274.
[234] Kouwenberg, *The Akkadian Verb*, 274; Kouwenberg, *Gemination in the Akkadian Verb*, 114-236.
[235] Kouwenberg, *The Akkadian Verb*, 274-5.
[236] Kouwenberg, *The Akkadian Verb*, 275-6.
[237] Kouwenberg, *The Akkadian Verb*, 276.
[238] Kouwenberg, *The Akkadian Verb*, 277; Kouwenberg, *Gemination in the Akkadian Verb*, 301-317.
[239] Lipiński, *Semitic Languages*, 406.
[240] Bennett, *Comparative Semitic Linguistics*, 98.
[241] Kouwenberg, *The Akkadian Verb*, 280-3.
[242] Kouwenberg, *The Akkadian Verb*, 283.

D-stem for "bring about".[243] The original D-stem function was to express plurality or intensity. However, during its grammaticalization stage, it started to denote agentivity, giving rise to its factitive meaning, which seems to have happened "at least partially in the Proto-Semitic period".[244] This development of the function(s) of the D-stem are reflected in the various meanings of D-stem verbs in the Semitic languages such as Akkadian.[245]

Some of the Semitic languages also have the so-called L-stem, characterized by the lengthening of the vowel after the first root radical.[246] This stem occurs only in Arabic and Ethiopian languages; some remnants might be visible in Hebrew.[247] Its presence in Ugaritic or Ṣayhadic cannot be seen, since the writing systems of these languages did not write out vowels.[248] However, it is only in Arabic where the stem is productive at all, and can carry a range of meanings, such as an "associative action," "behavior," and "attempted action," e.g., *qātala* "attempt to kill" < *qatala* "kill".[249] In the Ethiopian languages, the verbs in this stem have become lexicalized.[250]

The Berber languages contain many reduplicated 2-radical stems, for instance, *ḫarḫar* "drink hard," where dissimilation also occurs, just like in the Semitic languages, for instance **kbkb > krkb* "roll".[251] Similarly, reduplication in Berber can affect the last

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[243] Kouwenberg, *The Akkadian Verb*, 283.
[244] Kouwenberg, *The Akkadian Verb*, 283-7; Kouwenberg, *Gemination in the Akkadian Verb*, 429-444.
[245] Kouwenberg, *The Akkadian Verb*, 287.
[246] Rubin, *A Brief Introduction*, 45.
[247] Rubin, *A Brief Introduction*, 45.
[248] Rubin, *A Brief Introduction*, 45.
[249] Rubin, *A Brief Introduction*, 45-6.
[250] Rubin, *A Brief Introduction*, 45.
[251] Lipiński, *Semitic Languages*, 405.

radical only, as in Tamazight *šəmrər* "become white". [252] In some cases, a reduplicating pattern does not have any corresponding semantics.[253]

Partial and total verbal reduplication is also attested in the Chadic languages, with a various degree of productivity.[254] Semantically, reduplication, especially partial, in Chadic marks plurality of the action or of the object, but not the subject of a transitive verb.[255] It may also denote the perfective aspect or mark a clause as independent.[256] Interestingly, it is possible to reduplicate an already reduplicated verb. In example 5(48), the first copying marks the perfective aspect while the second copying marks the plurality of the event.[257]

5(48)   a)   *yà-yà*   *tá*   *zwáŋ*
            give birth-give birth   OBJ   child
            "She gave birth to a child."

        b)   *yá-yà-yá-yà*   *tá*   *xə̀n*
            give birth:PL-give birth:PL OBJ   3PL
            "She gave birth to them."

In the Cushitic languages, we find initial, medial, as well as final reduplication, each of which can have different functions. [258] Which segments of the root get copied can be dependent on the lexical item.[259] Verbal reduplication can form frequentative or habitual

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[252] Lipiński, *Semitic Languages*, 406.
[253] Maarten Kossmann, "Berber," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 38.
[254] Zygmunt Frajzyngier and Erin Shay, "Chadic," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 262.
[255] Frajzyngier and Shay, "Chadic," 263.
[256] Frajzyngier and Shay, "Chadic," 263.
[257] Example from Frajzyngier and Shay, "Chadic," 264.
[258] Mous, "Cushitic," 357-8.
[259] Mous, "Cushitic," 358.

verbs. [260] Interestingly, reduplication may signal "plurality of the subject of an intransitive verb or of the object of a transitive one," but this is an optional coding.[261] Possible patterns include the reduplication of the initial sequence $C_1V_1C_1$-, as in *duudduub < dúùb* "fold," $C_1V_1C_2$-, as in *furfura < fura* "be open," or C_1V_1-, as in *sisii < sii* "give".[262] Southern Cushitic makes a semantic distinction between the last two types of reduplication: $C_1V_1C_2$- marks "distributive/frustrative action," while C_1V_1- forms frequentative verbs.[263] In Rendille, an alternative to $C_1V_1C_2$- reduplication can be aC_1- gemination, as in *ahhida* or *hidhida < hida* "tie up, bind".[264] Reduplication of the last radical is attested as well, especially in Southern Cushitic, forming pluractional verbs.[265] Moreover, we can find morphological gemination in some languages as well. For instance, final radical gemination can denote an action that is "done once or bit by bit," e.g., *ug* "to drink," *> ugg* "to sip,"[266] or it may form "imperative plurals".[267]

It appears that total and partial reduplications were common in the Afroasiatic language family. In many languages, we find especially 2-radical verbs that could be reduplicated, many of which were derived from onomatopoeia or substantives, which was observed for Egyptian too. In the Semitic languages, the middle radical gemination (D-stem) was very prominent. We have hypothesized the existence of the reduplicated/geminated stem for Egyptian as well. The functions of the Semitic D-stem

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[260] Mous, "Cushitic," 357-8.
[261] Mous, "Cushitic," 409.
[262] Examples from Mous, "Cushitic," 409.
[263] Mous, "Cushitic," 409.
[264] Mous, "Cushitic," 409; Steve Pillinger and Letiwa Galboran, *A Rendille Dictionary: Including a Grammatical Outline and an English-Rendille Index*. Kuschitische Sprachstudien 14 (Köln: Köppe, 1999), 140.
[265] Mous, "Cushitic," 410.
[266] Mous, "Cushitic," 410.
[267] Mous, "Cushitic," 356.

and of partially reduplicated verbal forms in Egyptian overlap to some extent, especially in that they can be associated with plurality and intensity. In the Semitic languages, middle radical gemination carried the factitive meaning. One might wonder whether such gemination, invisible for most verbal classes in the hieroglyphic writing, could lie behind lexical causative verbs, e.g., *wˁb* 'purify' (vs. *wˁb* 'become pure'), as suggested by Breyer and refuted by Brose (see section 5.1.). A lot more research would be needed into the investigation of lexical causatives in Egyptian in order to at least try and settle this issue. Unfortunately, due to the peculiarities of the script, we might never know. In any case and in contrast to the Semitic languages, Old Egyptian seems to have used middle radical reduplication/gemination to express a recurrent action. Lastly, it was noted that in Cushitic a reduplicated verb could alternate with another pattern: *hida* "tie up, bind" > *hidhida* / *ahhida*. Now, could it be that some verbs in Old Egyptian that have the "*j*-prefix," which are especially 2-radical verbs, could in fact represent such an alternative reduplicated form as well? Again, more research would be needed in order to try to answer this question.

5.4. Conclusions

To conclude, this chapter investigated verbal reduplication in Old Egyptian by analyzing the evidence from the Pyramid Texts. It has been found that ancient Egyptian had two basic types of reduplication: total and partial. Partial reduplication can be divided into partial middle radical and partial final radical reduplication. Each type is associated with a specific semantic function. The presence or absence of a verbal predicate in each type of reduplication largely depends on its telicity properties.

Firstly, total reduplication in ancient Egyptian mostly affected 2-radical roots, but there are also examples of totally reduplicated weak 2-radical and weak 3-radical verbs,

and in two cases also 3-radical verbs. These reduplicated verbs could be derived from onomatopoeic expressions, substantives, prepositions, and verbs. Total reduplication predominantly expressed an iterative action, i.e., a repeated action on a single occasion. Some totally reduplicated verbs could be prefixed by the causative *s-* or the anticausative *n-*. However, it is not clear whether prefixation preceded reduplication. Verbs like *nḥrnḥr* suggest that it did, but there are only two examples of such verbs among the evidence and it cannot be ruled that they are exceptions. Furthermore, non-verbal reduplicated bases were turned into verbs by the *n*-prefix, since its original function was that of a verbalizer. Many of these reduplicated verbs do not, in fact, have any clear base, but they are inherently iterative. Those verbs that do have a base in this group are also iterative, derived from strong and weak 3-radical verbs as well as substantives.

The iterative function of reduplication is applied to telic predicates. Therefore, total reduplication is restricted to only some lexemes. Telic situations that have an "inherent beginning, middle, and end, such as winking, hitting, kissing" and thus represent a "single cycle" can be easily repeated.[268] However, iteration can be also connected with a situation denoting "multiple cycles, such as walking or swinging".[269] An example of the former in Old Egyptian is *nṯḥṯḥ* 'chuckle', while an example of the latter is *wnwn* 'move about'.

Secondly, partial reduplication is associated with the doubling of one radical, or rather one syllable, only. Thus, we can distinguish between middle radical and final radical reduplication, both of which expressed the same meaning, i.e., a recurrent action, but differed in terms of voice. Middle radical reduplication was applied to verbs in the active

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[268] Bybee, Perkins, and Pagliuca, *The Evolution of Grammar*, 161.
[269] Bybee, Perkins, and Pagliuca, *The Evolution of Grammar*, 161.

voice, while final radical reduplication was primarily applied to verbs in the passive voice. This is probably due to phonological reasons since one of the passive forms in Old Egyptian was marked by internal stem modification not visible in writing. Most likely, it was this different vocalic structure that prompted the reduplication of the last radical rather than the middle one. In any case, it is clear that *final radical reduplication was not a marker of the passive, but the marker of a recurrent action applied to verbs with an internal passive*. The glide -*w* signaling the reduplicated final vowel of weak verbs might have been later extended to active forms as well, but still denoting the notion of a recurrent action. It seems to purely represent a variant of the middle radical reduplication of weak verbs. This morpheme -*w* might be the same ending as can be found in the "negatival complement". Thus, the notions of a recurrent action could be expressed both in the active and passive voice as well as in both affirmative and negative sentences.

Middle radical reduplication is visible in the hieroglyphic script only with weak verbs and geminated 2-radical verbs, with the former extending their stem through reduplication to the pattern of the reduplicated stem. The other verbal classes would have the middle radical geminated, which would remain hidden in writing. Final radical reduplication would, in contrast, be seen with strong and weak verbs alike, including 2-radical verbs. Geminated 2-radical verbs would have the same apparent radical pattern as in the active form of the *sḏm.f* and thus could be told apart only through the context. Final radical reduplication, for the most part, disappears from the language after the Pyramid Texts when the -*t(j)* passive starts to dominate. Thus, the internal stem modification as a passive form was no longer used and the final radical reduplication was no longer needed.

Partial reduplication is connected with the notions of a recurrent situation, which may denote a continuative, pluractional, or repeated meaning. The plurality of participants might trigger reduplication as long as the plurality of action is intended as well. Thus, the best translations in English for partially reduplicated verbs include such temporal expressions as *continually*, *always*, *each time*, *(when)ever*, and so on. This function of reduplication also explains why reduplicated forms are so prominent in balanced and negative sentences, in the latter of which reduplicated verbs carry the meaning of *never*. However, as mentioned above, the presence of reduplication can be optional; the marked form "signals the presence of some feature," while the unmarked form "simply says nothing about its presence or absence".[270]

It appears that the reduction of reduplication in form might have been associated with an extension in its meaning. Partial reduplication could express a recurrent action, in contrast to total reduplication with an iterative meaning. Simply, a repeated action on a single occasion could have been extended to a repeated action on multiple occasions. Thus, the iterative meaning might have diachronically developed into the recurrent one, which is a typologically common process.[271] Indeed, partial reduplication might be a result of "the phonological erosion and assimilation of totally reduplicated forms".[272] In addition, total reduplication thus tends to "express the most specific meanings," just as the iterative meaning in Egyptian, while partial reduplication tends to "express more general meanings

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[270] Bernard Comrie, *Aspect: An Introduction to the Study of Verbal Aspect and Related Problems*. Cambridge Textbooks in Linguistics (Cambridge: Cambridge University Press, 1976), 112.
[271] Bybee, Perkins, and Pagliuca, *The Evolution of Grammar*, 167.
[272] Bybee, Perkins, and Pagliuca, *The Evolution of Grammar*, 167.

or have a greater variety of uses or functions,"[273] just as the various subtypes of the recurrent meaning in Egyptian.

Moreover, the recurrent function of reduplication can be applied to both telic and atelic predicates, unlike the iterative function that concerns only telic predicates. The continuative meaning is especially applicable to atelic predicates, while any subtype of the recurrent meaning can be applied to telic predicates. It is especially telic predicates that need to be reduplicated in order to denote the notion of *always* or similar, whether in the active or passive voice. It appears that only telic predicates are found in the passive expressing a recurrent action. This is probably because atelic predicates in the passive voice refer to states, rather than actions, and thus do not need to contain the recurrent marker associated with reduplication.

Furthermore, it was shown that in some instances, reduplication might have had a progressive meaning as well. This would be expected in the language of the Pyramid Texts that did not yet have any progressive constructions, which developed only later. In fact, continuatives typologically do tend to develop into progressives.[274] Interestingly, the next step in the diachronic development of reduplication is a change into the marker of the imperfective.[275] Thus, it is not surprising that most grammar books on Middle Egyptian distinguish between the "perfective and imperfective" forms of participles and the *sḏm.f*, the imperfective being traditionally associated with the so-called "gemination". Thus, it is possible that the gemination of the middle radical has its origin in the form and meaning of reduplication. Indeed, it appears that all verbs, whose semantic values would allow it,

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[273] Bybee, Perkins, and Pagliuca, *The Evolution of Grammar*, 167.
[274] Bybee, Perkins, and Pagliuca, *The Evolution of Grammar*, 170.
[275] Bybee, Perkins, and Pagliuca, *The Evolution of Grammar*, 172.

could reduplicate their middle syllable to express a recurrent action. However, it is only in some verbal classes where this reduplication would be visible due to phonological reasons. The other verbal classes would only geminate the middle radical, which would remain concealed in the hieroglyphic writing. However, the context and/or presence of other visibly reduplicated verbs could hint at the reduplicated stem of these verbs.

Gardiner already thought about the possibility of the gemination of the penultimate as well as ultimate radical in ancient Egyptian. He even saw that such gemination is connected with the notions of "repetition" and "continuity".[276] But for some reason, he did not think of these processes as instances of reduplication. In addition, the notions of *always* in affirmative clauses and *never* in negative clauses associated with reduplication explain why strong and weak verbs with the final radical reduplicated were considered to be "prospective" forms. However, as shown above, it is likely that no such form existed in ancient Egyptian. In this way, Old Egyptian would primarily distinguish between stative (*stative*) and action verb forms (*sḏm.f*), between passive (*V-passive/T-passive sḏm.f*) and active verb forms (*active sḏm.f*), and between the anterior (*sḏm.n.f*) and non-anterior verb forms (*sḏm.f*). The anterior would develop into the perfective, while partially reduplicated/geminated verbs denoted the imperfective. This change is already visible in the language of the Pyramid Texts but was completed only later by the time of Middle Egyptian.

Thus, we may postulate two basic stems for ancient Egyptian: the base stem and the partially reduplicated stem. The former would simply refer to a generic event or a single event on a single occasion, while the latter would denote repeated events on multiple

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[276] Gardiner, *Egyptian Grammar*, 210-1, §274; 237, §310; and 351, §438.

occasions. The two stems are distinguishable only with some verbal classes primarily in the active participle and the active and passive *sḏm.f* forms. Table 5.18. summarizes the written forms of the most common verbal classes in the two stems and highlights those verbs which show reduplication.[277]

Table 5.18. Written forms of the base and reduplicated stems.

Verb class	Active Participle		*sḏm.f*			
			Active (telic and atelic)		Passive (telic only)	
	Base stem	RED stem	Base stem	RED stem	Base stem	RED stem
2-strong	*wn*	*wn*	*wn*	*wn*	*wn*	*wnn*
2-weak	*zj*	*zjw*(?)	*zj*	*zjw*	*zj*	*zjw*
2-gem	*mꜣ*	*mꜣꜣ*	*mꜣ*	*mꜣꜣ*	*mꜣ*	*mꜣꜣ*
3-strong	*wbn*	*wbn*	*wbn*	*wbn*	*wbn*	*wbnn*
3-weak	*mr*	*mrr*	*mr*	*mrr* *mrjw*	*mr*	*mrjw*
4-weak	*msḏ*	*msḏḏ*	*msḏ*	*msḏḏ* *msḏjw*	*msḏ*	*msḏḏ*(?) *msḏjw*(?)
s-prefix	sV	sV	sV	sV-*w*	sV	sV-*w*
n-prefix	nV	nV	nV	nV-*w*	nV	-

Furthermore, only totally reduplicated verbs could be found in the *sḏm.n.f* form since iteratives can be viewed as temporally bounded. In contrast, partially reduplicated verbs expressing a recurrent action cannot be viewed as such and therefore cannot occur in the *sḏm.n.f* form. Base verbs would thus denote a *semelfactive* action, while reduplicated verbs would express an *iterative* or *recurrent* action.

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[277] Strong 4-radical verbs are excluded from the table since only several attestations of these are known from the Pyramid Texts. It is possible that they behaved similarly to strong 3-radical verbs, though.

Table 5.19. Development of the function and form of reduplication.

Type of Reduplication	Diachronic Development	Function - Telic Predicates	Function - Atelic Predicates
Total (lexical reduplication)		iterative	
Partial middle radical (lexical and semi-lexical reduplication /gemination)		continuative	
		recurrent with active forms	recurrent in balanced sentences
		progressive(?)	
		imperfective	
Partial final radical (semi-lexical reduplication)		recurrent with passive forms	
		recurrent with active forms of weak verbs	
Partial final radical of 2-radical verbs in passive participles		purely inflectional to fit the vocalic pattern of passive participles	
Partial final radical of geminated 2-radical verbs		root inherent	

In conclusion, we have seen that in Old Egyptian total reduplication tends to express more iconic meanings, while partial reduplication tends to express less iconic meanings. Totally reduplicated verbs become gradually fossilized, while partial reduplication eventually becomes grammaticalized into the imperfective. The only purely inflectional reduplication concerns 2-radical verbs that extended their stem to fit the pattern of the passive participle, hence inflectional reduplication. Weak 3-radical verbs had to extend their reduplicated stem of the active participle and the *sḏm.f*, while verbs in the passive voice had to extend their last radical, hence semi-lexical reduplication (i.e., partly lexical due to the presence of the iconic meaning of reduplication and partly inflectional due to the phonological necessity to extend the stem). The reduplication seen in geminated 2-radical verbs like *qdd* 'sleep' acted on the root level and thus is not tied with any function in Old Egyptian. All

other instances of reduplicated verbs involve purely semantic changes to their bases, hence lexical reduplication. A summary of the evolution of the function and form of reduplication is given in Table 5.19.

It is hoped that this chapter can be seen as an attempt at an innovative view of the ancient Egyptian verbal system, refining new interpretations, and thus prompting a debate about the reconsideration of the form and function of reduplicated and geminated verbs.

CHAPTER 6. FURTHER AFFIXES
IN OLD EGYPTIAN

The previous chapters investigated the roles of the anticausative *n*-prefix, the causative *s*-prefix, and reduplication/gemination in Old Egyptian. All these morphological processes are common and relatively productive in the language of the Pyramid Texts. However, there are further morphemes in ancient Egyptian that have been proposed to be verbal affixes, which are the subject matter of the present chapter. The following sections will separately analyze and discuss each of these proposed affixes, which include the *ḥ*-prefix and *ḥ*-suffix (section 6.1.), *m*-prefix and *b*-prefix (sections 6.2. and 6.3.), *p*-prefix (section 6.4.), *w*-prefix (section 6.5.), *ḫ*-prefix (section 6.6.), *t*-prefix and *t*-suffix (section 6.7.), *d*-prefix, *d*-suffix, *ḏ*-prefix, and *ḏ*-suffix (section 6.8.), and *ꜥ*-prefix (section 6.9.). However, not all of these proposed derivational morphemes have been found to be true affixes in Old Egyptian. Rather, they represent some types of ancient augments and their remnants, whose nature will be discussed in section 6.10. in connection with the question of 2-/3-radicality of Semitic roots. I will conclude the chapter with a brief summary of the findings presented in the following pages.

In my definitions, *affix* will refer to a bound derivational morpheme that can attach to a word to form a new word, thus having an identifiable semantic function. In contrast, *augment* will refer to a type of affix that can also attach to a word but that does not have any clear semantic function and is not productive. It should be noted that a morpheme can

change in respect to which of the two categories it belongs to. For instance, a fully functional affix can over the course of time become grammaticalized and lose its productivity, thus changing its status to that of an augment.

6.1. ḫ-prefix and ḥ-suffix

The present section of this chapter will deal with the morphological process of affixation by the morpheme ḫ, represented by V28 sign in Gardiner's sign list. Interestingly, this morpheme could be affixed to both a verbal and substantival root alike, either as a prefix or a suffix. While emphasis is placed on verbal derivation by this affix due to the topic of my dissertation, examples of affixed substantives will have to be included as well, since the verbal and substantival affixes might be related. Firstly, I will provide a short outline of the previous research of the ḫ-prefix and the ḥ-suffix, which will then be followed by brief remarks about their possible cognates in the Afroasiatic language family. I will then discuss the available evidence in Old Egyptian, separately for both the ḫ-prefix and the ḥ-suffix. The section is concluded with some suggestions about their possible functions.

6.1.1. Previous research

The existence of the ḫ-prefix in ancient Egyptian was already recognized at the beginning of the 20th century. Kurt Sethe drew attention towards this prefix in his article on New Kingdom Hyksos inscriptions (1910).[1] He discussed the meaning of the verb ḥꜥḏꜣ 'rob', according to him derived from ꜥḏꜣ 'be guilty', and provided a few examples of ḫ-prefixed verbs in one of the footnotes.[2] However, he did not offer any interpretation of the function

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[1] Kurt Sethe, "Neue Spuren der Hyksos in Inschriften der 18. Dynastie," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 47 (1910): 80-1.
[2] Sethe, "Neue Spuren der Hyksos," 80-1, #2.

of this prefix. Aaron Ember briefly noted in 1913 that a similarly looking prefix exists in Mehri,[3] providing some examples of prefixed words elsewhere in the same volume.[4]

Afterwards, it was Gertrud Thausing who studied the ḥ-affix at length (1932).[5] She identified several different semantic groups of lexemes according to the possible function of the ḥ-prefix and the ḥ-suffix. These included examples with a more generalized meaning, active-transitive verbs, semantic opposites, as well as a couple of interjections.[6] Based on the semantic similarity of the ḥ-prefix and the ḥ-suffix, she postulated a diachronic difference between the two, with the ḥ-prefix temporally preceding the ḥ-suffix.[7] However, major problems with Thausing's examples were that she used hapax legomena, lexemes with a very unclear meaning, lexical pairs that are separated in time by centuries, and lexical pairs whose morphological similarity is based solely on our transcription. As has been expressed multiple times in this work, collecting examples from the entire history of ancient Egyptian is a highly inadequate approach, as it does not take into account any semantic and morphological changes that might have taken place between the lexical pair's attestations. Also, not all lexemes with the first consonant ḥ are prefixed words. The ḥ-prefix seems to have been solely represented by 1-radical sign V28 alone, and thus lexemes that use 2- or 3-radical signs that begin with ḥ are not ḥ-prefixed words. As a result, I find most of her interpretations unconvincing.

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[3] Aaron Ember, "Mehri Parallels to Egyptian Stems with Prefixed ḥ," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 51 (1914): 138-9.

[4] Aaron Ember, "Kindred Semito-Egyptian words," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 49 (1913): 110-121.

[5] Gertrud Thausing, "Über ein ḥ-Präfix im Ägyptischen," *Wiener Zeitschrift für die Kunde des Morgenlandes* 39 (1932): 287-294.

[6] Thausing, "Über ein ḥ-Präfix im Ägyptischen," 287-294

[7] Thausing, "Über ein ḥ-Präfix im Ägyptischen," 294.

Thausing's study of the ẖ-affix in ancient Egyptian was then followed by a short article by Werner Vycichl on a similar phenomenon in Arabic (1936).[8] He drew parallels between this prefix in Arabic, Mehri (Modern South Arabian), Ethiopic, and Egyptian. However, his examples were very few and, as he noted, he saw "keinen gemeinsamen Nenner hinsichtlich der Bedeutung".[9] Moreover, he found it significant that the phenomenon is observable in Egyptian, Arabic, Modern South Arabian, and Ethiopic, but not in Akkadian, Aramaic, or Hebrew.[10] Vycichl's observations were then commented on in a response by Wolf Leslau in 1937.[11] He disagreed with the interpretation of the ḥ-prefix in Mehri as being the same phenomenon as the prefix in the other languages, since the Mehri prefix is attached to substantives "die zum primitive Wortschatz der Sprache gehören," while Vycichl's examples from Arabic and Ethiopic occur only with verbs.[12] Leslau explained the existence of the ḥ-prefix in Arabic as a diachronic phonetic variant of the causative prefix.[13] Furthermore, in his response to Leslau, Vycichl (1939) admitted that Leslau is probably right in differentiating between the prefix in Mehri and the prefix in Arabic and that these two might have come from two different historical morphemes.[14] However, he stated that no verb with the ḥ-prefix can be shown to have a causative meaning, as suggested by Leslau.[15]

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[8] Werner Vycichl, "Über ein ḥa-Präfix im Arabischen," *Wiener Zeitschrift für die Kunde des Morgenlandes* 43 (1936): 109-110.

[9] Vycichl, "Über ein ḥa-Präfix im Arabischen," 110.

[10] Vycichl, "Über ein ḥa-Präfix im Arabischen," 110.

[11] Wolf Leslau, "Über das ḥa-Präfix im Arabischen," *Wiener Zeitschrift für die Kunde des Morgenlandes* 44 (1937): 219-220.

[12] Leslau, "Über das ḥa-Präfix im Arabischen," 219.

[13] Leslau, "Über das ḥa-Präfix im Arabischen," 220.

[14] Werner Vycichl, "Nochmals das arabische ḥa-Präfix," *Wiener Zeitschrift für die Kunde des Morgenlandes* 46 (1939): 141-2.

[15] Vycichl, "Nochmals das arabische ḥa-Präfix," 141.

Finally, in 1962 Leslau published another short article,[16] in which he drew attention to the ḥ-prefix as the same phenomenon in ancient Egyptian, Modern South Arabian, and Hausa. He provided examples of lexemes with the prefix denoting parts of the body, kinship, animals, and instruments.[17] His intention was not to propose a genetically closer relationship of these languages; he merely noted the occurrence of the morpheme ḥ prefixed to substantives.[18]

After Leslau's 1962 article, no detailed study of the ḥ-prefix nor the ḥ-suffix in ancient Egyptian had been provided until 2017. Only sporadic mentions of the ḥ-prefix could be found in literature. For instance, Elmar Edel in his *Altägyptische Grammatik I* (1955) suggested the existence of the prefix for substantive roots only, but avoided discussing its function.[19] James Allen labelled the ḥ-prefix as "intensive" in his *Grammar of the Pyramid Texts I: Unis* (2017),[20] which was also noted by Hans Goedicke (1956)[21] and by Willaim Ward (1978).[22] Ward argued that the many functions of the ḥ-prefix, as suggested by Thausing, could point to a single semantic role in the earlier stages of the language, but that "this meaning was already vague, or even lost, by the time writing was invented".[23] He also noted that the ḥ-prefixed lexemes examined in his work "do not adhere to a pattern".[24] More recently, Pascal Vernus in his study of the Egyptian root *gm* (2015)

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[16] Wolf Leslau, "A Prefix ḥ in Egyptian, Modern South Arabian, and Hausa," *Africa* 32 (1962): 65-8.

[17] Leslau, "A Prefix ḥ in Egyptian," 66-7.

[18] Leslau, "A Prefix ḥ in Egyptian," 66-7.

[19] Elmar Edel, *Altägyptische Grammatik I*. Analecta Orientalia 34 (Rome: Pontificum Institutum Biblicum, 1955), 96 and 110; §219 and §257.

[20] James Allen, *Grammar of the Pyramid Texts I: Unis*. Languages of the Ancient Near East 7 (Winona Lake: Eisenbrauns, 2017), 35.

[21] Hans Goedicke, "King ḫwḏfꜣ?" *Journal of Egyptian Archaeology* 42 (1956): 53.

[22] William Ward, *The Four Egyptian Homographic Roots B-3: Etymological and Egypto-Semitic Studies*. Studia Pohl: Series Maior, Dissertationes Scientificae de Rebus Orientis Antiqui 6 (Rome: Biblical Institute Press, 1978).

[23] Ward, *The Four Egyptian Homographic Roots B-3*, 22.

[24] Ward, *The Four Egyptian Homographic Roots B-3*, 22.

devoted a couple of pages to the ḥ-suffix,[25] providing several examples of possible ḥ-suffixed lexemes. He suggested that 2-radical roots might have been extended under the pressure of 3-radicalism, but that the reverse process should not be neglected either, i.e., original 3-radical roots might have lost one radical.[26] Unfortunately, as he noted, "aucune relation constante n'apparaît entre le sens du radical élargi et la nature de l'élargissement".[27]

The most recent study of the ḥ-affix was carried out by Marc Brose (2017).[28] In his article, Brose provided a detailed overview of the previous research of the ḥ-affix, discussed the nominal and verbal formation with this affix in ancient Egyptian, looked at the evidence from Demotic and Coptic, and described the ḥ-affix in the Afroasiatic languages.[29] He agreed with Thausing's interpretation of the most basic function of the ḥ-affix as extending the basic meaning in nominal derivation, which he called "plural-extensive" and which seemed to have been productive even in Demotic.[30] According to Brose, if this function is applied to the domain of verbal formation, then a range of functions of the ḥ-affix emerges, including "Pluralisch-Extensiv-Iterativ," "Direktiv-Adversativ," "Terminativ," "Indirekt-Reflexiv".[31] However, these meanings are illustrated only by a handful of examples in each category, whereas some of them are not tenable. For

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[25] Pascal Vernus, "La racine √gm, notion de <rencontre, contact avec>, et ses radicaux dérivés (gmḥ, ngmgm et gmgm)," in *Lotus and Laurel: Studies on Egyptian Language and Religion in Honour of Paul John Frandsen*, eds. Rune Nyord and Kim Ryholt (Copenhagen: Museum Tusculanum Press, 2015), 421-4.

[26] Vernus, "La racine √gm," 423.

[27] Vernus, "La racine √gm," 424.

[28] Marc Brose, "Das Wurzelerweiterungsaffix ḥ im Ägyptischen (und im Afroasiatischen)," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 144 (2017): 149-172.

[29] Brose, "Das Wurzelerweiterungsaffix ḥ im Ägyptischen," 149-170.

[30] Brose, "Das Wurzelerweiterungsaffix ḥ im Ägyptischen," 156 and 164.

[31] Brose, "Das Wurzelerweiterungsaffix ḥ im Ägyptischen," 157-9.

instance, the iterative meaning is associated with reduplication and not the ḥ-affix (see Chapter 5).

Moreover, Brose also stated that the ḥ-prefix is more common and stayed productive longer than the ḥ-suffix, but that there is no discernible difference between them.[32] However, he noted that the ḥ-suffix seems to occur with roots whose second radical is *w*, *r*, a labial, or a nasal.[33] Strangely, Brose compared the wide range of the meanings of the ḥ-affix to the semantic functions of the Semitic geminated stem: according to him, the "plural-extensive" meaning was expressed by the geminated stem in the Semitic languages, but by the ḥ-affix in Egyptian.[34] However, such a comparison is rather superficial due to the unproductivity of the ḥ-affix in ancient Egyptian; the amount of attested and clear ḥ-affixed verbs is very low, especially in Old Egyptian. If this affix carried all the suggested meanings and was as productive as the geminated stem in Semitic, then we would expect it to attach to more verbal roots than attested. However, the affix mostly joins verbal roots that have two strong radicals and is lexically very restricted. In addition, ancient Egyptian possibly did have a geminated (=reduplicated) stem comparable to the Semitic one (see Chapter 5).

6.1.2. Afroasiatic languages

As mentioned in the previous section, some scholars proposed a common Afroasiatic ḥ-prefix on the basis of its occurrence in several branches of this language family, specifically Egyptian, Semitic (Mehri), and Chadic (Hausa). However, it appears that these prefixes are different in each language. First of all, it is now generally recognized that the ḥ-prefix in

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[32] Brose, "Das Wurzelerweiterungsaffix ḥ im Ägyptischen," 165.
[33] Brose, "Das Wurzelerweiterungsaffix ḥ im Ägyptischen," 165.
[34] Brose, "Das Wurzelerweiterungsaffix ḥ im Ägyptischen," 168-170.

Mehri represents a form of the definite article.[35] It is found only in those dialects that possess the definite article, including Omani Mehri.[36] The "productive form" of this article is "an unstressed prefixed *a-*," while the form with the prefixed *ḥ-* or *h-* is "lexical".[37] Some examples of the latter include *ḥəbrīt* 'the daughter' (< *brīt*), *ḥəmōh* 'the water' (< *mōh*), *ḥārīt* 'the moon' (< *rīt*), *ḥafrōḵ* 'the flocks' (< *fərōḵ*), *ḥōrəm* 'the road' (< *wōrəm*).[38] Nouns with the *ḥ/h*-prefix are more frequent and rather "unpredictable," occurring in roots with an initial vowel or a consonant.[39] Moreover, some nouns with the "definite article *ḥ-* have an etymological initial *ʾ* (*aleph*)," for instance *ḥayb* 'father' (= Semitic **ʾb* 'father').[40]

Secondly, the nouns in Hausa that display the prefix /*ha*/ denote body parts, e.g., *hannū* 'arm, hand', *haḵōrī* 'teeth', *hancī* 'nose'.[41] However, as noted by Newman, the phoneme /*h*/ did not exist in Old Hausa and therefore cannot be a reflex of the Afroasiatic prefix, though it might have been descended from the *a*-prefix, as in **alse* 'tongue'.[42]

Thirdly, Vycichl mentioned the existence of the *ḥ*-prefix in Arabic as well. However, most of his examples cannot be found in modern Arabic dictionaries or they represent very uncertain derivations, perhaps with one exception: *ḥazama* < *zamma* 'tie up'. However, that amounts to very little evidence for the existence of such a prefix in Arabic. The same can be said about Vycichl's examples from Ethiopic. The only possible example *ḥanfaṣa* 'winnow' < *nafaṣa* 'be scattered' is probably the result of a borrowing

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[35] Aaron Rubin, *Omani Mehri: A New Grammar with Texts.* Studies in Semitic Languages and Linguistics 93 (Leiden: Brill, 2018), 96-100.
[36] Rubin, *Omani Mehri*, 96.
[37] Rubin, *Omani Mehri*, 96.
[38] Examples from Rubin, *Omani Mehri*, 98.
[39] Rubin, *Omani Mehri*, 98.
[40] Rubin, *Omani Mehri*, 98-9.
[41] Paul Newman, *The Hausa Language: An Encyclopedic Reference Grammar* (New Haven: Yale University Press, 2000), 229.
[42] Newman, *The Hausa Language*, 229.

from a Semitic language,[43] where the *ḥ*-prefix denoted causative derivation (see Chapter 4, section 4.8).

To my knowledge, no other Afroasiatic language possesses an *ḥ*-prefix. For Ehret's suggestion of the existence of the verbal extension -*ḥ* in Proto-Afroasiatic, see section 6.10. Since ancient Egyptian had both the *ḥ*-prefix and *ḥ*-suffix and since these could be applied to substantives and verbs alike, it appears that these affixes were different from any of the affixes attested in the other languages. It is possible that the *ḥ* morpheme had a common Afroasiatic origin, which was completely lost in the majority of the languages, or that this affix represents an internal development in ancient Egyptian. Let us now consider the evidence itself.

6.1.3. Old Egyptian evidence

6.1.3.1. ḥ-prefixed substantives

In her article on the *ḥ*-affix, Thausing provided several examples of *ḥ*-derived substantives that have a more general meaning than their base counterparts. However, as mentioned above, major problems with her examples concern poor attestations of some of these substantives as well as a great time difference between the attestations of the substantives that make up a lexical pair. Diachronic pairing is dangerous since we do not know what kind of linguistic changes had taken place during the time that separates seemingly related substantives. Therefore, the most appropriate analysis of the *ḥ*-prefix would evaluate synchronic evidence, however scanty this might be.

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[43] John Huehnergard, Email to author, April 25, 2019.

The only example from Thausing's first group of ḥ-prefixed lexemes that seems slightly plausible is *ḥꜥ* 'body, flesh'[44] < *ꜥt* 'body part, limb'.[45] However, since the category of the derived word does not change after the ḥ-prefixation in this example, one would expect the feminine ending -*t* to be preserved, but this is not the case. Therefore, a more probable derivation of *ḥꜥ* could be from the substantive *ꜥ* 'arm, hand',[46] but the semantic connection between *body/flesh* and *arm* is not very apparent, other than that both lexemes refer to the body and body parts. Therefore, it is likely that *ḥꜥ* is not an ḥ-prefixed substantive.

In addition, Thausing's examples of substantives denoting *nomina loci* are unconvincing as well. For instance, she paired *ṯꜣw* 'air'[47] with *ḥtꜣw* 'sail',[48] the latter of which is attested only since the Middle Kingdom. Now, if there was a sound change of *ṯ* > *t*, then it would be reflected in the spelling of *ṯꜣw* too, since the two lexemes are synchronically attested and since both *t* and *ṯ* are followed by the *aleph*. Moreover, the hieroglyphic spellings of *ṯꜣw* and *ḥtꜣw* do not suggest their common morphology, even though in our transcription they might seem to be related.

Furthermore, Thausing grouped together several substantival pairs that are clearly related but whose semantic connection cannot be stated in any obvious way: *kꜣ* 'ka'[49] – *ḥkꜣ* 'magic',[50] *zmn* '(a type of) natron'[51] – *ḥzmn* 'natron',[52] and probably *bꜣ* 'ba'[53] – *ḥbꜣ* 'divine

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[44] Wb 3, 37.5-39.13; TLA lemma #101950.
[45] Wb 1, 160.14-23; TLA lemma #34550.
[46] Wb 1, 156.1-157.10; TLA lemma #34320.
[47] Wb 5, 350.12-352.29; TLA lemma #174480.
[48] Wb 3, 182.16; TLA lemma #111070.
[49] Wb 5, 86.10-89.11; TLA lemma #162870.
[50] Wb 3, 176.6-33; TLA lemma #110660.
[51] Wb 3, 453.1; TLA lemma #135070.
[52] Wb 3, 162.11-163.2; TLA lemma #110020.
[53] Wb 1, 411.6-412.10; TLA lemma #52840.

barque'.[54] Since *zmn* is attested only once in the Old Kingdom, whereas *ḫzmn* has numerous attestations at this time, is it not more probable that the *ḫ* in *zmn* simply represents an omitted root consonant?[55] Therefore, I do not find this example convincing and I would conclude that *ḫzmn* does not represent an *ḫ*-prefixed substantive. Now, let us examine a possible morphological and semantic connection between *kꜣ* and *ḥkꜣ* as well as that between *bꜣ* and *ḥbꜣ*.

In ancient Egypt, the concept of *ka* represented the vital force of a person. At the time of death, the *ka* would leave the body, but could continuously be sustained through food and drink offerings. The lexeme *ḥkꜣ* is usually translated as 'magic'. Its spelling is composed of the sign *ḥ* followed by the *kꜣ*-sign,[56] which is the same sign used to represent the *ka* 'vital force'. It was believed that the creator god employed this force during his act of creation.[57] In the Pyramid Texts, we find references to *ḥkꜣ* "that is in the gods when it first comes into being,"[58] that is present at the deceased king's feet when he is ascending to the sky,[59] or that has the ability to heal a wound.[60] Allen defines *ḥkꜣ* as "any force that brings about a result, willed or spoken".[61] All gods and goddesses possess this force, but it can be taken away from them, as is described in the *Cannibal Hymn*. The hymn most likely depicts the fading of the star light when the king as the sun god rises in and moves across

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[54] Wb 3, 62.14; TLA lemma #103530.

[55] This is probably true also of the verb *ꜥjꜥj* 'jubilate' that is attested only once in PT675, 2006a. It is more probable that the first root consonant *ḥ* of *ḥꜥj* 'jubilate' was simply omitted in writing due to phonological reasons, rather than this being a 2-radical verb with the *ḥ*-prefix.

[56] Sign D28 in Gardiner's sign list.

[57] Geraldine Pinch, *Handbook of Egyptian Mythology*. Handbooks of World Mythology (Santa Barbara: ABC-CLIO, 2002), 17.

[58] PT324. Translation by James Allen, *The Ancient Egyptian Pyramid Texts*, 2nd ed. Writing from the Ancient World 38 (Atlanta: Society of Biblical Literature Press, 2015), 71.

[59] E.g., PT306.

[60] E.g., PT324.

[61] Allen, *The Ancient Egyptian Pyramid Texts*, 360.

the sky,[62] thus swallowing all these gods and consuming their *ḥkꜣ*. Thus, it is clear that the lexemes *kꜣ* and *ḥkꜣ* are not only morphologically but semantically related as well.

The lexeme *ḥbꜣ* is attested only once in the Pyramid Texts, in 6(1).

6(1) *jṯ:n:ṯ*   *n:ṯ*   *nṯr*   *nb*   *ḥr:ṯ*   *ḥr* *ḥbꜣ:f*
    acquire:ANT:2SG.F for:2SG.F god.M   every.M with:2SG.F   with barque.M:3SG.M

    sbꜣ:ṯ   *sn*   *m*   *ḥꜣ*   *bꜣ:s*
    make_star:ACT:2SG.F   3PL as   thousand.M   *ba*.M:3SG.F
    "You have acquired for yourself every god with you with his *ḥbꜣ*-barque so that you can make them a star, as She of a Thousand Bas."[63]

She of a Thousand Bas denotes the sky goddess Nut, while the "Thousand Bas" are the "stars of the night sky".[64] The pronoun *you* refers to Nut, while the possessive pronoun *his* refers to the god Shu. Nut was called "She of a Thousand Bas" since she as the sky "possesses" the numerous stars, which are in fact divine *bas*. The concept of *ba* in ancient Egypt is very complex, but in general it denotes the spiritual manifestation of the deceased. At least since the Middle Kingdom and commonly in the New Kingdom, it is represented as a human-headed bird, which suggests its mobility after death.[65] However, whether the *ba* was perceived in this way in the Old Kingdom and earlier is not certain. In any case, the stars might be thought of as representing the spirits of the deceased. It appears that Nut uses the *ḥbꜣ*-barque to "collect" the deceased and turn them into stars, i.e., *bas*. Therefore, we can establish a possible semantic relationship between the concept of *ba* and the *ḥbꜣ*-

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[62] Leo Depuydt, "Ancient Egyptian Star Clocks and Their Theory," *Bibliotheca Orientalis* 55 (1998): 41-2.
[63] PT434, 785a-c.
[64] Allen, *The Ancient Egyptian Pyramid Texts*, 365.
[65] See Emanuele Casini, "The Three-Dimensional Representations of the Human-Headed *bꜣ*-bird: Some Remarks About Their Origin and Function," *Egitto e Vicino Oriente* 38 (2015): 9-32.

barque. However, this suggestion is only tentative since it is based only on one example, which might turn out to be a wordplay.

The last substantive that probably contains the $ḥ$-prefix and is derived from another substantive is $ḥwn$,[66] usually translated as 'child, youth' because of the word's child determinative.[67] The substantive that it is probably derived from is wn,[68] appearing several times in the Pyramid Texts. However, its exact semantic value is not certain. It usually occurs in the phrase wn $nṯr$, and in parallel with $zꜣ$ $nṯr$ 'god's son' and $jpwt$ $nṯr$ 'god's messenger'.[69] This could suggest that wn also denotes a living entity. In addition, Horus's eye as the Red Crown is described as wrt $bꜣw$ 'great of impressiveness' and $ꜥšꜣt$ wnw 'multiple of wn'.[70] It is possible that wn as a noun in fact derives from the verb wnn 'be',[71] in which case it could simply mean 'being'. However, since the sematic value of wn cannot be precisely established, the derivation of $ḥwn$ 'youth' from this substantive remains uncertain too.

A similar substantive with the $ḥ$-prefix denoting a child is $ḥꜥꜣ$ 'child, youngster',[72] also based on the child determinative. This lexeme seems to be derived from the verb or adjective $ꜥꜣ$ 'be(come) large'/'large'.[73] The substantive $ḥꜥꜣ$ appears a few times in the Pyramid Texts in connection with the eastern sky, as in 6(2).

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[66] Wb 3, 52.2-53.5; TLA lemma #103020. The word $ḥwn$ appears also as a verb in the Middle Kingdom with the meaning 'become young' (Wb 3, 54.3-19; TLA lemma #103040). Either the verb existed in earlier times but is unattested in writing, or the substantive could have eventually been used as a verb by the Middle Kingdom.

[67] Sign A17 in Gardiner's sign list.

[68] Wb 1, 307.11; TLA lemma #46040.

[69] PT525, 1244c; PT471, 920a.

[70] PT468, 901a-b.

[71] Wb 1, 308.1-309.11; TLA lemma #46050.

[72] Wb 3, 42.1-3; TLA lemma #102050.

[73] Wb 1, 161.3-162.17; TLA lemma #34750 and #450158.

6(2) *fdw jpw*   *ḥˤʒ:w*   *ḥms:w*   *ḥr*   *gs*   *jʒb:tj*   *n*   *p:t*

    four these:M   youngster:M.PL   sit:PTCP:M.PL on   side.M   east:ADJZ   of   sky:F

    "Those four youngsters who sit on the eastern side of the sky."[74]

However, who the *four youngsters* in the eastern part of the sky are is unknown. At a first

sight, it seems as if the derived substantive denoted the opposite meaning of ˤʒ, and this

very well may be the case. However, we may also envisage that a child or youngster is

someone in the process of becoming large, i.e., growing up. This lexical pair might also

represent two distinct roots, as suggested by Brose.[75] In any case, since the exact semantic

value of *ḥˤʒ* as preserved in the Pyramid Texts cannot be determined, its derivation from ˤʒ

remains uncertain too.

6.1.3.2. *ḥ-prefixed verbs*

The next group of lexemes attested with the *ḥ*-prefix represents verbs. For these, I looked

at the valency of the derived verbs as well as their underived counterparts in order to see if

changes in the syntactic or semantic roles of arguments take place.

a) *ḥtm*

The first verb examined is *ḥtm*,[76] derived from the intransitive verb *tm* 'stop, cease, fail'.[77]

An example of this base verb occurs in 6(3). The only argument of the verb, the subject,

takes on the semantic role of *patient*.

6(3) *nj*   *sk:k*   *nj*   *tm:k*

    not   perish:ACT:2SG.M   not   cease:ACT:2SG.M

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[74] PT507, 1104c-d.
[75] Brose, "Das Wurzelerweiterungsaffix *ḥ* im Ägyptischen," 163-4.
[76] Wb 3, 197.10-198.2; TLA lemma #111600.
[77] Wb 5, 301.4-302.3; TLA lemma #171980.

"You will not perish, you will not cease."[78]

After the prefixation of *ḥ-*, the verb apparently becomes transitive, taking on the subject in the role of *agent*/*causer*, as well as the direct object in the role of *patient*, as in 6(4).

6(4) *ḥtm:n:f*   *dp:jw:sn*   *tꜣ*
    destroy:ANT:3SG.M   upon:ADJZ:M.PL:3PL   earth.M
    "He has destroyed their survivors (lit. those upon earth)."[79]

Therefore, the literal meaning of *ḥtm* seems to be 'make cease', in which case it has a function close to that of the causative prefix *s-*. We could ask whether the *ḥ-*prefix in this instance represents the causative *s-*prefix after the sound change *s > ḥ*? However, since this change does not affect all morphological causative verbs in ancient Egyptian, this would have to be specific only for a certain phonological environment. Moreover, it appears that no change *s > h* took place in Semitic causatives. Instead, the two causative prefixes did not have an original single form, but rather gradually converged in individual languages.[80] Therefore, there is no reason to postulate such a change for ancient Egyptian. In addition, the causative verb of *tm*, *stm*, is also attested in the Pyramid Texts, even though it is not common.[81]

However, *ḥtm* is actually an ambitransitive verb, also attested as the causative *sḥtm*,[82] illustrated in 6(5). If the transitive value of *ḥtm* is used in 6(5), then the verb would have been prefixed by the *n-*, since, as argued in Chapter 4, causatives of transitives were

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[78] PT246, 256c.
[79] PT254, 293c.
[80] Lutz Edzard, *Polygenesis, Convergence, and Entropy: An Alternative Model of Linguistic Evolution Applied to Semitic Linguistics* (Wiesbaden: Harrassowitz, 1998), 116-9; Norbert Kouwenberg, *The Akkadian Verb and Its Semitic Background.* Languages of the Ancient Near East 2 (Winona Lake: Eisenbrauns, 2010), 351 and 412-4.
[81] E.g., PT477, 966d.
[82] Wb 4, 223.10-224.7; TLA lemma #141190.

most likely originally derived from intransitive *n*-prefixed verbs. However, this cannot be the case since the *ḥ*- is commonly prefixed to a verb *after* the *n*- (see section 6.1.3.2.d)), and not before. Thus, we must be dealing here with a morphological causative of the intransitive use of *ḥtm*, whose valency is increased by the employment of the *s*-prefix in 6(5). Therefore, the *ḥ*-prefix does not necessarily raise the valency of a verb and the transitive use of *ḥtm* might only stem from its ambitransitive nature. The verb *ḥtm* in its transitive use thus might be a lexical causative, rather than a causative variant of the *s*-prefixed form. Moreover, we cannot rule out the possibility that *ḥtm* is a loanword from a language with the causative *ḥ*-prefix, adjusted by the native Egyptian causative *s*-prefix.

6(5) *s:ḥtm*　　　　　　　*rwd:w*　　　*r*　*pr~r:w*

　　　CAUS:destroy:PASS　　　terrace:M.PL　for　go_up:PTCP.ACT:M.PL

　　　"The terraces have been destroyed for those who go up."[83]

b)　*ḥbnbn*

Another verb with the *ḥ*-prefix is *ḥbnbn*,[84] probably derived from the intransitive *wbn* 'rise (of the sun)',[85] taking the subject in the semantic role of *agent/patient*, as in 6(6).

6(6) *wbn:n:k*　　　　*m*　*bn~bn*　*m*　*ḥw:t*　　　*bnw*　　*m*　*jwnw*

　　　rise:ANT:2SG.M　　as　benben.M　in　enclosure:F　Benu　in　Heliopolis

　　　"You have arisen as the *benben* in the Benu enclosure in Heliopolis."[86]

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[83] PT254, 279c.
[84] Wb 3, 63.13; TLA lemma #103690.
[85] Wb 1, 292.9-294.3; TLA lemma #854500. The verb *wbn* might itself be derived from the root *bn* 'round'. See Pierre Lacau, "Les verbes [ouben], «poindre» et [pesedj], «culminer»," *Bulletin de l'institut français d'archéologie orientale* 69 (1969): 1-5.
[86] PT600, 1652b.

The verb *wbn* is attested in its totally reduplicated form, *bnbn*, but only in later periods. This reduplicated form refers to the iterative action of *rising*, usually translated as 'swell'.[87] It is probable that *ḥbnbn* is derived from this reduplicated verb, even though it is not attested in Old Egyptian. It appears that *ḥbnbn* is intransitive, just like the reduplicated verb. Its subject would then have the semantic role of *agent/patient*. In this case, the *ḥ*-prefix does not change the valency of the base verb, which means that it should have a purely semantic function. Unfortunately, its exact semantic value is difficult to determine, since the verb occurs in one-sentence spells in the Pyramid Texts, which do not provide us with much context. Allen translates the verb *ḥbnbn* as 'jump around', but this is simply a guesswork based on the later attestation of the iterative meaning of *bnbn*. Furthermore, the verb *ḥbnbn* is also attested as a morphological causative in PT120, 76c. In this case, the valency of the verb has been increased, in contrast to its non-causative form, which means that the *ḥ*-prefix does not have a causative function.

6(7) *m*   *n:k*   *jr:t*   *ḥrw*   *ḥbn~bn:s*

    take:IMP to:2SG.M   eye:F   Horus   jump_around:ACT:3SG.F

    "Accept Horus's eye as it jumps around."[88]

Lastly, we may note that the substantive *ḥbnnwt*[89] is also morphologically connected with *ḥbnbn*. This substantive denotes a kind of round bread, based on its determinative.[90] Therefore, it represents an edible object that 'swells up' during the dough rising and baking.

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[87] Wb 1, 459.19-20; TLA lemma #55770.
[88] PT158, 94c.
[89] Wb 3, 63.15-16; TLA lemma #103710.
[90] Sign X6 in Gardiner's sign list.

Thus, it seems that both the verb *ḫbnbn* and the substantive *ḫbnnwt* are semantically very close to their base counterparts *bnbn* 'swell' and *wbn* 'rise'.

c) *ḥwr*

Another possible *ḥ*-derived lexeme is *ḥwr*.[91] It seems to be derived either from the intransitive verb *wrr* 'be(come) great'[92] or its respective adjective, both of which are attested numerous times in ancient Egyptian. The base verb takes the subject in the semantic role of *patient*. As a verb, *ḥwr* is usually translated as 'be poor, weak', but it is attested only since the Middle Kingdom. Its morphological causative *sḥwr* 'villify'[93] is also known since this period. Only its feminine substantivized counterpart, *ḥwrt*, is known from Old Egyptian, occurring once in the Pyramid Texts. This word is determined with the cobra on the basket sign.[94] The cobra sign is usually associated with the goddess Wadjet, although *ḥwrt* is, in this case, an epithet of the vulture-goddess Nekhbet, who resided in Nekheb. Allen translates *ḥwrt* as "Impoverishing Uraeus," based on the meaning of *ḥwr* in the later periods and the fact that the uraeus was supposed to protect its wearer.[95] However, as the feminine counterpart of *ḥwrw* 'wretched/weak man', we would expect the meaning of *ḥwrt* be 'wretched/weak woman'. In any case, without more evidence any conclusion is impossible. We may say that *ḥwrt* has either a meaning similar to its base, as in the previous example, or an opposite meaning, as in the case of *ḥꜥꜣ*.

6(8) *mw:t:k*   *tw*   *ḥwr:t*   *wr:t*

     mother:F:2SG.M   this:F   uraeus:F   great:F

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[91] Wb 3, 55.9; TLA lemma #103190.
[92] Wb 1, 326-328.13; TLA lemma #47270-1.
[93] Wb 4, 213.4-6; TLA lemma #140600.
[94] Sign I13 in Gardiner's sign list.
[95] Allen, *The Ancient Egyptian Pyramid Texts*, 296.

"That mother of yours is the great Impoverishing Uraeus.[96]

d) ḥnbꜣbꜣ

Another lexeme with the ḥ-prefix is ḥnbꜣbꜣ,[97] occurring once in the Pyramid Texts as a substantivized verb, without any determinative.[98] It was determined in Chapter 3 (section 3.2.2.e)) that the most likely semantic value of nbꜣbꜣ is 'flutter' or similar. Its subject thus has the semantic value of *patient*. However, based on the sole attestation of ḥnbꜣbꜣ, its semantic value in connection with nbꜣbꜣ would be highly speculative. That said, Ward assigns the meaning "writhe, undulate, throb" to ḥnbꜣbꜣ, based on its attestations in the Coffin Texts and elsewhere in the later periods.[99] It is often used in connection with the movement of snakes, hence *writhing*.[100] If ḥnbꜣbꜣ had the same meaning in Old Egyptian, then we could translate it as "one who writhes". This means that the subject of the verb would have the semantic role of *agent*.

e) ḥꜥḏꜣ

The last lexeme to be considered in this section is ḥꜥḏꜣ 'rob',[101] which is, however, attested only since the Middle Kingdom. It is probably connected with the base verb ꜥḏꜣ 'be guilty, wrong'[102] and the substantive ꜥḏꜣ 'wrong, falsehood',[103] which have most attestations since the New Kingdom. ꜥḏꜣ appears only once in the Pyramid Texts as a substantive determined

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[96] PT703, 2204a.
[97] TLA lemma #855655.
[98] PT696A, 2167b.
[99] Ward, *The Four Egyptian Homographic Roots B*-3, 28-31.
[100] Ward, *The Four Egyptian Homographic Roots B*-3, 28-9.
[101] Wb 3, 43.16-18; TLA lemma #102240.
[102] Wb 1, 241.6-7; TLA lemma #42110.
[103] Wb 1, 240.14-241.5; TLA lemma #42100.

with the city-sign,[104] which Allen therefore translates as "Falsetown".[105] Given that ꜥḏꜣ is

mostly known from the New Kingdom and once from the Pyramid Texts, while ḥꜥḏꜣ is

mostly attested in the Middle Kingdom, could it be that the difference between ḥꜥḏꜣ and

ꜥḏꜣ is mostly diachronic and dialectal? After all, the translation of ḥꜥḏꜣ as 'rob' could

historically stem from the meaning of 'do wrong', which is the semantic value of ꜥḏꜣ.

Therefore, I do not consider ḥꜥḏꜣ to be a likely ḥ-prefixed verb.

6.1.3.3. Summary

Table 6.1. summarizes the interpretation of possible ḥ-prefixed lexemes in Old Egyptian,

as discussed in the previous sections. As becomes clear from the table, we do not possess

much evidence for the ḥ-prefix in Old Egyptian. It seems that it occurs as often with

substantives as with verbs. Unfortunately, no common function of the ḥ-prefix is readily

visible with these substantives. With a couple of examples, it looks as if the ḥ-prefixed

lexemes' meanings would encompass all the entities that their base substantives refer to.

Thus, ḥkꜣ 'magic' would encompass all the life force in the world, while ḥbꜣ is a barque

with all the spirits or *bas* of the deceased. However, the derivations of ḥwn and ḥꜥꜣ do not

seem to fit this description, with the latter being a seeming opposite of ꜥꜣ 'large'. Moreover,

the exact semantic value of several words cannot be determined since they represent sole

occurrences in the Pyramid Texts and their context is rather slim, as in the case of ḥwrt,

ḥnbꜣbꜣ, and ḥbnbn. Furthermore, we also have to take into consideration the suggestion

that some seemingly ḥ-prefixed verbs might simply be dialectal variants, just as in the case

of ḥꜥḏꜣ and ꜥḏꜣ, or even simply doublets, i.e., words that etymologically share a root, but

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[104] PT534, 1267c.
[105] Allen, *The Ancient Egyptian Pyramid Texts*, 171.

have different phonological forms. The verb *ḥtm* is the only example in which the *ḥ*-prefix might raise the valency of the base verb, but only in the transitive use of *ḥtm*, whereas *ḥtm* could be used intransitively as well. In two other cases, a possible valency alternation might take place as well, in that the patientive subject becomes agentive, but this is unclear.

Table 6.1. *Possible ḥ-prefixed lexemes and their valency.*

ḥ-prefixed lexemes	Derived from	Possible function, remarks
ḥkꜣ 'magic'	*kꜣ* 'ka/life force'	encompassing all?
ḥbꜣ 'barque with *ba*s'	*ꜣbꜣ* 'ba/spirit'	encompassing all?
ḥwn 'child'	*wn* '?' *wnn* 'be' (INTR) V VSubj>*Patient*	?
ḥꜥꜣ 'child'	*ꜣꜥꜣ* 'large' (INTR) V VSubj>*Patient*	opposite? be at the beginning of the action of *ꜥꜣ*?
ḥtm 'destroy' (INTR/TR) V VSubj>*Agent* NP>*Patient* V VSubj>*Patient*	*tm* 'cease, stop, be complete' (INTR) V VSubj>*Patient*	? causative if *ḥtm* used transitively, otherwise no valency change, morphological causative known
ḥbnbn '?' (INTR) V VSubj>*Patient/Agent*(?)	*bnbn* 'swell' (INTR) V VSubj>*Patient* *wbn* 'rise' (INTR) V VSubj>*Agent/Patient*	? probably no valency change, morphological causative known
ḥwr.t '?' V VSubj> (?)	*wrr* 'great' (INTR) V VSubj>*Patient*	? probable morphological causative known
ḥnbꜣbꜣ 'writhe?' (INTR) V VSubj>*Patient/Agent*(?)	*nbꜣbꜣ* 'flutter' (INTR) V VSubj>*Patient*	? probably no valency change

Thus, the suggestions for the function of the *ḥ*-prefix as being "intensive," "opposite," and so on, do not seem to uphold across the evidence. In addition, the *ḥ*-prefix could not have an "active-intransitive" function, as suggested by some scholars, since several examples of

ẖ-prefixed verbs have a morphological causative. As shown in Chapter 4 (section 4.3.1.), the *s*-prefix cannot attach to active intransitive verbs other than verbs of motion. If it attaches to active verbs of motion, it usually expresses sociative causation, whereas if it attaches to verbs of motion with a patientive participant, then it expresses direct causation. In the case of the verb of motion *sẖbnbn*, it is unclear whether the causee is thought of as agentive or patientive. Thus, either this verb denotes direct or sociative causation. The verb *ḫtm* in its transitive use has a subject in the semantic role of agent. This means that the *s*-prefix cannot directly attach to the verb. Therefore, *sẖtm* must indeed represent a morphological causative of the intransitive use of *ḫtm* with a patientive participant. Lastly, *ḫwr* also has a morphological causative, but it is not certain whether this *ḫwr* is connected with the *ḫwrt* in the Pyramid Texts. If they represent the same verb, then *ḫwr* should also be an inactive intransitive. Thus, it appears as if one requirement for the prefixation of the morpheme *ẖ-* was a patientive subject of the base verb unless this is a verb of motion. Moreover, it seems that the *ẖ*-prefix does not alter the valency of base verbs. Unfortunately, given the very limited sample of *ẖ*-prefixed lexemes in Old Egyptian, these results might be rather skewed.

To conclude, it appears that the original role of the *ẖ*-prefix was connected with the derivation of substantives and verbs alike, although it is possible that some of these verbs represent verbalized substantives. An example of such a verbalization might be *ẖwn*, which existed only as a substantive in Old Egyptian, but as a verb in Middle Egyptian too. The exact function of the *ẖ*-prefix is, however, unclear. It is possible that words like *kꜣ*, *bꜣ* and *ẖkꜣ*, *ẖbꜣ* belong to the primary inventory of the Egyptian lexicon and thus would be unlikely to undergo drastic semantic changes. Therefore, it is these lexemes that might preserve the

likeliest original function of the *ḥ*-prefix. Based on their meanings, it appears that the *ḥ*-prefix could have some sense of *encompassment* of all entities denoted by the base substantive.

In addition, some of the seemingly *ḥ*-prefixed lexemes might represent different roots than their base counterparts, making them morphologically and semantically unrelated. Finally, the Egyptian *ḥ*-prefix does not seem to have any parallels in cognate languages. The *ḥ*-prefix in Mehri represented the definite article, which clearly is not the case in Egyptian. The Hausa examples denote body parts, while in Egyptian there is only one *ḥ*-prefixed lexeme of that meaning. Also, we cannot exclude the possibility of some of these words being borrowed from a Semitic language or any other neighboring languages.

6.1.4. *ḥ*-suffix

6.1.4.1. *ḥ*-suffixed substantives and verbs

Interestingly, the morpheme *ḥ* appears also as a suffix in ancient Egyptian. As mentioned above, Thausing assigned it the same role as to the *ḥ*-prefix and saw it as its diachronic successor. In contrast, Vernus did not see any apparent function of the *ḥ*-suffix among his collected pieces of evidence. The following are several attested lexemes with the *ḥ*-suffix in Old Egyptian.

a) *grḥ*

The first lexeme examined in this section is *grḥ* 'night'.[106] Its meaning is more than certain based on its numerous attestations and its parallel occurrence with the Egyptian lexeme *hrw* 'day', as in 6(9).

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[106] Wb 5, 183.12-185.9; TLA lemma #167920.

6(9) *ḥw:t:k*	*tn*	*qd:t:n*	*n:k*	*NN*
enclosure:F	this:F	build:REL:F:ANT	for:2SG.M	NN

grḥ	*n*	*msw:t:k*	*hrw*	*n*	*msḫn:t:k*
night.M	of	birth:F:2SG.M	day.M	of	birthplace:F:2SG.M

"The enclosure which NN built for you on the night of your birth and the day of your birthplace."[107]

The lexeme *grḥ* seems to be connected with the verb *gr* 'be(come) silent, still',[108] which is an intransitive verb with the subject performing the role of *patient*. The morphological causative of *gr* is common in the Middle Kingdom, as well as the causative verb *sgrḥ* 'pacify'. Thus, it is possible that the substantive is earlier, having become verbalized in the later times. The semantic relationship between *being still/silent* and *night* is apparent: the night is the time when everyone is sleeping and quiet is present in every place. Thus, *stillness* is a characteristic of the *night*.

b) *qbḥ*

Another common lexeme in the Pyramid Texts with the *ḥ*-suffix is *qbḥ(w),* as in 6(10).[109] It is usually translated as 'cool waters', referring to the upper part of the sky representing the surface of the primeval waters Nun, but it is found at least once as a verb.[110] *qbḥw* may also designate 'water donations' or 'libations'. These lexemes are clearly associated with the verb *qbb* 'be(come) cool',[111] an intransitive verb with the subject in the semantic role

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[107] PT516, 1185a-b.

[108] Wb 5, 179.9-180.7; TLA lemma #167750.

[109] Wb 5, 27.15-29.4; TLA lemma #160330.

[110] Translated by Allen as "cool" in PT519, 1204c-d. Allen, *The Ancient Egyptian Pyramid Texts*, 165.

[111] Wb 5, 22.5-23.20; TLA lemma #160170.

of *patient*. The morphological causatives of both *qbḥ* and *qbb* are attested as well: *sqbḥ* is

usually translated as 'refresh', while *sqbb* is usually translated as 'make cool'.

6(10)   *qbḥ:k*   *jpn*   *jsjr* ... *prw*   *ḫr*
        cool_waters.M:2SG.M   these:M   Osiris   go_up:PTCP.ACT:M.PL   from

        ḥrw   *jw:n:(j)*   *jn:n:(j)*   *n:k*   *jr:t*   *ḥrw*
        Horus   come:ANT:(1SG)   get:ANT:(1SG) for:2SG.M   eye:F   Horus

        qb   *jb:k*   *ẖr:s*
        be_cool:ACT   heart.M:2SG.M   with:2SG.F
        "These your cool waters, Osiris, ... have come from Horus. I have come having
        gotten Horus's eye, that your heart may be cool with it.[112]

As in the previous example, the semantic connection of *being cool* and *waters* is obvious,

since *coolness* is a specific feature of *waters*.

c) *wdḥ*

Another similar lexeme to the previous one is *wdḥ*,[113] also referring to an activity of pouring

out water. It is attested as both a substantive and a verb in the Pyramid Texts, as in 6(11).

6(11)   *jrj:j*   *wdḥ:w*   *wdḥ*   *sbȝ*
        make:ACT:1SG   offering_outpouring:M   outpouring.M   star.M
        "I make an offering-outpouring and a star-outpouring."[114]

However, the action of *pouring* out does not need to necessarily apply only to water, but

also to other items that could be thought of as liquid. The verb *wdḥ* appears in PT666,

1939b in connection with putting mortar between the walls of a tomb. In addition, in Old

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[112] PT32, 22a-b.
[113] Wb 1, 393.6-13; TLA lemma #854504.
[114] PT510, 1148b.

Kingdom tomb inscriptions, it can refer to the pouring of metal as well as of a bread dough. Therefore, the semantic value of *wdḥ* seems to be 'pouring liquid in an object', like a container, basin, or mold. The verb seems to be transitive, with the subject in the semantic role of *agent* and the object in that of *theme*, and an optional prepositional phrase denoting *location*.

This lexeme seems to be associated with the verb *wdj* 'put, place',[115] which is a ditransitive verb with the subject as the *agent*, the object as the *theme*, and a prepositional phrase as the *location*. These are the same semantic and syntactic roles of the arguments as those of *wdḥ*. Thus, the *ḥ* as a root extension has an effect solely on the semantics of the lexeme, not upon the syntactic and semantic roles of its arguments. As in the previous examples, *wdḥ*, whether the noun or the verb, is connected with *wdj*: the action of pouring liquid entails *placing* that liquid in a kind of container and thus *wdḥ* includes the action expressed by *wdj*. Similarly, the substantive *wdḥw*[116] can also refer to the offerings that are *placed* on an offering table.

d) *spḥ*

The lexeme *spḥ*[117] is another potential *ḥ*-suffixed verb. Its determinative suggests the use of a rope in the action denoted by this verb.[118] Indeed, the verb is usually translated as "lasso," since its object can be the word for a bull, as in 6(12). The verb is transitive, with the subject as the *agent* and the object being the *theme*.

6(12) *hrw   pw   n   spḥ   ng*
       day.M   this:M   of   lasso:INF long-horned_bull.M

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[115] Wb 1, 384.15-386.10; TLA lemma #51510.
[116] Wb 1, 393.14; TLA lemma #51920.
[117] Wb 4, 105.6-10; TLA lemma #132950.
[118] Sign V1 in Gardiner's sign list.

"On the day of lassoing the long-horned bull."[119]

This verb might be associated with the verb *spj*,[120] appearing in the Pyramid Texts as well as Old Kingdom tomb inscriptions.[121] It seems to refer to the action of *sewing* together parts of a ship by ropes, which is supported by the verb's boat determinative.[122] In an inscription in the mastaba of Ptahhotep at Saqqara, one line talks about the 'twisting' of ropes (*nꜥjt šsw*) for 'binding' (*n sp*).[123] The wooden planks of a ship were assembled together by rope lashing and it is this action of assembling by ropes that *spj* most likely denotes. This transitive verb's arguments have the same syntactic and semantic roles as those of *sph*. The two verbs could be semantically connected as well, since the action of *sph* denotes the use of a rope in order to catch and bind an animal, while that of *spj* expresses the use of ropes to assemble a ship. While the purpose of ropes is in each case different, both actions include the use of ropes. We could thus imagine that the action of *sph* could involve a rope for catching an animal, and thus *tying* it by means of a rope, in which case its meaning would include that of *spj*, even if it is a little bit extended.

e) *bꜥḥ*

Another lexeme with the *ḥ*-suffix might be *bꜥḥ* 'flood, inundation'.[124] It also occurs as an intransitive verb 'be abundant'[125] in the Pyramid Texts. The example in 6(13) contains the substantive *bꜥḥ*, together with its associated verb *bꜥ*.[126]

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[119] PT254, 286e.
[120] Wb 4, 96.13-14; TLA lemma #132750.
[121] E.g., PT519, 1206c.
[122] P1 in Gardiner's sign list.
[123] Francis Griffith, "The Tomb of Ptah-Hetep," in *The Ramesseum*, ed. James Quibell (London: B. Quaritch, 1898), 28-9.
[124] Wb 1, 448.1-8; TLA lemma #54990.
[125] Wb 1, 448.11-449.25; TLA lemma #55080.
[126] TLA lemma #860858.

6(13)	*nj*	*bꜥ*	*ḥrw*	*jm:k*		*m*	*rn:k*		*n*	*bꜥḥ*
	not	sip:ACT	Horus	from:2SG.M		in	identity.M:2SG.M		of	inundation.M

"Horus does not sip from you, in your identity of the inundation."[127]

Now, this is the only attestation of the verb *bꜥ* without any determinative, but its reduplicated form has several occurrences in the Pyramid Texts. The verb *bꜥbꜥ*[128] seems to refer to the iterative action of *taking a sip*, and thus can be translated as *slurp*. Its unreduplicated counterpart would thus denote the single action of *taking a sip*, rather than iterative. All the verbs, *bꜥ*, *bꜥbꜥ*, and *bꜥḥ*, are intransitive. The verb *bꜥ*/*bꜥbꜥ* would take the subject in the semantic role of *agent*, while the verb *bꜥḥ* would take the subject probably in the semantic role of *patient*.

Now, *slurping* involves making loud sucking noises, as when the water bubbles, and indeed *bꜥbꜥ* might be an onomatopoeic word (see Chapter 5). Thus, the sound might be similar to that of the Nile waters during inundation, which is, however, very conjectural. One specific characteristic of the flood, *bꜥḥ*, is the bubbling or slurping sound denoted by the verbs *bꜥ* and *bꜥbꜥ*. Thus, *bꜥḥ* could hypothetically entail the action of *bꜥ*/*bꜥbꜥ*.

f) *wrḥ*

The lexeme *wrḥ* 'be(come) anointed with'[129] could be another *ḥ*-suffixed verb, referring to the action of applying ointment on the body, as in 6(14). The subject of the verb would have the semantic role of *patient*.

6(14)	*wrḥ:ṯn*		*<m>*	*m:rḥ:t*
	be_anointed:ACT:2PL		<with>	ointment:F

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[127] PT658A, 1858.
[128] Wb 1, 447.1-4; TLA lemma #54900.
[129] Wb 1, 334.8-335.3; TLA lemma #48030.

"You are anointed with ointment."[130]

Interestingly, this example also contains the lexeme *mrḥt* 'anointment',[131] a noun of instrument derived from *wrḥ* by the *m*-prefix (see section 6.2.). The verb *wrḥ* might be associated with the verb, or the adjective, *wrr* 'be(come) great',[132] whose subject is the *patient*. The semantic connection between these two verbs is not immediately apparent, but we could imagine the anointing oil to be rich or 'great' in consistency, or perhaps metaphorically 'great' since it has the potential to turn the deceased into an *akh*.[133] Accepting one of these interpretations, the action of *wrḥ* would once again incorporate the action of *wrr*.

6.1.4.2. Summary

Table 6.2. summarizes the previous discussion of *ḥ*-suffixed lexemes in Old Egyptian. As becomes clear from the table, the *ḥ*-suffixed lexemes seem to have a more narrow and specific meaning than their base counterparts. It seems that the meanings of *ḥ*-suffixed lexemes entail the meanings of the base verbs. In that way, the action denoted by the base verb is just one out of all the features characteristic of the entity or action referred to by the *ḥ*-suffixed counterpart. The verbs with and without the *ḥ*-suffix are either patientive or agentive. Other possible examples might include the following lexical pairs: *mzḥ* 'crocodile'< *mz* 'bring, approach' (a crocodile approaches its victims?), *nmḥ* 'orphan' < *nmj* 'travel, traverse' (orphans "travel" solo?), *ꜥbḥ* 'fill with water'< *ꜥb* 'be(come) pure'

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[130] PT465, 879c-d.
[131] Wb 2, 111.1-10; TLA lemma #72840.
[132] Wb 1, 326-328.12; TLA lemma #47270-1.
[133] See, for instance, PT77.

(water has a purifying effect?), which, however, are very unlikely derivations as the semantic connection between them is not very clear.

Table 6.2. Possible ḥ-suffixed lexemes.

ḥ-suffixed lexeme	Associated lexeme
grḥ 'night'	*gr* 'be(come) silent, still' (INTR) V VSubj>*Patient*
qbḥ(*w*) 'cool waters'	*qbb* 'be(come) cool' (INTR) V VSubj>*Patient*
wdḥw 'offerings' (lit. 'the put-down things') *wdḥ* 'pour liquid' (TR) V VSubj>*Agent* NP>*Theme* (prep+NP>*Location*)	*wdj* 'put, place' (TR) V VSubj>*Agent* NP>*Theme* prep+NP>*Location*
spḥ 'lasso' (TR)	*spj* 'sew with ropes' (TR) V VSubj>*Agent* NP>*Theme*
bꜥḥ 'flood' *bꜥḥ* 'have abundance' (INTR) V VSubj>*Patient*(?)	*bꜥ/bꜥbꜥ* 'sip, slurp, bubble' (INTR) V VSubj>*Agent*
mrḥt 'anointment' *wrḥ* 'be anointed' (INTR) V VSubj>*Patient*	*wrr* 'great' (INTR) V VSubj>*Patient*

Now, the question is which group of lexemes can be considered to be original. In other words, were the ḥ-suffixed lexemes derived from base verbs or were the bases derived from lexemes whose last root radical was ḥ? The substantive *grḥ*, and perhaps also *bꜥḥ* and *qbḥ*, can be presumably considered to belong to the primary lexicon of the language. Also, the simpler forms are all verbs. Both of these observations would suggest that the direction of derivation went from ḥ-suffixed lexemes to simpler forms, i.e., the verbs were derived by the loss of the final radical ḥ. If the derivation went the other way around, then there is no consistent one-to-one correspondence between the simple and derived forms, i.e., no

consistent verb > substantive or verb > verb derivation. However, this might be just a chance of preservation and therefore this conclusion cannot be certain.

Furthermore, there are several other lexemes, substantives and verbs alike, with the final radical $ḥ$ in Old Egyptian (Table 6.3.), which, however, do not seem to have any base counterparts. What is interesting about these lexemes is that all of them refer to an action of confining or binding something or denote objects used in such an action. That is why they are often found with the determinatives of the coil of rope and/or the forearm with a hand holding a stick.[134]

Is it meaningful that so many of these lexemes denoting ropes or the action of binding have the sign $ḥ$ as the last radical? Gardiner labelled the hieroglyphic sign for $ḥ$ as a "wick of twisted flax" in his sign list,[135] most likely based on the word $ḥˁt$ 'wick'. However, this word is not attested in ancient Egyptian until Dynasty 19.[136] A more common name for a 'wick' is $ꜣḥ$, known already from the Pyramid Texts, which can also mean 'rope' or 'cord'.[137] Thus, it is not entirely certain whether the sign $ḥ$ is a wick rather than a rope, but probably it represents twisted fibers of some sort. In any case, it might not be an accident that the image of twisted ropes/flax was chosen to represent the $ḥ$-sound once the writing was invented. Its presence in the above-listed lexemes would suggest that the final $ḥ$ was somehow connected with the notion of binding, fastening, roping, knotting, etc. In other words, it represented the notion of seizing and confining an entity, whether

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[134] Signs V1 and D40 in Gardiner's sign list, respectively.
[135] Sign V28 in Gardiner's sign list.
[136] Wb 3, 39.18.
[137] Wb 1, 213.15-16; TLA #39810.

animate or inanimate, by means of something, i.e., attracting and keeping the entity within
the limits of space, quantity, or time.

Table 6.3. Other ḥ-suffixed lexemes denoting the action of confining.

Lexeme	Translation
ʿḥ	a) rope b) catch with a net (TR)
jnḥ	a) eyebrow b) surround, enclose (TR, attested since MK only)
jtḥ	a) fortress, prison b) pull, drag (TR)
rtḥ	pull, confine (TR)
nwḥ	a) rope b) bind (TR)
snḥ	tie (TR)
ḏdḥ	imprison (TR, attested since MK only)

Could this interpretation be applied to the lexemes in Table 6.2. as well? *grḥ* 'night' could
refer to the keeping of silence and stillness during the time of darkness; *qbḥ* 'cool waters',
as the surface of the primeval waters, could refer to the confinement of coolness on the
edges of the created world; *wdḥ* 'pouring' could refer to the confinement of a liquid-like
substance in a container by *putting* it there, while *wdḥw* 'offerings' might refer to the food
and drinks confined by being *placed* upon an offering table. *spḥ* is rather self-explanatory
and seems to belong to the previous groups of lexemes with the coil or rope determinative.
bʿḥ could perhaps refer to the confinement of bubbling waters around the river, while *wrḥ*
might be restricting greatness or richness within oils, but this is rather unclear. Of course,

not all lexemes with the final radical *ḥ* are necessarily *ḥ*-suffixed lexemes, and there are many lexemes to which this interpretation might not apply.[138]

6.1.5. Conclusions: ḥ-prefix and ḥ-suffix

One last thing to consider is the possible connection between the *ḥ*-suffix and the *ḥ*-prefix, as suggested by Thausing, who saw them as diachronic variants. It was noted above that at least in a few cases, the *ḥ*-prefix seems to have the meaning of *encompassment*. This is very similar to the suggested function of the *ḥ*-suffix. Indeed, we can perhaps imagine *ḥkꜣ* 'magic' as confining all the life force and *ḥbꜣ*-barque as confining all the *bas*. However, for the other lexemes, like *ḥꜥꜣ*, this connection is not tenable. Therefore, if the two *ḥ*-affixes are really connected cannot be determined at the present moment. The evidence is really insufficient, but it may be significant that we have more attestations of *ḥ*-suffixed lexemes than *ḥ*-prefixed ones. This could indicate that the *ḥ*-prefix is indeed older than the *ḥ*-suffix, with the former having been preserved only in a few lexemes. Also, there is no evidence for both affixes attached to the same root at the same time, which could suggest that their semantic function is similar or identical, or that they are mutually contradictory. However, the present sample of *ḥ*-affixed lexemes is too narrow to confirm this observation and could represent a chance of preservation.

A lot of the present interpretations and suggestions are rather tentative and might be proven to be wrong in the future. I tried to put the available evidence together and see what it tells us. A lot of what it says is rather confusing and ambiguous, which is to be expected if the *ḥ*-suffix is a root extension that dates back centuries or millennia before the

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[138] For instance, *wꜣḥ* 'lay down', *sꜣḥ* 'endow', *qꜥḥ* 'bend down', *pzḥ* 'sting', *tꜣḥ* '?'.

invention of the hieroglyphic script, while the ḥ-prefix might be even its predecessor. It is possible that the ḥ-suffix extended 2-radical roots at the time, giving them the semantic notion of confinement, and that many of these originally 2-radical roots had not survived into the historical period of ancient Egypt, having been replaced by other lexemes. That might be the reason why the majority of the lexemes with the ḥ-suffix do not seem to have any base counterparts. Those ḥ-suffixed lexemes with attested underived counterparts might have been derived from these base roots, but it is equally possible that the original 2-radical roots did not survive in the language and that the base roots that we see in Old Egyptian were secondarily derived from the ḥ-suffixed lexemes, especially considering that these roots are all verbs, and verbs have a nominal origin in ancient Egyptian.

Lastly, it is equally plausible that we are dealing here with two different affixes: an ḥ-affix used to express a sense of confinement and an ḥ-prefix applied to intransitive verbs with patientive subjects. The former was mainly used as a suffix (but its possible older variant ḥ-prefix might be found in a couple of lexemes as well), found in substantives and both agentive and patientive verbs. The other ḥ-affix would be solely connected with verbal derivation, being prefixed to intransitives with patientive subjects only, for whatever reasons. However, the sample of ḥ-affixed lexemes is rather small, with many uncertain cases, and hence any conclusion is very hypothetical.

6.2. m-prefix

6.2.1. Previous research

The m-prefix was recognized very early on in the history of the study of the ancient Egyptian language, especially due to its common Afroasiatic origin. Based on an analogy with the Semitic languages, Charles Ceugney in his article on the role of the m-prefix

(1880) showed that the *m*-prefix could attach to substantives as well as verbs.[139] According to Ceugney, the *m*-prefix in Egyptian could denote "l'*auteur* de l'action, l'*instrument* qu'on emploie pour faire l'action, l'*endroit* destiné à en assurer l'effet, l'*action* elle-même".[140]

In 1914, Herrmann Grapow provided a rather detailed description of the *m*-prefix,[141] showing its different variant spellings throughout the history of the language, demonstrated that the initial *w-* or *j-* can be omitted after the prefixation of *m-*, and listed numerous examples of *m*-prefixed substantives as well as verbs.[142] He also showed in which types of texts *m*-prefixed words occur and how they were formed in Coptic.[143] Moreover, he provided examples for each function of the *m*-prefix attached to substantives, namely: "Nomina instrumenti," "Nomina loci," "Abstrakta," "alte Partizipien (aktivisch-transitiv/passivisch-intransitive)".[144] For verbs, Grapow suggested that they developed secondarily out of *m*-prefixed nominal forms.[145]

Furthermore, Max Feichtner in his short study on the formation of verbal stems in ancient Egyptian (1932) devoted a few pages to a different kind of *m*-prefix.[146] He argued that this *m*-prefix denotes reciprocity in Egyptian verbs, just like in some other Afroasiatic languages. He argued that this function of the *m*-prefix stems from the meaning of the particle *m* itself: actions that are carried out "miteinander" or "gegeneinander" require two

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[139] Charles Ceugney, "Du rôle de *m* prefix en Égyptien," *Recueil de Travaux Relatifs à la Philologie et à l'Archéologie Égyptiennes et Assyriennes* II (1880): 1-9.
[140] Ceugney, "Du Rôle de *m* prefix en Égyptien," 3.
[141] Herrmann Grapow, *Über die Wortbildungen mit einem Präfix m- im Ägyptischen.* Abhandlungen der Königlich Preussischen Akademie der Wissenschaften. Philosophisch-historische Klasse 5 (Berlin: Verlag der Königlichen Akademie der Wissenschaften, 1914), 1-33.
[142] Grapow, *Über die Wortbildungen mit einem Präfix m- im Ägyptischen*, 4-15.
[143] Grapow, *Über die Wortbildungen mit einem Präfix m- im Ägyptischen*, 18-21.
[144] Grapow, *Über die Wortbildungen mit einem Präfix m- im Ägyptischen*, 16-7.
[145] Grapow, *Über die Wortbildungen mit einem Präfix m- im Ägyptischen*, 17-8.
[146] Max Feichtner, "Die erweiterten Verbalstämme im Ägyptischen," *Wiener Zeitschrift für die Kunde des Morgenlandes* 38 (1932): 195-228.

participants and thus are reciprocal, for instance *ẖзj* 'measure' > *mẖз* 'balance (against each other)'.[147] However, this is not correct, since the prefix *m-* in Cushitic and Berber languages is cognate with Egyptian *n*-prefixed verbs and the Semitic *N*-stem, the latter of which may denote reciprocal verbs.[148]

Verbal and substantival formations with the *m*-prefix were also described by Jürgen Osing in his *Die Nominalbildung des Ägyptischen* (1976).[149] Like his predecessors, he noted various functions of this prefix, including agent nouns, instrumental nouns, and abstract nouns.[150] He also observed that *m*-prefixed verbs are rather rare. More recently in 2011, Roman Gundacker published an article on irregular *m*-prefix formations.[151] He described two sound changes connected with the *m*-prefixation, namely the dissimilation of *m-* to *n-* if the first radical of the base root is labial, and the "nasal dissimilation *m_n* > *m_l*, which is sometimes followed by a subsequent sound change *m_l* > *b_l*".[152] The former change is not, however, uniform across the attested *m*-prefixed lexemes, as admitted by the author.[153] The latter sound change could be exemplified by *mnfrt* 'bracelet'[154] < *nfr* 'be(come) beautiful',[155] since the *m*-prefixed lexeme has attested spelling variants with the *mr*-sign.[156] For the *b*-morpheme as a phonetic variant of the *m*-prefix, see section 6.3.

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[147] Feichtner, "Die erweiterten Verbalstämme im Ägyptischen," 219-220.
[148] Kouwenberg, *The Akkadian* Verb, 315, #103.
[149] Jürgen Osing, *Die Nominalbildung des Ägyptischen. Textband* (Mainz: Verlag Philipp von Zabern, 1976), 119.
[150] Osing, *Die Nominalbildung des Ägyptischen. Textband*, 119, 209-10, 256-7 and 283.
[151] Roman Gundacker, "On the Etymology of the Egyptian Crown Name *mrsw.t*: An "Irregular" Subgroup of *m*-prefix Formations," *Lingua Aegyptia* 19 (2011): 37-86.
[152] Gundacker, "On the Etymology of the Egyptian Crown Name *mrsw.t*," 37.
[153] Gundacker, "On the Etymology of the Egyptian Crown Name *mrsw.t*," 44-51.
[154] Wb 2, 80.11-12; TLA lemma #70690.
[155] Wb 2, 253.1-256.15, 257.7; TLA lemma #854519.
[156] Gundacker, "On the Etymology of the Egyptian Crown Name *mrsw.t*," 55-7.

6.2.2. Afroasiatic languages

The prefix *m-* has a common Afroasiatic origin, which means that other Afroasiatic languages besides ancient Egyptian might preserve it, and this is indeed the case. The *m-* prefix can have various meanings, deriving a number of semantic categories of substantives. The most common of these are "nouns of place, instrument, agent, time, verbal nouns, and participles".[157] According to Lipiński, the common denominator of all these functions lies in the instrumental nature of the morpheme *m*, thus expressing the "instrument," "means," "place," or "time" of the occurrence of an action.[158] The *m-*prefix can be vocalized differently, depending on which substantive it creates. For instance, in the Semitic languages, nouns of place are created by the prefix *ma-*, e.g., *maškanum* 'settlement' (Old Akkadian); the prefix *mi-* derives nouns of instrument in Arabic, e.g., *miftāḥ* 'key'; while nouns of time are formed with the prefix *mu-* in Assyro-Babylonian, e.g., *muṣlālu* 'midday'.[159] However, this pattern is not universal and different vocalizations can function as variants of each other or occur with different substantives in different languages.[160]

The morpheme *m-* can also be found in the Chadic languages, e.g., Gidar *mə̀-hálá* 'thief' < *hál* 'steal'.[161] The derivation of nouns of place also occurs in the Cushitic languages, for instance *mana* 'home, house'.[162] In the Berber languages, in the formation of nouns of agent, the prefix *m-* changes to *n-* when the root "contains a labial or the

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[157] Edward Lipiński, *Semitic Languages: Outline of a Comparative Grammar* (Leuven: Uitgeverij Peeters and Departement Oosterse Studies, 1997), 216, §29.20.
[158] Lipiński, *Semitic Languages*, 216, §29.20.
[159] Lipiński, *Semitic Languages*, 217-8, §29.21-24.
[160] Lipiński, *Semitic Languages*, 217-8, §29.21-24.
[161] Zygmunt Frajzyngier and Erin Shay, "Chadic," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 257.
[162] Lipiński, *Semitic Languages*, 217, §29.20.

labiodental *f*," for instance *-nəḥšam < -*məḥkam* 'judge'.[163] A similar phenomenon occurs in some Semitic languages where the morpheme *m-* can be dissimilated to *n-* if the root contains a labial, e.g., Old Akkadian *naplaqtum < *maplaqtum* 'battle-axe'.[164] Thus, the *m*-prefix originated in the Proto-Afroasiatic language with well-represented reflexes in each member of the language family, including ancient Egyptian.

6.2.3. Old Egyptian evidence

The *m*-prefix in Old Egyptian is preserved especially in substantives. Since the main subject of this dissertation is verbal derivation, only a brief overview of these substantives will be provided. Numerous examples demonstrate the various functions of the *m*-prefix, as seen in the other Afroasiatic languages. The most prominently preserved role of this prefix in Old Egyptian concerns the derivation of the nouns of instrument from verbs, for instance *mꜣqt* 'ladder'[165] *< jꜣq* 'climb up',[166] *mḫꜣt* 'scale, balance'[167] *< ḫꜣj* 'measure, weigh',[168] and *mrḥt* 'anointing oil'[169] *< wrḥ* 'anoint'.[170] Another well represented category is that of place names, also derived from verbs: for instance, *mnqb* 'cool room'[171] *< qbb* 'be(come) cool',[172] *mꜥḥꜥt* 'funerary chapel'[173] *< ꜥḥꜥ* 'stand',[174] *msḫn(t)* 'resting place'[175] *<

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[163] Lipiński, *Semitic Languages*, 217 and 219, §29.20 and §29.26. See also Maarten Kossmann, "Berber," in *The Afroasiatic Languages*, eds. Zygmunt Frajzyngier and Erin Shay (Cambridge: Cambridge University Press, 2012), 57.

[164] Lipiński, *Semitic Languages*, 218, §29.26.

[165] Wb 2, 33.6-7; TLA lemma #67450.

[166] Wb 1, 33.15-18; TLA lemma #20980.

[167] Wb 2, 130.8-13; TLA lemma #74300.

[168] Wb 3, 223.4-16; TLA lemma #113410.

[169] Wb 2, 111.1-10; TLA lemma #72840.

[170] Wb 1, 334.8-335.3; TLA lemma #48030.

[171] Wb 2, 90.15-21; TLA lemma #71500. The *n* in *mnqb* represents either a dissimilation of *m* to *n* in this particular root, perhaps due to the presence of a velar, or an otherwise unattested *n*-prefixed *qbb*, thus **nqb*.

[172] Wb 5, 22.5-23.20; TLA lemma #160170.

[173] Wb 2, 49.7-14; TLA lemma #68920.

[174] Wb 1, 218.3-219.20; TLA lemma #851887.

[175] Wb 2, 148.1-14; TLA lemma #75710 and #75720.

sḫn 'settle down'.[176] A couple of examples of the nouns of time are attested as well, such as *mšrw* 'evening',[177] but this lexeme does not seem to have a base attested in Old Egyptian and therefore its identity as an *m*-prefixed word is uncertain. The few abstract nouns that Grapow provided in his list of *m*-prefixed words are not attested in Old Egyptian, either. Lastly, only a few nouns of agent derived by the *m*-prefix are known from this stage of the language, such as *mnhz* 'watcher'[178] < *nhz* 'be awake'[179] and *mḥnk* 'rewarded person(?)'[180] < *ḥnk* 'present a gift'.[181]

In contrast to the well attested *m*-prefixed substantives in Old Egyptian, only a few verbs survive. The first such verb is *mḫꜣ* 'make level, match'.[182] As noted above, the substantive *mḫꜣt* 'scale' was derived from the verb *ḫꜣj* 'measure, weigh' by the augmentation with the prefix *m*-. What is clear in this case is that the verb *mḫꜣ* was not directly derived from *ḫꜣj*, but from *mḫꜣt* itself. It is reasonable to expect that the name for the weighing instrument had been invented before the action of the movement of the two plates was labelled. In this way, the verb *mḫꜣ* is an example of a secondary derivation, which can be represented as follows: *ḫꜣj* 'measure, weigh' > *mḫꜣt* 'scale' > *mḫꜣ* 'make level, match'.

Another example of an *m*-prefixed verb is *mds* 'be sharp, slay',[183] referring to the action in which *mds* 'knife'[184] is used. Therefore, it is likely that the verb was again derived

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[176] Wb 4, 253.6-254.6; TLA lemma #851680.
[177] Wb 2, 157.9-17; TLA lemma #76470.
[178] Wb 2, 83.2; TLA lemma #70900.
[179] Wb 2, 287.3-9; TLA lemma #85790.
[180] Wb 2, 129.7-8; TLA lemma #74120.
[181] Wb 3, 117.5-118.5; TLA lemma #107110.
[182] Wb 2, 130.14-131.5; TLA lemma #74280.
[183] Wb 2, 183.1-13; TLA lemma #78280.
[184] TLA lemma #78310.

from the substantive augmented with the *m*-prefix. However, the verb from which *mds* 'knife' might have been derived, i.e., *ds* 'cut, be sharp',[185] is not attested until the New Kingdom, although another substantive for 'knife', *ds*,[186] existed in Old Egyptian. The fact that *ds* as a verb is not known in Old Egyptian might simply be a chance of preservation. However, another explanation is possible. Originally, the language might have had only the substantive *mds* 'knife', from which the verb *mds* was derived, but the *m* was part of the root in both cases. Later on, the words might have become back-formed as containing the prefix *m*-, especially since the substantive *mds* represents an instrument, and so the verb *ds* was created, which does not contain the prefix. That would explain why both verbs, *mds* and *ds*, seem to have the same semantic connotations, but it does not explain the synchronic use of both verbs since the New Kingdom. Perhaps the two words simply reflect a dialectal variation or are in some other way morphological variants. Thus, whether *mds* (as a verb or a substantive) is an *m*-prefixed word is not clear, but it is possible that the verb was derived from the substantive.

Another *m*-prefixed verb in Old Egyptian, which is, however, not well attested, seems to be *mṯn* 'assign(?)',[187] derived from the substantive *mṯn* 'road, path'[188] and the associated noun of agent *mṯn* 'path guide'.[189] The *m*-prefixed lexemes could potentially be derived from the verb *ṯnj* 'raise, distinguish'.[190] In this way, the prefix *m* would be first used to derive the substantive *mṯn* from the verb *ṯnj*, and consequently the substantive *mṯn* could be used as a verb as well.

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[185] Wb 5, 487.2-3; TLA lemma #180630.
[186] Wb 5, 486.7-487.1; TLA lemma #180620.
[187] Wb 2, 175.15; TLA lemma #77950.
[188] Wb 2, 176.1-7; TLA lemma #77960.
[189] Wb 2, 176.9-11; TLA lemma #77970 and #77980.
[190] Wb 5, 374.1-375.28; TLA lemma #175750.

Moreover, the verb *mz* 'bring'[191] might also be an *m*-prefixed verb. However, no corresponding substantive of *mz* is attested in Old Egyptian. Since the Middle Kingdom, we find some examples of the *m*-prefixed noun of agent *mz* 'bringer'.[192] It is possible that this word existed earlier, of course, but we just do not have any clear evidence for it. In any case, the verb as well as the substantive *mz* could be derived from the well attested verb *zj* 'go'.[193]

Lastly, one might entertain the possibility that the verb *mwt* 'die'[194] could also be an *m*-prefixed verb. Possible sources for this word could be the verb *wtt* 'be(come) old'[195] or *wt* 'bandage'.[196] However, this is unlikely for a number of reasons. There does not seem to be any substantive derived from one of these verbs, if we do not count *mwt* 'death',[197] which denotes an abstract notion that must have developed from the action of dying itself. Secondly, *wt* 'bandage' refers to the action of mummifying the dead, but people had been dying for many millennia before mummification was invented, and so the verb 'die' must have existed in the lexicon long before the verb *wt*. Indeed, the verb *mwt* 'die' has a common Afroasiatic origin, just like the prefix *m* and unlike the verb *wtt* 'be(come) old'. The process of dying is an inevitable last stage of every living thing, and as a word it must have existed in the language for a very long time. Therefore, this word was not secondarily derived through other words, but that it belonged to the list of primary lexemes. It should

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[191] Wb 2, 135.7-21; TLA lemma #74700.
[192] Wb 2, 135.22-3; TLA lemma #74710.
[193] Wb 3, 424.13; TLA lemma #127740.
[194] Wb 2, 165.8-166.9; TLA lemma #69300.
[195] Wb 1, 377.20; TLA lemma #850422.
[196] Wb 1, 378.7-379.3; TLA lemma #50980.
[197] Wb 2, 166.10-17; TLA lemma #69310.

be noted that this type of chance resemblance cannot be ruled out for the other suggested instances of *m*-prefixed lexemes, either.

6.2.4. Conclusions: m-prefix

Thus, only a handful of *m*-prefixed verbs are attested in the language of the Pyramid Texts, all of which seem to be secondarily derived from *m*-prefixed substantives, as already suggested by Grapow. In addition, some of them might be morphologically and semantically similar to their "bases" only by chance and thus rather represent lexemes whose first radical is *m*. Therefore, it can be concluded that the derivation by the *m*-prefix was reserved only for substantives: the *m*-prefix would turn a verb into a noun of instrument, place, time, or agent. The *m*-prefix thus did not play a role in the domain of verbal derivation.

6.3. b-prefix

An important consideration when discussing the *m*-prefix is the possibility of the existence of its phonetic variants, most likely conditioned by a certain phonetic environment. Indeed, in some Semitic languages, the alternation of *m* and *b* is common, with the two sounds representing allophones, while the Semitic cognate of the ancient Egyptian preposition *m* 'in' is *b*-.[198] In Old Egyptian, the hieroglyphic sign *b* represented [p], while the sign *p* was its aspirated counterpart [pʰ] (see Chapter 1, section 2.5.). Thus, both *m* [m] and *b* [p] are voiced labial sounds, which makes their alternation unsurprising.

Wolfhart Westendorf studied the etymology of the New Kingdom substantive *bḥd* 'throne'[199] in 1986.[200] He suggested that the word is derived from the verb *ḥdy* 'spread

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[198] Lipiński, *Semitic Languages*, 111 and 461, §11.6 and §48.5.
[199] Wb 1, 470.3-5.
[200] Wolfhart Westendorf, "Zur Etymologie des *bḥd*-Thrones," *Göttinger Miszellen* 90 (1986): 85-6.

out'[201] by the *m*-prefix, having dissimilated to the sound represented by the *b*-sign.[202] Indeed, the *m*-prefix can surface as the *b*-sign in other words too: for instance, *bꜣgsw/mꜣgsw* 'dagger'[203] < "*ꜣgs* 'schneiden'".[204] The *b*-prefix was also marginally mentioned by Elmar Edel in his *Altägyptische Grammatik I* (1955), where he provided two examples of *b*-prefixed verbs: *bgꜣ* 'capsize' < **gꜣj* and *bšš* 'spit' < *jšš* 'spit'.[205] More examples of words with this prefix were provided by Gertrud Thausing (1941).[206] She noted that the meaning of this prefix might be close to that of the *m*-prefix, which means that the *b*-prefix could appear in certain phonetic environments instead of the *m*-prefix.[207] She asserted that the *b*-prefix seems to carry the notion of "Durchdringung".[208]

Since the *m*-prefix can surface as the *b*-sign, we can on occasion observe two variant spellings of the same word, one prefixed with the *b*- and one with the *m*-, such as *mꜣgsw* and *bꜣgsw*. On other occasions, only one spelling might be attested. Thus, behind some lexemes prefixed with *b*-, we can look for the meaning of the *m*-prefix, such as *bzꜣt* 'protectress'[209] (noun of agent), which seems to be derived from *zꜣ* 'guard'.[210] Both lexemes are known from the Pyramid Texts. Therefore, it is important to look at possible examples of *b*-prefixed verbs to determine if they are in fact lexemes with the *m*-prefix.

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[201] Wb 3, 205.2-6.

[202] Westendorf, "Zur Etymologie des *bḥd*-Thrones," 85-6.

[203] Wb 1, 432.4-5 and Wb 2, 33, respectively.

[204] Westendorf, "Zur Etymologie des *bḥd*-Thrones," 85-6, #3. The word does not appear in the TLA. See also Gundacker, "On the Etymology of the Egyptian Crown Name *mrsw.t*," 72-3.

[205] Edel, *Altägyptische Grammatik I*, 189, §428.

[206] Gertrud Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," *Wiener Zeitschrift für die Kunde des Morgenlandes* 48 (1941): 5-34.

[207] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 24.

[208] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 24.

[209] Wb 1, 475.6; TLA lemma #850476.

[210] Wb 3, 416.12-417.21; TLA lemma #126290.

For instance, the verb *bhꜣ* 'flee'[211] could be possibly derived from the verb *hꜣj* 'go down, descend'.[212] However, there is no substantive attested in ancient Egyptian that would have been derived from *hꜣj*.[213] It is only possible to hypothesize about such a derivational path. The verb *hꜣj* could have been augmented with the *m*-prefix to create a noun of instrument, place, time, or agent (e.g., some kind of ladder or rope?), from which then the verb *bhꜣ* was derived. Moreover, the verb *bšj* 'spew out'[214] could be morphologically related to *jšš* 'spit',[215] but again without any *m*-prefixed substantive as an intermediate derivative between the two lexemes. Perhaps the *m*-prefix would create a noun of agent denoting a person who ejects something from their mouth, which describes both spitting and spewing out. Lastly, the verb *bsk* 'cut out'[216] might have been derived from the substantive *bsk* 'entrails'.[217] The latter itself, *bsk* < *msk could potentially come from *skj* 'destroy'[218] or *sk* 'wipe'[219] by the augmentation of the *m*-prefix, but this is very conjectural.

Thus, there are only a few examples of what appear to be *b*-prefixed verbs in Old Egyptian, all of which are probably only variant spellings of *m*-prefixed verbs. A possible conditioning environment for the change of *m* > *b* might be the presence of a velar, as in the case of *bꜣgsw* or *bsk*. Thus, the phoneme of the prefix would move closer to that of the velar stop regarding the manner of articulation. However, this does not apply to *bzꜣt*, *bhꜣ*, nor *bšj*. In addition, there are a handful of examples of *m*-prefixed substantives that also

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[211] Wb 1, 467.8; TLA lemma #56700.
[212] Wb 2, 472.3-474.25; TLA lemma #97350.
[213] The substantive *bhꜣ* 'fan' (Wb 1, 467; TLA lemma #56690) is attested only since the New Kingdom.
[214] Wb 1, 477.14-478.4; TLA lemma #57600. The New Kingdom substantive *bšw* 'vomit' (Wb 1, 478.5-7; TLA lemma #57610) was possibly a later derivation from the verb *bšj*.
[215] Wb 1, 135.14-15; TLA lemma #32070.
[216] Wb 1, 477.12-13; TLA lemma #57530.
[217] Wb 1, 477.10-11; TLA lemma #57520.
[218] Wb 4, 312.18-313.10; TLA lemma #146710.
[219] Wb 4, 310.11-311.3; TLA lemma #146400.

contain a velar, e.g., *mꝫqt* or *mnqb*. Another possible conditioning environment for the change *m* > *b* could be the presence of a liquid, as suggested by Gundacker (see section 6.2.1.). However, this change is also not uniformly observed across the attested *b*-prefixed lexemes. We might be also dealing with different dialects or other types of variation. And of course, we also have to consider the possibility that some of these words are not derived lexemes and that the *b* morpheme belongs to the root of the word.

6.4. p-prefix

6.4.1. Previous research

The existence of the *p*-prefix in ancient Egyptian was suggested relatively recently, described by two scholars independently at the end of the 1980s. Firstly, Sylvie Cauville published a short communication in 1987, listing a few examples of possible *p*-prefixed words.[220] She concluded that the *p*-prefix is not confined to a single category of words, since it is found both with substantives and verbs alike, and that it does not seem to have any semantic value, in contrast to, for example, the causative *s*-prefix.[221] She also noted that the *p*-prefix seems to be synonymous to the *m*- or *s*-prefix, as in the examples *pꝫqt/mꝫqt* 'ladder' and *pnq/snq* '(breast-)feed'.[222] Two years later, Peter Gaboda published a more extensive article about the *p*-prefix in ancient Egyptian (1989), providing several examples of possible *p*-prefixed words and discussing its possible meaning.[223] He suggested that because the hieroglyphic sign *p* symbolizes "a mat stretched out," *p*-prefixed words seem to denote "concepts like spatial expansion, span and extent, spreading and enlarging,

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[220] Sylvie Cauville, "Un préfixe *p* en Egyptien?" *Revue d'Égyptologie* 38 (1987): 183-4.
[221] Cauville, "Un préfixe *p* en Egyptien?" 184.
[222] Cauville, "Un préfixe *p* en Egyptien?" 183-4.
[223] Peter Gaboda, "A *P*-Prefix in Egyptian," In *Studia in Honorem L. Fóti.* Studia Aegyptiaca 12, ed. Anonymous (Budapest: Schiff-Giorgini, 1989), 93-117.

division and split," and are thus best translated by the English prefix "diss-" and post-verbal "adverbials" like "off, apart, out".[224] How exactly "a mat stretched out" symbolizes "division and split" is, however, unclear. To my knowledge, no more attention has been paid to the *p*-prefix since these two scholars' studies.

6.4.2. Old Egyptian evidence

Only a few examples of possible *p*-prefixed lexemes are attested in the language of the Pyramid Texts, both of which are very hypothetical. The first one is *p(ꜣ)ḥd* 'overturn',[225] as in 6(15), which might have been conceivably derived from *ḥdj* 'travel downstream', as in 6(16).[226]

6(15) *ḥr*   *ḥr:k*   *pꜣḥd:tj*
       upon   face.M:2SG.M overturn:RES:2SG
       "On your face! Be overturned!"[227]

6(16) *ḥd*   *n:k*   *nḥn*
       go_downstream:ACT   for:2SG.M   Nekhen
       "Nekhen goes downstream for you."[228]

Both the base and derived verbs are intransitive verbs of motion. Thus, the *p*-prefix does not seem to change transitivity, have any syntactic function, nor change the semantic category of the base verb. In the case of the base verb *ḥdj*, the motion expressed is "horizontal," if we think about the movement of a ship sailing on the Nile, whereas in the case of *pꜣḥd*, the motion denoted by the verb is a movement towards the ground and is thus

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[224] Gaboda, "A *P*-Prefix in Egyptian," 98.
[225] Wb 1, 499.1; TLA lemma #59230.
[226] Wb 3, 354.9-355.1; TLA lemma #122000.
[227] PT390, 685a.
[228] PT412, 725d.

vertical. The latter is found with the determinative of an overturned ship.[229] However, the

presence of ꜣ in pꜣḫd is hard to explain. In later attestations of the verb, the ꜣ could be

omitted, which might be perhaps due to its weakening in pronunciation, but in Old

Egyptian it represented a kind of a liquid not likely to be omitted. Therefore, the two verbs

might not be morphologically connected and simply represent two different verbs of

motion.

Another pair of base and derived verbs could potentially be *pnꜥ* 'turn upside

down',[230] as in 6(17), and *nꜥj* 'sail, transport',[231] as in 6(18).

6(17)　　*ḥfꜣ:w*　　*pnꜥ*　　　　　　　*mꜣ*　　*ṯw*　　*rꜥ*
　　　　　snake:M　turn_upside_down:IMP　see:ACT　2SG.M　sun.M
　　　　　"Snake, overturn, that the Sun may see you!"[232]

6(18)　　*nꜥy:k*　　　　　　*jr*　*sḫ:wt:k*
　　　　　travel:2SG.M　　　　to　field:F.PL:2SG.M
　　　　　"You travel to your fields."[233]

It seems that *pnꜥ* can be used both transitively as well as intransitively, just like the base

verb *nꜥj*. Again, both verbs are verbs of motion. The base verb denotes a "horizontal" and

a rather "stable" motion. In contrast, the derived verb *pnꜥ* expresses a movement towards

the ground, with the determinative of an overturned ship.

Another possible *p*-prefixed verb is the totally reduplicated verb *ptpt* 'trample'.[234]

It could be perhaps derived from the reduplicated *tjtj*,[235] which is known only from an

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[229] Sign P(1) in Gardiner's sign list.
[230] Wb 1, 508.11-509.9; TLA lemma #59960.
[231] Wb 2, 206.7-21; TLA lemma #80410.
[232] PT226, 226b.
[233] PT301, 456a-b.
[234] Wb 1, 563.9-16; TLA lemma #62890.
[235] Wb 5, 244.1-7; TLA lemma #170080.

obscure short spell in the Pyramid texts.[236] However, it seems to refer to a kind of foot motion. The verb *ptpt* denotes an iterative motion of placing feet on the ground, as in 6(19).

6(19) *pt~pt:f*   *wꜣ:wt*   *nwt*
         trample:3SG.M   path:F.PL   Nut
         "I trample Nut's paths."[237]

Another verb that might have been augmented by the *p*-prefix is *ptḫ* 'throw down',[238] as in 6(20). This verb is transitive and denotes a movement towards the ground. Which base verb it could have been derived from, though, is not certain. One possible candidate would be *wtḫ* 'flee(?)',[239] which is, however, known only from a couple of later attestations.

6(20) *nj*   *ptḫ:s*   *sw*   *jr*   *tꜣ*
         not   throw_down:ACT:3SG.F 3SG.M   to   earth.M
         "She does not throw him to the earth."[240]

The rest of the verbs represent even more obscure examples of *p*-prefixed verbs, such as the intransitive *pḥr(r)* 'run',[241] as in 6(21). It might have been derived from *ḥrj* 'be(come) distant, far away',[242] also an intransitive verb, as in 6(22).

6(21) *zj*   *jn:w:k*   *pḥr*   *sjn:w:k*
         go:ACT   envoy:M.PL:2SG.M   run:ACT   hurrier:M.PL:2SG.M
         "Your envoys go, your hurries run."[243]

6(22) *jꜥ:k*   *n*   *p:t*   *ḥr:k*   *r*   *tꜣ*
         ascend:ACT:2SG.M to   sky:F   go_away:ACT:2SG.M   to   earth.M

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[236] PT236, 240.
[237] PT332, 541e.
[238] Wb 1, 565.16-566.3; TLA lemma #63010.
[239] Wb 1, 381.6; TLA lemma #51230.
[240] PT548, 1345a.
[241] Wb 1, 541.2-13; TLA lemma #61590.
[242] Wb 3, 144-146.5; TLA lemma #108340.
[243] PT673, 1991a.

"You will ascend to the sky and go away from the land."[244]

Both verbs again express a kind of motion, but their exact semantic relationship does not seem to be obvious. Similarly, the intransitive verb *psḏ* 'shine'[245] might have been perhaps derived from the substantive *sḏt* 'flame, fire'.[246] In addition, there is also the intransitive verb *psḏj* 'turn one's back',[247] which also refers to some kind of a *turning* motion, but its base verb is unknown, if there is any at all. Lastly, the transitive verb *pnq* 'drain(?)'[248] might have been derived from *jnq* 'envelope',[249] which is suggested by the same determinative of embracing arms,[250] unless this was a scribal error and the scribe confused *pnq* with the verb *jnq*. The verb *pnq* does not seem to be synonymous with *snq* 'breastfeed', as suggested by Cauville, since it denotes an action that is performed on a ship and is used in parallel with *ẖnj* 'row'. However, another possible source for the verb *pnq* might be the unattested root **ynq* that is known only from the causative verb *snq* 'breastfeed, suckle' and its Semitic cognates. Thus, the original root **ynq* might denote an action connected with dripping or something similar. The verb *pnq* could thus be derived from this root, denoting the action of pouring drops of liquid out of a container towards the ground. This alternative interpretation is more plausible than the first one, based on the two determinatives of *pnq* in PT262, 335c: a tall container and a small jar with water dripping out of it into a basin.[251]

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[244] PT267, 369.
[245] Wb 1, 556.14-558.3; TLA lemma #62420.
[246] Wb 4, 375.12-377.7; TLA lemma #150140.
[247] Wb 1, 556.12-13; TLA lemma #62410.
[248] Wb 1, 510.11-15; TLA lemma #60130.
[249] Wb 1, 100.19-101.7; TLA lemma #27880.
[250] In PT262, 335c. The determinative is sign D32 in Gardiner's sign list.
[251] These determinatives are uncertain in Gardiner's sign list.

Lastly, the substantive *pꜣqt* appears together with the substantive *mꜣqt* in the same sentence and with the same determinative.[252] This would suggest that the two are different words, both derived from the verbal root *jꜣq* 'climb up'. However, they might simply be variants, whether phonological or orthographic, with the *m*-prefix perhaps dissimilating to the *p*-prefix, but since this does not seem to occur with other *m*-prefixed words and since the *m*-prefix is usually dissimilated to the *b*-prefix, this is an unlikely scenario. In addition, the *p*-prefix seems to be mainly associated with the verbal category. Therefore, *pꜣqt* is probably just a phonetic variant of *mꜣqt* rather than a *p*-prefixed substantive.

6.4.3. Conclusions: p-prefix

Overall, the *p*-prefix could have been a morpheme deriving new verbs out of base verbs, and perhaps even substantives, as in the possible case *psḏ < sḏt*. In most cases, the *p*-prefixed verbs as well as the base verbs seem to denote a motion, usually a vertical motion towards the ground. However, the number of these *p*-prefixed examples is very low, and it cannot be ruled out they are similar to their supposed bases only by chance. The rest of the examples are even more obscure, which means that we might not be dealing with actual *p*-prefixed verbs. Also, if the *p*-prefix really existed in Egyptian, then it is possible that by the time of the composition of the Pyramid Texts, its function had been lost and only a few instances of *p*-prefixed lexemes had remained, thus skewing our interpretations. Why the *p*-prefix should denote a motion towards the ground is also unclear; there is no attested lexeme in ancient Egyptian from which the *p*-prefix might have originated, even though such a lexeme might have disappeared from the language a long time ago.

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[252] PT480, 995d. The determinative is that of a standing mast, sign P6 in Gardiner's sign list.

In any case, the suggestion by Gaboda that the *p*-prefix denotes "spatial expansion" or "division" does not seem to uphold. The two concepts are not related and neither of them seems to be attached to the verbs like *pḥrr* or *ptpt*. It is true that there are at least two verbs that denote a process of division, e.g., *psš* 'divide, share'[253] and *pšn* 'split',[254] which might point to the *p*-prefix's original function of creating words of division, but not much evidence survives to corroborate this claim. It is equally possible that we are dealing here with two different morphemes *p*, one used to augment a 2-radical root to a 3-radical one and describe an action of division, and the other one, perhaps more recent one that was reduced to a prefix from a lexeme, denoting a motion towards the ground. Unfortunately, all of the above statements are simply hypotheses due to the lack of evidence and much obscurity, which is to be expected given the long history of semantic changes that had taken place between the invention of writing and the "invention" of the *p*-prefix, if it ever existed at all.

6.5. *w-prefix*

6.5.1. *Previous research*

The possibility of the existences of the *w*-prefix in ancient Egyptian was analyzed independently by two researches several decades ago. Firstly, Eberhard Otto (1954) looked at some *w*-prefixed verbs and their base counterparts, which were mostly weak 3-radical roots.[255] Otto speculated whether the morpheme *w-* truly represents a prefix, since it behaves differently than other well-known prefixes like the causative *s-*.[256] Therefore, he

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[253] Wb 1, 553.6-554.1; TLA lemma #62280.
[254] Wb 1, 560.3-7; TLA lemma #62610.
[255] Eberhard Otto, "Die Verba Iae inf. und die ihnen verwandten im Ägyptischen," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 79 (1954): 41-52.
[256] Otto, "Die Verba Iae inf. und die ihnen verwandten im Ägyptischen," 50.

saw it more as a means of extending the verbal root and altering its meaning.[257] Otto noted

that *w*-prefixed verbs seem to denote an aspect in which an action has been carried out and

a state has been achieved.[258]

Pierre Lacau's study on the *w*-prefix was published after his death, in 1972.[259] He

also noted that *w*-prefixed verbs seem to alternate with "*j*-suffixed" verbs, e.g., *wṯz* 'lift'[260]

< *ṯzj* 'raise',[261] which is observable in some Semitic languages as well.[262] Lacau claimed

that *w*-prefixed verbs have become independent lexemes, no longer perceived as

derivatives of a base root, which complicates the search for the original function of this

prefix.[263] In any case, Lacau suggested that the *w*-prefix could express "la mise en action,

ou la mise en état permanent de la notion exprimée par le radical simple," e.g., *wṯz* 'put in

the state of being raised'.[264] Lacau also mentioned that the *w*-suffix in participles or the

passive indicates a permanent state, thus hinting at its possible connection with the *w*-

prefix.[265] Even though the results of Otto's and Lacau's independent treatments of the *w*-

prefix differ in many respects, they nevertheless come to a similar conclusion. In addition,

their ideas were taken up by William Ward, who studied different *bꜣ*-roots.[266] He stated

that the verb *bꜣ* 'hack up (earth)'[267] expresses a "momentary" action without any inherent

"result or continuous state". On the other hand, the verb *wbꜣ* 'open, drill'[268] denotes a

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[257] Otto, "Die Verba Iae inf. und die ihnen verwandten im Ägyptischen," 50.
[258] Otto, "Die Verba Iae inf. und die ihnen verwandten im Ägyptischen," 48.
[259] Pierre Lacau, "(w)-préfixe verbal en ancien Égyptien," in *Études d'Égyptologie 2: Morphologie*, Pierre Lacau (Cairo: Institut français d'Archéologie orientale, 1972), 18-41.
[260] Wb 1, 382.16-383.17; TLA lemma #51330.
[261] Wb 5, 405.1-407.15; TLA lemma #854851.
[262] Lacau, "(w)-préfixe verbal en ancien Égyptien," 37-8.
[263] Lacau, "(w)-préfixe verbal en ancien Égyptien," 38.
[264] Lacau, "(w)-préfixe verbal en ancien Égyptien," 39.
[265] Lacau, "(w)-préfixe verbal en ancien Égyptien," 40.
[266] Ward, *The Four Egyptian Homographic Roots B-3*.
[267] Wb 1, 415.12-17; TLA lemma #52890.
[268] Wb 1, 290.1-291.7; TLA lemma #44890.

"final-durative" action, i.e., the "action itself is described," but also emphasizes the "lasting state" of the achieved action.[269]

However, such an interpretation of the *w*-prefix is doubtful. Some of Otto's and Lacau's examples are unconvincing due to the non-existence of base verbs and due to the long time span between the attestations of the base and derived verbs, which could have resulted from a diachronic change, whether in the morphological form or in the semantic component of these verbs. In addition, if the *w*-prefix really denoted an aspect, as suggested by Otto, one would have to answer why these particular verbs are prefixed with it, and not others. There is no common semantic feature among these verbs that would restrict the prefixation of *w*- solely to them.

When examining the *w*-prefix synchronically, very little evidence emerges in the Pyramid Texts. The following paragraphs will analyze plausible *w*-prefixed verbs attested in Old Egyptian. The first part will describe desubstantival *w*-prefixed verbs, while the second part will be devoted to the discussion of deverbal *w*-prefixed verbs.

6.5.2. Old Egyptian Evidence

6.5.2.1. Desubstantival w-prefixed verbs

The first desubstantival verb that might be prefixed by the morpheme *w*- is *wsḫ* 'be(come) wide'.[270] This verb is intransitive and has a corresponding adjective. The substantive from which this verb was derived is *sḫw* 'width'. Another such verb is the intransitive *wšb* 'feed',[271] derived from *šbw* 'food, meal'.[272] The verb *wꜣḥ* 'overflow',[273] also intransitive,

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[269] Ward, *The Four Egyptian Homographic Roots B-3*, 19.
[270] Wb 1, 364.11-365.3; TLA lemma #49800.
[271] Wb 1, 371.3-4; TLA lemma #50320.
[272] Wb 4, 437.6-9; TLA lemma #153330.
[273] Wb 1, 258.13-259.9; TLA lemma #43260.

might be derived from *ꜣḫt* 'inundation season',[274] whereas the verb *wšn* 'wring (birds'

necks)'[275] could be perhaps derived from *šnw* 'circle, ring',[276] since the action of wringing

involves circular twisting of the necks of birds. Lastly, Lacau also suggested that the verb

wdj 'put, place'[277] could be derived from the substantive for *hand*, which contains the

radical *d* based on the hand hieroglyph[278] and based on its possible cognate in the Semitic

languages: Proto-Afroasiatic **yad-* 'hand'.[279] The last two examples are transitive verbs.

In addition, there are a few more examples of *w*-prefixed verbs whose

desubstantival derivation is unclear, but not improbable. For instance, the intransitive verb

wbn 'rise'[280] could be derived from the root **bn*, known from the substantive *bnbn* 'benben

stone'.[281] The verb *bnbn* 'swell'[282] is attested only since the New Kingdom, but it might

have existed already in Old Egyptian. In fact, Old Egyptian preserves the reduplicated and

ḥ-prefixed verb *ḥbnbn* (see section 6.1.3.2.b)), but in this case the verb might be derived

from *wbn* with the *w-* dropping out after the prefixation, as in the case of the causative *s-*

prefix.

Another possible *w*-prefixed verb could be *wꜥb* 'clean',[283] probably derived from

ꜥbw 'purification'.[284] The verb *ꜥb* is attested only since the New Kingdom. Lacau also

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[274] Wb 1, 13.2; TLA lemma #216.
[275] Wb 1, 374.6-7; TLA lemma #50620.
[276] Wb 4, 491.6-493.7; TLA lemma #155350.
[277] Wb 1, 384.15-387.25; TLA lemma #854503.
[278] Sign D46 in Gardiner's sign list.
[279] Lacau, "(w)-préfixe verbal en ancien Égyptien," 35; "Afroasiatic Etymology Database," compiled by Alexander Militarev and Olga Stolbova, accessed July 20, 2019, http://starling.rinet.ru/cgi-bin/query.cgi?root=config&morpho=0&basename=%5Cdata%5Csemham%5Cafaset.
[280] Wb 1, 292.9-294.3; TLA lemma #45050.
[281] Wb 1, 459.5-11; TLA lemma #55720.
[282] Wb 1, 459.19-20; TLA lemma #55770.
[283] Wb 1, 280.12-282.5; TLA lemma #44430.
[284] Wb 1, 175.13-20; TLA lemma #36740.

suggested that the verb *wgs* 'cut open'[285] might be derived from *gs* 'side, half',[286] translating *wgs* as 'split in two', which is also a possible derivation. Furthermore, Lacau provided an example of a *w*-prefixed substantive, *wḥꜥ* 'fisher and fowler',[287] probably metathesized from the verb *ꜥḥ* 'catch',[288] but this is unclear.

It is important to consider the direction of derivation in these examples. Are the lexemes with the initial *w* really *w*-prefixed lexemes or did the *w* belong to the original root but was lost in substantival deverbal derivation? It is likely that the existence of the word for *hand* preceded that of the action of using a hand for placing objects down, which would suggest that *wdj* is a *w*-prefixed word. However, this direction of derivation cannot be generalized for the entire sample of the words with the initial *w*. Therefore, it is uncertain if these words were really prefixed by the morpheme *w-*.

6.5.2.2. Deverbal w-prefixed verbs

Only three clear examples of *w*-prefixed verbs are known from Old Egyptian. The first such verb is *wṯz* 'lift',[289] derived from *ṯzj* 'raise',[290] both of which are transitive verbs, as in 6(23) and 6(24), taking a subject in the semantic role of *agent* and an object in the semantic role of *theme*.

6(23)   *wṯz:f*   *wr*   *jr:f*
         bear:ACT:3SG.M   great:PTCP.ACT   with_respect_to:3SG.M
         "He bears the one who is greater than he."[291]

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[285] Wb 1, 377.12-15; TLA lemma #50900.
[286] Wb 5, 191.11-194.10; TLA lemma #854572.
[287] Wb 1, 350.1-6; TLA lemma #48790.
[288] Wb 1, 213.17-19; TLA lemma #39820.
[289] Wb 1, 382.16-383.17; TLA lemma #51330.
[290] Wb 5, 405.1-407.15; TLA lemma #854851.
[291] PT357, 588a.

6(24)　　*ṯz*　　　　　*ṯw*　　　*ḥr*　　*gs:k*　　　　　*jꜣb:tj*
　　　　　　raise:IMP　　2SG.M　upon　side.M:2SG.M　east:ADJZ:F
　　　　　　"Raise yourself (from) upon your left side."[292]

The second verbal pair is *wbꜣ* 'open, drill'[293] and *bꜣ* 'hack up (earth)',[294] both of which are

transitive verbs, as in 6(25) and 6(26), taking a subject (*agent*) and an object (*theme*).

6(25)　　*bꜣ:n:(j)*　　　　*n:k*　　　　*bd:t*
　　　　　　hoe:ANT:(1SG)　　for:2SG.M　emmer:F
　　　　　　"I have hoed emmer for you."[295]

6(26)　　*wbꜣ*　　　*bꜥn*　　*wꜣḥ*　　　　*r:s*　　　　　　　　*sḫ:t*　　*jꜣr:w*
　　　　　　open:PASS　canal　flood:ACT　with_respect_to:3SG.F　field:F　reed:M.PL
　　　　　　"The canal is opened and the Field of Reeds floods."[296]

The verb *wḫꜣ* 'shake out',[297] as in 6(27), might be derived from the root *ḫꜣ, attested only

in *ḫꜣḫꜣ* 'winnow',[298] which is known from some Old Kingdom tomb inscriptions. The verb

wḫꜣ takes a subject (*agent*) and an object (*theme*).

6(27)　　*sꜣq*　　　　*n:k*　　　*qs:w:k*　　　　　　*wḫꜣ*
　　　　　　collect:IMP　for:2SG.M　bone:M.PL:2SG.M　clear_away:IMP

　　　　　　n:k　　　*ḥm:w:k*
　　　　　　for:2SG.M　dust:M:2SG.M
　　　　　　"Collect your bones and clear away your dust."[299]

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[292] PT482, 1003a-b.
[293] Wb 1, 290.1-291.7; TLA lemma #44890.
[294] Wb 1, 415.12-17; TLA lemma #52890.
[295] PT662B, 1880a.
[296] PT507, 1102b.
[297] Wb 1, 353.1-11; TLA lemma #49100.
[298] Wb 3, 233.17; TLA lemma #114220.
[299] PT413, 735c.

As becomes clear from these examples, the *w*-prefix is very uncommon in the formation of verbs. All the presented verbal pairs do not show the most secure semantic connection, disallowing us to identify a possible function of the *w*-prefix.

6.5.3. Conclusions: w-prefix

It is important to examine synchronic attestations of *w*-prefixed and base verbs in order to rule out diachronic linguistic changes, such as the easy disappearance of *w*- which is an approximant, as well as the semantic evolution of verbs. Based on the evaluation of the evidence from Old Egyptian, it appears that the *w*-prefix is more closely tied with desubstantival rather than verbal derivation. It appears that the verbs in this section were derived from 2-radical substantives, whether of the masculine or feminine gender, by the augmentation of *w*-. It seems that the employment of *w*- altered the word category rather than the basic meaning of the root. In this sense, the verbs with the *w*-morpheme might simply be extended verbal counterparts of the substantives.

 Indeed, only three secure examples of base verbs that can take a *w*-prefix survive, which, however, might also have origins in substantival derivation. For instance, the verb *wṯz* might have been derived from the substantive **ṯz* (or **ṯzt*), but existed alongside the verb *ṯzj*, which might have been an earlier or later development. The two verbs might have taken different pathways in their semantic evolution, with the resulting different connotations. In any case, it can be concluded that no change in valency is associated with the *w*-prefix and that it did not play a role within verbal derivation. It was most likely used to extend 2-radical substantives in order to accommodate to the pattern of 3-radical verbs (see section 6.10.). Therefore, we are probably dealing here with a sort of *w*-augment without a semantic function.

6.5.4. Afroasiatic languages

In fact, a similar observation has been reached by Kouwenberg for Semitic. The Semitic languages have numerous verbs with the first radical *w-*, which often weakens or drops out due to its word-initial position.[300] The paradigm of *w-*initial verbs existed already in Proto-Semitic.[301] Even though the *w-*initial verbs have been thought to go back to 2-radical roots that were augmented by the *w-* in order to accommodate to the 3-radical pattern, there is no evidence that would point to their 2-radical origin within the verbal paradigm itself.[302] Just like in ancient Egyptian, *w-*initial verbs have corresponding 2-radical substantives without the morpheme *w-*, e.g., Akkadian *littu* 'offspring' < *walādum* 'give birth', *simtu* 'attribute, ornament' < *wasāmum* 'mark', *šiptu* 'incantation < *wašāpum* 'exorcise'.[303] These substantives go back to Proto-Semitic and cannot represent "secondary developments from regular deverbal patterns," as there is no rule that could explain the disappearance of the first radical and the first syllable.[304] Even though their historical background is uncertain, it is likelier that they come from 2-radical roots without the initial *w-*, rather than representing derivations from *w-*initial roots.[305] Thus, they seem to belong to a "type of derivation that is no longer productive in the historical languages".[306] However, why Kouwenberg treats the substantives as "deverbal nouns without *w-*,"[307]

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[300] Kouwenberg, *The Akkadian Verb*, 448-457. See also David Testen, "The I-w Verbal Class and the Reconstruction of the Early Semitic Preradical Vocalism," *Journal of the American Oriental Society* 114, no. 3 (1994): 426-34.

[301] Kouwenberg, *The Akkadian Verb*, 457-8.

[302] Kouwenberg, *The Akkadian Verb*, 459.

[303] Kouwenberg, *The Akkadian Verb*, 460.

[304] Kouwenberg, *The Akkadian Verb*, 460.

[305] Kouwenberg, *The Akkadian Verb*, 460.

[306] Kouwenberg, *The Akkadian Verb*, 460.

[307] Kouwenberg, *The Akkadian Verb*, 457-462.

rather than the basis for the derivation of verbs is unclear. In addition, we do not find any meaning-altering *w*-prefix in the other Afroasiatic languages.

6.6. ḫ-prefix

In her article on ancient Egyptian affixes, Gertrud Thausing found some examples of ḫ-prefixed as well as ḫ-suffixed lexemes. She noted that the morpheme ḫ appears "in sämlichen Ausdrücken, die die (kreisförmige) Ausdehung nach allen Seiten hin berücksichtigen, was den Umkreis…eines Individuums ausfüllt".[308] Some Old Egyptian lexemes indeed seem to be augmented with ḫ-: for instance, the substantive ḫʿm 'neck, chin(?)'[309] might be derived from the verb ʿm 'swallow'.[310] Unfortunately, the former is a hapax legomenon known from one Old Kingdom tomb.[311] Similarly, the lexeme ḫwrr occurs only in one Pyramid Text spell in connection with the Ennead, translated by Allen as "fledgling".[312] It could be potentially derived from the verb *wrr* 'be(come) great',[313] but since we do not know the exact semantic value of ḫwrr, any relationship between the two lexemes is uncertain. Moreover, this might be an instance of a partially reduplicated word creating a diminutive (see Chapter 5, section 5.2.2.).

In the category of verbs, the best example of a ḫ-prefixed lexeme might be the transitive ḫtm 'seal',[314] as in 6(28), possibly derived from the transitive *tmm* 'close'.[315]

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[308] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 28.
[309] Wb 3, 243.19-120; TLA lemma #114880.
[310] Wb 1, 183.19-184.15; TLA lemma #37500.
[311] The tomb of Niankhkhnum and Khnumhotep.
[312] PT218. Allen, *The Ancient Egyptian Pyramid Texts*, 37.
[313] Wb 1, 326, 328.13; TLA lemma #47270.
[314] Wb 3, 350-352.3; TLA lemma #121710.
[315] Wb 5, 308.5-9; TLA lemma 172250.

Thus, *ḥtm* could really mean 'closing documents with a seal'. Both verbs take a subject with the semantic role of *agent* and an object with the semantic role of *theme*.

6(28)　　*ḥtm*　　　*NN mḏꜣ:wt:f*

seal:ACT　NN　document:F.PL:3SG.M

"NN seals his (Sun's) documents."[316]

Another verbal pair involving *ḫ*-prefixation might be *ḫbꜣ* 'hack up' and *bꜣ* 'hoe', both transitive verbs, as in 6(29) and 6(30). It is possible that the verb *ḫbꜣ* means something like 'destroy by hoeing (or by hoeing-like movements)'. Again, both verbs take a subject (*agent*) and an object (*theme*).

6(29)　　*bꜣ:n:(j)*　　　　*n:k*　　　　　*bd:t*

hoe:ANT:(1SG)　　for:2SG.M　　　emmer:F

"I have hoed emmer for you."[317]

6(30)　　*ꜥn:wt:k*　　　　*ḫbꜣ:t*　　　　　　　*ḥw:t*

nail:F.PL:2SG.M　　hack_up:REL.ACT:F　　compound:F

"Your nails that hack up the compound."[318]

Lastly, a possible *ḫ*-prefixed verb might be *ḫm* 'not know',[319] perhaps derived from *jmj* 'do not',[320] since both verbs express a negative action and use the same determinative of 'negative' arms.[321] However, in contrast to *ḫm*, the verb *jmj* is used as an auxiliary in front of another verb. Thus, their semantic relationship is not probable.

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[316] PT309, 491a-c.
[317] PT662B, 1880a.
[318] PT612, 1735b.
[319] Wb 3, 278.5-280.5; TLA lemma #116910.
[320] Wb 1, 76.10-13; TLA lemma #25170.
[321] Sign D35 in Gardiner's sign list.

In conclusion, only a couple of lexemes suggest the possibility of the existence of the *ḫ*-prefix, which might have been used both with substantives as well as verbs. There is no observed valency change between the potential base and derived verbs. However, the examples of such *ḫ*-prefixed lexemes are not numerous and any connection with base lexemes might be coincidental. The notion of circularity associated with the morpheme *ḫ* cannot be based on such few examples. Therefore, the existence of the *ḫ*-prefix is possible, but not proven beyond doubt. Moreover, no convincing examples of an *ḫ*-suffix have been identified in Old Egyptian.

6.7. t-prefix and t-suffix

6.7.1. Previous research

In 1932, Max Feichtner published an article on ancient Egyptian verbs affixed with the morpheme *t*-.[322] Based on the functions of *t*-affixes in the other Afroasiatic languages, Feichtner looked for their parallels in ancient Egyptian. For instance, he noted that the Egyptian passive formed by *-t(w)* has a cognate in Berber.[323] He suggested that the other verbs with the *t*-prefix as well as those with the *t*-suffix that are not passive forms represent the "Reflexivstamm," based on the analogy with the *t*-prefixed reflexive stem in the Afroasiatic languages of northern Africa, e.g., Saho *tak* 'hit' > *tatak* 'hit yourself'.[324] As far as the *t*-prefix is concerned, Feichtner showed that the morpheme *t*- can attach to 2- and 3-radical verbs, that initial weak radicals like *w*- can be omitted after the prefixation, and that the *t*-prefix can be written using the mono-literal sign *t* or that it might be grouped with

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[322] Max Feichtner, "Die t-Präfix- und t-Suffixverben im Ägyptischen," *Wiener Zeitschrift für die Kunde des Morgenlandes* 39 (1932): 295-316.
[323] Feichtner, "Die t-Präfix- und t-Suffixverben im Ägyptischen," 301-2.
[324] Feichtner, "Die t-Präfix- und t-Suffixverben im Ägyptischen," 296-7 and 302-313.

another radical under a bi-radical sign.[325] According to Feichtner, the *t*-suffix can also

attach to 2- and 3-radical roots and the final weak -*j* can drop out after the suffixation.[326]

In addition, he noted that even though most examples are attested in the periods after the

Middle Kingdom, the *t*-affix seems to have been an old verbal derivation, since many verbs

do not have a clear reflexive meaning, having undergone semantic changes.[327] Feichtner

argued that the *t*-affix in ancient Egyptian has a reflexive meaning, but also that in some

cases it is more intensive: "die *t*-Präfix und *t*-Suffixformen bringen gegenüber der

einfachen Verbalidee des Grundstammes die Reflexivität zum Ausdruck, der häufig auch

die Idee der Intensität (Habitudo, Perfektivität o. ä.) inhäriert".[328]

In 1938, Jacques Clère published a short communication about the Egyptian *t*-

prefix, as a response to Feichtner's suggested function of the *t*-prefix as reflexive or

intensive.[329] He noted that almost all Feichtner's examples show certain morphological as

well as semantic problems, all of which he enumerated.[330] He concluded that Feichtner's

examples do not necessarily show any connection between the base and derived verbs and

that they are extremely doubtful.[331] He said that in some cases the morpheme *t*- could be

considered as "un élément formatif de racine," but that any morpheme can really play such

a role and that almost all 3-radical lexemes could be "décomposés de cette façon".[332]

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[325] Feichtner, "Die t-Präfix- und t-Suffixverben im Ägyptischen," 302-6.

[326] Feichtner, "Die t-Präfix- und t-Suffixverben im Ägyptischen," 306-9.

[327] Feichtner, "Die t-Präfix- und t-Suffixverben im Ägyptischen," 310-1.

[328] Feichtner, "Die t-Präfix- und t-Suffixverben im Ägyptischen," 314. See also Christian Cannuyer, "Les Formes Derivées du Verbe en Ancien Égyptien. Essai de Systématisation," *Göttinger Miszellen* 63 (1983): 28-9.

[329] Jacques Clère, "Existe-t-il un préfixe verbal *t* en ancien égyptien?" *Comptes rendus du Groupe Linguistique d'Études Chamito-Sémitiques* 3 (1938): 13-15.

[330] Clère, "Existe-t-il un préfixe verbal *t* en ancien égyptien?" 13-15.

[331] Clère, "Existe-t-il un préfixe verbal *t* en ancien égyptien?" 15.

[332] Clère, "Existe-t-il un préfixe verbal *t* en ancien égyptien?" 15.

6.7.2. *Afroasiatic languages*

The Semitic languages indeed have a derivational morpheme *t-*, vocalized as "*ta-/ti-/tu-*," creating substantives from verbs that denote "professional or social situations with reciprocal connotations," e.g., Old Akkadian *tadābilu* 'interpreter'; but also deriving action nouns, e.g., Old Akkadian *tamḫārum* 'battle', nouns of place, e.g., Assyro-Babyloanian *tapšaḫu* 'resting-place', and substantives denoting "animal qualifications," e.g., Assyro-Babylonian *takbaru* 'fattened sheep'.[333] Interestingly, Kouwenberg has shown that action nouns with the *ta*-prefix originally belonged to the Gt-stem denoting reciprocity or reflexivity: they "point to the existence of a prehistoric Gt paradigm…in which the Gt-stem had a suffix base taPRvS parallel to naPRvS in the N-stem" (Figure 6.1.).[334] Over time, the *ta*-prefix developed into an infix in the Semitic languages.[335] This verbal derivation has a common Proto-Afroasiatic origin, with the morpheme *t-* surfacing as a prefix, infix, or suffix in different languages of this family.[336] Its primary roles across the members of the language family include "reflexive, reciprocal, middle, and passive".[337]

In ancient Egyptian, the reflex of this Proto-Afroasiatic morpheme is the passive suffix *-t(j)/-t(w)*.[338] The question arises now whether *t*-prefixed verbs in ancient Egyptian also belong to this common Proto-Afroasiatic verbal derivation, just like the passive *-t(j)/-*

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[333] Lipiński, *Semitic Languages*, 219-220, §29.28-29.31; Kouwenberg, *The Akkadian Verb*, 377.
[334] Kouwenberg, *The Akkadian Verb*, 377-380 and 397-402.
[335] Kouwenberg, *The Akkadian Verb*, 375-380.
[336] Kouwenberg, *The Akkadian Verb*, 375; Stephen Lieberman, "The Afro-Asiatic Background of the Semitic N-stem: Towards the Origins of the Stem-Afformatives of the Semitic and Afro-Asiatic Verb," *Bibliotheca Orientalis* 43, no. 5 (1986): 610-4.
[337] Kouwenberg, *The Akkadian Verb*, 375.
[338] Lieberman, "The Afro-Asiatic Background of the Semitic N-stem," 618; Andréas Stauder, *The Earlier Egyptian Passive: Voice and Perspective*. Lingua Aegyptia Studia Monographica 14 (Hamburg: Widmaier, 2014), 220-1.

t(w), or whether they represent an internal development in the language, unrelated to the

passive forms. Let us now look at the examples of this prefix.

Impfv	*yiqtatilu
Pfv	*yiqtatil
Imp	*taqtil ?
Inf	*taqtāl- ?
PPartc	*taqtVl- ?
PrPartc	*muqtatil-

Figure 6.1. *Proto-Semitic Gt verbal paradigm.*[339]

6.7.3. Old Egyptian evidence

As Clère pointed out, most of Feichtner's examples of *t*-prefixed verbs are problematic. In

most cases, there is no semantic connection between the base and derived verb, which

represent two different roots, or the derived verb is a variant spelling of a different verb.

For instance, the verb *tꜣy* 'resist',[340] which Feichtner connects with *wꜣj* 'be far',[341] really

represents *twr* 'reject, repulse'.[342] In addition to not being semantically connected, the two

verbs are morphologically distinct as well.

One example of potentially related verbs might be the verbal pair *twr* 'respect'[343]

and *wrr* 'be(come) great'.[344] However, the latter usually expresses the quality of greatness

in concrete rather than abstract terms, and thus can denote a person who is taller, older, or

bigger. In contrast, *twr* is an abstract noun. Moreover, *twr* 'respect' is morphologically the

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[339] Kouwenberg, *The Akkadian Verb*, 378.
[340] Wb 5, 231.7; TLA lemma #169390.
[341] Wb 1, 245.3-13; TLA lemma #42550.
[342] Wb 5, 252.10-13; TLA lemma #170340.
[343] Wb 5, 252.14-17; TLA lemma #170350.
[344] Wb 1, 326, 328.13; TLA lemma #47270.

same verb as the above *twr* 'repulse'. As Clère pointed out, the notion of respecting derives from the notion of keeping one's distance due to fear.[345]

Another example of a possible *t*-prefixed verb is *tnm* 'turn aside, avert'[346] < *nmj* 'travel, traverse'. Both verbs are verbs of motion, denoting an opposite motion, as in 6(32) and 6(33). The former is an intransitive verb with a subject (*patient*), while the latter is a transitive verb with a subject (*agent*) and an object (*theme*). If *tnm* is indeed a *t*-prefixed verb, this would suggest that the *t*-prefix could reduce the valency of a base verb, forming patientive verbs. However, this is not likely since the valency-decreasing and anticausative function was associated with the *n*-prefix (see Chapter 3). In addition, the verb *tnm* might be the sole example of a potential *t*-prefixed verb in Old Egyptian, which is not enough to establish such a prefix with any certainty.

6(32) *tnm:k*   *m*   *ḥr:sn*   *mr rꜥ*
       avert:ACT:2SG.M   from   face.M:3PL   like sun.M
       "You avert from their face (by night) like the Sun in his identity of Atum."[347]

6(33) *nm:n*   *NN p*   *ḏꜣ:n:f*   *knmwt*
       travel:ANT   NN Pe   cross:ACT:3SG.M   Kenmut
       "NN has traveled Pe and he has crossed Kenmut."[348]

Similarly, there is only one convincing example of a *t*-suffixed verb in Old Egyptian, namely *nmt* 'travel'[349] < *nmj* 'travel, traverse', as in 6(34), taking a subject (*agent*) and an object (*theme*). The verb *nmt* is also associated with the substantive *nmtt* 'stride, course'.[350]

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[345] Clère, "Existe-t-il un préfixe verbal *t* en ancien égyptien?" 14.
[346] Wb 5, 311.13-312.6; TLA lemma #172530.
[347] PT606, 1695c.
[348] PT334, 544c.
[349] Wb 2, 270.4-21; TLA lemma #84490.
[350] Wb 2, 271.1-18; TLA lemma #84510.

However, the two verbs are both transitive and seem to be more or less identical in meaning, and so one needs to wonder if they possibly represent the same verb. If the final *-t* is some sort of a suffix, then its function remains obscure.

6(34)   *šȝs*   *NN   šw   nmt:f*   *ȝkr*
        traverse:ACT   NN   Shu   travel:ACT:3SG.M   horizon.M
        "I traverse Shu, travel the horizon, and kiss the Red Crown."[351]

6.7.4. Conclusions: t-prefix and t-suffix

Thus, it has to be concluded that the *t*-prefix did not really leave any traces in ancient Egyptian, if it ever existed, and that the reflexive morpheme *t*- inherited from Proto-Afroasiatic descended into ancient Egyptian only as the passive suffix *-t(j)/-t(w)*. Moreover, there seems to have been no derivational suffix *-t* in ancient Egyptian, only the grammatical passive marker *-t(j)/-t(w)*.

6.8. d-prefix, d-suffix, ḏ-prefix, ḏ-suffix

6.8.1. Previous research

In 1941, Gertrud Thausing was among the first scholars to describe the *d*-prefix as well as the *d*-suffix.[352] In addition to listing several examples of *d*-prefixed and *d*-suffixed verbs, she noted that the prefixed verbs denote a "gestergeit" action and that the hieroglyphic sign *d* representing the hand is the shortened verb *wdj* 'put, place',[353] with the initial *w*-omitted.[354] Thausing did not see any apparent difference between the *d*-prefix and *d*-suffix,

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[351] PT261, 325a-b.
[352] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 5-34.
[353] Wb 1, 384.15-386.10; TLA lemma #51510.
[354] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 18. For some verbs, this derivation was already observed by Sethe. See Kurt Sethe, *Dramatische Texte zu altaegyptischen Mystereinspielen* (Leipzig: Hinrichs, 1928), 176.

although she observed that *d*-suffixed verbs might be "objektgerichteter".[355] Moreover, Thausing also mentioned the *ḏ*-prefix in the same publication.[356] She suggested that since most verbs with the *ḏ*-prefix also denote an action of using one's arm or hand, just as in the examples with the *d*-affix, the *ḏ*-prefix is simply a variant of the *d*-prefix.[357] She noted that the sounds represented by the signs *d* and *ḏ* can become mixed since the Middle Kingdom, as in *wdj* 'put, place' and *wḏ* 'command'.[358] Thausing thus unconvincingly concluded that the *ḏ*-prefix is the shortened verb *wḏ = wdj* 'put, place'.[359] In addition, Elmar Edel also noted the existence of the *d*-affix in ancient Egyptian, listing a couple of examples of *d*-prefixed as well as *d*-suffixed words in his *Altägyptische Grammatik I* (1955).[360] He also mentioned an example of a *ḏ*-suffixed verb, but in general doubted the existence of the *ḏ*-prefix.[361]

6.8.2. d-prefix and d-suffix

The first example of a *d*-prefixed verb in Old Egyptian is *dnḫnḫ*,[362] as in 6(35). As an intransitive reduplicated verb, it probably derives from the transitive verb *nḫ* 'protect',[363] which is, however, attested only since the Middle Kingdom. The semantic value of *dnḫnḫ* seems to be 'lay protection over (someone)'. The verb *dnḫnḫ* takes a subject in the semantic role of *agent* and a prepositional phrase (*patient*), while the verb *nḫ* takes a subject (*agent*)

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[355] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 18-9.
[356] Based on her article, Wessetzky considered the possibility of Thoth's name, *ḏhwtj*, as being a *ḏ*-prefixed word *ḥwwtj* 'messenger'. See Vilmos Wessetzky, "Zur Problematik des *ḏ*-Präfixes und der Name des Thot," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 82 (1957): 152-4.
[357] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 20.
[358] Wb 1, 394.10-395.22; TLA lemma #51970. Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 20.
[359] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 20.
[360] Edel, *Altägyptische Grammatik I*, 188, §428.
[361] Edel, *Altägyptische Grammatik I*, 189, §428.
[362] Wb 5, 468.2; TLA lemma #179900.
[363] Wb 2, 304.9-13; TLA lemma #86760.

and an object (*patient*). In this way, it seems that Thausing's explanation of the *d*-prefix having been derived from the verb *wdj* 'put, place, lay, set'[364] is plausible.

6(35) *tm*   *dnḫ~nḫ:k*   *ḥr*   NN *pn*

  Atum   lay_protection:ACT:2SG.M   upon   NN this:M

  "Atum, may you lay protection over this NN."[365]

Another possible *d*-prefixed verb is *dꜣr* 'control, suppress',[366] as in 6(36), probably derived from *ꜣr* 'oppress',[367] which is, however, also attested only since the Middle Kingdom. Both the base and derived verbs are transitive, taking a subject (*agent*) and an object (*patient*). If indeed derived from the combination of *wdj* + *ꜣr*, then the meaning of *dꜣr* would be 'lay pressure on (someone)'.

6(36) *jw*   *dꜣ:n*   NN *zz:w*

  GRND   oppress:ANT   NN catch:PTCP.PASS:M.PL

  "For NN has oppressed those who were caught."[368]

Another possible *d*-prefixed verb is the transitive *dndn* 'wander, traverse',[369] derived from *wnwn* 'move about'.[370] Both verbs denote an iterative motion based on their totally reduplicated form, but the former is transitive with a subject (*agent/patient*) and an object (*theme*), while the latter is intransitive with a subject (*patient*). The meaning of *dndn* could be 'lay the moving around (on something)'.

6(37) *dn~dn:k*   *jꜣ:t*   *ḥrw*   *rs:w*

  wander:ACT:2SG.M   mound:F(.PL)   Horus   southern:(F).PL

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[364] Wb 1, 384.15-387.25; TLA lemma #854503.
[365] PT600, 1654a.
[366] Wb 5, 418.3-12; TLA lemma #177740.
[367] Wb 1, 11.9-16; TLA lemma #155.
[368] PT251, 271a.
[369] Wb 5, 470.12-13; TLA lemma #180020.
[370] Wb 1, 318.1-9; TLA lemma #46490.

"You wander southern Horus's mounds."[371]

Moreover, the transitive verb *drp* 'offer, present',[372] also spelled as *dꜣp* in some cases, as in 6(38), could be perhaps derived from *jrp* 'wine'. Its semantic value would thus be 'lay wine (on something)', from which the notion of offering a gift or libation could perhaps be derived. This verb takes a subject (*agent*) and an object (*theme*).

6(38) *m*   *n:k*   *mnḏ*   *n*   *ḥrw*   *dꜣp:sn*
       take:IMP to:2SG.M   breast.M of   Horus   make_gift:REL.ACT.M:3PL
       "Accept the breast of Horus, of which they made a gift."[373]

In Chapter 3, it was argued that the verb *nwn* might be an *n*-prefixed verb, having been derived from *wn* 'desert hare' and denoting an action of stretching one's hair to resemble the ears of the hare.[374] Now, the transitive verb *dwn* 'stretch'[375] also expresses an action of stretching out something, namely bows in 6(39). It could be that *dwn* is also a prefixed verb, just like *nwn*, derived from the same root *wn*, but the semantic connection between stretching a bow and a hare is not very apparent. Thus, the verb *dwn* most probably does not represent a *d*-prefixed verb.

6(39) *dwn*   *ḥrw*   *psḏ:t:f*   *pḏ:wt*   *r*   *ꜣḫj*   *pn*
       stretch:ACT Horus   nine:F:3SG.M   bow:F.PL   against   akh:M   this:M
       "Horus stretches his Nine bows against this *akh* that comes from the ground."[376]

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[371] PT356, 1295b.
[372] Wb 5, 476.1-25; TLA lemma #180220.
[373] PT152, 91c.
[374] Chapter 3, section 3.2.2.h).
[375] Wb 5, 431.1-432.13; TLA lemma #1718160.
[376] PT385, 673b.

In addition, the verb *dbn* 'circle around'[377] could also represent a *d*-prefixed verb, as in 6(40), derived from the root **bn* that is also known from its later reduplicated form *bnbn* 'swell'. This transitive verb refers to the circular motion of walking around something and is also connected with the substantive *dbn* 'ring, circle'.[378] However, the words *dbn* and *bnbn* do not seem to be semantically connected in any obvious way.

6(40) *dbn:k* *jꜣ:wt:k* *ḥrw:t*

       circle_around:ACT:2SG.M   mound:F.PL:2SG.M   Horus:F

       "You circle around the Horus Mounds."[379]

Thus, as becomes clear from these paragraphs, most examples of *d*-prefixed verbs are quite speculative. If the *d*-prefix indeed comes from the verb *wdj* 'put, place, lay', then it would be expected to commonly combine with substantival roots: *wdj* + substantive 'lay/put something (somewhere)', e.g., **dnḫ* < *wdj* + *nḫ* 'lay protection' and *drp* < *wdj* + *jrp* 'lay wine'. Therefore, these verbs would predominantly denote an action associated with handling something, hence the hieroglyphic sign of the hand *d*.[380] The function of the *d*-prefix expressing an action of handling something would explain why all *d*-prefixed verbs have a subject that is the semantic *agent*, in addition to an object that is the *theme/patient*. Only an *agent* can carry out such an action and exercise control over a *patient* or *theme*. In contrast to the *t*-prefix, the *d*-prefix thus seems to be a more plausible prefix, but whether it was at any time productive is unclear. We also cannot rule out the possibility that this semantic and morphological connection between the apparent base and derived verbs is only coincidental.

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[377] Wb 5, 436.12-437.11; TLA lemma #854585.
[378] Wb 5, 436.6-9; TLA lemma #178520.
[379] PT665D, 1928b.
[380] Sign D46 in Gardiner's sign list.

As for the suggested *d*-suffix, no convincing examples exist in Old Egyptian. For instance, Edel's *jꜣ* 'stride'[381] as the base of the verb *jꜣd* 'climb'[382] is uncertain, since both are attested only once in the Pyramid Texts.[383] In addition, the verb *jwd* 'separate'[384] occurs once in the Pyramid texts, but it is more common during the New Kingdom. According to Thausing,[385] this verb is derived from *jw* 'cut',[386] which is mostly known from the Ptolemaic times. These verbs might indeed be semantically and morphologically connected, but they do not really prove the existence of the *d*-suffix in ancient Egyptian.

6.8.3. *ḏ-prefix and ḏ-suffix*

The prefix *ḏ-* does not seem to have any convincing examples. One might argue for the verb *ḏbꜣ* 'array'[387] to be derived from *ꜥbꜣ* 'present',[388] both of which are transitive verbs. However, *ḏbꜣ* denotes an action of providing someone with something, e.g., decorative fabric, as in 6(41), while *ꜥbꜣ* expresses the action of bringing and presenting something, e.g., water, as in 6(42). In addition, the two verbs use very different hieroglyphs in their spellings,[389] which, on the one hand, might have been a conscious choice, but on the other hand, might point to their unrelatedness. Another *ḏ*-prefixed verb that Thausing suggested[390] and that shows some semantic connection with its base is the intransitive verb

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[381] Wb 1, 26.1-2; TLA lemma #20080.
[382] Wb 1, 35.5; TLA lemma #21130.
[383] PT350, 567a-b and PT421, 751a, respectively. See Edel, *Altägyptische Grammatik I*, 188, §428.
[384] Wb 1, 58.11-59.6; TLA lemma #23220.
[385] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 17.
[386] Wb 1, 48.1-2; TLA lemma #21960.
[387] Wb 5, 556.11-558.8; TLA lemma #183180.
[388] Wb 1, 177.2-3; TLA lemma #35500.
[389] *ḏbꜣ* usually uses the reed floats sign (T25), while *ꜥbꜣ* usually uses the forearm sign for 'ꜥ' (D36) and the *bꜣ*-bird (G29). The sign numbers correspond to the hieroglyphs in Gardiner's sign list.
[390] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 19.

ḏswj 'call',[391] perhaps derived from the transitive *sjwj* 'say loudly'.[392] However, *sjwj* might represent the morphological causative of *jw* 'complain(?)',[393] a base not attested in Old Egyptian. Therefore, the morphological composition of *ḏswj* as containing a prefix is unlikely. Thus, the existence of the *ḏ*-prefix in Old Egyptian does not seem to be likely due to no secure verbal pairs showing a satisfying morphological and semantic connection. The same holds true for the *ḏ*-suffix, as no clear examples have been found. Edel suggested the derivation of *šꜥḏ* 'cut'[394] from *šꜥ* 'cut'.[395] The former occurs only once in an Old Kingdom tomb inscription, being the predecessor of the later *šꜥd* 'cut'.[396] Indeed, since the hieroglyphic sign *ḏ* represents the sound [tʲ] and *d* represents [t] in Old Egyptian, the final *ḏ* in *šꜥḏ* simply became depalatized after this period and started to be written out with the sign *d*. Whether the morpheme *ḏ* was once a productive suffix is uncertain, but its remnants in Old Egyptian are quite conjectural.

6(41) *mꜣ* *ṯw* *nṯr:w* *ḏbꜣ:t* *jm:s*
       see:ACT 2SG.M god:M.PL array:RES:2SG in:3SG.F
       "The gods see you arrayed in it."[397]

6(42) *wdp:w* *ꜥbꜣ* *mw*
       cupbearer:M present:IMP water.M
       "Cupbearer, present water!"[398]

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[391] Wb 5, 609.3-5; TLA lemma #185420.
[392] Wb 4, 34.1-5; TLA lemma #128050.
[393] Wb 1, 48.17-19; TLA lemma #22000.
[394] Edel, *Altägyptische Grammatik I*, 189, §428.
[395] Wb 4, 415.13-416.10; TLA lemma #152200.
[396] Wb 4, 422.3-17; TLA lemma #152600.
[397] PT453, 845a.
[398] PT207, 124b-c.

6.8.4. Conclusions: *d-prefix, d-suffix, ḏ-prefix, ḏ-suffix*

To conclude, the only possible affix that might have existed in ancient Egyptian is the *d*-prefix. No hard evidence exists for the existence of the *d*-suffix, *ḏ*-prefix, or *ḏ*-suffix. The hieroglyphic sign *d* represents the sound [t] in Old Egyptian, which might one lead to the suggestion that this prefix is the remnant of the Proto-Afroasiatic *t*-prefix. However, the *d*-prefix does not seem to have any reflexive or reciprocal meaning. Indeed, almost all *d*-prefixed verbs are transitive and agentive. Thus, it is more likely that the *d*-prefix was an internal development in ancient Egyptian, having been derived from the verb *wdj* 'put, place, lay'. That is if we are really dealing with prefixed verbs at all. I wonder if the verb *wdj* might have been used at some point as a periphrastic causative construction, later having been reduced to just one morpheme that became a prefix. Thus, the *d*-prefixed verbs could represent fossilized reflexes of such a causative construction that became replaced by the periphrastic construction with the verb *rḏj* 'give'. In fact, the Ptolemaic times might allude to such an ancient causative use of the verb *wdj*.[399]

6.9. *ꜥ-prefix*

Gertrud Thausing also contemplated the existence of the *ꜥ*-prefix in ancient Egyptian.[400] She suggested that since the hieroglyphic sign *ꜥ* represents a forearm,[401] verbs with this prefix might denote actions that involve the use of an arm, e.g., *ꜥḥꜣ* 'fight', but also a state of being, e.g., *ꜥnḫ* 'live'.[402] However, none of Thausing's examples are convincing, as some verbs are not well attested, some verbal pairs are unrelated, and some might just be

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[399] Wb 1, 385.23; TLA lemma #858907.
[400] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 22-4.
[401] The hieroglyphic sign is D36 in Gardiner' sign list.
[402] Thausing, "Ägyptische Confixe und die ägyptische Verbalkonstruktion," 23-4.

diachronic successors of each other. For instance, the verb *gꜣj* 'capsize'[403] is attested only once in ancient Egyptian, in 6(43).[404]

6(43)　*gꜣꜣ:k*　　　　　*m*　*rn:k*　　　　*n*　*jgꜣj*
　　　　capsize:ACT:2SG.M　　in　identity.M:2SG.M　of　Igai
　　　　"You shall capsize in your identity of Igai."[405]

However, the verb *ꜥgꜣ* 'capsize'[406] is attested a couple of times in the New Kingdom and the Late Period. Thus, it is possible that the two verbs are simply diachronic or dialectal variants of each other. No other examples of ꜥ-prefixed verbs have been identified for Old Egyptian, which would suggest that such a prefix did not exist.

6.10. Root extensions

6.10.1. The Semitic question

The present analysis of Old Egyptian affixes cannot exclude a discussion of the Semitic question on the origin of verbal roots. The Semitic verbal system is largely organized according to the 3-radicality of verbal stems. For decades Semitists have been leading a dialogue on whether 3-radical verbs were originally 2-radical lexemes that were extended by an augment to three radicals. Thus, the question is whether triradicality or biradicality, or both, represent the source for the verbal lexical inventory of the Semitic languages. The following paragraphs will outline the main arguments in favor of 2-radicality and of 3-radicality, and then show how these are relevant to this chapter's study of Egyptian augments. For a more detailed summary of the history of research of 2-/3-radicality in

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[403] Wb 5, 149.12; TLA lemma #166110.
[404] PT377, 662b.
[405] PT377, 662b.
[406] Wb 1, 235.9; TLA lemma #41660.

Semitic linguistics, the reader is recommended to consult Del Olmo Lete's *Questions of Semitic Linguistics*.[407] The most recent and important studies on the question of the 2-/3-radical origin of roots include Voigt (1988),[408] Ehret (1989),[409] Zaborski (1991),[410] Bohas (1997),[411] Rubio (2005),[412] and Goldenberg (2005).[413]

The best illustration of the problem can be shown on a hypothetical collection of roots, as presented in Lowenstamm:[414]

a. √tff   f. √tfq

b. √ytf   g. √rzq

c. √tfy   h. √wdq

d. √ntf   i. √btq

e. √dtf   j. √sgq

Let us suppose that the roots in the left column have a similar meaning, all expressing an action that has to do with movement. The radical *n* in (d.) is an affix, say "an inchoative," while the radical *d* in (e.) is an "augment of some sort," since it is not recognized as an

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[407] Gregorio Del Olmo Lete, *Questions of Semitic Linguistics. Root and Lexeme. The History of Research*. Translated by Wilfred G. E. Watson (Bethesda: CDL Press, 2008), 53-86.

[408] Rainer Voigt, *Die infirmen Verbaltypen des Arabischen und das Biradikalismus-Problem*. Veröffentlichungen der Orientalischen Kommission 39 (Wiesbaden: Steiner, 1988).

[409] Christopher Ehret, "The Origins of Third Consonants in Semitic Roots: An Internal Reconstruction (Applied to Arabic)," *Journal of Afroasiatic Languages* 3 (1989): 109-202.

[410] Andrzej Zaborski, "Biconsonantal Roots and Triconsonantal Root Variation in Semitic: Solutions and Prospect," in *Semitic Studies: In Honor of Wolf Leslau on the Occasion of his Eighty-Fifth Birthday, November 14*, eds. Alan Kaye and Wolf Leslau (Wiesbaden: Harrassowitz, 1991), 1675-1703.

[411] Georges Bohas, *Matrices, Étymons, Racines: éléments d'une théorie lexicologique du vocabulaire arabe* (Leuven: Peeters, 1997).

[412] Gonzalo Rubio, "Chasing the Semitic Root: The Skeleton in the Closet," *Aula Orientalis* 23, no. 1 (2005): 45-63.

[413] Gideon Goldenberg, "Semitic Triradicalism and the Biradical Question," in *Semitic Studies in Honour of Edward Ullendorff*. Studies in Semitic Languages and Linguistics 47, ed. Geoffrey Khan (Leiden: Brill, 2005), 7-25. See also Bernice Hecker, "*The Biradical Origin of Semitic Roots*," (PhD diss., University of Texas at Austin, 2007).

[414] Jean Lowenstamm, "An Introductory Note to Noam Agmon's 'Materials and Language' with Special Attention to the Issue of Biliteral Roots," *Brill's Annual of Afroasiatic Lanaguages and Linguistics* 2 (2010): 4.

affix.[415] And finally, say that the roots in the right column denote telicity: "the fact that they all share a final *q* suggests that *q* signals telicity; hence *q* is an augment, too".[416] Thus, it would appear that √tf represents a primary root. However, further considerations have to be taken into account: it is not possible to find a lexeme in any Semitic language of the CVC structure "whose paradigm of realization exclusively includes *tĭf*, or *tăf*, or *tŭf*".[417] In addition, no Semitic language "displays the entirety of array" represented in the two columns, but rather the data presented in the columns come from several different Semitic languages.[418] Thus, √tf is possibly a root pertaining to an "older, more ancient, reconstructed, layer".[419]

The preceding hypothetical scenario illustrated the source for the question of the 2-/3-radical origin of Semitic roots. Those Semitists who stand behind the idea of 2-radicality mainly point out 2-radical "primary" substantives and "'weak' roots with multiple biconsonantal forms and semantically related triconsonantal roots with different third consonants".[420] Such third consonants are thought to have been "determinatives," "complements," or "modifiers" of some sort, extending the originally 2-radical verbal root.[421] The main proponent of 2-radicality is Bohas, who believes in universal 2-radicality: all etymons are 2-radical.[422] In addition, Agmon argued that the change from 2-radical to 3-radical roots is connected with the transition to agriculture, based on the lexical material

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[415] Lowenstamm, "An Introductory Note to Noam Agmon's "Materials and Language"," 4.
[416] Lowenstamm, "An Introductory Note to Noam Agmon's "Materials and Language"," 4.
[417] Lowenstamm, "An Introductory Note to Noam Agmon's "Materials and Language"," 4.
[418] Lowenstamm, "An Introductory Note to Noam Agmon's "Materials and Language"," 4.
[419] Lowenstamm, "An Introductory Note to Noam Agmon's "Materials and Language"," 4.
[420] Del Olmo Lete, *Questions of Semitic Linguistics*, 80.
[421] Del Olmo Lete, *Questions of Semitic Linguistics*, 80.
[422] Bohas, *Matrices, Étymons, Racines*, 49-52.

inventory of Proto-Semitic speakers: Stone age materials are 2-radical, while Neolithic materials are 3-radical.[423]

In contrast, the supporters of 3-radicality emphasize "primary nouns, a morphologically universal triconsonantal system that is expendable and analogical, irreducible triconsonantal roots".[424] This view has been defended mainly by Voigt, who argues that even vowels can be radicals in parallel with consonants of strong verbs, hence there are no truly 2-radical verbs.[425] Moreover, it is not possible to assign a clear semantic function to the "determinatives" or "complements," which are too numerous.[426]

In fact, both opposing views carry some truth to them, but both can also be criticized. Therefore, it appears that the solution to the question of Semitic 2-/3-radicality lies in its middle ground, a view that is held by most Semitists today.[427] According to Del Olmo Lete:

> Almost everyone today agrees…in accepting a biliteral base in the Semitic lexicon that, in turn, exhibits a dynamic expansion in the direction of triliterality as its asymptote. One is also prepared to accept an original triliteral stock, the structural and derivation system of which becomes determinative in the whole Semitic domain…This prevalence of a double base must have a primary origin, attested even at the Afro-Asiatic level.[428]

Furthermore, Del Olmo Lete proposes a pathway for the expansion of 2-radicality in the following way:

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[423] Noam Agmon, "Materials and Language: Pre-Semitic Root Structure Change Concomitant with Transition to Agriculture," *Brill's Annual of Afroasiatic Languages and Linguistics* 2 (2010): 23-79.
[424] Del Olmo Lete, *Questions of Semitic Linguistics*, 80.
[425] Voigt, *Die infirmen Verbaltypen des Arabischen*, 76.
[426] Del Olmo Lete, *Questions of Semitic Linguistics*, 70.
[427] Del Olmo Lete, *Questions of Semitic Linguistics*, 80.
[428] Del Olmo Lete, *Questions of Semitic Linguistics*, 84.

a. primary, simple biradicalism (very few examples) + triradicalism;

b. intensified biradicalism (first degree of [internal] expansion by intensification [lengthening and doubling] of its positions 2 [vowel] or 3 [/C$_2$/] or by *glide*);

c. bi/triradicalism by expansion (second degree of [external] expansion by affixed determinatives in the three positions);

d. reduplication, total or assimilated, doubling, total or assimilated tri-/quadriradicalism (third degree of expansion);

e. crossed tri-/quadriradicalism (fourth degree of expansion).[429]

As to why expansion takes place on these different levels, giving way to the prevalent 3-radical system, one should consider the "pressure or constraint exerted by inflection…which has imposed itself as a structuring system in the Afro-Asiatic(-Semitic) languages and has found its lexical 'prototype' in becoming 'triliteral' asymptotically".[430] Similarly, Lowenstamm speaks of the "templatic pressure": roots need to adapt to the "internal architecture" of templates.[431] Thus, we can conclude that 3-radicality and 2-radicality are closely intertwined and dependent on each other, with 3-radicality having surpassed 2-radicality.

6.10.2. Ancient Egyptian

The question of the origin of roots in the Semitic languages is important for the discussion of ancient Egyptian verbs and Afroasiatic languages in general. Ehret proposed that 3-radicality arose as a process of extending 2-radical roots through "verbal extensions" in the third radical position, which can be reconstructed for Proto-Afroasiatic.[432] He identified as

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[429] Del Olmo Lete, *Questions of Semitic Linguistics*, 86.
[430] Del Olmo Lete, *Questions of Semitic Linguistics*, 86.
[431] Lowenstamm, "An Introductory Note to Noam Agmon's "Materials and Language"," 19-21.
[432] Christopher Ehret, *Reconstructing Proto-Afroasiatic (Proto-Afrasian): Vowels, Tone, Consonants, and Vocabulary* (Berkeley: University of California Press, 1995), 27; Ehret, "The Origins of Third Consonants

many as 37 Proto-Afroasiatic extensions with specific semantic functions, e.g., "*w* inchoative/denominative," "*h* amplificative," "*r* diffusive," "*l* finitive," "*g* finitive fortative," "*n* non-finitive," "*b* extendative," "*t* durative," "*x* precipitive," "*p* intensive," etc.[433] He postulated the existence of such extensions for ancient Egyptian as well, most of which he grouped under "formerly productive" or "lexicalized" affixes, thus seemingly confirming the reconstruction of such extensions for the Afroasiatic language family.[434] However, his line of reasoning as well as his examples are highly problematic and questionable.

Firstly, as admitted by Ehret, almost every consonant could be used to extend verbal roots.[435] This gives rise to too large a number of augments, which are unlikely to have existed as productive affixes at the same time in Proto-Afroasiatic. Some of the augments could even have the same meaning, e.g., $*t$, $*d$, $*k$, and $*g^w$ are all supposed to be durative.[436] In addition, his proposed "undifferentiation and multifunctionalism of the extenders proves too hypothetical and requires mental gymnastics".[437] This is visible especially in the Egyptian "evidence" that he collected: sometimes the verbal pairs that are supposedly related show different radicals and sometimes their semantic connection is

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in Semitic Roots," 109-202. See also Christopher Ehret, "Third Consonants in Chadic Verb Roots," in *Selected Comparative-Historical Afrasian Linguistic Studies: In Memory of Igor M. Diakonoff*. LINCOM Studies in Afroasiatic Linguistics 14, eds. Marvin Lionel Bender, David Appleyard, and Gábor Takács (Muenchen: LINCOM Europa, 2003), 61-70; Russell Schuh, "A Comparative Study of West Chadic Verb Suffixes," in *Selected Comparative-Historical Afrasian Linguistic Studies: In Memory of Igor M. Diakonoff*. LINCOM Studies in Afroasiatic Linguistics 14, eds. Marvin Lionel Bender, David Appleyard, and Gábor Takács (Muenchen: LINCOM Europa, 2003), 71-86.

[433] Ehret, *Reconstructing Proto-Afroasiatic*, 29-34; Ehret, "The Origins of Third Consonants in Semitic Roots," 109-202.

[434] Christopher Ehret, "Third Consonants in Ancient Egyptian," in *Egyptian and Semito-Hamitic (Afro-Asiatic) Studies in Memoriam W. Vycichl*, ed. Gábor Takács (Leiden: Brill, 2004), 33-54.

[435] Ehret, *Reconstructing Proto-Afroasiatic*, 27; Ehret, "The Origins of Third Consonants in Semitic Root," 109-202.

[436] Ehret, *Reconstructing Proto-Afroasiatic*, 32.

[437] Del Olmo Lete, *Questions of Semitic Linguistics*, 73.

suggested by using extended, rather than core, meanings, thus seemingly showing closer similarity. In addition, he took most of his data from Middle Egyptian instead of the first attested stage of the language that is closer to its pre-Egyptian stage. Moreover, as rightly criticized by Del Olmo Lete, Ehret presupposes a "model of proto-Afro-Asiatic with complex phonology (consonantal and vocalic) and simple morphology (biconsonantal roots)" and does not ponder the "innovative character of these families and wishes to reconstruct a proto-language as the sum total of all the features of the languages of the phylum".[438] Thus, I do not find his proposed extensions tenable for ancient Egyptian.

6.11. Conclusions

The previous section on verbal extensions brings us to the discussion of verbal affixes presented in this chapter. In fact, most of these affixes cannot be called affixes. Rather, they represent ghost-like remnants of perhaps once productive derivational processes. However, at the time of the language of the Pyramid Texts, they are found only in several attested examples and are thus no longer productive. Only a couple of morphemes described in this chapter can have the status of an affix. The first such affix is the morpheme *m-* and its phonetic variant *b-*, which solely belong to the domain of substantival derivation: any verbs with the *m*-prefix are secondary developments and represent verbalized *m*-prefixed substantives. A second morpheme that can be thought of as a real affix is *ḥ*. However, here we need to distinguish between the *ḥ*-prefix and the *ḥ*-suffix. The *ḥ*-prefix, at least in some uses, might be the successor of the suffix *-ḥ*, denoting the sense of confinement and encompassment. As an affix, it might have belonged solely to the domain of substantives, later extending into verbal derivation as well. Perhaps the language went

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[438] Del Olmo Lete, *Questions of Semitic Linguistics*, 73.

through a change from the suffixation of *ḥ* to the prefixation of *ḥ*. In this way, the *ḥ*-prefix might have become more productive in the later stages of the language, which needs to be confirmed or refuted with further research. As it became part of verbal derivation, its position might have shifted from the last radical position to the first one. However, a development in the opposite direction cannot be excluded either: the original *ḥ*-prefix might have become the *ḥ*-suffix, which has more attestations in Old Egyptian than the prefix.

Alternatively, we might be dealing here with two different affixes. One *ḥ*-affix (surfacing mainly as a suffix but in some instances as a prefix too) might have expressed the notion of confinement in substantives and verbs, while the other *ḥ*-affix (always a prefix) was associated with verbal derivation only. This second *ḥ*-prefix could be attached only to intransitives with patientive subjects, without altering the valency of base verbs. In this way, it would have a status comparable to that of the causative *s*-prefix and the anticausative *n*-prefix. In fact, the *ḥ*-prefix is placed between them within the derivational hierarchy: *s-* / *ḥ-* / *n-* + verbal root. The *ḥ*-prefix attaches to the verbal root *after* the *n*-prefix, but *before* the *s*-prefix. The significance of the observed order of the prefixes will be addressed in Chapter 7 (section 7.1.).

Unfortunately, the exact function of the *ḥ*-prefix is not clear, since the evidence provides us only with several lexemes. In contrast, both the *s*-prefix and *n*-prefix were productive derivational prefixes, even though the latter was already more lexicalized in Old Egyptian than the former. The same status of *s-*, *n-*, and *ḥ-* in derivational hierarchy would suggest that the *ḥ*-prefix played an important role in verbal derivation, but the small amount of collected evidence suggests the opposite.

The morphemes *p-* and *d-* might have originally been some types of prefixes, but the low number of their attestations and their unproductivity suggests that they had been lexicalized by the time of Old Egyptian. The *p*-augment is attested mainly with verbs, seemingly denoting a vertical motion towards the ground. The *d*-prefix might have been derived from the verb *wdj* 'put, place', perhaps as a periphrastic causative construction, which had been reduced to a single morpheme attached directly to the verbal root through the grammaticalization process. The initial augment *w* is attested only with verbs derived from 2-radical substantives and might thus represent an extension of 2-radical roots to the pattern of strong 3-radical verbs. No semantic function seems to be associated with the morpheme *w* and therefore it does not seem to be an example of a prefix. The existence of the other proposed affixes has not been confirmed, since one example of a derived verb and doubtful semantic verbal pairs do not constitute a proof of their existence. Thus, there seems to have been no *ḫ*-prefix nor *ḫ*-suffix, no *d*-suffix, no *t*-prefix nor *t*-suffix, no *ḏ*-prefix nor *ḏ*-suffix, nor *ꜥ*-prefix.

Thus, the examined morphemes in the first or final radical position of verbal roots can be thought of as augments: they do not necessarily have to have any specific semantic function at all. They might have been augmented under the pressure of the verbal paradigm that prefers 3-radical roots. Alternatively, they might represent 3-radical roots that independently existed alongside 2-radical roots of similar phonetic inventory, but their semantic connections in Old Egyptian are only imaginary or coincidental. In fact, almost any 3-radical verb in ancient Egyptian could be decomposed as consisting of some sort of an affix and a 2-radical root. However, languages do not work in this way and imposing

derivational basis for certain lexemes without a proper semantic analysis is counterproductive and leads to illusory results. As Goldenberg notes,

> Meaningful assonance, rhyme or alliteration are a widespread phenomenon, and association of sounds and meanings is not so rare, as in English *slim*, *slender*, *slide*, *slush*, *slither*, or *glow*, *gleam*, *glitter*, *glaze*, *glade*, etc. Semantic affinity between the words in which the sounds occur can well be recognized, but this does not imply any status of sounds such as *sl-* or *gl-* as representing by themselves etyma. Should we regard English *toiling* and *moiling* as derived from *√*oil*?[439]

Also, connecting the function of an affix with the representation of the morpheme's hieroglyphic sign is dangerous and most likely wrong, as in the case of the sign *p* and the *mat*. We have to realize that the ancient Egyptian language existed *before* the invention of writing, which means that these affixes were already present in the language. The hieroglyphic script did not give rise in all cases to new words based on their symbolism, but rather hieroglyphs were adapted to represent the language together with all its affixes. Thus, we need to be careful with our interpretations of seemingly affixed lexemes, especially since we are dealing with a dead language whose lexical items cannot be always well understood. The likeliest scenario is that 2-radical and 3-radical lexemes had always existed alongside each other. Whether the morphemes that augmented such roots ever had any specific meaning is unclear. What is clear, though, is that most of these augments represent a root radical in Old Egyptian, being an integral part of the lexeme's form and meaning. Their earlier history is, for the most part, impossible to be accessed, as their origins lie too far in the past.

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[439] Goldenberg, "Semitic Triradicalism and the Biradical Question," 21.

CHAPTER 7. CONCLUSIONS

7.1. Verbal derivation and semantic scope

In this dissertation, I investigated the linguistic processes associated with verbal derivation, namely affixation and reduplication, as attested in the language of the Pyramid Texts, here referred to as Old Egyptian. The main emphasis was placed upon the investigation of verbal derivation from a semantic perspective, relying primarily on the theory of valency that describes syntactic and semantic roles of verbs' arguments. I have found that verbal derivational phenomena are largely systematized according to the semantic nature of base verbs and predicates. The most common verbal derivational operations in Old Egyptian are *n*-prefixation, *s*-prefixation, and total and partial reduplication. A less common derivational process includes *ḥ*-prefixation. The most important observations on the functions of each of these operations are summarized in the following paragraphs, together with an explanation for their fixed order in attaching to the verbal stem.

The main function of the *n*-prefix in Old Egyptian is to reduce the valency of transitive verbs. The prefix removes the *agent* from a clause, while installing a subject in the semantic role of *patient*. Thus, the *n*-prefix forms *anticausative* counterparts of transitive base verbs. In the case of intransitives, the *n*-prefix probably turns them into ingressives, without any change in valency taking place. However, since the semantic values of intransitives and ingressives are very similar in Old Egyptian, none of these *n*-prefixed intransitives is attested after the Old Kingdom, being replaced by its non-prefixed

form. With non-verbal elements, the *n*-prefix functions as a verbalizer, which was probably its original function. However, by the time of Old Egyptian, most *n*-prefixed verbs are in the process of being lexicalized or the *n*-prefix disappears from them completely.

In contrast to the *n*-prefix, the *s*-prefix has a valency-increasing function, creating *causative* verbs by adding a new subject argument into the clause that has the semantic role of *agent*/*causer*. The original subject becomes an object in the semantic role of *causee*. The *s*-prefix can attach to transitive and intransitive verbs alike. In the case of intransitives, it can create causative verbs only with inactive intransitives and verbs of motion. With the former, it tends to express direct causation, while with the latter, it denotes sociative causation if the causee is agentive and direct causation if the causee is patientive. Active intransitives cannot have a morphological causative, only periphrastic. In the case of transitives, only ingestive/egestive verbs can be directly causativized by the *s*-prefix, while other transitives have to be first detransitivized by the employment of the deagentifying *n*-prefix. However, due to the disappearance of the *n*-prefix from the language, this detransitivization process can no longer be clearly observed. Parallel to the *n*-prefix, the *s*-prefix can act as a causative verbalizer with non-verbal elements. The *s*-prefix is the most productive affix out of all investigated affixes in Old Egyptian, but in the subsequent stages of the language, it gradually becomes replaced by the periphrastic causative construction that uses the lexical causative *rḏj* 'give'.

Another prefix that seems to have a similar status to the *n*- and *s*- is the *ḥ*-prefix. However, not much evidence for this prefix could be collected from Old Egyptian. It appears, though, that it did not have a valency-altering function and that it required base verbs with patientive subjects. That means that it could attach only to inactive intransitives,

including *n*-prefixed verbs and verbs of motion. Unfortunately, the amount of data available for the *ḥ*-prefix is too small to make any finite conclusions or to interpret its function in a satisfactory way.

Table 7.1. *Semantic bases and functions of verbal derivational processes.*

Affix \ Base	Semantic category	s-prefix	ḥ-prefix	n-prefix	TR/INTR predicates	T/RED	P/RED
INTR	ACT	x	x	INGR	atelic	x	CONT RECR IMPF
INTR	INACT	direct CAUS	yes	INGR	atelic	x	CONT RECR IMPF
INTR	MOT	sociative CAUS	yes	INGR	atelic	x	CONT RECR IMPF
TR	INGS	direct/ sociative CAUS	?	ANTIC	telic	ITER	CONT RECR IMPF
TR	other TR	x	x	ANTIC	telic	ITER	CONT RECR IMPF
non-verbal		VERB	yes?	VERB		VERB ITER	x
s-prefix		-	x	x		x	CONT RECR IMPF
ḥ-prefix		CAUS	-	x		x	?
n-prefix		CAUS	yes	-		?	CONT RECR IMPF
T/RED		CAUS	yes	ANTIC VERB		-	x
P/RED		CAUS	?	ANTIC in active voice		ITER	-

Lastly, reduplication is not a valency-changing operation either, depending largely on the telicity properties of base predicates, not just verbs. Total reduplication primarily denotes an iterative action, but only with telic predicates of both transitive and intransitive verbs. It could be applied to non-verbal elements as well, especially onomatopoeia and

substantives, which became verbalized after reduplication or after *n*-prefixation. Total reduplication might have historically developed into partial reduplication, denoting a continuative, recurrent, or imperfective action, with both telic and atelic predicates in the active voice. It was hypothesized that partial reduplication involves the doubling of the middle syllable, which in some verbal classes is reduced to middle radical gemination. In these classes, such reduplication is invisible in writing and could be determined only by context. In addition, it was suggested that final radical reduplication was originally associated with telic predicates in the passive voice, but later the final -*w* of reduplicated weak verbs spread on analogy to both telic and atelic predicates in the active voice as well. Lastly, the reduplication of the final radical of 2-radical verbs in passive participles is a purely inflectional phenomenon, different from the lexical and semi-lexical total and partial reduplication just described.

Table 7.2. Existence of derivational processes in individual verbal classes.

Affix/red Verbal classes	*s*-prefix	*ḥ*-prefix	*n*-prefix	Total red	Partial red
2-strong	yes	yes	yes	yes	yes
2-weak	yes	n/a	yes	yes	yes
2-gem	yes	yes	maybe	n/a	yes
3-strong	yes	yes	maybe	yes	yes
3-weak	yes	n/a	yes	yes	yes
4-strong	n/a	n/a	n/a	no	maybe
4-weak	yes	n/a	n/a	no	yes
***s*-stem**	-	no	no	n/a	yes
***ḥ*-stem**	yes	-	no	n/a	n/a
***n*-stem**	yes	yes	-	maybe	yes
T/RED-stem	yes	yes	yes	-	yes
P/RED-stem	yes	n/a	yes	yes	-

Now, in most cases it was possible to establish the functions of the above-discussed derivational phenomena and the constraints involved in verbal derivation. This information is summarized in Tables 7.1. and 7.2. The former provides a schematic overview of the functions of the verbal derivational processes, based on the bases to which they attach, while the latter shows the occurrence of the prefixes and reduplication across verbal classes and derived verbs. Based on this information, it is possible to propose a new way of classifying Egyptian verbs.

We need to distinguish between base verbal classes and derived verbal classes, listed in Table 7.3. The base verbal classes are distinguished only with respect to the number of radicals present in the root and the nature of the last radical. Therefore, we can divide them into 2-/3-/4-radical verbs, which may either be strong or weak. The "geminated" 2-radical verbs behave for the most part like strong 3-radical verbs, except that one of their radicals is not always visible in writing. Since this invisibility is a result of phonological rather than inflectional processes, they do not need to constitute a separate verbal class. However, their different spellings than those of other 3-radical verbs with all three radicals different should be acknowledged. In contrast, derived verbal classes are those whose roots are augmented by a derivational process, whether affixation or reduplication, and thus represent derived stems. These include the causative *s*-stem, the *ḥ*-stem of an unknown function, the anticausative *n*-stem, the iterative T/RED-stem (i.e., total reduplication), and the recurrent/imperfective P/RED-stem (i.e., partial reduplication). It is expected that these derived verbal classes would change over the history of the ancient Egyptian language, related to the process of the lexicalization of derived stems.

Table 7.3. Base and derived verbal classes.

Base Verbal Classes	Derived Verbal Classes
strong 2-radical	causative *s*-stem
weak 2-radical	*ḥ*-stem
strong 3-radical (including 2-radical "geminated" verbs)	anticausative *n*-stem
weak 3-radical	iterative T/RED-stem (T/RED=total reduplication)
strong 4-radical	recurrent/imperfective P/RED-stem (P/RED=partial reduplication)
weak 4-radical	

Now, how do all of these morphological processes impact and interact with each other? How can we explain the observed relative fixed order of the prefixes and reduplicants attached to verbal stems? To repeat, the order of the Egyptian prefixes is invariable and follows the hierarchy *s > ḥ > n*. Indeed, if the placement of affixes to the verb stem follows a systematic order in a language, then their sequence should be motivated.[1] Such a motivation can occur on one or multiple linguistic levels,[2] but the best theoretical model for the explanation of affix order involves *semantic scope*. The most important investigation of semantic scope in affix order has been provided by Keren Rice (2000) in her study on Athapaskan languages.[3] The term semantic scope refers to "semantic compositionality," defined by Rice in the following words: "given three items X, Y, and Z, items X and Y combine with each other and then combine as a unity with Z. The semantics

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[1] Stela Manova and Mark Aronoff, "Modeling Affix Order," *Morphology* 20 (2010): 115. For unmotivated affix order, see especially pages 124-5.

[2] See Manova and Aronoff, "Modeling Affix Order," 109-131. For other approaches to affix order, see descriptions and bibliography in Manova and Aronoff, "Modeling Affix Order," 109-131 and Pauliina Saarinen and Jennifer Hay, "Affix Ordering in Derivation," in *The Oxford Handbook of Derivational Morphology*. Oxford Handbooks in Linguistics, eds. Rochelle Lieber and Pavol Štekauer (Oxford: Oxford University Press, 2015), https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199641642. 001.0001/oxfordhb-9780199641642-e-021.

[3] Keren Rice, *Morpheme Order and Semantic Scope: Word Formation in the Athapaskan Verb*. Cambridge Studies in Linguistics 90 (Cambridge: Cambridge University Press, 2000).

of Z is added to that of X and Y as a unit."[4] The notion of semantic scope is similar to Baker's *Mirror Principle*: "morphological derivations must directly reflect syntactic derivations (and vice versa),"[5] as well as to Bybee's *Relevance Principle*, according to which "the more a concept has to do with the content of the verb, the closer it will occur to the verb stem."[6] In this way, she postulates the following hierarchy based on the extent of semantic relevance to the verb: *Valence > Voice > Aspect > Tense > Mood > Agreement*.

Thus, relevance and scope represent the most useful concepts in describing affix order. According to *Scope Principle*, the morpheme that is found further away from the verb stem has scope over the morpheme(s) that are closer to the stem.[7] For instance, the affix order in 7(1) from Yupik is variable, but the affix closer to the verb stem is under the scope of the affix further away from the stem. Thus, the suffix -*cuar* 'little' modifies the derived substantive *giant* in 7(1a)), while in 7(1b)) it derives the substantive *midget*, which is modified by the suffix -*pag* 'big'.

7(1) a) yug-pag-cuar   b)   yug-cuar-pag
        person-big-little   person-little-big
        "little giant"   "big midget"[8]

Based on her study of scopal relationships, Rice was able to determine the following cross-linguistic generalizations:

   a)   "Elements in a fixed scopal relationship occur in a fixed order with respect to each other."

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[4] Rice, *Morpheme Order*, 24.
[5] Mark Baker, "The Mirror Principle and Morphosyntactic Explanation," *Linguistic Inquiry* 16 (1985): 375.
[6] Joan Bybee, *Morphology: A Study of the Relation Between Meaning and Form*. Typological Studies in Language 9 (Amsterdam: John Benjamins, 1985), 211.
[7] Rice, *Morpheme Order*, 24.
[8] Example from Manova and Aronoff, "Modeling Affix Order," 121, #7.

b) "Elements in which the scopal relationship can be reversed occur in variable order, with interpretation related to order."

c) "Elements that do not enter into a scopal relationship with each other may occur in different orders, both within a particular language and across the family."[9]

The generalization in a) is applicable to Old Egyptian. The order of prefixes is not random but reflects the relationships of the morpheme's semantics. The fixed linear order of the prefixes means that their scopal relationships are fixed as well. The morpheme closer to the stem is narrower in scope than the morpheme following it, since the latter cannot precede the former. Thus, what is the semantic scope of each derivational prefix in Old Egyptian?

The causative *s*-prefix always follows the anticausative *n*-prefix. This can easily be explained since the *s*-prefix is agentifying and increases verbal valency, while the *n*-prefix is deagentifying and decreases verbal valency. In a way, the two affixes act as opposites. The only possible derivation with these affixes is if the *s*-prefix agentifies *n*-prefixed verbs. If the *n*-prefix were to deagentify *s*-prefixed verbs that are agentive, the two prefixes would negate each other, and the result would be the base form of the verb. It is not possible to find an anticausative counterpart of a causative verb, and since no causative is intransitive, the ingressive function of the *n*-prefix cannot apply in this case, either. Thus, the order **ns*- is not allowed in Egyptian, and the only logical sequence of these prefixes is such that the *s*-prefix follows the *n*-prefix. In addition, the employment of the *n*-prefix before the *s*-prefix is obligatory only in the case of transitive verbs other than ingestive/egestive, since the *s*-

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[9] Rice, *Morpheme Order*, 79. A couple of examples of exceptions to these generalizations are given by Gabriela Caballero, "Scope, Phonology and Morphology in an Agglutinating Language: Choguita Rarámuri (Tarahumara) Variable Suffix Ordering," *Morphology* 20 (2010): 165-204.

prefix cannot attach to such transitive verbs on its own.

Furthermore, it was observed that the *ḥ*-prefix is placed between the *s*- and the *n*-prefix. It appears that the *ḥ*-prefix can only attach to verbs with patientive subjects. This explains why it never follows the *s*-prefix that forms verbs with agentive subjects in a causative clause and why it follows *n*-prefixed verbs that can have only patientive subjects. The employment of the *n*-prefix is not obligatory, though: the *ḥ*-prefix can attach to base verbs whose subjects are already patientive without the *n*-prefix. However, why the *ḥ*-prefix could attach only to verbs with patientive subjects and what its exact function was cannot be determined due to the insufficient evidence from Old Egyptian. The possibility that the *ḥ*-prefix is a relatively new affix and that its productivity will rise in the following stages of the language remains to be determined with further research.

All of the above-mentioned prefixes can attach to totally reduplicated verbs formed from telic predicates. This is because reduplication does not alter verbal valency, only the way in which an action is viewed. Total reduplication changes a semelfactive action into iterative, and an iterative action can be causativized as well as anticausativized. We do not know what the effect of the *ḥ*-prefix on an iterative action was, since the function of the *ḥ*-prefix is obscure. In contrast, partial reduplication expressing continuative/recurrent/imperfective action could combine with these prefixes, but with certain limitations. Firstly, the reduplication/gemination of the middle syllable/radical could not be employed at the same time as any of the mentioned prefixes. This might be due to the extension of the stem after reduplication and phonotactic reasons preventing a partially reduplicated/geminated verb to be extended further by adding another syllable. However, the notion denoted by partial reduplication could still be expressed in causative and anticausative verbs. This was

done by the employment of the final -*w*, representing the final reduplicated vowel of weak verbs. After all, derived verbs indeed behave like weak verbs in Egyptian. It appears that the causative *s*-prefix could attach to both telic and atelic predicates in the active voice and telic predicates in the passive voice. In contrast, the *n*-prefix could not probably attach to telic predicates in the passive voice, since *n*-prefixed verbs lack an agent and therefore cannot be passivized. No examples of *ḥ*-prefixed partially reduplicated verbs are attested in Old Egyptian, given that the entire sample of *ḥ*-prefixed verbs consists of only few verbs.

However, we may hypothesize that such a combination of the *ḥ*-prefix and partial reduplication was possible, as long as the partially reduplicated verb had a patientive subject. However, this proposal cannot be proved at the present moment. Lastly, totally reduplicated verbs cannot extend their stem further by partial reduplication, as this would most likely lead to a prohibited phonological pattern, just as with derived verbs. However, a recurrent iterative action could be expressed in Old Egyptian. In this case, a totally reduplicated verb would take the final -*w*, analogous to weak and derived verbs, which means that partial reduplication would have scope over total reduplication. However, this situation does not seem to be common in Old Egyptian.

In sum, the verbal derivational phenomena in Old Egyptian follow a fixed linear order. Their hierarchy reflects the semantic scope of each derivational process and its relevance to the verb stem. Each derivational operation has a scope over the operation(s) that precede it as well as over the verbal stem. Notice that the ordering of derivational processes in Old Egyptian corresponds to Bybee's *Relevance Principle*: valency-changing prefixes precede reduplicative patterns that affect the verb's aspect. Thus, the semantic hierarchy of verbal derivation in Old Egyptian is represented in 7(2) and Figure 7.1.

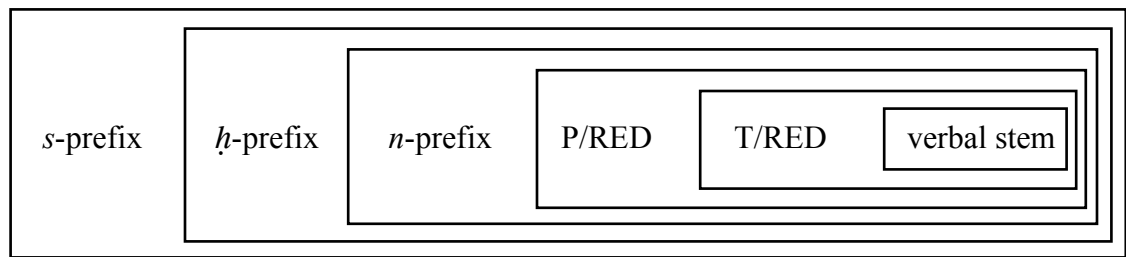7(2) *Causative > ? > Anticausative > Recurrent/Imperfective > Iterative*

s-prefix	*ḫ*-prefix	*n*-prefix	P/RED	T/RED	verbal stem

Figure 7.1. *Scope representation of derivational processes in Old Egyptian.*

7.2. Ancient Egyptian in the Afroasiatic language family

The preceding part summarized the functions of different derivational processes applied to Old Egyptian verbs and explained the relative order of these processes attached to the verb stem from the view of semantic scope. Now, how do these findings fit into the broader field of Afroasiatic linguistics?

Based on the results of this research, the *s*-prefix, the *n*-prefix, and reduplication have a common Proto-Afroasiatic origin, whose reflexes can be found in some of the daughter languages. For instance, the *s*-affix can be found in the Berber, Cushitic, and Semitic languages, even though the actual form of the affix is realized in different ways. Similarly, the *n*-affix and its reflexes can be found in Berber and Cushitic, even though it is most productive in Semitic. Total reduplication is attested across the language family as well, while middle radical reduplication is especially common in Semitic, but known in Berber too. Thus, it is likely that the *s*- and the *n*-prefix and reduplication originated in the Proto-Afroasiatic language and followed different or similar developmental pathways in the daughter languages. In some languages, these morphemes had become completely lost. It appears that Egyptian and Semitic shared a common development of these derivational processes to a certain point, since both the *s*- and *n*-prefixes could function as verbalizers

in both branches and since both branches might have had a reduplicated/geminated stem. In addition, the *s*-prefix is connected with valency increase in both Egyptian and Semitic, the *n*-prefix is associated with valency decrease, while partial reduplication/gemination originally denoted plurality of some kind. The actual employment of the prefixes and of reduplication and their constraints in verbal derivation, however, differ in the two branches. For instance, the *n*-prefix developed into an inflectional stem in Semitic, where it remains productive even today, while in Egyptian it functioned as an anticausative prefix and disappeared from the language quite early on. Similarly, middle radical reduplication could be associated with the factitive meaning in Semitic, while this use in Egyptian remains unconfirmed. Finally, even though the exact function of the *ḥ*-prefix in Egyptian is obscure, it appears to represent an internal development in ancient Egyptian, due to its absence in the other Afroasiatic languages and its non-causative nature (in contrast to *h*-causatives in Semitic).

In a framework of the comparative model used for the subgrouping of languages, shared retention is never indicative of a genetic relationship, only shared *innovation*. In this respect, neither the *s*-/*n*-prefix nor reduplication can provide evidence for the subgrouping of individual Afroasiatic languages since they represent shared retentions from Proto-Afroasiatic. It is tempting, though, to see Egyptian and Semitic in a very close relationship, since they share many similarities: the *s*-prefix and the Š-stem, the *n*-prefix and the N-stem, middle radical reduplication and the D-stem, and total reduplication too. All of these are the most prominent verbal derivational processes in the two languages, despite the varying degree of productivity and their different internal developments. And it is exactly these different developments of the functions of the derivational morphemes that hint at the split

of ancient Egyptian and Semitic in the past.

In fact, as proposed by Ehret (see Chapter 1, section 1.1.), ancient Egyptian and Semitic might have come from one proto-language, namely proto-Boreafrasan. Thus, we can imagine that this proto-language contained the *s*-prefix, the *n*-prefix, and total and partial reduplication, and that after the split of proto-Boreafrasan into Pre-Egyptian and Proto-Semitic, each of these verbal derivational processes developed in different, albeit similar, ways. Thus, the apparent similarity between the two branches seems to be a result of their longest occurrence as the same proto-language (Proto-Boreafrasan), whereas the other branches of the Afroasiatic family branched off earlier than Egyptian and Semitic. However, such an interpretation can hold only if Ehret's subgrouping of the Afroasiatic languages is correct. In any case, verbal derivation is not indicative of genetic relationships, since it represents a shared retention across the Afroasiatic language family. Thus, evidence for the subgrouping of individual Afroasiatic languages must come from outside of verbal derivational morphology.

Indeed, verbal derivation constitutes only one part in the reconstruction of a proto-language and in the genetic classification of related languages. Before we can compare individual Afroasiatic languages, we need to establish the features of each branch's proto-language. Ideally, we would work with the reconstructed lexicon, phonology, and morphosyntax of Proto-Berber, Proto-Chadic, Proto-Cushitic, Proto-Semitic, and Pre-Egyptian. Only then can we compare these languages and investigate their relative positions within the family tree of the Afroasiatic languages. And this is a goal far from being achieved at the present moment.

It would be desirable if linguists worked on the reconstruction of Pre-Egyptian,

which is the stage of the language that should be employed in Afroasiatic comparative studies. Most linguists simply work with Middle Egyptian, which is not the oldest stage of the language attested, but it is indisputably the easiest one to work with. However, the use of Middle Egyptian is not methodologically appropriate, since the language evolved considerably from Old to Middle Egyptian. Therefore, the results of subgrouping when Old Egyptian is involved might be very different from the results obtained when Middle Egyptian is employed. Of course, the reconstruction of Pre-Egyptian is in itself a very demanding task, since Egyptologists cannot agree on many aspects of the language, including its phonological inventory or the features of the verbal system. In addition, the reconstruction of Pre-Egyptian is complicated by the fact that it is the only language present in the branch. Therefore, we may reconstruct the proto-language based only on its internal features. In any case, it is only our understanding of the synchronic stages of the language that can lead to our comprehension of its origins and diachronic developments.

7.3. Further research and limitations of investigating ancient Egyptian

Even in the case of verbal derivation, synchronic studies must precede diachronic ones. In this work, I investigated verbal derivation as preserved in the language of the Pyramid texts, which is the oldest stage of the ancient Egyptian language attested in writing. However, a comprehensive description of verbal derivational phenomena should be provided for each stage of the language. This is exactly what I aim to accomplish in my further research. Since the topic of verbal derivation in ancient Egyptian is extensive, the entire project will require two major analyses.

The first one will be an analysis of verbal derivation in Earlier Egyptian, combing the language of the Pyramid Texts and those of the Old and Middle Kingdoms. The other

successive stages of the language, Late Egyptian, Demotic, and Coptic, represent a very different language, since Later Egyptian was an analytic language unlike its synthetic predecessor. Therefore, the second analysis will logically combine verbal derivation in these stages of the language. It is hoped that the two analyses will represent a holistic study of verbal derivational phenomena in ancient Egyptian, uniquely spanning more than four millennia of recorded history.

It has to be admitted that such analyses, as the one presented in this work or the ones that I plan to undertake in the future, are not without problems, doubts, and limitations. The first obstacle that Egyptologists working on the ancient Egyptian language have to deal with is the nature of the writing system. With the exception of the Coptic alphabet, reading Egyptian scripts poses challenges to our interpretations of the language, given the invisibility of numerous features of the spoken language, that leads to different hypotheses by each scholar. In a way, such an analysis can be frustrating. However, this frustration was not voiced by the ancient Egyptians and is rather embedded in our cultural background because our native languages employ alphabetic scripts. We simply need to accept the different nature of the hieroglyphic (and hieratic and demotic) script and acknowledge that some of our interpretations might be wrong or that we will never find answers to some questions. This applies to the present work as well.

Secondly, this study was limited only to one textual corpus, namely the Pyramid Texts. Therefore, some of the current findings perhaps represent features particular to the religious nature of the corpus. Only further work with more varied textual corpora can confirm or refute the results presented here, which is a project that I hope to undertake in the near future. In addition, we do not always understand the precise meanings of words,

as found in writing. We can employ different English words to translate one Egyptian word, but how can we be sure of its exact nuance? In other words, how can we tell whether a certain verb of motion means *stroll* or *prance*? There is only a subtle difference in meaning between the two words. One way to approach this problem is to investigate all attestations of a particular lexeme, establish the contexts in which it occurs, and determine the arguments that it bonds with. However, such an investigation is time-consuming, especially if it is to be done for every word that had ever existed in ancient Egyptian. Moreover, hapax legomena can never be investigated in this way and therefore their exact semantic value might remain unknown. Nevertheless, such useful and challenging analyses are being undertaken in recent years and should continue to be.[10]

Another shortcoming of the present research is the uncertainty, at least in some cases, in establishing verbal pairs of base and derived verbs that are morphologically and semantically connected. Sometimes such connections might exist only on the surface. And chance resemblance can be hard to eliminate, especially when we cannot access the entire vocalic structure of words from the non-alphabetic script. This is where the importance of establishing core meanings of words comes into play. Once we have precise definitions of lexemes, then it should be easier to determine morphological and semantic connections with other words. For instance, the English verbs *see* and *seem* might appear to be related

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[10] See, among others, Pascal Vernus, "Le verbe *gm(j)*: essai de sémantique lexicale," in *Lexical Semantics in Ancient Egyptian*, Lingua Aegyptia Studia Monographica 9, eds. Eitan Grossman, Stéphane Polis, and Jean Winand (Hamburg: Widmaier Verlag, 2012), 387-438; Jean Winand, "The Syntax-Semantics Interface in Earlier Egyptian: A Case-Study in Verbs of Cognition," in *Coping with Obscurity: The Brown Workshop on Earlier Egyptian Grammar*. Wilbour Studies in Egyptology and Assyriology 4, eds. James Allen, Mark Collier, and Andréas Stauder (Atlanta: Lockwood Press, 2016), 109-139; Jean Winand, "Le verbe et les variations d'actance. Les constructions réversibles (=Études valentielles, 2)," in *Lexical Semantics in Ancient Egyptian*, Lingua Aegyptia Studia Monographica 9, eds. Eitan Grossman, Stéphane Polis, and Jean Winand (Hamburg: Widmaier Verlag, 2012), 459-486.

at first sight, since they have a similar form and since both have something to do with looking. However, at a closer inspection, this is not the case: *see* refers to the action of perceiving with the eyes, while *seem* means giving the impression of being something. Moreover, the former has a Germanic origin, while the latter comes from Old Norse.

Thus, etymological investigations might prove useful in refining our findings. This is why synchronic studies of the language must precede diachronic ones. The ancient Egyptian language is attested for over four millennia, an incredibly long time period which must have witnessed numerous linguistic changes. Therefore, we cannot look for morphological connections where two words are separated by many centuries. Such a methodological approach leads only to superficial findings. Furthermore, looking for parallels in related languages might prove helpful, too, but such evidence should complement, rather than substitute, internal evidence from ancient Egyptian. For instance, a related word might have followed a different historical development in a related language, which might lead to opposite interpretations than those obtained from Egyptian. Also, Egyptologists cannot agree on the phonological inventory of the Egyptian language, especially in the earlier stages, which complicates establishing correspondences from related languages. Even though the vast time difference between ancient Egyptian and some of its related languages might not lead to reliable findings, looking for parallel lexemes in the other Afroasiatic languages might be useful, as long as one is aware of the potential problems with such a task.

After all, any investigation of the ancient Egyptian language is always going to be subjective to a degree. Since we are dealing with a dead language, we cannot rely on any native speakers that would tell us if our hypotheses go in the right direction or not. That is

the reason why so many different interpretations of the language, especially its verbal system, have been proposed in the last two centuries since the decipherment of the hieroglyphs. The best thing that we can do is to acknowledge our biases and any shortcomings and limitations involved in our linguistic analyses, and to try to investigate the available evidence from the ancient Egyptian point of view, in as much an objective way as we are capable of.

I hope that I was able to show that semantics plays a vital role in verbal derivation in ancient Egyptian and that it is a linguistic level that should not be neglected. By investigating derivational processes from a semantic point of view, we can not only better comprehend the functions of derivational processes, but also propose hypotheses for their origin and evolution through time, and grasp the core meanings of numerous, often poorly understood, lexemes. In this respect, we can unlock the historical past of the ancient Egyptian lexicon and understand how the Egyptians conceptualized their cosmos, life, society, and environment, of which they were an inseparable part. This could bring us at least a little bit closer to their own world and existence that we are trying very hard to unravel.

LINGUISTIC GLOSSARY

Adjunct	an optional argument of a verb
Affix	a bound derivational morpheme that joins a word stem to form a new word
Agent	the entity volitionally performing the action of a verb
Anterior	occurring prior to reference time
Anticausative	(of a verb) intransitive with a self-affecting subject in the semantic role of patient
Argument	an element in a sentence that completes the verb's meaning, e.g., subject, object, etc.
Augment	a type of affix without productivity and/or any clear semantic function
Base	underived form of a verb to which affixes can be attached
Beneficiary	the entity for whose benefit the action of a verb is carried out
Causative	(of a verb) denoting a situation which contains a causing event and a caused event. The subject of a causative verb is agent/causer.
Causer	the entity instigating an event
Clause	a part of a sentence containing the predicate and its argument(s)
Complement	an obligatory argument of a verb
Doublets	words that etymologically share a root but have different phonological forms
Experiencer	the entity experiencing a sensory, emotional, or psychological effect of the action of a verb
Gemination	the doubling of a sound that results in two adjacent identical sounds
Iconicity	the connection and resemblance between the form and meaning of a linguistic sign
Imperfective	a grammatical aspect denoting an action as incomplete and viewed from within

Ingestive	(of a verb) taking or absorbing something into the body. The opposite of ingestive is *egestive*.
Ingressive	(of a verb) denoting the beginning of the action of a verb
Iterative	denoting an event that is repeated on a single occasion
Location	the place where the action takes place
Morpheme	the smallest meaningful unit, which can be either *free* or *bound*
Patient	the entity undergoing the effect of the action of a verb, usually with a certain amount of volition
Perfective	a grammatical aspect denoting an action as a complete whole
Predicate	the part of the sentence that modifies the subject
Productivity	the degree to which a particular derivational process is commonly used in a language by its speakers
Radical	a phonetic component of a verbal root
Recipient	the entity receiving something as a result of the action of a verb
Recurrent	denoting an event that is repeated on multiple occasions
Reduplication	the doubling of the root/stem or its part. We can distinguish between *total* and *partial*, *continuous* and *discontinuous*, *exact* and *inexact* reduplication. **Triplication** is the doubling of a root/stem twice.
Resultative	expressing a state as a result of a completed action
Root	consonantal skeleton of a lexeme
Sentence	whole textual unit that cannot be part of a clause
Stem	the root of a word together with any derivational affixes
Telicity	a property of verbal predicates, i.e., verbs and their arguments, based on their homogeneity. **Telic predicates** refer to situations that have subparts and are not homogenous. **Atelic predicates** refer to situations that do not have subparts and are homogenous.
Theme	the entity undergoing the effect of the action of a verb without volition
Transitivity	the ability of a verb to bond with objects. **Intransitive** verbs do not take any direct object. **Transitive** verbs take a direct object. **Ditransitive** verbs take two direct objects. **Ambitransitive** verbs can be used both transitively and intransitively.
Valency	the number and nature of arguments that a verb takes. **Syntactic valency** refers to the number of arguments that bond with a verb at

the formal level. ***Semantic valency*** refers to the number of participants required by a verb at the semantic level. ***Valency alternation*** refers to the event of valency decrease, increase, or the change in the roles of arguments, through various operations.

Valential subject   in valency coding, a nominal phrase or a suffix that is the syntactic subject of a verb

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