

BANTU APPLICATIVE CONSTRUCTION TYPES INVOLVING *-ID: FORM, FUNCTIONS

AND DIACHRONY

by

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DISSERTATION ABSTRACT

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This dissertation first addresses various shortcomings in definitions of “applicative” when compared to what is actually found across languages. It then proposes a four-way distinction among applicative constructions, relevant at least to Bantu, a large family of languages spoken in Sub-Saharan Africa. Because of the gradual nature of historical change, differences among construction types may be somewhat graded. In what are called Type A applicative constructions, the applicative morpheme expands the argument structure of its root by introducing an obligatorily present applied phrase. This expansion might result, but need not, in increased syntactic valence of the derived verb stem. Type A includes cases where the applicative on a lexicalized applicative stem still has the ability to introduce an applied phrase. In Type B applicative constructions, the applicative expands the argument structure of its root by introducing

an obligatorily present applied phrase *and* performs other semantic/pragmatic functions on the applied phrase or on the whole clause (e.g. the applied phrase becomes the narrow-focused constituent in the clause). As in Type A, syntactic valence *might* be increased, but need not be. In Type C applicative constructions, the applicative does not introduce an applied phrase. Instead, it provides semantic nuances to the lexical meaning of its root (e.g. the action described by the root is performed to completion, repetitively, in excess, etc.). Unlike Type A and Type B, Type C constructions are not fully productive and may undergo lexicalization. Fourthly, in Pseudo-applicative constructions, the applicative morpheme found on a lexicalized stem does not introduce an applied phrase and does not perform semantic and/or pragmatic functions described for Type B and Type C.

Because the last type, especially, has not been acknowledged in prior literature, the dissertation presents a historically informed case study of 78 pseudo-applicative forms in Tswana (S31), a southern Bantu language spoken in Botswana and South Africa.

Finally, this study argues that both the synchronic functions of the Bantu applicative suffix *-*id* and the lexicalization paths emerging from the study of Tswana pseudo-applicative forms support an original Location/Goal function of *-*id* in Proto-Bantu, rather than an original Beneficiary function.

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CHAPTER I

INTRODUCTION

1.1 Objectives of the study

This work has three main objectives. The first one is to offer an up-to-date review, after the seminal work of Trithart (1983) and the recent work of Jerro (2016a), of the multiple functions of the semantically underspecified applicative suffix *-id in Bantu languages, and to assign these functions to four different types of constructions involving the applicative suffix *-id. The current work is complementary to the important work of Jerro (2016a), as it draws out different aspects of constructions involving the applicative *-id. Jerro (2016a) addresses, among others, the multiple functions and senses of the reflexes of *-id, the interaction between verb classes and locative applied phrases in Ruanda, and proposes a new conceptualization of the *-id applicative morpheme within a formal semantics framework.

The second main objective of this work is to present a historically informed case study of “pseudo-applicatives” in Tswana (S31), a southern Bantu language spoken in Botswana and South Africa. Pseudo-applicatives are lexicalized, frozen applicativized verb stems in which: (i) the applicative suffix has lost its ability to introduce an applied phrase to the argument structure of its verb root; and (ii) the applicative suffix does not perform semantic and/or pragmatic functions described in previous Bantu literature. As an illustrative example consider the frozen applicative form *lalel* [lál-él] ‘have dinner’ (2), derived from the root *lál* [lál] ‘lie down, stay overnight, spend the night’ (1). The

root *lal* [lál] is syntactically intransitive, it takes only a subject index (cf. *rì-* in (1)) and is followed by an optional locative prepositional phrase.

Tswana (S31; Creissels ms.b: 148)¹

- (1) *Re tlaa lala mo nageng*
rì-tlàà-lál-à (*mó* *nàχé-ŋ*)
 S1P-FUT-lie.down-FV LOC CL9.bush-LOC
 ‘We will lie down/spend the night in the bush.’

The pseudo-applicative *lalel* [lál-él] ‘have dinner’ is also syntactically intransitive: it takes only a subject index (cf. *rì-* in (2)) and is followed by an optional instrumental prepositional phrase (cf. Creissels & Chebanne 2000: 85).

Tswana (S31; Creissels ms.b: 149)

- (2) *Re tlaa lalela ka dikgobe*
rì-tlàà-lál-él-à (*ká* *dí-q^hǎ:bè*)
 S1P-FUT-lie.down-APPL-FV INSTR CL10-beans.and.maize
 ‘We will have beans and maize for dinner.’ (lit: ‘we will have dinner (with beans and maize)’)

The third objective is to argue that, contra what has been proposed by Trithart (1983), both the synchronic functions of the Bantu applicative suffix *-id and the lexicalization paths emerging from the study of frozen, pseudo-applicative forms in Tswana support an original Location/Goal function of the *-id applicative suffix in Proto-Bantu (henceforth PB).

¹ In reporting examples from Tswana in this work, I follow Denis Creissels’ convention of giving both the standard orthographic notation (first line of each Tswana numbered example) and a broad phonetic transcription with concomitant segmentation between phonological words. This is necessary because crucial information concerning tone, vowel quality, and bound morphemes is not reflected in the standard orthography. Unlike Creissels, in the broad phonetic transcription of Tswana, I use the IPA symbol [ɪ] instead of [i].

I choose to use the term “pseudo-applicative” to follow the already established terminology of Good (2007), who investigates cases of “pseudo-passive” and “pseudo-causative” morphology in Bantu languages as instances where, respectively, the passive morpheme does not decrease verbal valence and the causative morpheme does not increase it. In fact, it is Good (2007) who raises the question of whether it is feasible to talk of pseudo-applicatives in Bantu languages as a case of verbal deponency, i.e. a mismatch between form and function involving derivational morphology. Good (2007) argues that while passive and causative morphology in Bantu each have one well defined function (decrease or increase the valence of the verb root, respectively), the applicative morpheme has a plethora of functions besides being a valence-increasing device. In this work, I take on this question and attempt to show that it is in fact possible to identify and discuss pseudo-applicatives as cases of mismatch between verbal morphology and clausal syntax.²

Lexicalizations of applicatives appear to be a fairly common phenomenon cross-linguistically (Munro 2000, Mithun 2002, Peterson 2007, Zúñiga 2013, *inter alia*) that has not received much attention. Trithart (1983: 192) notes that lexicalizations involving the PB applicative suffix *-id are unsurprisingly common given the extremely old age of this suffix. However, I am unaware of studies within or outside of Bantu which deal systematically with lexicalization paths of applicativized verbs with a

² The term “pseudo-applicative” is used elsewhere with different meanings. For instance, in their Minimalist analysis of some applicative constructions in some languages of lowland South America, Carol & Salanova (2012) use the term “pseudo-applicative” to refer to constructions where the applicative does not change verbal valence, but rather modifies the order of the syntactic dependents of the verb. An equivalent of the term “pseudo-applicative” as used in this work is probably “valency-neutral, lexicalized applicative” as used by Zúñiga (2013: 3) to describe some applicatives in Mapundungun.

(possible) concomitant loss of the “adding” function of the applicative. This work includes a first attempt of a historically informed study of pseudo-applicatives in Tswana.

Given the numerous functions of the Bantu *-*id* applicative suffix, in order to properly separate pseudo-applicative constructions from other applicative constructions, I propose a language/family-specific four-way distinction among applicative constructions, relevant at least to Bantu: (1) TYPE A applicative constructions; (2) TYPE B applicative constructions; (3) TYPE C applicative constructions; and (4) PSEUDO-APPLICATIVE constructions. In Type A applicative constructions, the applicative expands the argument structure of a given verb root by introducing an obligatorily present applied phrase. This expansion might result, but need not, in a clear-cut, indisputable increase in the syntactic valence of the derived verb stem. Type A applicative constructions include cases in which an applicative stem shows some degree of lexicalization with respect to the meaning of its root and the applicative suffix still has the ability to introduce an applied phrase. In Type B applicative constructions, the applicative expands the argument structure of a given verb root by introducing an obligatorily present applied phrase *and* performs other semantic/pragmatic functions on the applied phrase or on the whole clause (e.g. the applicative makes the applied phrase the narrow-focused constituent in the clause). As in Type A applicatives, syntactic valence *might* be increased, but needs not be. In Type C applicative constructions, the applicative does not introduce an applied phrase. Instead, it provides semantic nuances to the lexical meaning of the root with which it combines (e.g. the action described by the root is performed to completion, with intention, iterativity, in excess, etc.). Unlike Type A and Type B, Type C applicative constructions are not fully productive and may

undergo lexicalization. In Pseudo-applicative constructions, the applicative morpheme does not introduce an applied phrase and the applicative stem usually shows a high degree of lexicalization (e.g. non-compositional meaning) with respect to the meaning of its extant root, if any (cf. *lalele* in (2)).

This first chapter discusses the origins of the term “applicative”, and presents a brief discussion of Bantu languages from historical and genetic points of view. It also introduces the language sample and conventions used in this work and an overview of other suffixes, besides *-id, which function as applicatives in some Bantu languages but will not be considered in the present work. Chapter II illustrates the widespread distribution of applicatives across language families of the world and discusses challenges for current definitions of applicatives in capturing the structural and functional variation of applicative types within and outside of Bantu. Chapter II also discusses theoretical approaches which have shaped our current understanding of applicatives. Chapter III discusses complications regarding the morphosyntactic nature and properties of the applied phrase in Bantu, establishes definitions, terminology and theoretical assumptions relevant for the family/language-specific four way distinction of Bantu applicative constructions in Chapter IV, and presents morphophonological features of the Bantu *-id applicative suffix relevant to the discussion throughout this work. Chapter IV introduces the four-way distinction between Bantu Type A, Type B, Type C and Pseudo-applicative constructions, their structural features and some parameters along which these constructions vary. Chapter V explores in more detail the semantic and pragmatic functions of Type A, Type B and Type C applicative constructions set forth in Chapter IV. Chapter VI is a case study of nearly 80 pseudo-applicative stems in Tswana and their history. Chapter VII is devoted to the historical

origins of the *-id applicative suffix in Bantu and attempts to show that the functions illustrated in Chapter V and the lexicalization paths emerging from Chapter VI support an original Location/Goal function of the *-id applicative suffix in PB. Chapter VIII concludes this work.

1.2 Origins of the term “applicative” and alternative names

The term “applicative” comes from Latin *applicatum* ‘attached’ and was first used in its linguistic sense by del Rincón (1595) and subsequently by Carochi (1645) (Glottopedia 2008). These were Jesuit missionaries in Meso-America who wrote early grammars of Nahuatl commonly known as *artes* ‘arts’ from Latin *ars grammatica* ‘grammatical art’.³

The Nahuatl grammar of Father Antonio del Rincón is divided into five books, the third of which is dedicated to nominal and verbal derivation. In the fifth chapter of the third book, del Rincón (1595: 44) defines *verbos applicatiuos* ‘applicative verbs’ as follows:

verbo applicatiuo es. [sic] el que significa la action del verbo, donde descende perteneciente a otro, a quien juntamente de nota, atribuiendose la por via de daño o prouecho quitandosela o poniendosela [...] y assi quando se deriuian de verbos transitiuos, rijen dos casos vno en quien passa la action del verbo y otro de aquel a quien se denota pertenecer. v.g. nic cotonilia imapil Pedro. cortole el dedo a Pedro. [An applicative verb signifies the action of the verb from which it derives as belonging to another to whom this action is attributed by means of detriment or benefit, by taking away or assigning the action [...] when transitive

³ Other missionaries before del Rincón and Carochi, such as André de Olmos (1547), classified the applicative morpheme *-lia* in Nahuatl as a particle that could combine with active verbs. André de Olmos (1547: 121) notes the difficulty in describing such a particle because there was no equivalent form in Latin grammar.

verbs are derived, they govern two cases, one who undertakes the action of the verb and the other to whom the action belongs, e.g. *nic cotonilia imapil Pedro* ‘I cut the finger to (the detriment/benefit of) Pedro’. (My own translation)

Del Rincón describes the “two accusative cases” governed by the applicative verb, which are presumably two object NPs, one of which is introduced by the applicative. With the terms “detriment” and “benefit”, he describes benefactive and malefactive arguments.

A few decades later, Carochi (1645: 466) offers a very similar definition of *verbos aplicatiuos* in his grammar of Nahuatl, with examples of mostly malefactive applicatives:

verbo aplicatiuo es el que ordena la accion del verbo a otra persona, o cosa, atribuyendosela por via de daño, o prouecho, quitandosela, o poniendosela, o refiriendosela de cualquier manera que sea, como se entenderá por los ejemplos; verbi gracia: *nitlaqua*, como algo, su aplicatiuo es *nictlaquālia in notàtzin*, como algo a mi Padre, como si tenia fruta, o otra cosa, y se la como. [An applicative verb is one that commands the action of the verb to another person, or thing, by attributing the action as damage, benefit, by taking the action away or adding it, or by referring to the action in whichever way, as will be seen in the examples; *nitlaqua*, ‘I eat something’, its applicative is *nictlaquālia in notàtzin*, ‘I eat something (that was intended) to my father’, as if he had fruits or something else and I eat that.] (My own translation)

Throughout the centuries, the term “applicative” continued to be used in the Uto-Aztec linguistic tradition, where there have been numerous studies on argument structure changing operations due to the rich verbal morphology that characterizes

languages in this family (see Caballero 2011: 493 and ff. for an exhaustive list of references).⁴

Within Bantu studies, it is hard to determine who was the first to introduce the term “applied” or “applicative”. European explorations of Africa for expansionist purposes started in the fifteenth century and usually brought along evangelization agendas. For instance a Portuguese Christian mission was established in the Kingdom of Kongo as early as 1491 (July 1992: 135). Missionaries from different Christian denominations wrote grammatical sketches and vocabularies of Bantu languages that were available to the public as early as the seventeenth century. For instance, the Baptist missionary Rev. W. Holman Bentley (1887: xi) reports that the Italian Capuchin missionary Giacinto Brugiotti da Vetralla⁵ (1659) composed one of the earliest grammar sketches and vocabulary of the Bantu language Kongo in Latin. The Kongo grammatical sketch of Giacinto Brugiotti was, in fact, the first ever grammatical description of a Bantu language (Doke 1993) and the first ever published grammar of an African language (Turchetta 2007: 17). Brugiotti (1659, translated in English by Guinness 1882)

⁴ Because of the geographical vicinity between the Nahuatl-speaking area and the Mayan-speaking Yucatan peninsula, one might assume that missionaries in contact with Mayan speakers also used the term “applicative” in their Latin-based grammatical descriptions. However, the term is absent in the early Mayan grammars that I have consulted, which were composed by Franciscan missionaries. This might be due to the fact that early grammatical descriptions by Franciscan missionaries were “reduced” so that they could be taught to evangelists and therefore were lacking in many respects (Acuña 1996: 22, Acuña 1998: 26).

⁵ Bentley (1887) and other English sources on Bantu (Doke 1993) report the last name of the Italian Capuchin missionary as “Brusciotto”. This appears to be a misspelling. Turchetta (2007), who translated Brugiotti’s grammatical sketch of Kikongo from Latin to Italian, reports the name as “Brugiotti” and not “Brusciotto”.

calls what is now known as an applicative verb form a “respective verb” (in the Italian translation of Turchetta 2007, *verbo rispettivo*) and defines it as:

A respective verb is to be understood as that which has respect to another person or place [...]; wherefore if we say ‘pray God for me’ it would not be correct to say, *abhinga nZambianpungu múniina*, but we must say *umpinguila cua nZambianpungu*, because *cubhinga* is a verb absolute, but *cubhinguila* a verb respective, and is derived from the preterite of its verb absolute. (Guinness 1882: 42-43, emphasis in the original).

It is not easy for me to understand the Kongo examples offered by Father Giacinto.

What is, however, clear is the distinction between *cu-bhinga*, an infinitive form meaning ‘pray’, and *cu-bhingu-il-a* a derived infinitive form of the same verb with the applicative suffix *-il* ‘pray for someone’.⁶

At the end of the nineteenth century, the German linguist Wilhelm Heinrich Immanuel Bleek, father of Bantu philology and coiner of the name *Bâ-ntu* ‘people’, uses the term “relative form of the verb” (Bleek 1873: 8)⁷ in comparing the applicative suffix *-el-a* of southern Bantu languages (Xhosa, Tswana and groups in Damaraland, nowadays Namibia) to *-ba* and *-a* of Khoisan languages, pejoratively named back then “Hottentot” and “Bushman” (cf. Güldemann & Vossen 2000). Endemann (1876: 64) uses the term *direktiv* “directive” to refer to the applicative suffix in Sotho. Steere (1884: 158) and

⁶ It is fascinating to see how difficult it is for Father Giacinto Brugiotti da Vetralla to deal with a verbal category so “exotic” from a Latin/Indo-European perspective. Among other things, Father Giacinto has the impression that “respective verbs are used to be more concise” (Turchetta 2007: 107).

⁷ The terms “applied”, “relative” or similar are not present in Bleek’s (1862, 1969) comparative grammar of South African languages, which treats phonological processes and noun classes. The part of the grammar dedicated to verbs was never completed.

Bentley (1887: 627) are among those who use the term “applied form” to describe the applicative suffix in some variety of Kongo and in the Swahili spoken in Zanzibar, respectively. The term “applicative” is used later by Torrend (1891: 276), Stapleton (1903: 201) who also uses “prepositional” (see also Crabtree 1921: 116), Meinhof & van Warmelo (1932: 45), Watkins (1937: 72), Guthrie (1967, 1970) who also uses “directive” (Guthrie 1967:34, 1970: 106), and Meeussen (1967: 92), among many others, to name the PB suffix *-id and its reflexes (cf. Damman 1961: 160-161 for a review of terms used by different Bantuists to refer to the applicative suffix). Doke (1935: 52-53), in his dictionary of Bantu linguistic terminology, next to the English entry “applied” gives the French and German equivalents *applicatif* and *relativ*, respectively. Doke (1935: 53) observes:

The applied form of the verb is used to indicate the action when applied on behalf of, towards or with regard to, some object. Thus, the applied form of intransitive verbs may take two objects; it is therefore called by some writers the “objective form”. Since the sense of this form is supplied in English by the use of such prepositions and prepositional phrases as “for”, “on behalf of”, “to the detriment of”, “towards”, some writers term it the “prepositional form”. With verbs of motion it conveys the idea of “motion towards”; it is therefore sometimes called the “directive form”. Others again call it the “relative form”. Amongst English writers, the term “applied” seems to have gained ascendancy over any other term.

As Peterson (1999: 1) claims, there is no direct evidence of a connection between the use of the term “applicative” in the Uto-Aztecan and Bantu linguistic traditions, but such a connection via missionary environments cannot, in principle, be excluded.

In the 1950s and 1960s, linguistics dictionaries report the term “applicative” in combination with the term “aspect”. This is the case of *A dictionary of linguistics* (Pei &

Gaynor 1954), where under the entry “applicative aspect” the reader is sent to “benefactive aspect” defined as “a verbal aspect (variously termed also *accommodative*, *applicative* and *indirective*), expressing that the action or state denoted by the verb is performed or exists for or in the interest of another person.” (Pei & Gaynor 1954: 28, italics in the original).

The term “accommodative aspect” probably originated in the Latin/Romance philological literature. In The Real Academia dictionary of philological terms (Lázaro Carreter 1962: 52), *aplicativo* has two senses:

1. se dice de la forma verbal empleada con el dativo *commodi* o *incommodi*; 2. aspecto *aplicativo*, vid. *acomodativo* (aspecto). [1. said of the verbal form used with *dativus commodi* or *incommodi* (i.e. dative of benefit or harm); 2. applicative aspect, see accommodative aspect.] (my own translation)

Under *acomodativo* (*aspecto*) we find:

se da en lenguas no indoeuropeas e implica que la acción del verbo se acomoda en beneficio de alguien. Recibe también los nombres de *aplicativo*, *benefactivo* e *indirectivo*.” [It is found in non Indo-European languages and implies that the verbal action is accommodated on behalf of someone. It is also called applicative, benefactive and indirective] (my own translation)

At that time, at least in certain linguistic/philological traditions, the term “applicative” was used primarily to refer to the verbal form used with the so-called *dativus commodi* or *incommodi*, i.e. a usage of the Latin dative case to convey the meanings of benefit and/or harm towards someone (Oniga & Schifano 2014: 250). The modern meaning of the term “applicative” (i.e. for non-Indo-European languages) was referred to as “accommodative aspect” probably because of *dativus commodi*, from Latin *commodus* ‘suitable’ > *accommodare* ‘accommodate’. It is likely through the Latin/Indo-European

tradition that the current term “dative (applicative)” came to be used (cf. for instance Schadeberg 2003a: 72, Dimmendaal 2009).

However, there are also indications that the terms “applicative” and “accommodative aspect” were used as translational equivalents and/or synonyms of each other. For instance, in a German linguistics dictionary (Knobloch & Akhmanova 1961: 150), the term *applikativ* is given as the equivalent of English *accommodative aspect* and defined as: “Verbalform, die mit einem eigenen Affix auf ein indirektes Objekt hinweist, zu dessen Vor- und Nachteil die Handlung geschieht” [A verbal form that indicates, by means of a dedicated affix, an indirect object to the detriment and/or advantage of which the action takes place (translation by Matthias Pache)]. Similarly, in a Russian dictionary of linguistic terms (Akhmanova 1966: 53), the Russian term *applikativ* ‘applicative’ is given as a synonym of *applikativnyj vid* ‘applicative aspect’, *applikativnaja forma* ‘applicative form’ and *blagoprijatstvjuščij vid* ‘accommodative aspect’; and as a translational equivalent of English *applicative* and *applied (accommodative) aspect*. It is defined as: “v nekotoryx kavkazskix, afrikanskyx i drug. jazykax proizvodnaja forma glagola, pridajuščaja dannomu glagol’nomu dejstvu značenje blagoprijatstvovania ob’ektu” [in some Caucasian, African and other languages, a derivative form of the verb conveying to a given verbal action the meaning of favorability to an object (my own translation)].

In the late 1970s, within the theoretical framework of Relational Grammar, several authors called applicativization phenomena “object advancement”⁸ (Norman 1978, Aissen 1983, 1987, Bell 1983), “objectivization rules” (Kimenyi 1980), or “rule of

⁸ In Relational Grammar terminology, “advancement” can refer, among others, to 3-to-2 advancement, where 3 stands roughly for indirect object and 2 roughly for direct object.

Dative” (Chung 1983). For instance, Aissen (1983: 281) calls the Tzotzil suffix *-be* “a morphological reflex of the advancement of indirect object to direct object” (cf. also Norman 1978: 458, who describes reflexes of **-b’e* in several Mayan languages as a marker of the advancement of instrument to direct object).

Within the Mayan tradition, these suffixes were later called “voices”, i.e. “benefactive voice”, “instrumental voice” (Grinevald & Peake 2012: 38). The use of the term “voice” instead of “applicative” is also common in languages of the Philippines (Thomas Payne, p.c.) (cf. Cebuano “locative voice” and “benefactive voice” in Bell 1983).⁹

In Georgian, some constructions called “versions” (i.e. “locative version” or “objective version”) can, in certain contexts, function like applicatives (Harris 1981, Creissels 2006a: 74, Gurevich 2006).¹⁰ In literature on Ainu, the terms “appropriative” and “demonstrative” have been used to refer to applicative constructions (Bugaeva 2010: 752).

⁹ See, however, Kulikov (2011) for why, according to certain definitions of “voice”, applicatives cannot be considered instances of “voice” *sensu stricto*.

¹⁰It should be noted, however, that the Georgian locative and objective versions “promote” an oblique to the status of indirect object which, along with subject and object, is a core grammatical relation in Georgian (cf. discussion in §2.3).

1.3 Bantu languages from a historical and genetic perspective

In this section, I first present an overview of the placement of Bantu languages within the Niger-Congo language phylum. Second, I discuss the most recent attempt at a non lexicostatistically-based internal genetic classification of Bantu languages (Nurse & Philippson 2003). Third, I briefly illustrate the two models of the Bantu homeland and expansion which stem from (non-)lexico-statistical attempts at internal classification. This historical and genetic discussion is intended to make non-Bantuist readers aware of the challenges of determining what counts as strictly “Bantu” and at establishing genetic subgroupings. This discussion is relevant background to several chapters of this study, especially Chapter VI, which presents a case study of pseudo-applicatives in Tswana and links them to reconstructed proto-forms, and Chapter VII, which considers possible implications of the findings of Chapter VI for the current views on the original function of the suffix *-rd in PB and even back in Niger-Congo.

The Bantu languages, spoken throughout Sub-Saharan Africa down to the southern tip of the continent, belong to the Niger-Congo language family (originally named by Greenberg 1963 “Niger-Kordofanian”), the largest language phylum in Africa.¹¹ The map in Figure 1 shows the geographical location of some major sub-groups included by some scholars under Niger-Congo.

¹¹ For an extensive discussion of Niger-Congo internal classifications, reconstructions of sub-groups and modifications thereof since the 1940s, I refer the interested reader to Welmers (1973), Bendor-Samuel (1989), Williamson & Blench (2000), Dimmendaal (2011), and Blench (2012), among others.

Figure 1: Geographic location of some Niger-Congo subgroups (based on Dimmendaal 2011: 321)



The exact number of Bantu languages varies, partially depending on where the line is drawn between “language” and “dialect”. Another problem with counting Bantu languages is that it is not always clear, for languages spoken in the northwestern Bantu area (southeastern Nigeria, Cameroon and the north part of the Democratic Republic of Congo), whether a given language is genetically Bantu or simply resembles Bantu languages in some traits (cf. Nurse 2002, Marten 2006: 44 and the discussion below). Despite these difficulties, estimates vary from 440 to 680 languages (Nurse 2002).

There is no consensus on the precise internal structure of Niger-Congo. Several branches and subgroups within Niger-Congo are considered to be coherent genetic groups by some scholars but not by others. Further, even when there is agreement that a subgroup or branch is a coherent genetic group, there can be debate as to whether the subgroup should be affiliated with Niger-Congo at all. For example, Dimmendaal (2011: 319) argues that Benue-Congo, Kwa, Gur, Adamawa and Kru are certainly genetically related groups within Niger-Congo, based on cognate grammatical morphemes. In Dimmendaal’s opinion, however, Mande and Ubangian are best treated as independent language families and Greenberg’s Atlantic group is dubious at best. Dimmendaal’s view is criticized by Blench (2012: 1), who argues that the “extreme” position taken by Dimmendaal (2011) “rejects numerous established branches and treats them as ‘independent’.”

Since it will be relevant to the discussion in Chapter VII, it is worth noting that Greenberg (1963) combined Westermann’s (1927) “West Sudanic” and Bantu into a phylum called Niger-Congo (Williamson & Blench 2000: 15). Within Niger-Congo, Greenberg (1963) modified Westermann’s (1927) subgrouping in the following ways: (i) Westermann’s “Benue-Cross” was renamed “Benue-Congo”; Adamawa Eastern was

added to the phylum and it was later renamed Adamawa-Ubangi;¹² Kordofanian (previously a small separate phylum) was combined as a subphylum co-ordinate with Niger-Congo as a whole and the phylum was renamed “Niger-Kordofanian” or “Congo-Kordofanian” (Williamson & Blench 2000). Post-Greenbergian scholars (cf. Bendor-Samuel 1989 and papers therein) later renamed Greenberg’s (1963) “Niger-Kordofanian” as “Niger-Congo” and proposed (ongoing) modifications to its internal structure (cf. Williamson & Blench 2000: 16 for details).

With these considerations in mind, I reproduce in Figure 2 a recent Niger-Congo tree from Blench (2012), with the caveat that, as Blench (2012: 3) states “any tree for Niger-Congo is more a tool for thinking than a design set in stone.” The Benue-Congo branch to which Bantu belongs is circled in red in Figure 2. The entire Benue-Congo branch of Niger-Congo is in Figure 3, where the low level node representing (Narrow) Bantu is circled in red. The trees in Figure 2 and Figure 3 adopt a nomenclature system proposed by Stewart (1989, cited by Williamson & Blench 2000: 16) in which “the direct ancestors of Bantu, from Niger-Congo to Benue-Congo, all had compound names ending in ‘-Congo’, while lower nodes naming relatively closely related groups ended in ‘-oid’” (cf. “Bantoid” in Figure 1 and Figure 3).

¹² As observed above, Dimmendaal (2011) observes that Ubangian might not belong to Niger-Congo at all. On the other hand, Blench (2012) states that no evidence has been presented for a solid relation between Adamawa and Ubangian. He includes various Adamawa subgroups, plus Ubangi, plus Gur under the so-called “Gur-Adamawa continuum” (cf. Figure 2).

Figure 2: Proto-Niger-Congo (based on and adapted from Blench 2012: 4)

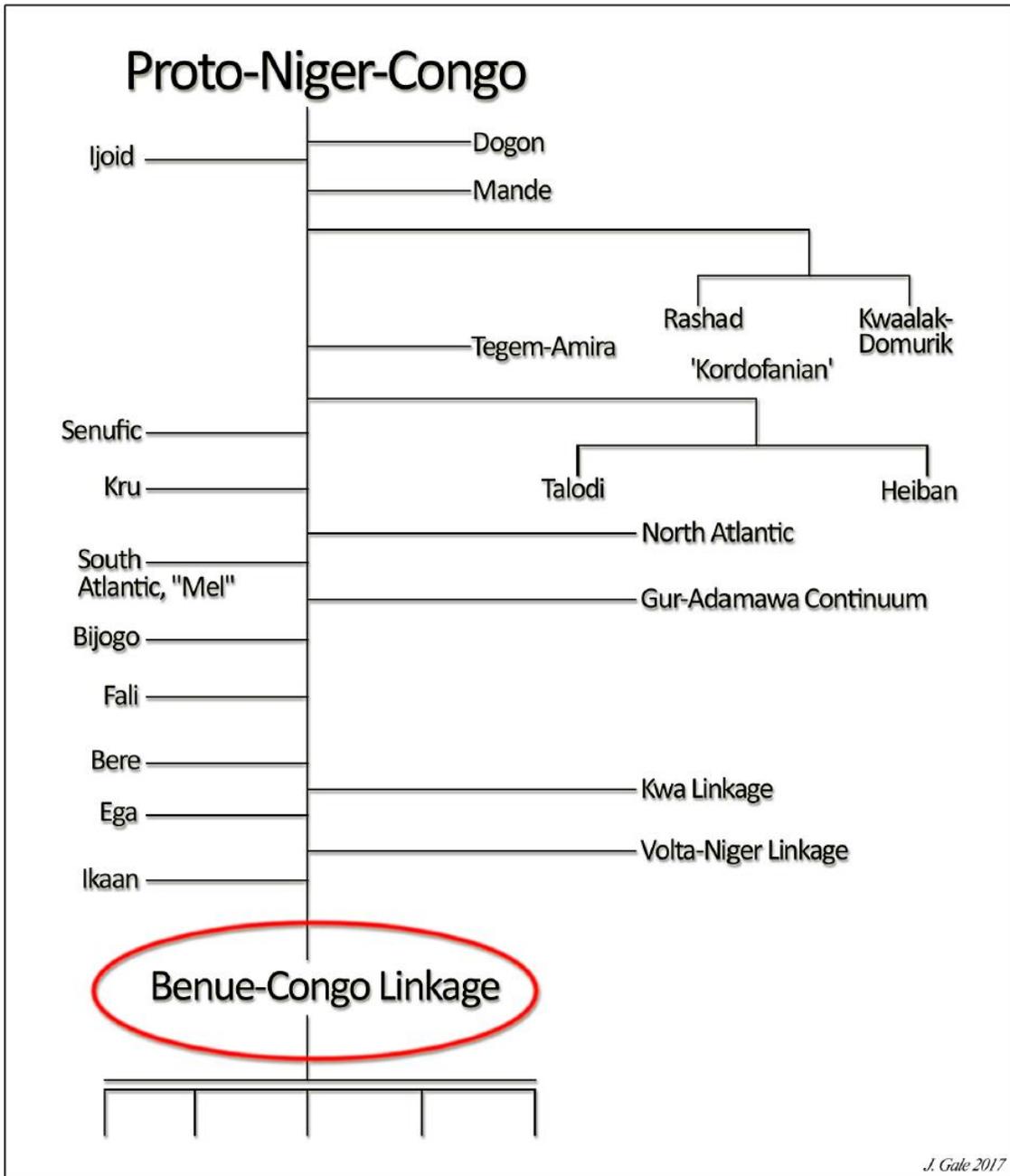
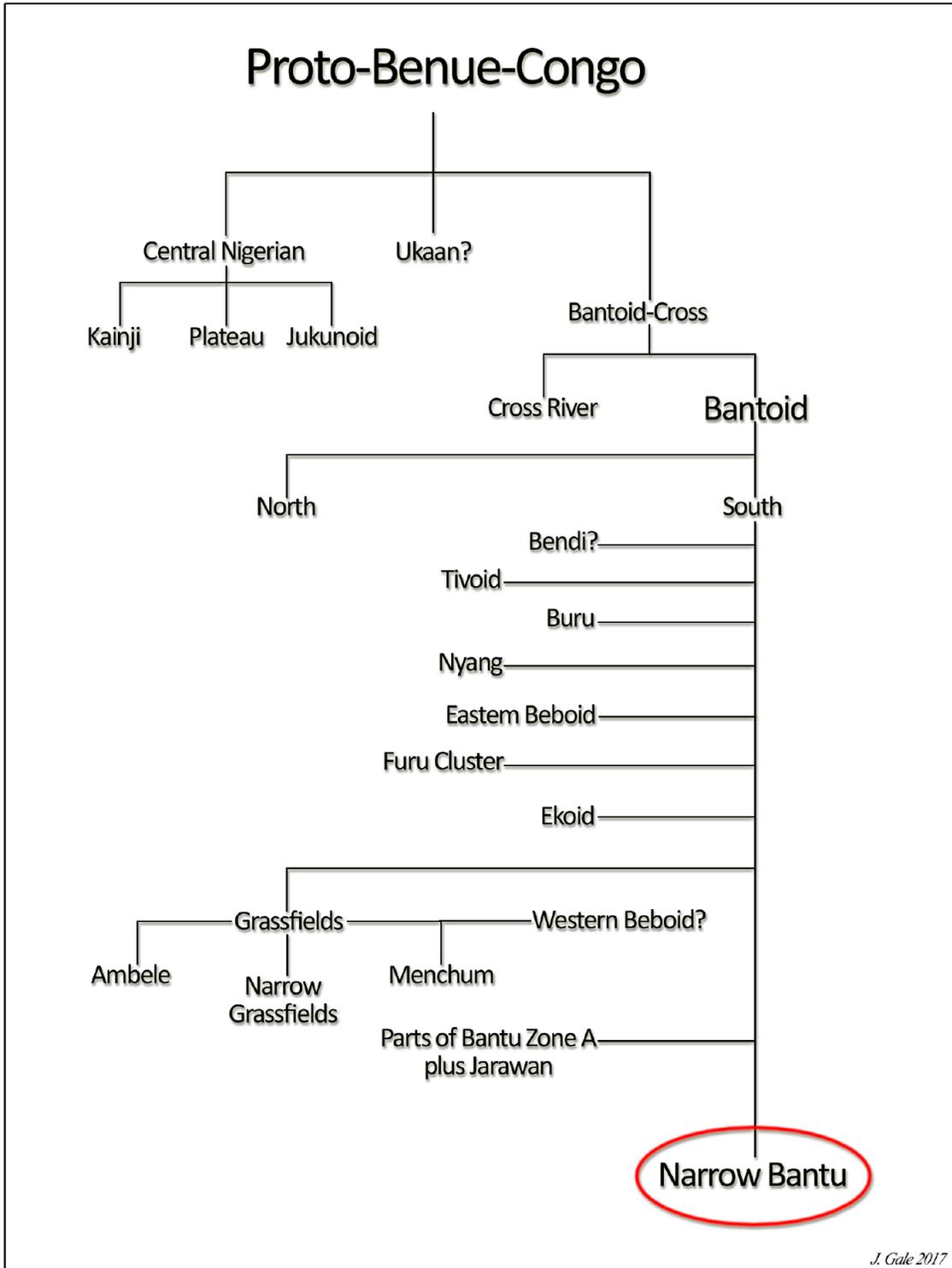


Figure 3: Proto-Benue Congo within Proto-Niger-Congo (based on and adapted from Blench 2012: 5)



A few things should be explained to the reader with respect to labels “Bantoid”, “Narrow Bantu” and “Parts of Bantu zone A plus Jarawan” used in Figure 3. The term “Narrow Bantu” is usually found in opposition with “Wide Bantu”. “Wide Bantu” includes Bantu and Bantoid languages, that is, languages which show some sort of similarity with Bantu languages but are not considered to be genetically Bantu (hence the confusing term “Non-Bantu Bantoid” cf. Williamson & Blench 2000: 34). There are about 150 Bantoid languages located geographically between Cameroon and Nigeria (Blench 2011). These are positioned genetically between Benue-Congo and (Narrow) Bantu in Figure 3 (cf. Dakoid, Mambiloid, Tivoid, etc.). “Narrow Bantu” refers only to the Bantu languages identified by Guthrie (Williamson & Blench 2000: 34) and divided by him into 15 mostly geographic zones (from the northwestern zone A to the most southern zone S) identified by letters (see Figure 4 and discussion in the next paragraph).

According to Nurse (2002), archaeology suggests that about 5000 years ago parts of the ancestral Bantu community left their homeland in western Africa, in the Nigeria-Cameroon borderland, and moved south and east through the rainforest. Another part of the ancestral Bantu community, the northwestern Bantu languages, interacted linguistically with other Niger-Congo languages located in that area, some of which became Bantu-like, i.e. “Bantoid”, because of contact. As Nurse (2002) observes “the northwestern languages have become less like their Bantu siblings and more like their Niger-Congo cousins, to the point where it is hard to draw an unambiguous line between them”.¹³

¹³ To make the situation even more complex, there are also the “Grassfields Bantu” languages (cf. Figure 3). These are more than fifty languages located in the mountain region of West and North

In the most recent opinion of Blench (2011, 2012), represented in Figure 3, parts of the northwestern Bantu zone A languages spoken in Cameroon (especially the A60 group) should be separated from other Narrow Bantu languages, as posited by Guthrie, and form their own sub-group together with the former Bantoid Jarawan languages (Williamson & Blench 2000: 35), spoken in northern Cameroon and east-central Nigeria, more recently re-classified as “Jarawan Bantu” (Blench 2011).¹⁴ Blench (2012) argues that “Bantoid” is not a genetic unit but rather an areal grouping and that “Bantu” is also not a genetic group in its entirety, as languages classified by Guthrie in zone A cannot be linked to languages in other Bantu zones by means of comparative reconstruction.

Notwithstanding these difficulties, I will now present the most recent views of Bantuists on the internal historical classification of Narrow Bantu. From this paragraph onwards “Narrow” Bantu must be understood not in the sense of Blench (2012) (cf. Figure 3), but in the traditional sense of the Bantu languages identified by Guthrie in zones A to S. As observed above, the entire Bantu-speaking area was divided by Guthrie (1967-71) into 15 zones indicated by letters. Guthrie’s zone T was later subsumed under zone S. Zone J was not present in Guthrie’s original system: it was later introduced by Achille Emile Meeussen and includes many of the languages classified in zones D and E

West and South West Cameroon (Watters 2003). According to Watters (2003: 227), most scholars agree that Grassfield’s Bantu, as well as other language clusters of the Cameroon-Nigeria area, are the nearest cousins of (Narrow) Bantu.

¹⁴ According to Grollemund & Philippson (to appear), recent phylogenetic studies in Bantu confirm that languages in zone A (A44-46, sometimes A50, A60 but not A63) were the first to branch off from PB.

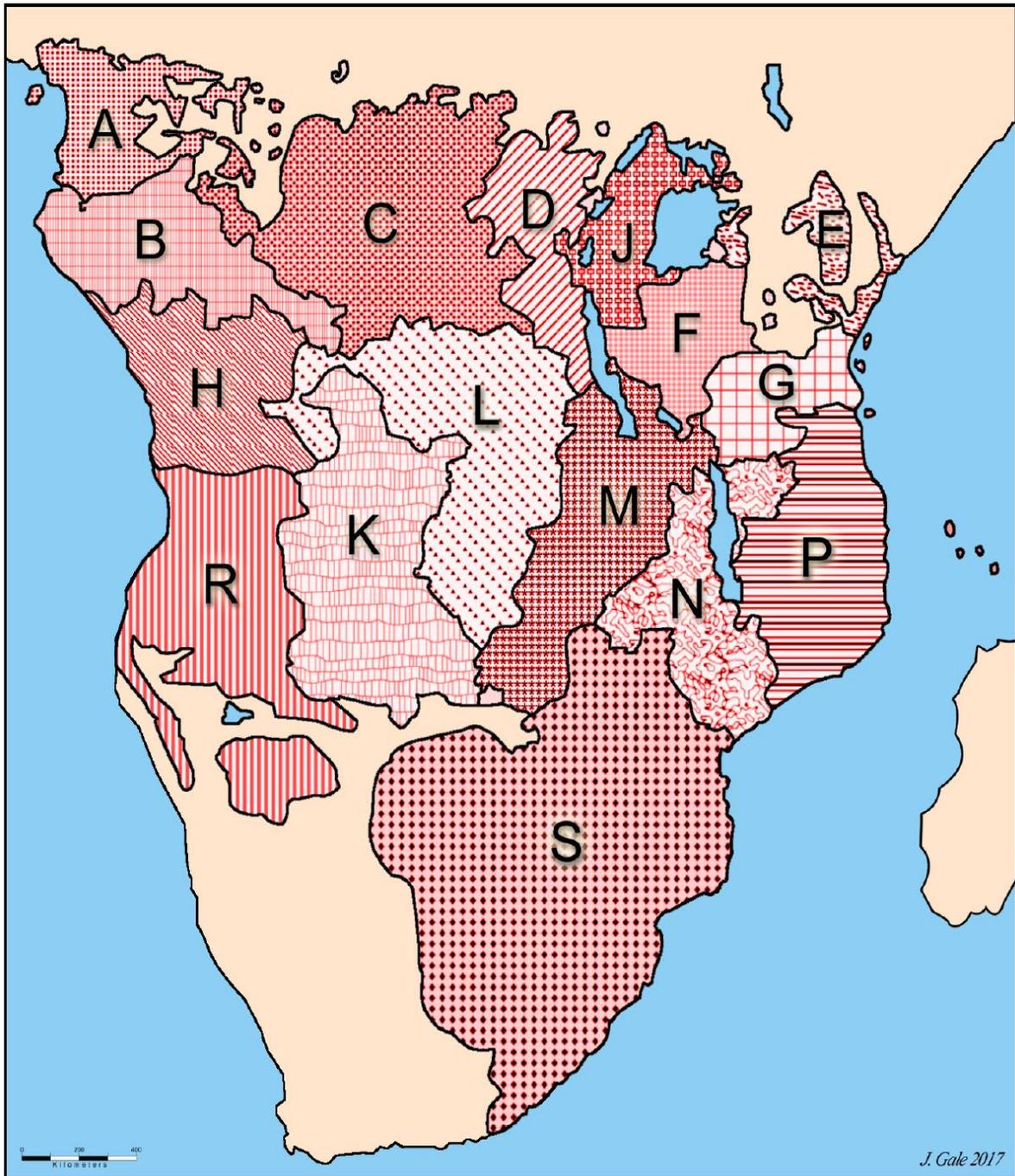
by Guthrie (Bastin 2003: 502).¹⁵ A post-Guthrie subdivision of Bantu languages into zones is shown in Figure 4.

Guthrie's referential classification, i.e. a classification that allows one to refer to a specific language by means of an alphanumeric combination, is probably the most widely used but certainly not the only one (see Maho 1999: 29 and ff. for an extensive review of other referential classifications). Most importantly, Guthrie never meant his classification to be historical or genetic.¹⁶ It is a geographically-based classification, most useful as a reference tool for locating particular languages and language groups (see Maho 1999: 32-34). In the system developed by Guthrie, sets of ten after a letter refer to a group of languages (A10, A20, etc.), whereas A11, A12, A13, etc. refer to specific languages within a group.

¹⁵ The decision to introduce Zone J was based on the fact that Belgian scholars observed phonological, morphological and lexical similarities between certain groups of languages in Guthrie's zones E and D (Gérard Philippson, p.c.). To avoid confusion, languages in zone J are labelled JD or JE (plus a number) depending on which Guthrie's zone they originally belonged.

¹⁶ In their tentative non-lexically based historical classification of Bantu languages, Nurse & Philippson (2003: 170) observe that "of Guthrie's fifteen zones, not a single one has survived as a self-standing historical unit, although some still have a substantial core".

Figure 4: The (Narrow) Bantu languages of Guthrie plus zone J (based on and adapted from Bostoen 2008: 353)



Bantu scholars (cf. Schadeberg 2003b) usually agree on a non-genetic broad subgrouping with diffuse limits, which separates the less conservative northwestern Narrow Bantu languages (zones A, B, C and small adjacent groups of D and H), spoken in Cameroon, Gabon, Congo and parts of the Democratic Republic of Congo (DRC), from the rest of Narrow Bantu (cf. also Williamson & Blench 2000). The northwestern languages are often called “Forest” Bantu and the rest “Savannah Bantu”, based on the ecological habitats where speakers are located.

To date, there is no established and agreed upon internal genetic classification of the Narrow Bantu languages (but see the discussion of Nurse & Philippson 2003 below). Authoritative reviews (Nurse 1994, Nurse 1997, Nurse & Philippson 2003, Grollemund & Philippson to appear) indicate that almost all major modern attempts to propose an internal historical classification of Bantu languages are based on lexicostatistics, lexical innovations or counting of morphological features (cf. for instance Heine 1972, Coupez et al. 1975, Heine et al. 1977, Nurse & Philippson 1980, Bastin et al. 1983, Ehret 1998, Bastin & Piron 1999, Bastin et al. 1999). In the last fifteen years, there have also been classification attempts based on phylogenetic methods, many of which entirely rely upon previous lexico-statistical data (see Marten 2006 and Grollemund & Philippson to appear for a detailed review). Nurse & Philippson (2003) observe that most vocabulary-based historical classifications point to an initial split between northwestern languages and the rest. There is variation, however, in the specificities of the internal subgrouping of the rest, often broadly divided into Western and Eastern Bantu.

In their tentative historical classification of Bantu languages based on shared innovations of non-lexical features, Nurse & Philippson (2003) find no phonological or morphological features which unequivocally support a single Savannah sub-

group/branch within Narrow Bantu. This is despite previous, cautious attempts suggesting that some phonological features, such as Bantu Spirantization¹⁷ (Nurse 1999) and asymmetric vowel height harmony (Hyman 1999, Ehret 1999) tend to occur in many Savannah languages but not in the Forest languages. Instead, Nurse & Philippson (2003) tentatively propose the following groupings within Narrow Bantu based on 80+ languages. The boundaries of these groupings cannot be sharply determined given a time depth of several millennia:

- a) A Northeast Savannah group (comprising at least E50, E60-74a, F21-2, J, NEC¹⁸ and G60), mainly based on the geographical distribution of an unusual dissimilatory phonological process known as Dahl's Law.¹⁹
- b) To the south of the Northeast Savannah group, they find smaller groups (M10-M20, maybe M30, M40-50, N20-30-40, Rufiji-Ruvuma, S10, S20-60, P30) which cannot be grouped as a single coherent group on the basis of non-lexical features, except perhaps shared irregularities in the reflexes of nominal *HH and *HL patterns (but there might be other phonological and morphological features which are still controversial, see Nurse & Philippson 2003: 176). The fact that

¹⁷ Bantu spirantization refers to a phonological process where “(non-nasal) consonants became (strident) fricatives, via a number of intermediate stages, when followed by the two highest vowels *i, *u in the seven vowel system” (Nurse & Philippson 2003: 174). The following are examples of spirantization in Nyamwezi: PB**dím* ‘extinguish’ > Nyamwezi *zim*; PB **dùb* ‘fish’ > Nyamwezi *zub* (Bostoen 2008: 305).

¹⁸ NEC means “North-East Coast” and stands for a lexico-statistically determined grouping of some languages belonging to Guthrie’s zones G and E (Gérard Philippson, p.c.).

¹⁹ Dahl’s law occurs exclusively in most Bantu languages of eastern Africa. This phonological process affects non nasal consonants in onset position in adjacent syllables and causes voicing dissimilation of the first consonant (i.e. *t...t* > *d...t*, *p...k* > *b...k*) (Masele & Nurse 2003: 124).

- these smaller groups with weak internal connection share no obvious innovations with the western groups (see c), d) and e) below) suggests a “loose affinity with the Northeast Savanna group” (Nurse & Philippson 2003: 179).
- c) A Western Bantu group (consisting at least of: A, B, C, H40, K40, L10, L30, L40 and parts of D20 and M60) based on nasal assimilation and the presence of the suffix *-i* ‘affirmative anterior, near past’ (along with almost complete absence of *-ile* ‘affirmative anterior, near past’).
- d) A subgroup of Western Bantu, which they call “Forest Bantu”, comprising languages in zones A, B, C, large parts of H, and most of D10-20-30. This subgroup displays three shared innovations, the first of which is the most solid: *g > k; extension of some noun class prefixes to other classes; and locatives expressed by prepositions instead of nominal affixes.
- e) Another possible subgroup or extension of Western Bantu (comprising K10, K30-40, L20, L60, R20-30-40, maybe R10, parts of D10-20-30, and parts of zone H). This subset has three shared features: a suffix involving a copy of the stem vowel to express ‘anterior’, and/or ‘near past’ (although this also occurs in southern Swahili and Comorian, to the east); expression of negation by means of clitics with CV shape; and neutralization of the PB difference between negation for dependent and independent clauses.

Nurse & Philippson’s (2003) conclude that groups c), d) and e) are innovative compared to PB and are more well defined by apparent intersecting shared innovations than groups a) and b) which seem more conservative with respect to PB. In terms of the historical implications of their findings, they posit “an original community or

continuum, located somewhere in the northwest of the current [Bantu-speaking] area, with a gradual spread of people, mainly south, partly east. [...] Independently, a community ancestral to [...] Northeast Savanna emerged to the east of the Forest and diffused across what we call today East Africa” (Nurse & Philippson 2003: 179). For the groups in the southeast (i.e. group b) above), it is unclear whether their ancestral community moved first east and then south or directly southeast.

Nurse & Philippson (2003) tentative classification, as any other classification, feeds directly into hypotheses of a Bantu homeland and theories of Bantu “expansion”. Historical linguists, archaeologists and historians have long been trying to determine how a huge area such as Sub-Saharan Africa came to be settled by Bantu-speaking people. The “problem” of the Bantu expansion remains, as Eggert (2005) quoting Vansina (1979) says, “a major puzzle in the history of Africa”.

There are currently two main models for the so-called “Bantu expansion”. These are the east-out-of-the-west model (Figure 5) and the east-next-to-the-west model (Figure 6).²⁰ As can be seen from the maps in Figure 5 and Figure 6, both models agree in positing two groups of Bantu speaking communities, an eastern and a western group. Both agree that the Bantu “nucleus” (i.e. the homeland of the proto-language) is in westernmost Cameroon. The two models differ, however, on the exact relationship between western and eastern group and on how and towards where “waves” of migration occurred. As Schadeberg (2003b: 158) observes, “Bantu languages have the

²⁰ Dimmendaal (2011: 337) argues that the recent classification of Nurse & Philippson (2003) provides support for the east-next-to-the-West model. However, Philippson (p.c.) believes that this is not exactly what Nurse & Philippson (2003) had in mind. Rather, they intended to point out lack of convincing non-lexical innovations that could provide a model for the relationship between an eastern group and a western group.

remarkable ability to act much more like a dialect continuum than as discrete and impermeable languages. Such progressive differentiation and convergence across dialects or languages is commonly referred to as the wave model (as opposed to the tree model).

A division between eastern and western Bantu groups was first posited by Guthrie (1967: 84). Guthrie also infers, from a statistical analysis of his data, that the western section may have emerged at an earlier period than the eastern one (Guthrie 1967: 100). Guthrie's contributions to the Bantu problem were readily accepted and implemented in the work of archaeologists in the 1960s "who were willing to trim their sails to the linguistic wind" (Eggert 2005: 309). The east-out-of-the-west-model came out of the lexico-statistical classification of Heine (1972) and Heine et al. (1977), among others, who built on the work of Guthrie; and the historical work of Ehret (1973) (cf. Huffman & Herbert 1994 and Bostoen 2004). According to this model, there was a first wave leaving the Bantu "nucleus" south towards Congo. From Congo, different waves started out and one of these resulted in Proto-East Bantu. Eggert (2005) observes that Heine and his colleagues claimed that their work reflected archaeological findings (i.e. those of Philippson 1976a, 1976b, cited by Eggert 2005) without knowing that in fact "Philippson's work on archaeology and the Bantu was itself heavily dependent on current linguistic research" (Eggert 2005: 311), i.e. that of Heine and his colleagues.

Figure 5: East-out-of-the-west expansion model (based on and adapted from Bostoen 2004: 152)

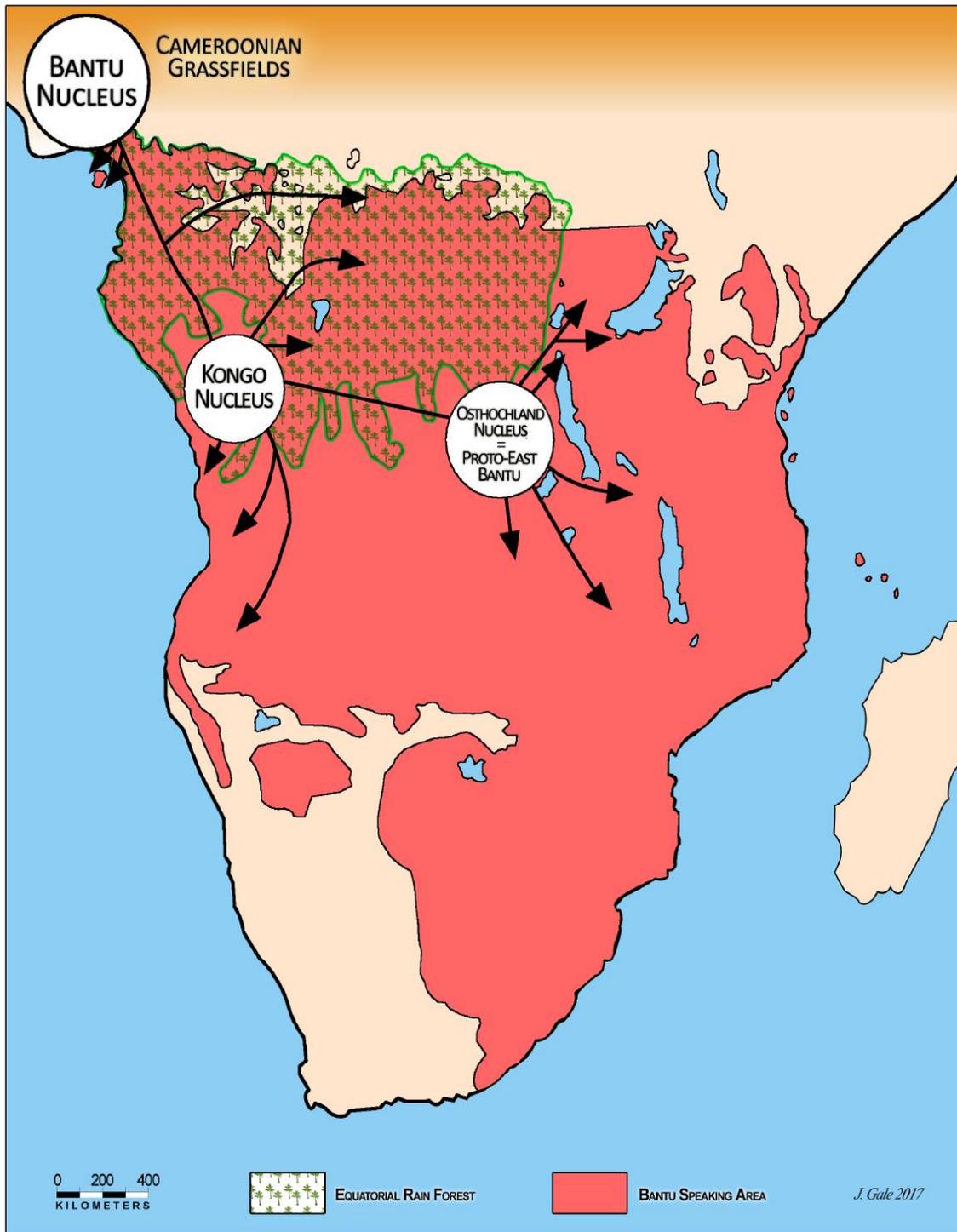
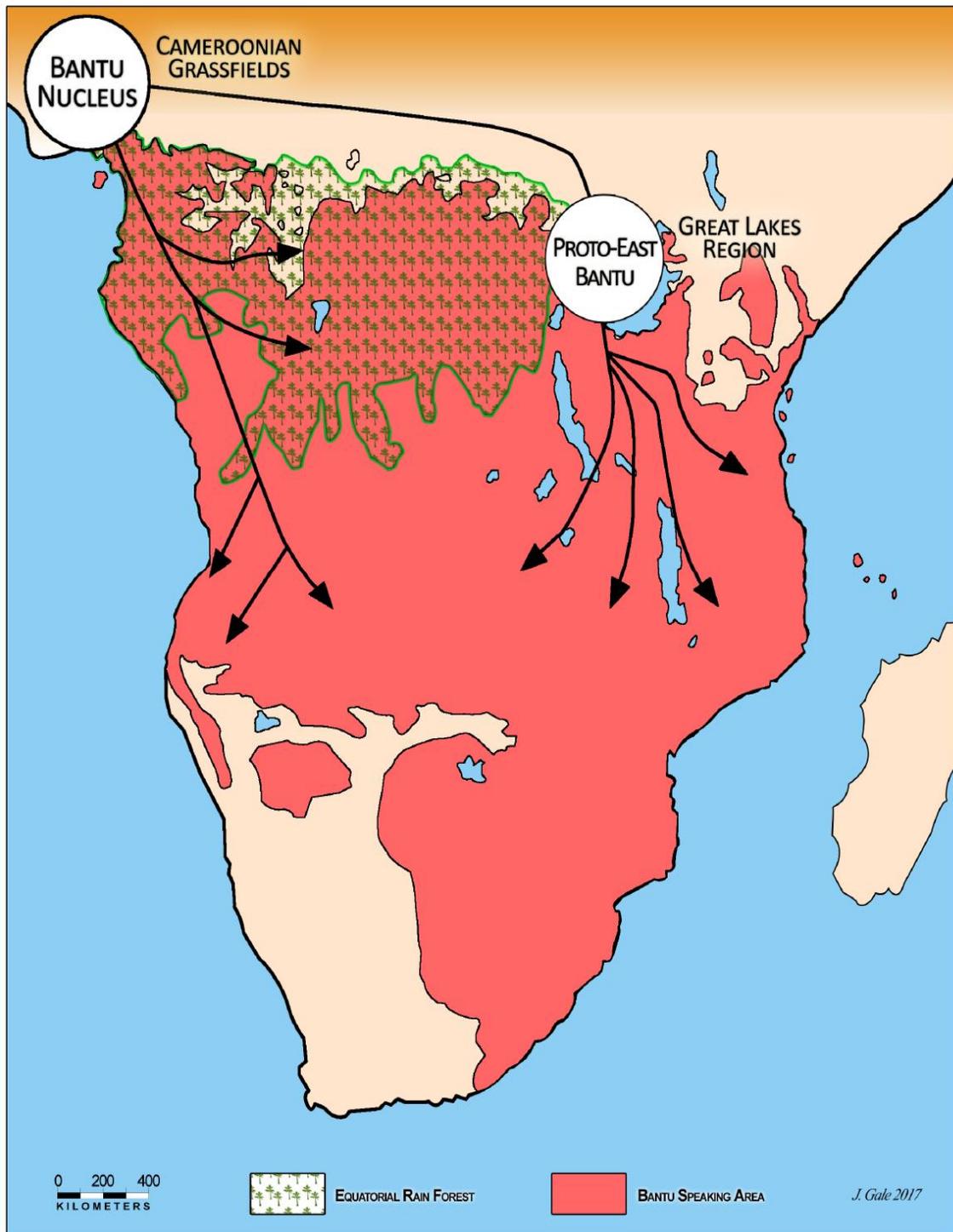


Figure 6: East-next-to-the-west expansion model (based on and adapted from from Bostoen 2004: 151)



The east-next-to-the west model came out from the lexicostatistical works of Bastin et al. (1983) and the extremely influential lexicostatistical study of Bastin et al. (1999), among others (cf. Bostoen 2004: 135 for details). This model suggests that two separate waves departed from the Bantu nucleus. The western wave moved south from the nucleus through the rain forest and quickly became internally fragmented. The eastern wave moved eastwards from the nucleus along the upper borders of the rain forest with a later dispersal from the eastern Great Lakes region to the south (cf. Bostoen 2004: 135). Within archeology, Eggert (2005) reports that Vansina (1984, 1990) used mainly lexicostatistical data from Bastin et al. (1983) and far too little archaeological and ecological evidence for his disputable model of “Western Bantu expansion”. This initial proposal assumed that the cradle of Bantu languages was the northeast Benue valley of Nigeria (at the border with Cameroon) and that in that area “the Bantu family split into two branches: eastern and western Bantu [...]. Western Bantu evolved east of the Cross River in western Cameroon, both on the then-forested Bamileke Plateau and on the lowlands near the ocean” (Vansina 1990: 49). By contrast, eastern Bantu speakers later moved to savannah environments. Deeply influenced by the data in the massive lexicostatistical study of Bastin et al. (1999), Vansina (1995) modified his earlier model and proposed a three-phase Bantu dispersal. Eggert (2005) notes that in Vansina’s (1995) new model the original Bantu language developed from a cluster of Bantoid languages in westernmost Cameroon. From this area, it expanded eastwards to the region of the Great Lakes and on a smaller scale to the southwest towards modern Gabon. In a second phase, dialects of the now separated eastern and western Bantu communities developed into different languages and at the same time, the western community underwent internal differentiation. Finally, in a third phase,

some portions of the eastern community expanded from the forest into south-east Africa.

As briefly illustrated above, in his fascinating critical review of linguistic and archaeological “joint ventures” in solving the puzzle of the Bantu expansion, Eggert (2005) shows that archaeological and linguistic hypotheses often fall into circular reasoning (on problems based on interdisciplinary data see also Heine 1980). Besides the difficulties of applying non-lexical methods uniformly to “all” Bantu languages (see Nurse & Philippson 2003), there are also knowledge limitations on the archaeological side. As Eggert (2005: 315/321) states:

Archaeological fieldwork in Central Africa, especially (but not only) in the equatorial forest, resembles a walk in a pitch-dark night where vision is dependent on the perimeter of the torchlight and the night is boundless. [...] With rare exceptions (i.e. parts of East Africa), we are unable to even sketch the broadest outlines of Bantu territory archaeology. With this in mind, it is hardly adequate to prematurely link, as has been so frequently done, archaeological finds and features with linguistic phenomena and to suggest possible routes of language diffusion of whatever nature.

Cautious statements about interdisciplinary ventures have come also from the linguistic side (Meeussen 1980a, Nurse 1994). Nurse (1994: 73) says:

I would urge historians to be cautious about heavy reliance on lexicostatistically based models, on models based on one approach alone, indeed on all current classifications. They would do well to enquire about the extent to which classification forms part of the picture presented by linguists, and what it is based on. Far from pushing historians into ignoring the uses of linguistics, I would merely suggest they treat them advisedly.

As Philippson (p.c.) argues, a convincing scenario concerning the Bantu homeland and expansions is not to be sought on the basis of lexicostatistical or phylogenetic analyses, but rather on the basis of non-lexical shared innovations identified for a greater number of Bantu languages (i.e. greater than the 80+ sample of languages considered by Nurse & Philippson 2003).

1.4 Bantu conventions and language sample used in this study

Following Maho (2009), names of Bantu languages in this work are given without noun class prefixes. For instance, I will refer to *Tswana* instead of *Setswana*, *Shona* instead of *Chishona*, *Ruanda* instead of *Kinyarwanda*, and *Swahili* instead of *Kiswahili*. According to Maho (2009: 6), the use of the prefix is grammatically obligatory in all Bantu languages but there is no reason why it should be so in English prose.

Bantu verb forms equivalent to English infinitives are written in a variety of ways in the Bantu literature. Some of these include: (i) the root plus the final vowel and an infinitive prefix, as in the Swahili example *ku-ruk-a* ‘to fly away’; (ii) the root plus the final vowel, as in the Tswana example *tabog-a* ‘run’; (iii) the root preceded by a hyphen and followed by the final vowel *-a* not separated by a hyphen, as in the Nyoro example *-zígúrá* ‘to turn around a clay coil’; (iv) the root alone followed and preceded by a hyphen, as in the PB verb form **-bumb-* ‘to mould pottery’. The hyphens before and after a root indicate that the root must combine with a suffix and a prefix in order to appear in a clause. In this work I will adopt none of these conventions and indicate only the root of a given verb without it being followed or preceded by a hyphen, as in the Tswana example *tabog* [tábúχ] ‘run’.

In referring to specific Bantu languages, I follow Guthrie's non-genetic alphanumeric referential system. The letters and numbers used in this chapter are based on the New Updated Guthrie List (Maho 2009). A list of Bantu languages discussed, exemplified or mentioned in this work is in Table 1.

This work contains examples from Bantu languages and examples from languages belonging to other language families. For Bantu examples, I have translated glosses and examples found in French sources into English. A complete list of abbreviations used for all examples in this work can be found in Appendix A.

Table 1: Bantu languages discussed, exemplified or mentioned in this study

Language name	Alphanumeric code	Language name	Alphanumeric code
Akoose	A15c	Nyakyusa	M30
Bemba	M42	Nyambo	JE21
Bukusu	JE31c	Nyamwezi	F22
Chaga	E60	Nyole	JE35
Chewa	N31	Oroko (Mbonge dialect)	A121
Copi	S61	Rangi	F33
Cuwabo	P34	Ronga	S54
Digo	E73	Ruanda	JD61
Duma	B51	Rundi	JD62
Fuliiro	JD63	Saamia	JE34
Ganda	JE15	Sanga	L35
Hangaza	JD65	Shambala	G23
Haya	JE22	Shi	JE404
Herero	R31a	Shona	S11-15
Kete	L21	Songe	L23
Kiga	JE14	Sotho	S33
Kikuyu	E51	Swahili	G41-43
Kongo	H10	Swati	S43
Lingala	C30b	Tanzanian Ngoni	N12
Lomwe	P32	Tonga	S62
Lu(h)yia	JE32	Tshwa	S51
Luba-Kasai	L31a	Tsonga	S53
Lunda	L52	Tswana	S31
Makhuwa	P31	Tumbuka	N21
Mashi	K34	Tunen	A44
Mbuun	B87	Venda	S21
Meru	E53	Wuunjo	E622c
Mongo	C61	Xhosa	S41
Mwiini	G412	Zimbabwean Ndebele	S44
Ndendeule	N101	Zulu	S42

1.5 Other Bantu applicative morphemes not addressed in this study

The applicative suffix *-id, which is the focus of this work, is the most widespread applicative morpheme across Bantu languages and is broadest in its semantic interpretation. However, for completeness, it should be noted that there are other applicative or applicative-like suffixes besides *-id. These other applicative morphemes are found in narrower groups of languages, express only certain semantic roles, and are isomorphic with suffixes performing other functions. For example, in Ruanda, the suffix *-an* (< PB *-an ‘reciprocal’), besides being a reciprocal, licenses manner applied phrases. Consider (3) and (4).

Ruanda (JD61; Kimenyi 1980: 85)

- (3) *umugabo a-ra-som-a íbárúwa n’ íbyíshiimo*
 man he-PRS-read-ASP letter with joy
 ‘The man is reading a letter with joy.’

Ruanda (JD61; Kimenyi 1980: 85)

- (4) *umugabo a-ra-som-an-a íbárúwa íbyíshiimo*
 man he-PRS-read-MANN-ASP letter joy
 ‘The man is reading a letter with joy.’

By contrast, in Oroko, the suffix *-an* can add an instrumental or comitative applied phrases, cf. (5) and (6).²¹

Oroko (Mbonge dialect A121; Friesen 2002: 73)

- (5) *besumbu u-ak-ε na ekoli*
 CL8-grass (S3:1)weed-IPF-IPF.FOC PREP CL7-hoe
 ‘He is clearing the grass with a hoe.’

²¹ Friesen (2002: 76) observes that in other Oroko dialects, *-an* can introduce beneficiary and source applied phrases. Use of *-an* to express instrumental and associative roles is common in languages of zone A (Schadeberg 1980, cited by Friesen 2002: 76).

Oroko (Mbonge dialect A121; Friesen 2002: 73)

- (6) *besumbu* *u-an-ak-ε* *ekɔli*
CL8-grass (S3:1)weed-INST-IPF-IPF.FOC CL7-hoe
'He is clearing the grass with a hoe.'

In Ruanda, the suffix *-iish* (< PB *-i/-ici 'causative'), besides being a causative, can also introduce instrumental applied phrases.

Ruanda (JD61; Kimenyi 1980: 32)

- (7) *umubooyi* *a-ra-kat-a* *inyama* *n'* *íícyúuma*
cook he-PRS-cut-ASP meat with knife
'The cook is cutting meat with a knife.'

Ruanda (JD61; Kimenyi 1980: 32)

- (8) *umubooyi* *a-ra-kat-iish-a* *inyama* *íícyúuma*
cook he-PRS-cut-INST-ASP meat knife
'The cook is cutting meat with a knife.'

In some languages, locative suffixes attach to verb roots and function as applicatives, cf. *-mo* in (10).

Ruanda (JD61; Kimenyi 1980: 89)

- (9) *úmwána* *y-a-taa-ye* *igitabo* *mú* *máazi*
child he-PST-throw-ASP book in water
'The child has thrown the book in the water.'

Ruanda (JD61; Kimenyi 1980: 89)

- (10) *úmwána* *y-a-taa-yé-mo* *amáazi* *igitabo*
child he-PST-throw-ASP-in water book
'The child has thrown the book in the water.'

Jerro (2016a: 39) observes that there appears to be dialectal variation with respect to the status of *-mo* and other locative suffixes: in some dialects of Ruanda, these do not

function as applicatives. Locative suffixes which may function as applicatives are common in north-eastern Bantu languages (see Marten & Kula 2014: 37 for a detailed discussion).²² The locative suffixes *-mo*, *-ko*, and *-ho* found in present-day languages are the result of the grammaticalization of historically post-verbal locative clitics (see Riedel & Marten 2009: 289 for details).

In the remainder of this work, I limit myself to the discussion of the synchronic functions and historical origins of the Bantu applicative suffix **-id*.

²² See also Wicks (2006) on the use of *-ho* as a locative applicative suffix with unaccusative verbs in Nyole (JE35).

CHAPTER II

DATA CHALLENGES TO THE DEFINITION OF APPLICATIVES

2.1 Chapter overview

Chapter II deals with definitions of “applicatives” and types of applicative constructions as discussed in the general literature, based on different language families (§2.2 and §2.3). The purpose of this discussion is to show that it is not clear what the primary, defining criteria of “applicative” should be across language families and why. Further, this chapter discusses those formal theoretical approaches which have substantially shaped current understanding of what applicatives are and what should count as an applicative (cf. §2.4). Notably, the formal approaches have been heavily influenced by Bantu languages.

2.2 Applicatives outside of Bantu

Applicatives appear to be very common cross-linguistically, especially in agglutinative languages with rich verbal morphology (cf. Peterson 1999, 2007 for a survey of 50 languages with applicative constructions and their features). In recent decades, outside of Bantu linguistics, applicatives have received considerable attention. To show the extent of interest in this topic and the breadth of this linguistic phenomenon in languages of the world, I offer here a non-exhaustive, illustrative

sample of contributions divided by continent/region and based on papers in journals, chapters in monographs, and books and works dedicated exclusively to applicatives.²³

Africa: **Niger-Congo** (Igbo, Welmers 1970; Wolof, Peterson 1999, 2007, Creissels & Nouguié Voisin 2004; Eleme, Bond 2009; several Kru languages, Egner 2003; Zande, Boyd 2005; Koalib, Quint 2010); **Afro-Asiatic** (Amharic, Amberber 1997, 2000, Tesfay 2010; Gumer, Völlmin 2010; Tigrinya, Kifle 2012); **Nilo-Saharan** (Nandi, Creider 2002; Maa, Lamoureaux 2004; Kipsigis, Bii et al. 2014; Nilotic in general, Dimmendaal 2009).²⁴

The Americas: **Eskimo-Aleut** (Central Alaskan Yup'ik, Mithun 2000); **Salish** (Halkomelem, Gerds & Hinkson 2004, Gerds & Kiyosawa 2005, Gerds 2010; Lushootseed, Beck 2009; Salish languages in general, Kiyosawa 2006, Kiyosawa & Gerds 2010a, 2010b); **Plateau Penutian** (Sahaptin, Rude 1999); **Iroquoian** (Tuscarora, Mithun 2002); **Muskogean** (Chickasaw, Munro 2000; Creek, Martin 1999, 2000); **Siouan** (Omaha, Marsault 2016); **Upland Yuman** (Hualapai, Ichihashi-Nakayama 1996); **Totonac** (Tlachichilco Tepehua, Watters 1995, Payne 2002); **Tarascan** (Purépecha, Capistrán Garza Bert 2006); **Uto-Aztecan** (Tarahumara, Caballero 2003; Pima Bajo, Estrada Fernández 2008); **Oto-Manguean** (Otomí, Hernández Green 2016); **Mixe-Zoquean** (Oluta-Popoluca, Zavala 1999; Olutec, Zavala 2002); **Mayan** (Proto-Maya, Mora-Marín 2003; Chontal Mayan, Montgomery-Anderson

²³ Grammars where applicatives might be mentioned are not included, nor are the numerous abstracts from conferences with sessions or workshops dedicated to applicatives. For easier readability, names of continents/regions and of language families are bolded, whereas names of specific languages or subgroups of languages are underlined.

²⁴ Creider (2002) uses the term “dative” and “dative locative” but not “applicative”.

2010; several Mayan languages, Grinevald and Peake 2012); **Peba-Yaguan** (Yagua, Payne 2002); **Panoan** (Shipibo-Konibo, Valenzuela 2010); **Kawapanan** (Shiwilu, Valenzuela 2016); **Arawakan** (Maipuran Arawakan languages, Wise 1990, 2002; Tariana, Aikhenvald 2000;²⁵ Mojeño Trinitario, Rose 2012) **Guaycuruan** (Toba, Censabella 2006, 2010); **Nadahup** (Hup, Epps 2010); **Mataguayan** (Chorote, Carol 2011; Nivaclé, Fabre 2009, 2013); **Gê** (Panará, Dourado 2002; but see Carol & Salanova 2012); **Patagonian** (Mapudungun, Zúñiga 2010; Mapudungun and other Patagonian languages, Fernández Garay 2012); **isolates of Bolivia** (Movima, Haude 2012).

Eurasia: Uralic (Enets, Siegl 2013); **Kartvelian** (Laz, LaCroix 2010; Georgian, Bondarenko 2015), **Northwest Caucasian** (Abaza, O’Herin 2001; Adyghe, Letuchiy 2012, Ubykh, Fell 2012), **Tibeto-Burman** (Hakha Lai, Peterson 1999, 2004, 2007; Dulong/Rawang, LaPolla 2000; K’cho, Mang & Bedell 2012;); **Ainu** (Ainu, Kaiser 1997, Bugaeva 2010).

Oceania: Pama-Nyungan (Warrungu, Tsunoda 1998; several Pama-Nyungan languages, Austin 2005); **Non-Pama-Nyungan** (Ngan’gityemerri, Reid 2000), **Eastern Nyulnyulan** (Warrwa, McGregor 1998); **Austronesian** (Proto-Austronesian, Peterson 1997; Tukang Besi, Donohue 2001; Kapampangan, Mithun 2002; Bantik, Utsumi 2012; Indonesian, Chung 1983; Javanese, Nurhayani 2012, Hemmings 2013; Totoli, Himmelmann & Riesberg 2013); **Papuan** (Motuna, Onishi 2000); **Macro-Skou** (Barupu, Donohue 2003).

As can be seen from this non-exhaustive list, applicatives are found virtually everywhere. In §2.3, I will discuss how recent, typologically-oriented definitions of

²⁵ Aikhenvald (2000: 166) uses the term “transitivizer” instead of applicative to describe the sequence of suffixes *-i-ta* in Tariana.

applicatives are well suited for certain types of applicatives, while there are other types that are not captured by the definitions. In §2.4, I will review some fundamental theoretical approaches to some types of applicatives and the impact these have had on the current understanding of the linguistic category of “applicative”.

2.3 The typology of “applicatives”: definitions and construction types

Most definitions of applicative constructions outside of the Chomskian tradition (Alsina & Mchombo 1993, Bresnan & Moshi 1993, Peterson 1999, 2007, Payne 1997, 2002, Mithun 2002, Haspelmath & Müller-Bardey 2004, Kulikov 2011, Creissels 2016, *inter alia*) coincide in claiming that there are at least three fundamental attributes of applicative morphemes: (i) they are verbal derivational processes with syntactic consequences; (ii) they introduce an internal argument (i.e. object argument) to the argument structure of the otherwise underived verb root/stem; and (iii) there are multiple typically “peripheral” semantic roles that can be mapped onto the morphosyntactic entity introduced by the applicative. However, we will see that this characterization often does not grasp the full range of applicative constructions found across languages – and certainly not even in Bantu. ²⁶

²⁶ Although not discussed in this section, in some Indo-European languages (English, German, Russian, Latin), preverbatation may trigger valence changes identical to those considered typical of applicatives (see Michaelis & Ruppenhofer 2000). For instance, in the Latin example *fama urbem per-vasit* rumor town:ACC through-roamed ‘The rumor went around the town’ (Haspelmath & Müller-Bardey 2004: 1135), the preverb *per-* governs an accusative marked object. Haspelmath & Müller-Bardey (2004) observe that preverbs in European languages are often of restricted productivity and reflect the inventory of adpositions present in the language.

Peterson (2007: 66) identifies five possible parameters of synchronic variation in his 50-language sample of applicative constructions: (a) semantic role assigned to the applied object; (b) obligatory vs. optional nature of the applicative construction to express a given semantic role; (c) syntactic treatment/status of the object of the non-derived verb root (if transitive) and of the applied object; (d) transitivity value of the verb root/stem that undergoes applicative derivation; and (e) possible isomorphism between an applicative marker and a morphological causative marker. Most scholars' definitions of applicatives address parameter (a) but show variation in the inclusion/exclusion of Peterson's other parameters, especially (b), (c) and (d). As a result, some definitions found in the literature are suitable for particular *types* of applicative constructions but not for *all* applicative constructions (cf. the discussion in Creissels 2006a: 73).

For instance, consider the definitions of Alsina & Mchombo (1993) and Peterson (2007):

The effect of the applicative is to introduce a new internal argument into the argument structure of a verb. It thus allows a role that would be expressed as an oblique, if at all, to be expressed as a direct argument. The theta roles that the applicative can affect in this way are those which in many languages are expressed as obliques (adpositional or semantically case-marked phrases) and which are often optional arguments of the verb: beneficiaries, goals, instrumentals, etc. (Alsina & Mchombo 1993: 27)

In terms of their morphosyntax, applicative constructions are constructions, or sentential structures, which involve a participant that normally would not be instantiated in a core object relation, but rather as an oblique of one or another sort, in a core (usually direct object) instantiation. There must be overt marking of the construction in the verbal complex [...]. The construction should also be

highly productive across a significant portion of the verbal lexicon (Peterson 2007: 39)

These two definitions are suitable for languages where most verb roots can appear in OPTIONAL applicative constructions, that is, verb roots can appear in a construction with an oblique/adjunct, but the semantic role of the oblique/adjunct can alternatively be expressed as a core argument if the root combines with the applicative morpheme. This is illustrated with the Shona verb root ‘send’ in (11) and (12).

Shona (S11-15; Cann & Mabugu 2007: 13)

- (11) *mai* *va-ka-tum-a* *mw-ana* (*kuna mbuya*)
CL1a.mother S3:2-PST-send-FV CL1-child to CL1a.grandmother
‘Mother sent the child (towards grandmother).’

Shona (S11-15; Cann & Mabugu 2007: 13)

- (12) *mai* *va-ka-tum-ir-a* *mw-ana* *mbuya*
CL1a.mother S3:2-PST-send-APPL-FV CL1-child CL1a.grandmother
‘Mother sent the child to grandmother.’

In (11), the verb root *tum* ‘send’ does not combine with the applicative suffix and the Goal ‘to/towards grandmother’ is expressed as an optional oblique. In (12), the same verb root undergoes applicative derivation and the Goal ‘to/towards grandmother’ is a NP which acquires all object properties, so that the valence of the verb root *tum* is increased by one. When applicative constructions are optional, there is often a difference in meaning between the applicative and non-applicative construction. In Shona, Cann & Mabugu (2007: 14) report that while (11) does not necessarily entail that the child reached the grandmother, (12) necessarily entails it.

As observed by Shibatani (1996), the data involving optional applicative constructions brings about the generative transformational concept of “promotion to objecthood” or “object promotion” (cf. §2.4.3 for further details). Since the optional applicative construction exists alongside an alternative way of expression in which a semantic peripheral role is expressed as an oblique, this alternative is the structure on which the applicative “transformation” applies: with the applicative, the erstwhile oblique is promoted to objecthood (cf. for instance Baker 1988a: 354 who refers to the applied object in Chewa as the new or “promoted” argument, and Murrell 2012 on object promotion in Maragoli and Swahili). The fact that applicatives can “promote” an erstwhile oblique to core object status in languages with optional applicative constructions is often considered as a defining feature of “canonical” applicatives (cf. Hernández-Green 2016).

The “promoting” feature of optional applicatives is often used to set apart “canonical applicatives” from constructions functionally similar to applicatives, but that fail to promote to objecthood a peripheral thematic role expressed as an oblique. This is the case of REGISTRATION APPLICATIVES in Otomí and Mesoamerican languages in general (Hernández-Green 2016). While registration applicatives function like applicatives in that they place greater discourse salience or topicality on a peripheral thematic participant, structurally they index an adjunct on the verb “without implying any re-evaluation [i.e. promotion] of said adjunct” (Hernández-Green 2016: 356). Mesoamericanists (cf. Hernández-Green 2016 and references therein) consider that registration applicatives should be included in the family of applicative constructions, but they are not “canonical” applicatives because they are “non-promoting”.

The definitions of Alsina & Mchombo (1993) and Peterson (2007) exclude, in principle, languages where applicative constructions are OBLIGATORY, that is, they are the only way to express a semantically peripheral argument (Beneficiary, Recipient, Goal, etc.). This is illustrated with Tswana, a language where the only way to express a Recipient with the transitive verb root *kwál* ‘write’ is by means of the applicative construction. Compare (13) and (14).

Tswana (S31; Creissels 2016: 85)

- (13) *Lorato o tlaa kwala lokwalo*
Lòrátsó ú-tláà-kwál-á lù-kwâ:lò
 CL1.Lorato S3:1-FUT-write-FV CL11-letter
 ‘Lorato will write a letter.’

Tswana (S31; Creissels 2016: 85)

- (14) *Lorato o tlaa kwalela Kitso lokwalo*
Lòrátsó ú-tláà-kwál-él-á Kítsó lù-kwâ:lò
 CL1.Lorato S3:1-FUT-write-APPL-FV CL1.Kitso CL11-letter
 ‘Lorato will write a letter to Kitso.’

The verb root *kwál* in (13) takes two arguments (‘Lorato’ and ‘letter’). The applicative in (14) increases the valence of the root *kwál* by one: the semantic Recipient ‘Kitso’ is expressed syntactically as an object and displays object properties (it can be indexed on the verb by means of an object index, it can be made subject of a passive, etc.). There is no alternative construction in Tswana where the verb root *kwál* ‘write’ combines with a prepositional phrase expressing the Recipient ‘Kitso’, as shown by the ungrammaticality of (15).

Tswana (S31; Denis Creissels p.c.)

(15) *Lorato o tlaa kwalela lokwalo* PREP *Kitso*

**Lòráts* *ú-tláá-kwál-á* *lù-kwâ:lò* PREP *Kítsó*
CL1.Lorato S3:1-FUT-write-APPL-FV CL1.Kitso PREP CL1.Kitso

(intended meaning: ‘Lorato will write a letter to Kitso.’)²⁷

Obligatory applicative constructions appear to be very common in Bantu languages (Creissels 2010: 30). Peterson (2007: 50) questions whether obligatory applicative constructions should be considered applicative constructions at all, since part of the “traditional” definition of applicatives presumes the existence of an alternative way of expression (on the origins of this assumption, see §2.4 and subsections therein). Peterson argues that obligatory applicative constructions could possibly be remnants of an older stage in a given language which involved alternatives (the oblique instantiation alternative having been lost), or may be on their way to developing an alternative way of expression (the oblique instantiation alternative not yet having arisen).²⁸ On this basis, Peterson amends the traditional definition of

²⁷ ‘PREP’ in (15) is meant to indicate that with any of the prepositions found in Tswana (cf. §6.4.3), the sentence is either ungrammatical or has a meaning which is different from the one intended by the translation.

²⁸ Iroquoian languages have obligatory dative/benefactive, instrumental and directional applicative constructions (Mithun 2002). Mithun (2002) indicates that in these languages there are no adpositions (not even historically) or case markers and the only oblique nominals that occur are temporal and locative. Mithun argues, however, that obligatory applicative constructions in Iroquoian languages are not the result of the fossilization of discourse tendencies (cf. Peterson 2007), such as using the applicative to profile human, topicworthy Beneficiaries as core arguments. Rather, Iroquoian applicatives allow speakers to express a thought in a single clause rather than two (*I sent it and I directed it to him* > *I sent it to him*). Applicatives in Iroquoian languages come from verb-verb compounds in which the second verb became an applicative suffix. The recurrent verb-verb compounds were presumably routinized as a single unit.

applicative constructions by stating that “they do not necessarily have to have an alternative construction in which the semantically peripheral entity referenced in the applicative construction is instantiated as an oblique, but they may” (Peterson 2007: 51).

Some definitions of applicative constructions have to do more with Peterson’s parameters (c) and (d) and with possible syntactic valence-increasing effects. For instance, Kulikov (2011) places applicatives under the rubric “valence increasing syntactic derivations” and defines them as follows:

Derivations which introduce a Direct Object (lacking in the initial structure) are called ‘applicative’ [...]. This Direct Object may denote an entirely new participant in the situation, or it can be promoted from the periphery of the syntactic structure, where it surfaced as an Oblique Object in the non-derived diathesis [...]. The added object usually bears one of the non-core semantic relations – such as Locative, Beneficiary, Instrument, or Motive – but shows all object properties. (Kulikov 2011: 389)

Haspelmath & Müller-Bardey (2004) place applicatives under the rubric “valence increasing categories” and “object adding categories”. According to them:

Applicatives assign the status of direct object to oblique roles of different kinds. [...] The applicative transitivizes an intransitive verb, providing it with a direct object. If a transitive verb is extended by an applicative the original direct object [...] will normally give up its status. But there are instances [...] where the original patient retains its ability to become the subject of a passive even after applicative formation has taken place. (Haspelmath & Müller-Bardey 2004: 1134)

Payne (1997) also includes applicatives under the rubric of “valence increasing operations” and gives the following definition:

In most cases, an applicative can be insightfully described as a valence increasing operation that brings a peripheral participant onto center stage by making it into a direct object. [...] For verbs that already have one direct object, the applicative either results in a three-argument (ditransitive) verb, or the “original” direct object ceases to be expressed. In the latter case, the applicative cannot be considered a valence increasing device, since the original and the resulting verb have the same number of arguments. (Payne 1997: 186-187)

Despite the preceding definitions and characterizations, in some languages, both intransitive and transitive (and sometimes even ditransitive) verb roots can undergo applicative derivation but the syntactic valence of the root is not always increased. For instance, in Salish languages, two types of applicatives have been posited: RELATIONAL and REDIRECTIVE (Kiyosawa & Gerdtts 2010a, 2010b).²⁹ Consider (16) and (17).

Halkomelem (Salish; Kiyosawa & Gerdtts 2010b: 165)

(16) *ni?* *neṃ* *k^wθə* *swiṃləs*
 AUX go DET boy
 ‘The boy went.’

Halkomelem (Salish; Kiyosawa & Gerdtts 2010b: 165)

(17) *ni?* *nəm-nəs-əs* *k^wθə* *swiṃləs* *k^wθə* *John*
 AUX go-RLT-3SG.SBJ DET boy DET John
 ‘The boy went up to John.’

In (16), the verb root ‘go’ takes only one core argument, the subject ‘boy’. The Halkomelem relational applicative suffix *-nəs* in (17) generally combines with intransitive verb roots –such as ‘go’ in (16)– and makes them transitive. The syntactic transitivity of the derived verb stem ‘go’ in (17) is indicated by the presence of the third

²⁹ The distinction between relational and redirective applicatives in Salish seems to be somewhat relatable to Comrie’s (1985: 313) distinction between applicatives with valence-increasing function and applicatives with valence-rearranging function, respectively.

person ergative marker *-əs* on the verb stem and by the fact that the Goal ‘John’ is an applied object with the properties of a direct object (cf. Kiyosawa & Gerds 2010b: 149 for details).

By contrast, the Halkomelem redirective applicative suffix *-ətɕ* in (19) generally combines with transitive verb roots such as ‘cook’ in (18), but the syntactic valence of the derived verb stem is said not to be increased.

Halkomelem (Salish; Kiyosawa & Gerds 2010a: 117)

- (18) *niʔ* *qʷəl-ət-əs* *tə-nə* *ten* *kʷθə* *səplil*
 AUX cook-TR-3SG.SBJ DET-1SG.POSS mother DET bread
 ‘My mother baked bread.’

Halkomelem (Salish; Kiyosawa & Gerds 2010a: 117)

- (19) *niʔ* *qʷəl-ətɕ-t-əs* *tə-nə* *ten* *tə* *steniʔ*
 AUX cook-RDR-TR-3SG.SBJ DET-1SG.POSS mother DET woman
ʔə *kʷθə* *səplil*
 OBL DET bread
 ‘My mother baked the bread for the woman.’

(18) is a transitive construction where the Theme ‘bread’ is expressed as a direct object. In (19) the transitive root ‘cook’ combines with the redirective applicative suffix *-ətɕ*. The Beneficiary ‘woman’ assumes the direct object role while the Theme ‘bread’ is expressed in a prepositional phrase. Kiyosawa & Gerds (2010) argue that the syntactic valence is not increased in (19) as the verb stem displays the transitive suffix *-t* just as it does in (18). Kiyosawa & Gerds (2010) argue, however, that the semantic valence is increased, as there are three profiled participants in (19).

Let us consider the definitions of Kulikov (2011), Haspelmath & Müller-Bardey (2004) and Payne (1997) against the data in (17) and (19). All three definitions would place the “label” applicative on constructions such as (17), where an intransitive verb

root undergoes applicative derivation and becomes transitive, leading to an increase in the syntactic valence of the derived verb stem. Haspelmath & Müller-Bardey (2004) and Payne (1997) would also put the label “applicative” on constructions such as (19) where the “original direct object” of the transitive verb root gives up its object status (but does not cease to be expressed, contrary to what Payne 1997 says). Applicative types such as (19) are problematic for Kulikov’s definition: although the applicative in (19) might be described as introducing an object lacking in the initial verb structure (i.e. the Beneficiary argument ‘for the woman’), (19) is not a syntactic valence-increasing applicative type according to Kiyosawa & Gerdtts (2010a, 2010b). Kulikov’s definition, as stated, would not include (19).

In many Bantu languages, applicativization of transitive roots, such as ‘cook’ in (20), leads to constructions with two object NPs (21).

Chewa (N31; Mchombo 2004: 87)

(20) *kalúlú* *a-ku-phík-á* *maúngu* *ndí* *mkóndo*
 CL1a.hare S3:1-PRS-cook-FV CL6.pumpkins with CL3.spear
 ‘The hare is cooking pumpkins with a spear.’

Chewa (N31; Mchombo 2004: 87)

(21) *kalúlú* *a-ku-phík-íl-ír-á* *mkóndo* *maúngu*
 CL1a.hare S3:1-PRS-cook-APPL-FV CL3.spear CL6.pumpkins
 ‘The hare is cooking pumpkins with a spear.’

According to Alsina & Mchombo (1993), in (21), the base object ‘pumpkins’ and the instrumental applied object ‘spear’ do not behave the same syntactically. The instrumental applied object gains all object properties: it can appear in immediately postverbal position, can be indexed on the verb, can be made the subject of a passive, can be extracted by *wh*- movement and allows indefinite (base) object deletion (i.e. the

NP ‘spear’ can appear in a construction such as (21) without the NP ‘pumpkins’). The base object can appear in immediately post-verbal position, be indexed on the verb and be extracted by *wh*- movement, but it cannot be made the subject of a passive construction. It should also be noted that object properties of the “initial” object and the “applied” object vary depending on the semantic role mapped onto the applied object in Chewa and in Bantu languages in general.³⁰

In Bantu languages, ditransitive verb roots, such as ‘give’ in (22), can also undergo applicative derivation. The resulting derived verb stem has three objects (23).

Tswana (S31; Creissels 2002: 390)

(22) *Ke file dikgomo letswai*
kì-f-íl-é *dí-q^hòmú* *lì-tswái*
 s1s-give-PFT-FV CL10-cow CL5-salt
 ‘I have given salt to the cows.’

Tswana (S31; Creissels 2002: 390)

(23) *Ke fetse bomalome dikgomo letswai*
kì-f-éts-í *bó-màlómé* *dí-q^hòmú* *lì-tswái*
 s1s-give-APPL.PFT-FV CL2-uncle.POSS.1S CL10-cow CL5-salt
 ‘I have given salt to the cows for my uncles.’

The three objects in (23) display all the same object properties in Tswana: they are syntactically unmarked for case; they can be simultaneously indexed on the verb by means of the same object indexing paradigm and they can equally be made the Subject of a passive construction.

³⁰ For expository purposes, I offer in this section a rather simplistic view of constructions with two or more apparent object NPs in Bantu languages. Problems related to these constructions will be discussed at length in Chapters 3 and 4.

Let us again try to match the data in (21) and (23) with the definitions of Kulikov (2011), Haspelmath & Müller-Bardey (2004) and Payne (1997). The definition of Kulikov (2011) would label both (21) and (23) as “applicative”: in (21) a transitive verb root adds an object which gains all object properties, and in (23) a ditransitive verb root with an applicative all adds an object with all object properties. Kulikov (2011) does not specify what happens to the original, non-applied object of the transitive verb root in constructions such as (20)-(21), so that in principle, (21) too is a valence-increasing construction, even though the original object and the applied object do not display the same object properties. According to Haspelmath & Müller-Bardey’s definition (2004), (21) could be an applicative construction where the original direct object has “given up its status”. It is not clear, however, what exactly is meant by this: while the original direct object ‘pumpkins’ in (21) loses one object property, it is not formally demoted to an oblique with an adposition. According to Payne’s definition, cases such as (21) would be valence-increasing as the verb formally ends up with two objects, though the objects do not behave the same. Finally, neither Haspelmath & Müller-Bardey (2004) nor Payne (1997) contemplate explicitly the case of ditransitive verb roots, as in (23). The point I am trying to make is that Bantu applicative constructions such as (21), where the initial direct object loses some object properties and the applied object gains all object properties after applicative derivation, are extremely problematic for any claims related to syntactic valence. Applicatives are said to increase the syntactic valence of a given verb root because they introduce an internal argument, that is, a morphosyntactic entity (usually a NP) which bears the grammatical relation of object to the verb. In order to determine that such a morphosyntactic entity is syntactically an object, linguists usually resort to formal morphosyntactic properties.

If X displays a given set of formal properties which target the category of object and not adjunct in a given language, then X belongs to the category of object. In (21), it is not clear what the status of the NP ‘pumpkins’ is: how many object properties are enough to claim that a NP is an object? Why? The “fuzzy” status of the original direct object of the verb ‘cook’ in (21) makes it complicated to determine whether syntactic valence is increased, somewhat increased or not increased at all. We will examine this problem further in Chapter III.

Similarly to Kulikov (2011), Haspelmath & Müller-Bardey (2004) and Payne (1997), Dixon & Aikhenvald (2000: 12) define applicative constructions as formally marked valence-increasing derivations. They distinguish what they call two “prototypical” schemas depending on the transitivity of the clause (not of the verb root, unlike other authors). In the first schema, the applicative applies to an underlying intransitive clause and results in a derived transitive. In their terminology, the argument in underlying S function goes into A function in the applicative construction and what they call “a peripheral argument” (which could be explicitly expressed in the intransitive clause) is taken into the core, in O function. This first schema matches well applicative types such as the Halkomelem relational applicative construction in (17). In their second schema, the applicative applies to an underlyingly transitive clause and the resulting clause is still transitive. A peripheral argument (which could be explicitly stated in the transitive clause) is taken into the core, in O function, but has a different semantic role than the original O of the non-derived clause. The argument which was in O function becomes peripheral and may be omissible. This second schema quite closely matches applicative types such as the Halkomelem redirective applicative construction in (19). Yet this definition does not include, in principle, the Bantu applicative types

shown in (21) and (23), where roots with different transitivity values end up with two or three objects, after the applicative derivation, which may or may not behave the same syntactically.

Perhaps two more general definitions of applicative constructions are those of Mithun (2002) and Creissels (2016). According to Mithun (2002: 1):

Prototypical applicatives are derivational processes within the verbal morphology that add a participant to the set of core arguments. The added argument usually represents a semantic recipient, beneficiary, instrument, associate, direction, or location, though others occasionally occur as well. This argument assumes the grammatical role of object, absolutive, or grammatical patient.

Mithun's definition is neutral with respect to: whether the applicative construction is optional or obligatory; whether the applicative construction is a valence-increasing type of derivation; what are the transitivity values of the roots that can combine with applicatives; and what happens to the initial/original object of a transitive verb root when it undergoes the applicative derivation.

Creissels (2016: 84) proposes that an applicative morpheme signals a morphologically coded valence alternation in the argument structure of a given verb root. The applicative and non-applicative versions of a verb form differ in that the applicative undergoes the addition of an *applied argument*, expressed as the P argument of a transitive construction. This definition says nothing about: the treatment of the initial P argument of a transitive verb root which undergoes applicativization; the transitivity values of the roots that can combine with applicatives; and whether the semantic role of the applied argument can be expressed as an oblique in a construction where the verb does not have an applicative.

Before proceeding with the discussion, it should be noted that some definitions (Dixon & Aikhenvald 2000, Mithun 2002, and also Payne 2002 although not discussed here) imply that some applicative constructions are “prototypical”. It is not always clear, however, what exact sense is attributed to the word “prototypical”. If “prototypical” is meant in the sense of Rosch’s (1973, 1975) categorization theory, then the definition would imply that the relevant type of applicative construction is the most central, salient member of the the category “applicatives” in the mind of the speaker or perhaps in the mind of the linguist. If “prototypical” is meant in the sense of “very typical”, then probably the relevant type of applicative construction is more common, frequent, widespread, etc. than others.

The definitions considered so far refer to the morphosyntactic entity introduced by the applicative as “internal argument” (Alsina & Mchombo 1993), “core (usually direct object) instantiation” (Peterson 2007), “direct object” (Kulikov 2011, Haspelmath & Müller-Bardey 2004, Payne 1997), “O function” (Dixon & Aikhenvald 2000), “object, absolutive or grammatical patient” (Mithun 2002) or “applied argument expressed as the P argument of a transitive construction” (Creissels 2016). There are also cases, however, where constructions potentially equivalent in function to the applicative introduce an indirect object (cf. “dative-adding” applicatives in Haspelmath and Müller-Bardey 2004: 1136, and the discussion of Georgian in Creissels 2006a: 75).³¹ One such case is Georgian. In this language, there are constructions called *VERSIONS*, a translation

³¹ The generative term “internal argument” does not include indirect objects, at least not in all generative approaches. For instance, in Government & Binding and Minimalism, indirect objects (or “DP Goals”) are considered to behave like external arguments (i.e. subjects) with respect to inherent Case assignment: as a result they are posited to be outside the VP proper and generated in (little) *vP* (see Woolford 2006: 116).

of the Georgian word *kceva* ‘change’ (Gurevich 2006: 117), which in some instances function similarly to applicatives. In her Relational Grammar treatment of Georgian, Harris (1981: 87) defines “version” as a syntactic rule that creates an indirect object. In its primary use in active constructions with transitive verbs, the “objective version” elevates an affected participant, which could only be expressed as an oblique in a non-version construction, to the syntactic core status of indirect object (Gurevich 2006). In Georgian, subject, direct object and indirect object are core syntactic arguments (cf. Harris 1981: 23 for syntactic tests). Compare (24) and (25).

Georgian (Gurevich 2006: 123)

(24) *meri-m da-xat’a chem-tvis surat-i*
 Mary-NAR PV-paint.AOR 1SG-for picture-NOM
 ‘Mary painted a picture for me.’

Georgian (Gurevich 2006: 123)

(25) *meri-m da-m-i-xat’a (me) surat-i*
 Mary-NAR PV-1SG.OBJ-PRV-paint.AOR 1SG.DAT picture-NOM
 ‘Mary painted a picture for me.’

In (24), the transitive verb ‘paint’ takes two arguments, the A argument ‘Mary’ marked by narrative case (analyzed by some authors as ‘ergative’, cf. Harris 1981) and the P argument ‘picture’ which receives nominative case marking in (24),³² preceded by the

³² Case marking of nominal arguments in Georgian varies across verb conjugational classes and TAM “series”. There is no default case marking for core syntactic arguments. Even within a single conjugational class, there are different “series” of case marking for core syntactic arguments (cf. Harris 1981 and Gurevich 2006 for detailed accounts). With respect to narrative/ergative case, Denis Creissels (p.c.) informs me that Georgian verb tenses divide into three groups with respect to the coding assigned to the core arguments of transitive verbs: nominative (A) /dative (P), ergative (A) / nominative (P), or dative (A) / nominative (P). The

postpositional phrase ‘for me’. In the “objective version” construction in (25), the verb stem ‘paint’ is preceded by the “version vowel” *i-* which is used when the indirect object present in the construction is 1st or 2nd person. The erstwhile oblique phrase ‘for me’ is optionally expressed as a pronoun in the dative case, *me* in (25), and is cross-referenced on the verb by the 1st person singular object marker *m-* (see Harris 1981: 88 and ff. for additional syntactic evidence of the syntactic core status of the dative-marked indirect object in constructions such as (25)).³³

However, Gurevich (2006) indicates that Georgian version has several other functions quite different from the one illustrated in (25). Gurevich (2006) stresses that there is only partial overlap between applicatives in other languages and the Georgian version. The main function of constructions such as (25) is to “indicate that some discourse participant is particularly affected by the action (so called “primary affectedness” or salience, in addition to the action’s effect on the patient)” (Gurevich 2006: 8). She offers examples of functional parallels of Georgian version in other languages (Turkic, Burushaski and Munda), including 2nd person ethical datives in Slavic languages. If Georgian version also falls into the ballpark of “applicative constructions”, then definitions should include the possibility that some applicatives “promote” obliques to indirect object status, instead of direct object status.

case traditionally called ‘narrative’ is exclusively used to flag the agent in the second group of tenses, which justifies calling it ‘ergative’.

³³ In Georgian, the preverbal object slot can reference the direct or the indirect object by almost identical sets of affixes. If the indirect object is 1st or 2nd person and the direct object is 3rd person, the indirect object gets the prefixal slot.

A situation similar to the one described for Georgian is found in Abaza (and Northwest Caucasian languages in general, cf. Lander 2009). O’Herin (2001) states that “applicatives” in Abaza can combine both with transitive and intransitive roots and in either case “the underlying argument structure is not changed by the presence of applicative marking” (O’Herin 2001: 482). In either case, the applicative never has a valence-increasing function, nor does it restructure the semantic roles in the clause (i.e. something akin to Salish “redirective” applicatives in (19)). Compare the transitive verb root ‘break’ in (26) and the verb root in combination with the (applicative) adversative prefix $\check{c}^w\partial-$ in (27).

Abaza (Northwest Caucasian, O’Herin 2001: 482)

- (26) $y-p-s-q'\partial-t'$
 ABS.3SG.N-PV-ERG.1SG-break-DYN
 ‘I broke it.’

Abaza (Northwest Caucasian, O’Herin 2001: 482)

- (27) $y\partial-l-\check{c}^w\partial-p-s-q'\partial-t'$
 ABS.3SG.N-APPL.3SG.F-ADV-PV-ERG.1SG-break-DYN
 ‘I broke it to her disadvantage.’

In the transitive clause in (26), the subject is registered with the first person singular ergative indexing prefix $s-$, and the direct object is registered in the absolutive series with the third person singular neuter prefix $y-\sim y\partial-$. In (27), the adversative prefix $\check{c}^w\partial-$ triggers, to its left, the presence of the applicative agreement prefix $l-$, homophonous with the ergative series prefixes. The agreement series to which the prefix $l-$ belongs is not associated with any core verbal argument. In terms of morphological agreement, the subject (i.e. ‘I’) and the “original” direct object (i.e. ‘it’) on the applicativized verb stem are registered by the same set of affixes, ergative and absolutive respectively, as in

(26). O’Herin (2001) proposes this as a first piece of evidence that the adversative (applicative) prefix $\check{c}^w\partial$ - does not trigger changes in the argument structure of the verb ‘break’ in (27). Further, O’Herin (2001) shows that the “applied object” (i.e. ‘to her disadvantage’) does not become a surface direct object because, unlike non-applied direct objects, it cannot be made into a reflexive anaphor. Similarly, the argument structure of intransitive verb roots is also unaffected by the presence of the applicative, and the verb root remains syntactically intransitive (e.g. when an intransitive verb root is applicativized, its only core argument is registered in the absolutive series, they cannot participate in reflexive and reciprocal constructions as would be expected if they became transitive, etc.). O’Herin (2001) analyzes constructions such as (27) as an instance of preposition incorporation along the lines of Baker (1988a) but with some modifications.

Most definitions presented in this section specify that an applicative morpheme brings into the syntactic core a semantically peripheral, non-core thematic role (cf. Alsina & Mchombo 1993, Peterson 2007, Payne 1997, Kulikov 2011, Haspelmath & Müller-Bardey 2004, Dixon & Aikhenvald 2000, Mithun 2002).³⁴ Peterson (2007: 39), unlike others, includes productivity as a defining feature of applicatives. According to him, to call a construction “applicative”, such a construction should be highly productive in the verbal lexicon of a language. Sometimes authors make distinctions between applicatives and applicative-like constructions based on the productivity of the construction and the introduction of a (non-)core semantic role. An example of this is Lehmann and Verhoeven’s (2006) gradient distinction between applicative and

³⁴ It is not always clear what is meant exactly by “semantically peripheral”, but it seems that this term usually implies non-Theme (and non-Agent) semantic arguments.

EXTRAVERSIVE constructions in Yucatec Maya. They argue that extraversion and applicative formation are essentially the same thing on purely structural grounds: both are “undergoer-focused” transitivization processes. However, they reserve the term “applicative formation” for syntactically regular “promotion processes”, and “extraversion” for a lexical derivational process with syntactic consequences. The extraversion construction in Yucatec Maya can be used to bring into the scene a peripheral thematic role such as comitative. Consider (28) and (29).

Yucatec Maya (Lehmann & Verhoeven 2006: 471)

(28) *táan u ts'íkil (ti' u na')*
 PROG SBJ.3SG feel.angry LOC POSS.3SG mother
 ‘He is annoyed (with his mother).’

Yucatec Maya (Lehmann & Verhoeven 2006: 471)

(29) *táan u ts'íkil-t-ik u na'*
 PROG SBJ.3SG feel.angry-TRR-INCMPPL POSS.3SG mother
 ‘He is annoyed with/is scolding his mother.’

In (28) the intransitive verb ‘feel angry’ combines with an optional prepositional phrase. In the extraversive construction in (29), the transitivizer suffix *-t* is added to the verb which now can take a direct object, ‘his mother’. The function of (29) is to “exteriorize a participant closely related to the situation core designated by the base verb” (Lehmann & Verhoeven 2006: 480). Extraversion in Yucatec Mayan can also be used to bring in a Theme object, as in (31), which could not otherwise be expressed in the argument structure of the intransitive underived verb ‘mock’ in (30). In other words, the use of the extraversive construction is obligatory to express the Theme argument of a verb such as ‘mock’.

Yucatec Maya (Lehmann & Verhoeven 2006: 474)

- (30) *h p'àa's-nah-en*
PERF mock-CMPL-ABS.1SG
'I mocked (sth./sb).'

Yucatec Maya (Lehmann & Verhoeven 2006: 474)

- (31) *t-in p'a's-t-ah le ba'x t-u mèt-ah-o'*
PERF-SBJ.1SG mock-TRR-CMPL DEF thing PERF-SBJ.3SG do-CMPL-D2
'I mocked/criticized the thing he did.'

Lehmann & Verhoeven (2006) observe that extraversion, illustrated in the contrast between (30) and (31), is well attested in languages where verb roots such as 'eat' or 'drink' are usually intransitive and require "extraversion" to express the thing being eaten or drunk. Lehmann & Verhoeven (2006) treat the applicative and extraversive constructions as two instances of undergoer-focused transitivization with different distribution: unlike applicative formation, extraversion in Yucatec Maya is an unproductive lexical derivational process restricted to intransitive verb roots. In addition, it can be obligatory for expressing particular semantic roles with that verb (cf. (31)). Interestingly, they conclude that "if our proposal to distinguish between applicative and extraversive is accepted, then we expect that many applicatives which figure in linguistic descriptions will turn out to be more like extraversive upon critical examination" (Lehmann & Verhoeven 2006: 489).³⁵

³⁵ Lehmann & Verhoeven (2006) assume that, usually, applicative constructions are optional in the sense defined at the beginning of this section, i.e. there is an alternative way of expressing the relevant semantic role. They argue that "transformational relationships" in the case of applicatives have been overemphasized, but they consider obligatoriness as a distinctive feature of extraversion and optionality as a distinctive feature of applicatives.

Turning to less discussed functions of applicatives, none of the definitions presented in this section explicitly encompasses the possibility that applicatives, in certain languages and with certain types of verbs, might in some cases have purely semantic effects with no syntactic consequences whatsoever for the valence of the verb root which undergoes applicative derivation. I shall illustrate this with Maa (Maasai). Besides introducing Beneficiaries and Goals as core arguments, thus increasing the syntactic valence of verb roots, the “dative” applicative in Maa also displays purely semantic functions in combination with certain verb classes. Consider (32) and (33).

Maa (Lamoureaux 2004: 58)

- (32) *ε-íd* *ɔl-páyìàn* *o-sóít*
 3SG-jump M.SG-man.NOM M.SG-rock.ACC
 ‘The man will jump (over) the rock.’

Maa (Lamoureaux 2004: 58)

- (33) *ε-íd-ákì* *ɔl-páyìàn* *o-sóít*
 3SG-jump-DAT M.SG-man.NOM M.SG-rock.ACC
 ‘The man will jump on top of the rock.’

In (32), the verb root ‘jump’ takes two arguments: a nominative marked subject and an accusative marked direct object ‘rock’ which is semantically a Path component, i.e. the thing jumped over. The landing point of the jumping event is unspecified in (32). In (33), the verb root ‘jump’ combines with the dative applicative suffix *-ákì* and still takes two arguments. The function of the applicative in (33) is to manipulate the semantic role of the direct object so that it is the Goal endpoint of the jumping event.

Several considerations conclude this section. Typologically, it is not clear what should be the essential, defining criteria to include a given construction in the category “applicative” and why. Definitions of applicatives are often based on the behavior and

function the presumed applicative morpheme displays in the language(s) that the author of the definition works on. Some features or characteristics of such morphemes in certain languages become well-known and are later assumed to be “canonical” (in the sense of Corbett 2007) or “prototypical” (cf. for instance the fact that applicatives are usually of the optional and not the obligatory construction type). Some functions also become more “canonical” than other possible ones in the minds of linguists, so that applicative-like constructions are separated from “real applicatives” because they do not possess a certain feature (e.g. “promotion” in the case of registration applicatives or productivity and promotion of certain thematic roles in the case of extraversion). Perhaps Croft (2001) would consider these facts as instances of “methodological opportunism”. I am also guilty of methodological opportunism in my definitions of types of applicative constructions in Bantu languages in Chapter IV.

Spike Gildea (p.c.) observes that definitions of “applicative” in the typological literature are operational definitions which lack a theoretical basis, that is, they are definitions which set forth certain formal criteria for identifying the category of “applicative” in a given data set but without being grounded in an established concept of “applicative”.³⁶ A theoretical definition provides a characterization of a concept as it is situated in some overarching intellectual or theoretical framework (Russell Tomlin, p.c.). Theoretical definitions should be the basis of operational definitions, because the latter provide the means, general or specific to some particular analysis, of how instances of that theoretical concept will be identified (Russell Tomlin, p.c.).

³⁶ For example, Spike Gildea (p.c.) takes Comrie’s, Haspelmath’s and Dixon’s typological approaches to be atheoretical.

Thus, operational definitions should ideally have both logical validity (i.e. epistemologically speaking, the criteria should follow from a theoretical definition about which the community of experts agrees, thereby avoiding methodological opportunism), and empirical validity (i.e. more than one criterion should point to the same conclusion). However, as this section has shown, operational definitions are hard to apply across languages. In §4.2.4, after presenting my proposal of a four-way distinction among Bantu applicative constructions, I will address why at the present time, I am unable to provide a good theoretical definition of applicative constructions valid at least for Bantu.

2.4 Formal approaches to some applicative types

Theoretical approaches such as Relational Grammar (RG), Government and Binding (GB) and subsequent developments such as Minimalism, and Lexical Functional Grammar (LFG) have been pivotal in the analysis and current understanding of applicative constructions. It is within these frameworks that the terminology used nowadays for applicatives was developed. Works on applicatives within and outside Bantu since the late 1970s are often couched in one of these approaches (cf. for instance Kimenyi 1976, Machobane 1989, Katupha 1991, Rugemalira 1993, Ngonyani 1996, Cuervo 2003, Jeong 2006, Georgala 2011, Jung 2014, *inter alia*). The Bantu data contained in the pioneering work of Kimenyi (1976, 1980) represented a challenge for the RG framework and stimulated the development of analyses and explanations for applicative constructions in the GB and LFG approaches. A review of these approaches is part of many works that deal with applicatives (cf. for instance Ngonyani 1996: 49-

70, Peterson 1999: 187-203, Jerro 2016a: 202-222). At the risk of being repetitive, I cannot refrain from providing the reader with a brief overview of these theoretical approaches because they are essential to understanding the current analyses of Bantu applicatives and their related problems. They are also essential to the discussion of Bantu applicative construction types presented in Chapter IV.

RG, GB and LFG have mostly addressed two types of applicative constructions derived from transitive verb roots in different languages. In the first type, the applicative construction can be optional or obligatory (as discussed in §2.3) and the applied object with a transitive verb root gains the properties of a direct object, while the base object of the transitive verb root loses some or all of its object properties. In the second type, the applied object with a transitive verb root gains the properties of a direct object and the base object of the transitive verb root retains its object properties. The following subsections review the analyses that these two types of applicatives have received in different theoretical approaches.

2.4.1 Bantu challenges to the Relational Grammar account

The framework of RG produced theoretical analyses of applicative constructions in a variety of language families, the first one being that of Chung (1976) for Indonesian (Peterson 1999: 187).

In RG, grammatical relations are taken as primitives (Perlmutter & Postal 1983: 85). “1” indicates a subject relation, “2” a direct object relation and “3” an indirect object relation. 1, 2 and 3 are “terms” while adjuncts or obliques are “non-terms”. One cornerstone of RG is the Relational Annihilation Law, later named the Chômeur Law, which states that “if a NP_j takes over the grammatical relation of a NP_i (where $j \neq i$),

then NP_i loses its grammatical relation to the verb” (Kimenyi 1980: 119). NP_i, which has lost its original grammatical relation to the verb, becomes a “chômeur”, that is, a particular kind of non-term. Chung (1976, 1983) offers empirical support for the Relational Annihilation Law with applicative constructions created off of transitive verb roots in Bahasa Indonesian. A “rule of Dative” (i.e. the suffix *-kan* in (35)) applies to clauses with a direct object and an indirect object flagged by *kepada*, in (34).

Bahasa Indonesian (Chung 1983: 219)

(34) *Saja mem-bawa surat itu kepada Ali*
 I TR-bring letter the to Ali
 ‘I brought the letter to Ali.’

Bahasa Indonesian (Chung 1983: 219)

(35) *Saja mem-bawa-kan Ali surat itu*
 I TR-bring-BEN Ali letter the
 ‘I brought Ali the letter.’

After identifying properties of the direct object of transitive verb roots (passivization, reflexivization, equi-deletion, etc.), Chung shows that when the rule of Dative applies, as in (35), the original indirect object (‘to Ali’) loses its preposition and acts as a direct object with respect to object properties. The original direct object (‘letter’), on the contrary, loses all its object properties (Chung 1983: 239). Chung concludes that this behavior is accounted for by the Relational Annihilation Law, according to which the original indirect object “3” is advanced to become a “2”, and the original direct object no longer holds the grammatical relation of object to the verb and becomes a chômeur “2̂”. This can be schematically seen below. The first line represents example (34) while the second line represents example (35) after the “Rule of Dative” has applied to the verb.

- (34) 1 V 2 3
 (35) 1 V-kan 2 2̂
-

Aissen (1983) analyzes an analogous applicative construction in Tzotzil (Mayan):

Tzotzil (Aissen 1983: 272)

- (36) *?I-ø-h-čon-be* *čitom li šune*
 ASP-ABS.3SG-ERG.1SG-sell-BE pig the šun
 ‘I sold (the) pigs to Šun.’

In Tzotzil, unlike Bahasa Indonesian, there is no alternative construction to express the Recipient ‘to Šun’: the applicative morpheme *-be* is the only way to express it. Like Chung, Aissen (1983) argues that the base object *čitom* becomes a chômeur and the indirect object *li šune* is advanced to direct object.

Kimenyi’s (1980) relational grammar account of Ruanda, an enlarged and revised version of his dissertation (Kimenyi 1976), is among the first works which applies the RG framework to the analysis of a Bantu language. Kimenyi investigates, among other things, the advancement of different non-terms to Direct Object (DO) with intransitive, transitive and ditransitive verb roots in Ruanda. Kimenyi’s “objectivization rules” show that the initial DO (if any) and the advanced DO (Instrumental, Location, Goal, etc.) vary considerably with respect to the object properties they display.

Kimenyi (1980) makes a distinction between Recipients and Beneficiaries and other semantic roles assigned to the applied object. Unlike other semantic roles, Recipients and Beneficiaries in Ruanda are never introduced by prepositions when they appear with non-derived verb roots such as ‘tell’ in (37).

Ruanda (JD61; Kimenyi 1980: 61)

- (37) *umugóre* *y-a-bwii-ye* *umuhuîngu* *ibinyóma*
woman she-PST-tell-ASP boy lies
'The woman told the boy lies.'

With ditransitive verb roots such as 'tell', the Theme 'lies' could be omitted and the sentence would be grammatical; but omitting the Recipient 'boy' would make the sentence in (37) ungrammatical. Syntactically, both the Recipient (i.e. 'to the dog') and the Beneficiary (i.e. 'for the boy', 'for the man') in applicative constructions such as (38) and (39) show the same object properties (object indexation, passivization, reflexivization, *wh*- movement, etc.) as 'boy' in (37).

Ruanda (JD61; Kimenyi 1976: 15)

- (38) *umukoôbwa* *a-ra-som-er-a* *umuhuîngu* *igitabo*
girl she-PRS-read-BEN-ASP boy book
'The girl is reading a book for the boy.'

Ruanda (JD61; Kimenyi 1980: 65)

- (39) *umugóre* *a-rá-hé-er-a* *umugabo* *îmbwa* *ibúryo*
woman she-PRS-give-APPL-ASP man dog food
'The girl is giving food to the dog for the man.'

Kimenyi thus argues that Recipient and Beneficiary NPs in Ruanda behave syntactically as direct objects, even if in the RG framework Recipients and Beneficiaries are considered syntactically indirect objects which are advanced to direct object status by syntactic rules. Kimenyi argues that the Relational Annihilation Law does not apply to constructions such as (38) and (39), because there is no advancement of 3 to 2, that is, indirect object to direct object advancement, because Recipients and Beneficiaries in Ruanda must syntactically already be direct objects. In addition, if the Relation Annihilation Law applied, it would wrongly predict that the original direct objects in

(38) and (39), ‘book’ and ‘food’ respectively would become *chômeurs* and lose their object status, which is not the case in Ruanda.

The data in (38) and (39) posed serious problems for another cornerstone of RG, the Stratal Uniqueness Law, according to which no more than one NP can simultaneously bear a given term relation (i.e. subject, object or indirect object) with respect to the verb at a time (see Gary & Keenan 1977, Perlmutter & Postal 1983, Dryer 1983, Bickford 1986, *inter alia* for a debate on this issue in Ruanda). Examples such as (38) and (39), where according to Kimenyi two and three NPs respectively bear the grammatical relation of direct object to their verb, represent a clear violation of this law.

Kimenyi (1980) also shows that there is variation in the object properties of the original object and of the “advanced” or applied object in Ruanda across different semantic roles. For instance, Instrumentals and Goals advanced to DO in the applicative construction acquire all properties of the initial DO, and the initial (i.e. basic, original) DO does not become a *chômeur*, that is, it keeps its object properties. Manners advanced to DO acquire almost all (but not all) the properties of the initial DO and the initial DO is not put en *chômage*. By contrast, Locatives advanced to DO acquire all properties of the initial DO and the initial DO becomes a *chômeur*.³⁷ Alienable and inalienable possessors advanced to DO inherit all DO properties, while the possessed item shows variation: the possessee of inalienable possessors keeps former DO properties except reflexivization and relativization, while the possessee of alienable possessors loses all its object properties. (40) offers an example of the latter case.

³⁷However, not all Locatives and Possessors can undergo objectivization rules in Ruanda (see Kimenyi 1980: 89 and ff.).

Ruanda (JD61; Kimenyi 1980: 102)

(40) *ingurube* *z-a-ri-ir-iye* *ábáana* *ibíryo*
pigs they-PST-eat-BEN-ASP children food
'The pigs ate the children's food.'

Unlike the NP 'children', the NP 'food' in (40) cannot be indexed on the verb, passivized, relativized or clefted. Constructions such as (40) did not posit significant problems for the RG approach. They were basically treated like the Indonesian construction in (35) and the Tzotzil construction in (36): the Relational Annihilation Law predicts that 3 'children' is advanced to 2 in (40) and, as a consequence, the original 2 'food' loses its direct object status and becomes a *chômeur*.

RG, like GB and other transformational frameworks, posits the idea of a relation between the applicative construction and its non-applicative counterpart: the indirect object ("3") of a non-applicative construction is said to be "advanced" to direct object status ("2").³⁸ We now turn to LFG approach, where the applicative is not analyzed as a syntactic transformation, but rather as a morpholexical operation.

³⁸ Technically, RG posits rules that link applicative and non-applicative counterparts in terms of changes in grammatical relation assignments (i.e. "advancements") rather than in terms of "transformations" (Levin & Rappaport-Hovav 2005: 196). This is because in the RG approach there is no reliable, universal relationship between semantic roles and grammatical relations. Grammatical relations are said to be identified independently from their meaning and are the basis of syntactic representations (Rosen 1984).

2.4.2 The Lexical Functional Grammar account

Within the LFG approach, Bresnan & Moshi (1990) introduce the now well-known distinction between SYMMETRICAL and ASYMMETRICAL object languages, based on data from the Bantu languages Chewa and Chaga. Their contribution gave rise to a proliferation of studies in languages with multiple objects, both within and outside Bantu (Kioko 1995, Donohue 1996, Moshi 1998, Taylor 1998, Ngonyani 1998, Mchombo & Firmino 1999, Demuth 2005, Ngonyani & Githinji 2006, Mathangwane & Osam 2006, Mackay & Trechsel 2008, Aranovich 2009, Murrell 2012, *inter alia*).

In an asymmetrical type language such as Chewa, in a clause with two non-subject NPs, only one postverbal NP displays “primary object” properties. These object properties include: adjacency to the verb, passivizability, object indexation on the verb and ability to undergo reciprocalization and reflexivization. On the other hand, in a symmetrical type language such as Chaga, more than one postverbal NP can display primary object properties. Further, in a symmetrical object language, more than one postverbal NP can simultaneously display more than one object property (e.g. more than one postverbal NP can be made the subject of a passive and simultaneously be indexed on the verb).

Bresnan & Moshi (1990, 1993) demonstrate that the behavior of objects is symmetrical in Chaga and asymmetrical in Chewa in *benefactive* applicative constructions. The labels “symmetrical” and “asymmetrical” might seem to refer to the language as a whole. However, as we will see in the following paragraphs, the LFG approach does address languages with internal variation such as Ruanda, where applicative constructions with certain semantic roles result in symmetrical behavior of

the two objects (cf. (38)), while others result in asymmetrical behavior (cf. (40)) in the same language.

In the LFG framework (Hyman & Duranti 1982, Bresnan & Kanerva 1989, Alsina & Mchombo 1990, 1993, Bresnan & Moshi 1990, 1993, Harford 1993, *inter alia*), syntactic functions such subject, object and oblique are not considered as primitives. Rather, they are decomposed into more primitive features. There are two primitive features or specifications for the decomposition of syntactic functions: (i) the ability to be mapped onto a variety of semantic roles and thus be semantically unrestricted (or not) [$\pm r$]; and (ii) the ability to be the complement of transitive predicates and adpositions (or not) [$\pm o$]. The combination of the values of these two features results in four different types of syntactic functions. Subjects are [$-r, -o$], obliques are [$+r, -o$], and there two types of objects: [$-r, +o$] and [$+r, +o$]. Only unrestricted objects [$-r, +o$] can obtain subject status in a passive construction. Restricted objects [$+r, +o$] have fixed semantic roles just like obliques.

The mapping of a thematic (i.e. semantic) role onto a syntactic function is determined by the intrinsic properties of the thematic role (intrinsic classification) and by its ordering on a thematic hierarchy relative to other roles expressed by the verb (default classification). The proposed thematic hierarchy is: Agent > Benefactive > Goal/Experiencer > Instrument > Patient/Theme > Location (Alsina & Mchombo 1993: 24). The intrinsic classification of a thematic role depends on whether the argument it is mapped to is internal or not; Patient/Theme and applied arguments are considered internal.

Syntactically, all internal arguments have the intrinsic classification [$-r$], that is, they are semantically unrestricted, so that semantic roles can alternate between

assignment to the unrestricted grammatical functions of either subject or object.

Internal arguments with a thematic role lower than the goal on the thematic hierarchy can also be intrinsically classified as [+o], i.e. they can be objects with a certain semantic role mapped onto them. On the other hand, obliques, which are not internal arguments, receive the specification [-o]. In the LFG approach, the applicative is considered a morpholexical operation which adds a new theta role and therefore an internal argument (which can have any role below Agent on the hierarchy) to the argument structure of a verb.

Differences in the syntactic behavior of objects in applicative constructions are explained by proposing a single parameter of variation called the Asymmetrical Object Parameter (AOP). According to the AOP, only one theta role can be “intrinsically mapped” as unrestricted. This parameter is said to be present in an asymmetrical language such as Chewa, but absent in a symmetrical language like Chaga. Within the multi-layer analysis of LFG, the AOP then correctly predicts the different behavior of objects in benefactive constructions in Chaga and Chewa (for details, see Bresnan & Moshi 1993: 76 and ff.).

Differences in the syntactic behavior of objects in applicative constructions within the same language are explained on the basis of alternative mappings of syntactic functions to thematic roles. In Chewa instrumental applicative constructions, either the instrument or the theme object can appear in immediate postverbal position; but in benefactive applicatives in Chewa, only the benefactive can appear immediately after the verb. Alsina & Mchombo (1993) explain this difference by claiming that in benefactive applicatives, the beneficiary can only have the syntactic specification [-r], because it is higher than goal on the thematic hierarchy, and therefore there is only one

possible mapping of syntactic functions to thematic roles. Instrumental applicatives, on the other hand, have two alternative mappings, because instruments are lower than goals in thematic hierarchy. In one mapping, the instrumental object receives the syntactic specification [-r] and the theme [+r] (the instrumental object can appear immediately after the verb). In an alternative mapping, the theme object receives the syntactic specification [-r] and the instrumental object [+r] (the theme object can appear immediately after the verb). Similarly, the fact that only the beneficiary object can be indexed on the verb in Chewa's benefactive applicatives, while both the instrument and the theme can be indexed in instrumental applicatives, is said to be a consequence of the two alternative mappings in instrumental applicatives: since either the instrument or the theme can be [-r], both can be indexed (but not simultaneously).

Studies within the LFG approach have been pivotal within Bantu linguistics. Perhaps one of their most important contributions has been establishing a set of morphosyntactic properties used to determine whether a given NP bears the grammatical relation of direct object to its verb root. These have been used ever since within and outside Bantu linguistics, despite the critiques made to the LFG characterization of Bantu "objects" as symmetrical or asymmetrical, as we will see in Chapter III.

With respect to applicatives, the LFG approach competed with the Government and Binding (GB) approach for greater explanatory power. We now turn to the GB account.

2.4.3 Baker's Government & Binding account

Like LFG, the GB approach also attempts to deal with the variation found in applicative constructions in Bantu and elsewhere. In what follows I present mostly the analysis of Baker (1988a). Baker (1988a, 1988b, 1990, 1992), following Marantz (1982, 1984), proposes that complex derived verbs with an applicative are the result of “preposition incorporation”. Preposition incorporation is an instance of the generalized transformation “Move-Alpha” which moves a single word rather than a whole phrase. This means that a preposition such as *kepada* in the Indonesian example in (34), reproduced as (41), moves out of a PP and is incorporated into the verb that governs it (cf. the benefactive suffix *-kan* in (35), reproduced as (42)).

Bahasa Indonesian (Chung 1983: 219)

(41) *Saja mem-bawa surat itu kepada Ali*
I TR-bring letter the to Ali
'I brought the letter to Ali.'

Bahasa Indonesian (Chung 1983: 219)

(42) *Saja mem-bawa-kan Ali surat itu*
I TR-bring-BEN Ali letter the
'I brought Ali the letter.'

In the GB framework, the preposition movement automatically changes government and Case assignment relationships. The NP stranded by the moved preposition, i.e. 'Ali' in (42), receives its thematic role from the incorporated preposition and is assigned structural (accusative) Case at the S(urface)-structure by its governing verb + preposition complex. As a result of Case assignment, the NP 'Ali' in (42) behaves like a direct object. The NP stranded by the preposition is called “applied object”, in contrast with the original D(eep)-structure direct object, i.e. 'letter' in (42), which is

called “basic object”. While the applied object is assigned structural Case at S-structure, the basic object is assigned inherent Case at D-structure by the underived verb, i.e. ‘bring’ in (41). The basic object shows no object properties in (42) because in the GB framework inherent Case need not manifest as adjacency to the verb and, since inherent Case is assigned at D-structure, the basic object cannot become the subject of a passive at S-structure.

Under this approach, in languages like Tzotzil (cf. (36)), preposition incorporation is obligatory; whereas in languages like Indonesian (see (34) and (35)), there are two prepositional items, a preposition and a suffix, which overlap in the set of theta roles they can assign.

In the GB approach, the Ruanda construction in (40), the Indonesian construction in (35), and the Tzotzil construction in (36) can all be accounted for by positing that inherent Case is assigned to the base object at D-structure and structural accusative Case is assigned after preposition incorporation at S-structure. This is said to explain why the applied object in these constructions gains object properties and the base object loses them.

On the other hand, the Ruanda construction in (38), where both the initial direct object and the applied object have the same object properties, is accounted for by assuming that some Ruanda complex verbs created by preposition incorporation have the special ability of assigning two structural (accusative) Cases at S-structure, one to the applied object and another one to the basic object that they govern. Since both objects are assigned structural Case (and not inherent Case), the applied object and the basic object “consistently show the same Government-and-Case related “direct object properties”” (Baker 1988a: 266).

In his Theta-Theory analysis of applicatives in Chewa (1988b), Baker offers a slightly different account of the differences in the behavior of the applied and the basic object in Chewa benefactive and instrumental applicative constructions. In instrumental applicative constructions the applied object and the basic object behave the same with respect to several syntactic properties, while in benefactive applicative constructions they do not (the basic object loses object properties).³⁹ Baker (1988b) proposes that instrumental phrases are NPs at all structural levels, but benefactive phrases are underlyingly PPs (at D-structure) and their preposition is later incorporated into the verb. Therefore, benefactive phrases depend on the preposition for theta-role assignment, while instrumental phrases depend directly on the verb root for theta-role assignment. In Chewa's instrumental applicative constructions both the instrumental applied object and the basic object are governed and theta-marked by the verb at D-structure and they continue to both be governed by the verb at S-structure and thus receive structural Case, which explains why they display the same object properties.

It is worth mentioning that the initial GB account of Baker (1988a) has no way to account for applicative morphemes which combine with intransitive verb roots due to GB theory internal assumptions. Baker (1988a: 252) assumes that an applicative construction “can only occur when the derived verb assigns accusative Case to the NP stranded by the movement of the preposition”. If a verb root which is not specified as being an accusative case assigner (i.e. a transitive verb root) in the lexicon is derived in the syntax level by preposition incorporation, this would lead to problems. In particular, Baker (1988a) mentions the following. First, the derived complex verb stem could not

³⁹ Alsina & Mchombo (1993: 30) do not agree with Baker's analysis and argue that in instrumental as well as in benefactive applicatives, only the applied object can be passivized.

get Case-assigning features from the root, because the root is not an accusative Case assigner root in the lexicon. Second, the derived complex verb stem is not listed in the lexicon, so it could not have inherent Case-assigning features of its own. Third, the derived complex verb stem cannot get Case-assigning features from the incorporated preposition, because prepositions are oblique-case assigners and the complex derived verb is restricted from inheriting such case features by the Case Frame Preservation Principle. In this scenario, the applied verb would end up having no Case to assign to its applied object. As a result, Baker (1988a: 252) predicts that “applicative constructions should not be possible whenever the verb that hosts the P[reposition] Incorporation is not a Case assigner.”⁴⁰ This prediction was coincidentally supported by data from languages such as Tzotzil and Indonesian, where applicatives can combine only with transitive verb roots.

Confronted with the Chewa data in (43) and (44), where an intransitive verb root such as ‘dance’ can indeed undergo applicative derivation, Baker solves his problem created by the GB theory by simply claiming that one class of verbs in Chewa, which includes ‘sing’ and ‘dance’, is an exception that confirms the general impossibility of grammatical applicative constructions created off of intransitive, non-Case-assigner verb roots.

Chewa (N31; Baker 1988a: 258)

- (43) *atsikana* *a-na-vin-a*
 girls s3:2-PST-dance-ASP
 ‘The girls danced.’

⁴⁰ Baker (1988a: 469) does state, however, that this prediction is common across languages, though not universal.

Chewa (N31; Baker 1988a: 258)

- (44) *atsikana* *a-na-vin-ir-a* *mfumu*
girls s3:2-PST-dance-for-ASP chief
'The girls danced for the chief.'

Baker states that children learning Chewa have overt evidence that verb roots such as 'sing' "can in fact assign structural Case, unlike most of the other "intransitive" verbs" (Baker 1988a: 258).

Of particular interest to the study of pseudo-applicatives in Chapter V is the account provided by Baker of other Chewa intransitive verb roots which are able to combine with an applicative. These are analyzed by Baker as idiosyncratic instances of lexical derivational morphology. Consider (45) and (46).

Chewa (N31; Baker 1988a: 255)

- (45) *mkango* *u-ku-yend-a*
lion s3:1-PRS-walk-ASP
'The lion walked.'

Chewa (N31; Baker 1988a: 255)

- (46) *mkango* *u-ku-yend-er-a* *anyani*
lion s3:1-PRS-walk-for-ASP baboons
'The lion inspected the baboons.' (*'The lion walked for the baboons.')

In Baker's analysis of (46), preposition incorporation occurs on a non-Case-assigning verb root: as a result, the derivation must occur in the lexicon, not in the syntax. This entails that the derivation is not fully productive and that the resulting derived verb has unpredictable semantics (i.e. the verb root 'walk' in combination with the applicative in (46) yields to 'inspect' and not to the expected 'walk for').

Baker's account and the GB approach more generally forged the idea of a transformational relationship between the applicative and non-applicative counterparts of a given verb root, where the oblique present in the non-applicative counterpart is promoted to the status of core object argument in the applicative construction, that is, the applicative construction is transformationally derived from the non-applicative counterpart. As observed by Levin & Rappaport-Hovav (2005: 29), this transformational link between the applicative and non-applicative counterpart of a construction results from the adoption in the GB framework of the Uniformity of Theta Assignment Hypothesis (UTAH), according to which "identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure" (Baker 1988a: 46). This means that, for instance, the same thematic relationship holds between 'Ali' and 'write' in (41) and (42) which are supposed to have identical structural representations at D-structure. This allows maintaining a uniform assignment of thematic roles to grammatical relations in D-structure in both applicative and non-applicative counterpart sentences. As Baker states (1988a: 49), "the Uniformity of Theta Assignment Hypothesis points away from a lexical analysis of causative, applicative, and noun incorporation structures and gives theoretical motivation for analysis in terms of syntactic X⁰ movement."

2.4.4 Minimalism

Post-GB generative approaches such as Minimalism have proposed solutions for aspects of (especially Bantu) applicative constructions which were problematic for the GB approach (e.g. Nakamura 1996, 1997, Pylkkänen 2000a, 2000b, 2008, McGinnis 2001, 2008, Cuervo 2003, Lee 2005, Jeong 2006, 2007, Georgala 2011, Öztürk 2013, Jung 2014, *inter alia*).

Pylkkänen (2000a, 2000b, 2008) proposes a HIGH vs. LOW APPLICATIVE distinction, which has become well known even outside the generative literature. This distinction was originally developed to account for transitivity restrictions and asymmetries between the so-called Japanese “adversity passives” and “adversity causatives”, which are both considered applicative constructions by Pylkkänen (2000a). Developing an idea proposed by Marantz (1993), Pylkkänen (2000a) posits two types of applicative heads. In high applicatives, an applicative head is hypothesized to merge above the verbal root, and denotes a thematic relation between an individual and an event. Consider the following example from Chaga.

Chaga (E60, Pylkkänen 2000a: 197)

(47) *n-ǎ-í-lyì-í-à* *m-kà* *k-élyá*
FOC-S3:1-PRS-eat-APPL-FV CL1-wife CL7-food
'He is eating food for his wife.'

Pylkkänen (2000a) argues that in high applicatives such as (47), the applied object ‘wife’ bears no relation to the object ‘food’; rather, ‘eating food’ is the event to which the individual ‘wife’ is related through the high applicative head.

In low applicatives, an applicative head is hypothesized to merge below the verbal root, and denotes a directional possessive relation between two referents. An

example of a low applicative is the English sentence *I baked him a cake*. In this sentence, a supposed low applicative head relates the “applied argument” *him* and the direct object *cake* to the verb ‘bake’.⁴¹ The low applicative heads express directional possessive relations, as in [him [TO-THE- POSSESSION of [cake]]]. The core of this proposal is that the distinction between high and low applicative heads predicts their distribution in terms of the transitivity value of the verbal roots they can attach to. Since low applicative heads relate a direct object to an applied argument, a low applicative with an unergative, intransitive verb such as ‘run’ should be impossible because unergative verbs have no direct object. However, high applicative heads should be able to combine freely with unergative verbs such as ‘run’, given that high applicative heads establish a relationship between an event and an additional applied participant. Pylkkänen (2000a) finds that these predictions are born out, among other languages, in low-applicative languages such as English where **I ran him* (intended: ‘I ran for him’) is ungrammatical, and in high applicative languages such as Chaga, where unergative verbs such as ‘run’ can undergo applicative derivation and result in ‘run (for) someone’, where ‘someone’ is expressed as an object NP. Although the distinction between high and low applicatives was formulated to account for transitivity restrictions, Pylkkänen (2000a: 203) roughly equates high applicatives to “symmetric applicatives” and low applicatives to “asymmetric applicatives”, albeit recognizing that the symmetrical/asymmetrical

⁴¹ For a tree-structure representation of high and low applicatives, see Pylkkänen (2000a: 3). Also, notice that in Minimalism, and in Chomskian generative approaches more generally, the so-called “dative-shift” (i.e. *I baked him a cake* instead of *I baked a cake to/for him*) is included under the label “applicative”.

distinction proposed by the LFG approach is not based on transitivity restrictions, but on the different syntactic behavior of objects in applicative constructions.

McGinnis (2001, 2008) elaborates Pylkkänen's (2000a) proposal by complementing it with Chomsky's syntactic domains known as "phases".⁴² McGinnis argues that in high applicatives, the applicative "heads a phase whose domain contains the Theme argument", while in low applicatives, little *v* heads a phase whose domain contains both the Theme argument and the applied argument. McGinnis states that this generalization captures the variation in the syntactic behavior of applicative constructions with two objects, such as the possibility of an object to become the subject of a passive and object indexing on the verb. McGinnis also investigates how her proposal captures asymmetries in phonological phrasing, quantifier scope and *wh*-movement in applicative constructions.

Peterson (2007: 82) argues that one should be cautious in establishing a correlation between symmetrical treatment of objects and high applicative properties on one hand, and asymmetrical treatment of objects and low applicatives on the other hand. Peterson (2007) indicates that Hakha Lai applicatives mostly show asymmetrical object behavior. Based on Pylkkänen (2000a) and McGinnis (2001, 2008) correlations, Hakha Lai should then be a low applicative language; however, data does not support

⁴² The Minimalist notion of "phase" is not easy to understand without describing other theoretical assumptions of Minimalism, a task which I will not undertake. Briefly, following Chomsky (2001), McGinnis (2001: 5) states that "syntactic derivations undergo semantic and phonological interpretation in incremental chunks or *phases*. [...] Once a phase is complete, movement and agreement operations can target its head and constituents on its *edge* [i.e. adjuncts and specifiers], but cannot target constituents in its *domain* [i.e. complement]" (emphasis in the original).

such a correlation, since applicatives can be created off of intransitive verb roots in this language.

CHAPTER III

PRELIMINARIES TO A STUDY OF *-ID APPLICATIVE CONSTRUCTIONS

3.1 Chapter overview

Chapter II has addressed some difficulties in establishing “defining” features of a cross-linguistic category of “applicative”. It has also reviewed fundamental theoretical attempts to account for applicative phenomena. Chapter III goes further into problematic data and attempts to show that it is often difficult to classify the Bantu applicative suffix *-id simply as a valence-increasing device. The discussion of argument structure/increase in syntactic valence in Bantu languages cannot be addressed without relevant background on the difficulties in distinguishing syntactic arguments vs. syntactic adjuncts in Bantu.⁴³ This will be addressed in §3.2 and subsections therein. §3.3 introduces relevant terminology, definitions and theoretical assumptions for my proposal of a four way distinction of Bantu applicative construction types in Chapter IV. Finally, §3.4 provides an overview of morphophonological features of the Bantu applicative suffix *-id relevant to the discussion throughout the remainder of this study.

⁴³ In this work, the terms “argument” and “adjunct” without further specification are to be understood as referring to the syntactic level. See §3.3 for further details.

3.2 The problem of syntactic argument vs. syntactic adjunct in Bantu

As we have seen in Chapter II, Bantu and other language families display a number of varying construction types all called “applicative”. In virtually all the Bantu grammars I have consulted, the reflex of the *-id applicative morpheme is listed under the rubric “valence-increasing verbal derivations”. It is usually claimed that the applicative introduces a new argument into the argument frame of a given verb root. It has long been observed, however, that distinguishing syntactic (object) arguments from syntactic adjuncts in Bantu is a challenge, to say the least.⁴⁴ Perhaps no better words can describe this challenge than Schadeberg (1995: 173): “The harder I try the more difficult I find it to say which nominal phrases are syntactic objects in Bantu”. The difficulty in drawing a clear-cut line between (object) arguments and (syntactic) adjuncts in Bantu revolves around two major issues. The first is the theoretical validity of a syntactic notion of “object” identified by syntactic diagnostics (§3.2.1). The second is determining the syntactic category (NP, PP, etc.) to which phrases with locative semantics belong (§3.2.2). From now on, I use the term “locative phrase” as a general cover term for a phrase that has locative semantics and displays some sort of locative marking without specifying the syntactic category to which the phrase belongs. “Locative marking” is to be understood as the morphological material that must be added to most nouns when they fulfill the function of semantic adjunct specifying the

⁴⁴ Problems in the distinction between syntactic arguments and syntactic adjuncts go well beyond Bantu languages. In §4.2, I will present some of Forker’s (2014) criteria for distinguishing between “canonical arguments” and “canonical adjuncts” and show how these unsurprisingly do not distinguish in a clear-cut way between applied phrases that are arguments and applied phrases that are adjuncts.

location of an event.⁴⁵ As we will see, determining the syntactic nature of locative phrases has direct implications for the argument vs. adjunct distinction, since NPs are more likely to be (syntactic) arguments than are PPs.

Before diving into further discussion, I would like to point out that for those who conceive of language as a historically evolved system adapting to variation, the presence of “transitional” or indiscrete synchronic categories in language is not surprising nor unusual. Rather, the presence of synchronically indiscrete, ever-shifting categories must be part of the big picture of language evolution and change if we believe that the same principles that govern biological evolution also govern diachronic language change (Givón 2015a: 713).

Let us consider an extreme parallel in biology, the platypus. Taxonomically, the platypus belongs to a subclass of mammals, called monotremes (mammals that lay eggs). The platypus has a duck-like bill and webbed feet, an otter-like body and fur, and a beaver-like broad, flattened tail. The female platypus lays eggs like birds and reptiles and yet lactates; the male platypus has two small horny spurs on each paw with venom similar to that of reptiles (Grant 1989). The platypus genome contains genes of mammals, reptiles, birds, amphibians and fish, which reveals its complex evolutionary development (Warren et al. 2008). As we will see in the following sub-sections, “transitional” linguistic categories, like transitional biological species, are also the result of their diachronic evolution.

⁴⁵ This definition of “locative phrase” as well as the concept of “applied phrase” discussed in §3.3 were suggested to me by Denis Creissels.

3.2.1 “Syntactic objects” and objecthood diagnostics

The three most commonly used diagnostics to demonstrate that a given morphosyntactic entity holds the grammatical relation of “object” to a verb root/stem in Bantu languages are: adjacency to the verb, indexation on the verb by means of object indexes (or encliticization of pronominal object forms),⁴⁶ and subjectivization by means of a passive construction. These were proposed by Hyman & Duranti (1982). Other scholars within the LFG framework (cf. Alsina & Mchombo 1993, Bresnan & Moshi 1990, 1993) added several other diagnostics (and combinations of them), among which are: reflexivization, reciprocalization, relativization, unspecified (base) object deletion, and *wh*- extraction.

However, Rugemalira (1991) emphasizes the lack of reliability of such diagnostics for several reasons: (i) not all tests may be applicable in all languages; (ii) results of such tests might be contradictory in nature and fail to distinguish between base and applied objects (for instance, in Nyambo benefactive applicatives, only the applied beneficiary NP can be made the subject of a passive construction, but both the applied beneficiary NP and the original/base object NP can be indexed on the verb); and (iii) some of the results might be influenced by non-syntactic factors (for instance, in Swahili, object indexation on the verb is required if the object is animate; and in

⁴⁶ In the Bantu literature, the terms “object marking” (cf. Marten & Kula 2007, 2012 and Marten et al. 2007), “pronominal object marking” (Beaudoin-Lietz et al. 2004), “cliticization” (cf. Mchombo 2004), and “object concord” (cf. Thwala 2006) are used instead of “object indexation”. I use the term “object indexation” (cf. Haspelmath 2013) because it is neutral with respect to the obligatoriness vs. optionality of the the marker. Object indexation in Bantu languages can occur in pre-stem position, post-finally (after the stem and the final vowel) and in pre-stem position and/or post-finally (see Beaudoin-Lietz et al. 2004 for details).

Nyambo, as in many other Bantu languages, human/animate object NPs must precede non-human/inanimate object NPs).⁴⁷ Rugemalira (1991) further suggests that tests for objecthood are arbitrarily chosen, that is, there is no rationale for choosing any particular set of syntactic tests vs. another to define the syntactic category of “object” in Bantu. Similarly, Schadeberg (1995) wonders whether one can be confident that the (non-)acceptability of the “transformations” implied by object diagnostics (i.e. the comparison between a non-passive sentence and a passive version of the same proposition) tells us something about the syntax of the non-passive sentence. As a solution to this problem, Schadeberg proposes four properties that do not involve transformations but have the problem of having a regional spread.

The fact that different “object” diagnostics may lead to different results for the behavior of two postverbal non-subject NPs has led LFG scholars to posit different “degrees or types of objecthood” (Schadeberg 1995: 174), crystallized in the distinction between “symmetrical” and “asymmetrical” object type languages. However, Rugemalira (1991) further argues that is impossible to neatly label languages as “symmetrical” or “asymmetrical” across the board: “object” behavior observed in benefactive applicative constructions might be different from “object” behavior observed in instrumental applicative constructions within the same language. In fact, Rugemalira (1991) argues that there is no such thing as a “symmetrical” object language, given that there are strategies in Bantu languages for differentiating among

⁴⁷ See Hawkinson & Hyman (1974) on how semantic and pragmatic factors may disrupt the syntactic assignment of object properties in Shona; and Morolong & Hyman (1977) on the crucial importance of animacy in the assignment of object properties in Sotho.

different arguments of a verb root or stem. These include word order, animacy, person, number, definiteness, and semantic roles.

The difficulties in defining what the syntactic label “object” “should” mean in Bantu have been further discussed by Marten & Kula (2007, 2012) and Marten et al. (2007). These studies demonstrate that there is considerable language-specific morphosyntactic variation just in object indexation on the verb across southern and eastern Bantu languages. Parameters of variation include: the number of object NPs which can be indexed, the syntactic and semantic nature of the NPs that are object indexed (e.g. locative vs. non-locative NPs), and the obligatoriness vs. optionality of object indexation for certain NPs. The high degree of variation is a problem if one wishes to consider object indexation as some sort of default or ultimate evidence for syntactic objecthood (Marten & Kula 2012: 250).

Perhaps an additional problem related to objecthood diagnostics is the fact that variation may exist even among speakers of the same language, or among speakers of different dialects of the same language. I would like to illustrate this point by comparing the results of object diagnostics in Bukusu (JE31c) from two different authors, Peterson (2007) and Jerro (2016a).

Peterson (2007) analyzes the distribution of four object diagnostics across different applicative constructions in Bukusu: immediately post-verbal position, object indexation on the verb, and accessibility to passivization and relativization. According to Peterson (2007), in Bukusu benefactive applicative constructions, when the applied object is animate and the base object is inanimate, the applied object displays all syntactic properties that base objects do in simple transitive clauses. However, in the applied construction, the base object can no longer appear in immediately post-verbal

position and can be only marginally expressed as the subject of a passive. But if both base and applied objects are animate, the base object retains some object properties (though not accessibility to relativization, and it can be only marginally indexed on the verb), whereas the applied object displays all properties that base objects of simple transitive clauses do.

Jerro (2016a) explores the same objecthood diagnostics as Peterson. According to Jerro, in a Bukusu benefactive applicative construction with an animate applied object and an inanimate base object, both objects behave symmetrically. This result differs from Peterson (2007), who claims that in such a construction the two objects behave asymmetrically.

Peterson's and Jerro's studies also differ in how Bukusu objecthood diagnostics apply to instrumental and locative applicative constructions. For instance, both Peterson (2007) and Jerro (2016a) agree that in instrumental applicative constructions the base object retains all object properties except the ability to be made head of a relative clause. For Jerro (2016a), the applied instrumental object in Bukusu can only appear in immediately post-verbal position, be relativized on and marginally be indexed on the verb (speakers' judgments vary here). On the other hand, Peterson (2007) says the Bukusu applied instrumental object does not acquire any object property except the ability to be relativized on.

The purpose of this comparison is not to suggest that either Peterson (2007) or Jerro (2016a) is wrong in his analysis. The different results might, of course, be due to dialectal or idiolectal variation. Rather, my purpose is to show that the reliability of objecthood diagnostics is not only challenged by the arbitrary choice of some diagnostics vs. others, or by the high degree of morphosyntactic variation across Bantu

languages with respect to certain diagnostics (such as object indexation on the verb), but also by speaker variation in the answers obtained in elicitation contexts.

Bantu scholars have also argued that the syntactic category of “object” in Bantu is wider than the Indo-European category of “object” and includes members which, from an Indo-European perspective, would be labeled as “adjuncts” (Schadeberg 1995: 179, Creissels 1998: 136). For instance, Creissels (1998) argues that the morphosyntax of Tswana signals at least three types of verbal “complements”: (i) those which are licensed by the lexical properties of the verb root, (ii) those which are introduced by the applicative, and (iii) those which are optional and do not need applicative derivation to be licensed. While in Tswana the third type includes only certain “adjuncts”, such as instrument, manner and time, locative “complements” can pertain to either type (i), (ii) or (iii). Along the same lines, Thwala (2006) argues that the notions of “complement” and “adjunct” in Bantu languages are more “expanded” than in other languages. Elaborating on the observations of Rugemalira (1991) and Schadeberg (1995), Thwala (2006: 209) argues that “the syntax of Eastern Bantu does not make reference to the notion ‘syntactic object’. That is, there is no linguistic category of objects that is the target of syntactic rules in Eastern Bantu languages”. He proposes that in Eastern Bantu⁴⁸ there are two types of “complements” or internal arguments: inherent complements and derived complements. Inherent complements are those for which a lexical verb root subcategorizes, whereas derived complements are those licensed by the applicative suffix which extends the sub-categorized argument structure of a lexical

⁴⁸ Thwala (2006) includes the following languages as representative of eastern Bantu: Ruanda (JD61), Nyambo (JE21), Chewa (N31), Swahili (G41-43), Luba-Kasai (L31a), Tswana (S31) and Swati (S43). However, his discussion is centered mainly on Swati.

verb root. Both inherent and derived complements can be instantiated as DPs, PPs or clauses. Thwala also proposes two types of “adjuncts”: free and derived. Derived adjuncts are not immediately relevant for the discussion at hand and I will leave them aside. Free adjuncts are adverbs and prepositional phrases which are optional, that is, they are not sub-categorized for by the lexical verb root and they are not licensed by the applicative suffix. To illustrate the distinction between free and derived complements and free adjuncts, consider the following examples.

Swati (S43; Thwala 2006: 223)

- (48) *bafana* *ba-nats-e* *tjwala* (*e-hlatsini*)
 CL2boys S3:2-drink-IPST CL14alcohol LOC-CL11forest
 ‘The boys drank alcohol (in the forest).’

Swati (S43; Thwala 2006: 223)

- (49) *bafana* *ba-nats-el-e* *tjwala* *e-hlatsini*
 CL2boys S3:2-drink-APPL-IPST CL14alcohol LOC-CL11forest
 ‘The boys drank alcohol in the forest.’⁴⁹

Swati (S43; Thwala 2006: 224)

- (50) *Jabulani* *u-to-tsenga* *kudla*
 CL1J. S3:1-FUT-buy CL15food
 ‘Jabulani will buy food.’

Swati (S43; Thwala 2006: 223)

- (51) **Jabulani* *u-tseng-e* *make* *kudla*
 CL1J. S3:1-buy-IPST CL1mother CL15food
 (intended meaning: ‘Jabulani bought mother food.’)

⁴⁹ Thwala (2006) does not specify what the difference in meaning is between (48) and (49), but in other Bantu languages with construction alternations parallel to (48) and (49), the applicative places “emphasis” or “focus” on the locative phrase (see §5.4.2 for further discussion).

Swati (S43; Thwala 2006: 223)

(52) *Jabulani* *u-tseng-el-e* *make* *kudla*
CL1J. S3:1-buy-APPL-IPST CL1mother CL15food
'Jabulani bought mother food.'

The Swati verb root 'drink' in (48) subcategorizes for one inherent complement, 'alcohol'. This verb root can also combine with the free adjunct 'in the forest' which is optional and not sub-categorized for by the verb root. Neither 'alcohol' nor 'in the forest' are licensed by an applicative in (48). In (49), the locative-marked NP 'in the forest' is required: it is a derived complement licensed by applicative derivation. The Swati verb root 'buy' subcategorizes for only one inherent complement, 'food' in (50). This subcategorization is confirmed by the ungrammaticality of (51), where the root 'buy' is followed by two postverbal NPs. On the other hand, the applicative derivation seen in (52) extends the argument structure and brings in the derived complement '(for) mother'.

Thwala (2006) shows that in Swati, derived complements as in (49) and (52) are subject to the same syntactic rules that apply to inherent complements. If both the lexical verb root and the applicative license DP complements, as in (52), the neutral declarative word order is $V NP_{APP} NP_{LEX}$. The applicative DP precedes the DP licensed by the subcategorization of the lexical verb root, that is, derived complements behave like inherent complements in that they have access to immediate post-verbal position. However, if the applicative licenses a PP as in (49), the PP does not precede the DP lexically licensed by the verb root, i.e. the locative-marked phrase 'in the forest' cannot occur before the DP 'alcohol' in (49). Thwala argues that syntax is therefore sensitive to the syntactic category of the complement licensed either by the lexical verb root or by

the applicative: PPs never precede DPs. Thwala further proposes micro-parameters of variation to distinguish different patterns across languages. These micro-parameters are: whether languages have one or many verb prefix/suffix slots for “concord” of complements; whether the “concord” occurs only with DPs or with both DPs and PPs; whether the “concord” can co-occur with a lexical XP.

However, in my view, the criterion of obligatoriness vs. optionality of the morphosyntactic entity proposed by Thwala (2006) is not sufficient to determine whether there is an increase in the syntactic valence of the verb root in both (49), where an obligatorily present PP is a derived complement licensed by the applicative, and (52), where an obligatorily present NP is also a derived complement licensed by the applicative. Is syntactic valence increased in (49) and (52) in the same way? Is syntactic valence increased at all in (49)? Does Thwala’s “extension” of the sub-categorized argument structure of a lexical verb root imply an increase in the number of syntactic arguments in all cases? In fact, if one assumes the analysis of Thwala (2006), and considers the criterion of syntactic obligatoriness as necessary and sufficient to claim that something is an argument, then all applied phrases licensed by the applicative are arguments, because they are required (they cannot be omitted).

Furthermore, even under Thwala’s analysis, the problem of the syntactic nature of locative-marked phrases still exists. While in some Bantu languages it might be clear whether a phrase expressing location is a PP or a NP (or DP in Thwala’s analysis), the language/group-specific evolutions and readjustments of the PB noun class system, which included locative classes, have rendered extremely fuzzy the syntactic category to which locative phrases belong (NPs, PPs or something in between). We now turn to this issue.

3.2.2 The syntactic category of locative phrases

The locative systems of modern Bantu languages show variation in how they have restructured the original PB system. Synchronically, several strategies (and combinations thereof) can be used for signaling location on NPs and verb stems in applicative and non-applicative contexts (see Rugemalira 2004). In this section, I limit myself to a very few observations, directly relevant to the discussion at hand, concerning the marking of location on non-verbal phrases.⁵⁰

In PB, locatives were part of the noun class system. Usually, scholars posit at least three reconstructed locative noun classes for PB: class 16 *pà- ‘proximate/specific location’, class 17 *kù- ‘distal/non-specific location’, and class 18 *mù- ‘interiority’ (Marten 2010: 251). There is, however, variation in the exact meaning and number of the reconstructed locative noun class prefixes of PB (see Růžička 1959: 213 and ff., Ziervogel 1971: 373). Some reconstructions are illustrated in Table 2 (see Maho 1999: 247 for additional reconstructions). Maho (1999: 270) considers that locative classes 16, 17 and 18 can be confidently reconstructed to the proto-language, whereas the evidence for reconstructing class 23 is less certain (Maho 1999: 254).

⁵⁰ See Riedel & Marten 2012 for a detailed account of the variation in verbal indexation of locative “objects” and morphosyntactic features of locative phrases in several Bantu languages. For an extensive treatment of locative affixes and their distribution from a comparative and historical perspective, see Růžička (1959) and Grégoire (1975); see Maho (1999) for a comparative study of Bantu noun classes more generally.

Table 2: Some proposed reconstructions of locative noun class prefixes in PB

	Bleek (1869: 282 and ff.)	Meinhof & van Warmelo (1932: 40)	Meussen (1967: 103-104)
class 16	*pà- ‘near locality’	*pà- ‘at, on’	*pà- ‘on (surface)’
class 17	*kù- ‘distant locality’	*kù- ‘outside’	*kù- ‘to, from, on (top)’
class 18	*mù- ‘present locality’	*mù- ‘in’	*mù- ‘in’
class 23^a	-	-	*ì- ‘?’

^a Class 23 *ì- has been numbered differently depending on the author (see Maho 1999: 248). Alternative numbers for this same PB morpheme include class 24 (Meeussen 1967) and class 25 (Grégoire 1975: 170). Meeussen (1967: 104) specifies that his class 24 *ì- “is used with a restricted set of nouns and is suggested by N[orth].E[astern] languages only”. Grégoire (1975: 176) finds that almost all languages in zone J and certain languages in zones A, B, C and S show traces of a fourth locative class *ì-.

In many modern Bantu languages, nouns already carrying a noun class prefix may additionally be prefixed with one of the historically locative noun class prefixes listed in Table 2. This is illustrated in (53), where the class 17 prefix *kù-* is a reflex of PB class 17 *kù-.

Herero (R30, Riedel & Marten 2012: 286)

(53) *kù-mù-tí*
 CL17-CL3-tree
 ‘by the tree’

Besides locative prefixes, nouns can also be marked by locative suffixes. One of these suffixes is the result of the grammaticalization of the PB nominal lexeme *inĩ ‘liver’ into a suffix indicating general location (Samson & Schadeberg 1994, cited by Güldemann

1999; see Rugemalira 2004 for a list of some languages with reflexes of the suffix

*-ini).⁵¹ This is illustrated in (54), where *-ni* is a reflex of *-ini.

Swahili (G41-43; Rugemalira 2004: 286)

- (54) *mti-ni*
CL3tree-LOC
'in the tree'

Prefixes and suffixes can sometimes be combined to mark locatives, as in (55).

Lomwe (P32; Güldemann 1999: 52)

- (55) *va-i-macha-ni*
CL16-CL10-garden-LOC
'in the vegetable/fruit gardens'

As we will see further in this section, some Bantu languages have also developed prepositions from (de)grammaticalization processes involving different sources.

In Bantu, both subjects and “objects” can be marked by locative affixes (Růžička 1959; Grégoire 1998).⁵² From a syntactic point of view, determining whether a phrase marked by a locative affix is an argument or an adjunct might at first seem straightforward. Consider the Swahili examples in (56) and (57).

⁵¹ Güldemann (1999: 52) claims that the suffix *-ini initially marked inessive relations and it was later extended to mean general location. See Grégoire (1975: 185 and ff.) for a discussion of other locative suffixes throughout Bantu zones.

⁵² Pre-verbal NPs marked by locative noun class prefixes can participate in the so-called “locative inversion” construction (something like ‘In the trees are sitting baboons’). In such a construction, locative-marked NPs are analyzed as subjects because, among other properties, they trigger subject agreement on the verb. I do not address locative inversion constructions in the present discussion. There is abundant literature on on this topic (cf. Dimmendaal 2003, Creissels 2011 and references therein).

Swahili (G41-43; Riedel & Marten 2012: 279)

- (56) *ni-li-nunua ma-tunda soko-ni*
s1s-PST-buy CL6-fruit CL5market-LOC
'I bought fruit at the market.'

Swahili (G41-43; Riedel & Marten 2012: 280)

- (57) *a-li-rudi nyumba-ni jana*
s3:1-PST-return CL9house-LOC yesterday
'S/he returned home yesterday.'

In (56), the locative marked NP 'at the market' has the following properties: (i) it must follow the object NP 'fruit', and (ii) it is not required by the verb root 'buy'. On the other hand, the locative marked NP 'house' in (57) is required by the verb 'return', and it must immediately follow the verb (e.g., a temporal adverb such as 'yesterday' cannot be placed in between the verb and the locative-marked NP 'house'). Based on such evidence, Riedel & Marten (2012) classify 'at the market' in (56) as an adjunct-like locative, and 'house' in (57) as an argument-like locative (see however Thwala 2006: 214 for problems with the verb adjacency test). The two locative-marked NPs in (56) and (57) also differ in their ability to be indexed on the verb: the locative NP in (56) cannot be indexed, while the one in (57) can. However, Riedel & Marten (2012) argue that indexation of locative phrases is not a good test to prove argument status of a given NP, because indexation of locative phrases varies greatly across Bantu languages relative to non-locative NPs. As Riedel & Marten (2012) observe, this is due to the fluctuation, across different Bantu languages, of locative phrases between argument and adjunct status.

The instability or variability observed in the syntactic nature of the locative NPs is the result of (de)grammaticalization processes occurring in Bantu. One of them

involves the reanalysis of the historical locative noun class prefixes *pà-, *mù- and *kù- as prepositions in some southern Bantu languages. This degrammaticalization process is known as the Great Siswati Locative Shift (Marten 2010). To illustrate it, first consider the following data from Ruanda (central Bantu).

Ruanda (JD61; Jerro 2016a: 45)

(58)	<i>n-a-bon-ye</i>	<i>umw-ana</i>	<i>mw'</i>	<i>i-shyamba</i>
	S1S-PST-see-PERF	CL1-child	CL18	CL5-forest
	'I saw the child in the forest.'			

In Ruanda, some verb roots, such as 'see' in (58), can optionally combine with a locative-marked NP expressing general location, such as *mw' ishyamba*. Jerro (2016a) presents evidence that *mw'* (< PB class 18 *mù-) in (58) is a bound prefix (even if Ruanda orthography writes it as a separate word) and argues on the basis of syntactic evidence that locative prefixes such as *mw'* in (58) are in fact class markers on arguments, and not prepositions heading prepositional phrases. Although locative-marked NPs such as *mw' ishyamba* are often optional, Jerro (2016a: 44) shows that they can be the subject of a passive construction and trigger subject agreement; they may be indexed on the verb; the number of locative NPs allowed in a single clause is restricted; and they cannot freely combine with all verb roots. In fact, several verb roots in Ruanda need an applicative derivation to combine with a locative NP expressing general location.⁵³ Ruanda, and central Bantu languages more generally (Creissels 2011), have preserved the original PB system in which locative prefixes are part of the noun class system. Synchronically, locative phrases in Ruanda behave syntactically as NPs with object properties, thus retaining their historical status.

⁵³ For a discussion of such cases, see §5.3.3.

Now consider the Swati (southern Bantu) data in (59).

Swati (S43; data elicited from Bekisipho Sibiya by Jochen Zeller, p.c.)

- (59) *ba-ntfwana* *ba-hlal-a* *ku-ba-tali* *ba-bo*
CL2-children s3:2-live-FV at-CL2-parents CL2.POSS-CL2.PRO
'The children live at their parents.'

Marten (2010) hypothesizes that *ku* in (59) is the reflex of PB class 17 *kò. This hypothesis is however questionable, as we will see below, because Marten (2010) does not take tone into consideration, and in other southern Bantu languages it is clear that equivalents of Swati *ku* in (59) have tonal properties that exclude identifying them as reflexes of Bantu locative noun class prefixes (Denis Creissels, p.c.).⁵⁴

In Swati grammars, *ku-* as in (59) is considered a prefix. Marten (2010) provides several pieces of morphosyntactic evidence that, synchronically, *ku* in (59) has been reanalyzed as a locative preposition in Swati. Consider (60).

Swati (S43; Marten 2010: 257)

- (60) *ku-ba-fana* *ba-mi*
LOC-CL2-boys CL2-my
'at my boys'

First, morphologically, modifiers of a locative marked NP ('my' in (60)) agree only with the original noun class of the head noun (i.e. *ba-* of class 2), not with the locative noun class prefix *ku-* which was historically of class 17. Second, demonstratives (both short and full forms) can occur between *ku-* and the noun class prefix of the noun, as shown

⁵⁴ In fact, Marten (2010: 264, footnote 8) acknowledges that there are alternative hypotheses concerning the historical origin of *ku* in Swati.

in (61). Unlike non-locative noun class prefixes (e.g. *n-* of class 9 in (61)), *ku-* must precede the demonstrative.

Swati (S43; Marten 2010: 258)

(61) *ku-leyo* *n-dvodza* / *ku-le-n-dvodza*
 CL17-DEM.CL9 CL9-man CL17-DEM-CL9-man
 ‘to this man’

Third, morphosyntactically, non-locative nouns in object function can be indexed on the verb, while locative marked nouns cannot (synchronously there is no object index for the “locative” nouns in Swati). Fourth, nouns marked with *ku-* cannot function as subjects (with the exception of expletive contexts). Altogether, based on this evidence, Marten (2010) concludes that the historically locative subpart of the noun class system, inherited from PB, has been restructured as a prepositional system in Swati.

However, as mentioned above, it seems unlikely that Swati *ku* is the reflex of PB class 17 **kù*. Languages of Guthrie’s zone S (with the exception of Shona) have almost entirely lost locative nouns belonging to PB locative noun classes 16, 17 and 18, with the exception of a few remnants from PB classes 16 and 17 (Grégoire 1975: 96).

According to Ziervogel & Mabuza (1976: 34), a few Swati nouns still have remnants of PB class 17 **kù*-, e.g. *kúdvítè* ‘near’ and *kúdzè* ‘far away’. Further, nouns of classes 1, 2, 1a and 2a usually add the locative prefix *ku-* to their class prefix, e.g. (*ú*)*mákè* ‘mother’ *kúmákè* ‘to mother’ (cf. (59) and (60)). Ziervogel & Mabuza (1976) do not make any claims as to whether Swati *ku* from PB class 17 **kù* and *ku-* locative prefix are the same or related. For Tswana, another southern Bantu language, Creissels (2011) distinguishes between a locative marker *go* [χú-] and the class 17 locative noun class prefix *go* [χù-],

from PB class 17 *kù-. Synchronically in Tswana, only two nouns belong to class 17 (both of them mean ‘place’). The locative marker *go* [χó-], as happens in Swati, gets prefixed to nouns of class 1a and 2a. Because the Tswana locative prefix *go* [χó-] has a high tone, Creissels (2011) excludes the possibility that this element is cognate with or originated in the reanalysis of the locative noun class 17 prefix *go* [χù-], which is the regular reflex of PB class 17 *kù-. Creissels suggests that a similar distinction might be valid for the locative systems of Nguni languages, among which is Swati. Unfortunately, this question does not seem to have been discussed in the literature on Nguni languages. Creissels (2011) suggests that this might be due to the fact that unlike Tswana, in Nguni languages the distinction between two possibly distinct *ku* forms is made difficult by tone shift processes which hinder the recognition of the tonal identity of segmentally identical morphemes (i.e. *ku*- reflex of PB class 17 *kù- and *ku*- locative prefix). Grégoire (1975) observes that in several zone S languages including Swati, forms such as *ku* in (60) look as if they were nominal prefixes of the locative class 17 and appear only in front of nouns referring to humans and with the meaning ‘at (someone’s place)’. Grégoire (1975: 98) suggests that it is unlikely that forms such as Swati *ku* and Tswana *go* [χó] were historically class 17 noun prefixes. Instead she proposes that such locative prefixes might originate from and be reflexes of PB *kúdí ‘where is’.

A second process of reanalysis involves the grammaticalization of locative demonstratives into locative prepositions in Tswana (Creissels 1997, 2011). As already mentioned for languages of zone S in general, languages of the Sotho-Tswana group (S30) preserve very few remnants of the old PB locative noun class system involving classes 16, 17 and 18 (Creissels 1997: 73). In languages like Sotho and Tswana, only class 17 survives as an agreement class, and very few nouns belong to it. In this group,

Tswana is different from other languages because it has, and frequently employs, three locative prepositions, *kó* ‘vague, distant localization’, *mó* ‘interiority’, and *fá* ‘precise, close localization/contact’. Consider (62).

Tswana (S31; Creissels 1997: 75)

- (62) *Ke ile ko motseng*
kì-ìl-é (*kó*) *mù-tsí-ḥ*
 S1S-go.PFT-FV LOC CL3-village-LOC
 ‘I have gone to the village.’⁵⁵

Based on tonal behavior, *kó* in (62) is phonologically separate word and not a bound form (see Creissels 2011: 44 for details). Morphologically, like other prepositions, it does not participate in the noun class agreement system. Syntactically, the phrase *kó mùtsíḥ* behaves as an oblique: it is optional, it cannot be indexed on the verb, and it cannot be made the subject of a passive construction.

At first glance, given the similarity in form and meaning, one might hypothesize that Tswana *fá*, *kó* and *mó* are the reflexes of PB locative noun class prefixes class 16 *pà- ‘proximate/specific location’, class 17 *kù- ‘distal/non-specific location’ and class 18 *mù- ‘interiority’, respectively. This possibility is, however, ruled out, because the regular reflexes of PB *pà-, *kù- and *mù- in Tswana are *fà-*, *χù-* and *mù-*, respectively (Cole 1975: 97). These latter prefixes appear on very few historically locative nouns, such as *χù-là* ‘place’ and *filà* ‘place’.

⁵⁵ In Tswana, the presence of a preposition in a locative phrase is optional, although very common in texts and discourse. The structure of a locative phrase in Tswana may be: (Prep) Noun-ḥ, where -ḥ is a locative suffix (< PB *-inr ‘liver’), (Prep) χù-Noun, where χù- is a locative prefix, or (Prep) Noun in the case of toponyms. For a detailed discussion of Tswana prepositions see §6.4.3.

Creissels (1997, 2011), elaborating on a similar proposal from Cole (1975), argues that the synchronic locative prepositions *fá*, *kó* and *mó* come from the formally identical demonstratives of locative classes 16, 17 and 18.⁵⁶ These are *fá* ‘this (close, precise), here’, *kó* ‘this (vague, distant), there’, and *mó* ‘this (interiority), inside’. Synchronically, locative class demonstratives can be used to modify the two historically locative nouns meaning ‘place’ as in (63), and as deictic locative adverbs such as ‘here’ and ‘there’ as in (64). They can also combine with the synchronic locative prepositions, as in (65).

Tswana (S31; Creissels 1997: 77)

(63) *Golo ko*
χù-l̥ *kó*
 CL17-place CL17.this
 ‘this place (vague, distant)’

Tswana (S31; Creissels 1997: 77)

(64) *O tswa ko*
ù-tsw-à *kó*
 S3:1-come.from-FV there
 ‘He comes from there.’

Tswana (S31; Creissels 1997: 78)

(65) *Ko motseng ko*
kó *mù-tsí-ḡ* *kó*
 LOC CL3-village-LOC there
 ‘at the village there’

⁵⁶ Demonstratives are reconstructed for each of the locative classes in PB. They are supposed to have been independent words (Denis Creissels p.c.).

I will use the term ARGUMENT STRUCTURE to mean the composite of “the number of arguments a lexical item takes (i.e. the core participants in the eventuality a verb denotes), their syntactic expression, and their semantic relation to this lexical item” (Levin 2013). In this sense, argument structure is to be understood as a synonym of “valence pattern”, “predicate frame” and “government pattern” in other terminologies (Haspelmath & Müller-Bardey 2004: 1130).

I will use the term SYNTACTIC ARGUMENT to mean a syntactically required core argument of a verb root/stem in a main clause.⁵⁷ I will use the term SEMANTIC ARGUMENT to refer to an essential participant in the event described by the lexical meaning of a verb root/stem. I will use the term SEMANTIC ADJUNCT to refer to a non-essential participant in the event described by the lexical meaning of a verb root/stem. In this work I will use the terms SYNTACTIC ADJUNCT and OBLIQUE fairly synonymously to mean non-core syntactic arguments which are typically prepositional phrases, they are not required and they do not have the formal properties of core syntactic arguments (cf. Creissels 2014).⁵⁸ When the terms “argument” and “adjunct” appear in this work without any further specification, they refer to “syntactic argument” and “syntactic adjunct”. The notions of semantic/syntactic argumenthood are best conceived as scalar and not as dichotomic (Creissels 2014).

⁵⁷ In many languages, a core argument is assigned a specific grammatical relation, i.e. the set of morphosyntactic properties which relate an argument to the whole clause (Bickel 2011: 399). These are often referred to in the typological literature as S, A and P. Whether S, A, P are ontologically syntactic notions, semantic notions or a mix of both varies from author to author (cf. Haspelmath 2011 and Payne 2013 for a discussion).

⁵⁸ Of course, there are also “oblique arguments” such as ‘on the table’ in *I put the book you gave me on the table*.

Unless otherwise specified, the terms INTRANSITIVE, (MONO)TRANSITIVE and DITRANSITIVE refer to syntactic transitivity and not semantic transitivity. Similarly, the term VALENCE (PATTERN) without further specification is to be understood as indicating syntactic valence and not semantic valence.

Throughout the modern literature, the object introduced by the applicative derivation is usually called “applied object” (see, for example, Baker 1988b) or “applicative object” (see, for example Peterson, 1999, 2007). The original object (if any) of the verb root undergoing applicative derivation is called “basic object” (Baker 1988b) or “base object” (Peterson 1999, 2007). However, as we have seen in §3.2.1 and §3.2.2, there is variation and indeterminacy in the syntactic nature of the phrase introduced by the applicative in Bantu. First, it is sometimes difficult to determine its syntactic category (NP, PP, or something in between). Second, it is sometimes difficult to determine the relation that exists between the phrase introduced by the applicative and the derived verb stem. This phrase can be argument-like or adjunct-like (cf. Creissels 2014a). Because of this, I will use the term APPLIED PHRASE, instead of “applied/applicative object”, to refer to the morphosyntactic entity introduced and/or semantically/pragmatically manipulated by the applicative without any specifications about its syntactic category and argumenthood status. This means that, on a language-specific basis, an applied phrase could be an adjunct phrase (infinitive complements and clausal adjuncts, see Hawkinson & Hyman 1974, Harford 1993), a prepositional phrase, a NP marked by a locative noun class marker, or an unmarked NP. As we will see in the remainder of this chapter and in Chapter IV, the morphosyntactic realization of the applied phrase depends heavily on the lexical meaning of the verb root that undergoes

applicative derivation and consequently on the semantic/thematic role which is mapped onto the applied phrase.

I will use the term BASE OBJECT to refer to a postverbal, non-subject argument governed by a simple, non-applied transitive or ditransitive verb root. In doing this, I assume that there is, in fact, a language specific syntactic notion of object, identifiable by means of language-specific formal properties, which Bantu languages are sensitive to. In doing this, I follow Creissels (1991), who posits “subject” and “object” as viable syntactic notions for the description of sub-Saharan African languages (cf. also Hyman et al. 1980). As is well known within the non-generative world, syntactic tests to establish that ‘X’ bears the grammatical relation of object to a verb can lead to non-clear cut categories of objects (and subjects) (cf. Creissels 1991, Croft 1991, Comrie 1993, *inter alia*). Although I acknowledge the possible problems with defining the grammatical relation of “object” on the basis of formal properties, I do not see any solution that would be more successful. In fact, addressing formal properties of grammatical relations should be a primary labor of functionalists. As Givón (1997:2) observes:

If one believes, as functionalists profess, that communicative functions map (‘correlate’) in a non-arbitrary way onto grammatical structures, then the independent definition of grammatical structure is a requisite step in demonstrating such mapping; otherwise *correlation* slides into *tautology*. For this reason, the study of strictly formal properties of grammatical relations –nominal case-marking, verbal agreement, word order, and behavioral constraints –is a necessary component of a functionalist approach to the subject.

3.4 Formal and functional features of the Bantu *-id applicative

In this section, I review phonological, morphological features of the *-id applicative suffix that are pivotal to the discussion throughout this study. I also mention some functions of this suffix that will not be considered in this study.

Typically, Bantu verb roots have the shape CV(C) (Hyman 1993). The Bantu verb template most commonly found in southern and eastern Bantu languages is in Figure 7 (Givón 2015b).

Figure 7: (Southern and eastern) Bantu verb template (Givón 2015b: 117)

NEG-SP-TAM-OP-**VERB STEM**-VS-FV

NEG = negation

SP = obligatory bound subject pronoun ('agreement')

TAM = tense-aspect-modality prefixes

OP = optional bound object pronoun

VS = verb suffixes

FV = final vowel or 'modified base' (MB) vocalization pattern

Within Bantu linguistics, the applicative suffix *-id is one of the productive so-called verbal "extensions", that is, verbal derivational suffixes which have an identifiable semantic meaning or function (cf. VS in Figure 7). Depending on the language, these derivational suffixes can be more or less productive and more than one at a time can combine with the verb root. Verbal extensions in Bantu usually have the shape -VC and are either tonally neutral or have low tone (Schadeberg 2003a: 72).

As for the function of the *-id applicative suffix, virtually all scholars recognize that the applicative morpheme "adds something". For instance, according to Torrend (1891: 276) "the applicative verb adds to the simple [verb] the meaning of one of our relational prepositions *for, to, into, round*, etc." (italics in the original). For Bentley

(1887: 627) “the applied form imparts to the verb a prepositional idea, as **baka** *to catch*; **bakila** *to catch for*. Intransitive verbs by this form are prepared to receive an object, and thus become transitive, while transitive verbs in this form require a secondary or indirect object” (bold and italics in the original). For Stapleton (1903: 211), the applicative is “a suffix, which imparts to the Simple idea of the verb the force of one of our prepositions. The sense of the prepositional idea added must be gathered from context. When the Applicative is added to an intransitive verb, the verb becomes transitive, and can govern an object; when added to a transitive verb, the verb requires an indirect, as well as a direct, object”. Guthrie (1970: 94), in his discussion of the status of extensions in Bantu, places the applicative under the extensions which enable the extended verb to support an extra object. He calls these “+O extensions” and notes that the applicative can be distinguished from other +O extensions such as the causative because with the applicative the extra object can never be omitted. Guthrie distinguishes two meanings of the applicative suffix: “applicative” for cases where a Beneficiary argument is introduced, and “directive” for cases where the use of the applicative expresses “motion towards” or “presence within” and is “confined to radicals where the simplex involves a meaning of motion” (Guthrie 1970: 98);⁵⁹ see discussion in §5.3.3.

Table 3 shows the verbal extensions which have been reconstructed for PB. As the reader will see, reconstructions of certain suffixes vary from author to author. The alternation between *d and *l for the consonant portion of the PB applicative suffix

⁵⁹ Guthrie (1970) notices that while “applicative” is always a +O extension, “directive” can be O= or +O, depending on the language. O= means that “an extended verbal has the same capacity to support objects as the corresponding simplex verbal”.

-ɪd/-ɪl is due to disagreement over whether PB had a series of voiced stops *b, *d, *g, or voiced continuants *β, *l, *ɣ (Hyman 2003: 42). For convenience, I arbitrarily chose the form *-ɪd to refer to the PB applicative suffix.

Table 3: Some proposed reconstructions of PB verbal extensions

MEEUSSEN (1967)		SCHADEBERG (2003a)		HYMAN (2014)	
*-ɪ/-ɪc (?) ^a	causative	*-ɪ/-ɪci	causative	*-ɪc-ɪ [-ɪs] ^c	causative
*-ɪd	applicative	*-ɪl	dative (applicative)	*-ɪd [-ɪl]	applicative
*-ɪk	impositive	*-ɪk	impositive	*-ɪk	stative/neuter
*-ɪk	neuter	*-ɪk	neuter		
*-am	stative	*-am	positional (stative)	*-am	stative/positional
*-an	reciprocal	*-an	associative (reciprocal)	*-an	reciprocal
–	–	*-ag~ -ang ^b	repetitive	–	–
–	–	*-al	extensive	–	–
*-at	contactive	*-at	tentive (contactive)	*-at	contactive
*-ud	transitive reversive	*-ul;	separative tr.;	*-ud [-ul]	reversive transitive
*-uk	intransitive reversive	*-uk	itr. (reversive)	*-uk	reversive intransitive
*-ú	passive	*-u/-ibu	passive	*-u	passive

^a The question mark is present in the original source.

^b The suffix *-ang is to be understood as phonetically [-aŋg] (Gérard Philippon, p.c.).

^c The square brackets next to the causative, applicative and reversive transitive suffixes indicate the uncertainty in reconstructing a series of voiced stops (*b, *d, *g) versus voiced continuants (*β, *l, *ɣ) and the uncertainty about the exact value of *c which is by many believed to have been a palatal affricate. However, most Bantu languages have [s] as a reflex of *c (Larry Hyman, p.c.).

The reflexes of *d in *-id include /l/, /r/ and zero. The reflexes of *ɪ in *-id vary depending on the language-specific evolutions of the original 7 vowel system of PB (*i, *ɪ, *ɛ, *a, *ɔ, *u, *u) (Hyman 1999: 236). Therefore, reflexes of the vowel *ɪ in *-id include /i/, /ɪ/, /e/ and /ɛ/. Vowel height harmony involving verbal suffixes is widely present in Bantu languages (see Hyman 1999 for different types of vowel harmony and their historical implications). For instance, in Lunda, the applicative suffix is realized as /-il/ if the preceding vowel of the verb root is /i/, /u/ or /a/, and as /-el/ if the preceding vowel of the verb root is /e/ or /o/, as shown in (66).

Lunda (L52; Kawasha 2003: 35)

(66)

<i>land-a</i> ‘buy’	<i>land-il-a</i> ‘buy for’
<i>hit-a</i> ‘pass’	<i>hít-il-a</i> ‘pass at’
<i>fump-a</i> ‘break’	<i>fump-il-a</i> ‘break for’
<i>send-a</i> ‘carry’	<i>send-el-a</i> ‘carry for’
<i>loñ-a</i> ‘put in order’	<i>loñ-el-a</i> ‘put in order into’

Further, like many other Bantu languages, Lunda displays nasal harmony. The /l/ of the applicative suffix can surface as [n] (i.e. *-in/-en*) when it combines with verb roots whose last consonant is /m/ or /n/, as in (67).

Lunda (L52; Kawasha 2003: 35)

(67)

<i>dim-a</i> ‘cultivate’	<i>dim-in-a</i> ‘cultivate for’
<i>chin-a</i> ‘fear’	<i>chin-in-a</i> ‘fear for’
<i>sém-a</i> ‘give birth’	<i>sém-en-a</i> ‘give birth at’

In some languages, when the applicative combines with monosyllabic verb roots, either the vowel of the applicative lengthens (68) or the applicative is reduplicated (69).

Lunda (L52; Kawasha 2003: 35)

(68)

<i>d-á</i> ‘eat’	<i>d-íl-a</i> ‘enjoy, eat at/for/on’
<i>nw-á</i> ‘drink’	<i>nw-ín-a</i> ‘drink for/at’

Digo (E73; Nicolle 2013: 107)

(69)

<i>ry-a</i> ‘eat’	<i>r-ir-ir-a</i> ‘enjoy, eat at/for/on’
<i>nw-a</i> ‘drink’	<i>nw-er-er-a</i> ‘drink for/at’

Reflexes of the *-id applicative are semantically underspecified across Bantu languages: the same form in combination with a verb root can express a wide array of semantic roles (Trithart 1983: 65), as we will see in §5.3 and subsections therein.

The *-id applicative can take over causative functions. For instance, Bostoen & Mundeke (2011) report that several derived verbs in Mbuun behave syntactically like causative verbs, have causative semantics, but display applicative morphology.

Compare (70) and (71) for the root ‘boil’.⁶⁰

Mbuun (B87; Bostoen & Mundeke 2011: 198)

(70) *ma-ts* *ma-á-bel*
CL6-water S3:6-PRS.PROG-boil
‘The water is boiling.’

Mbuun (B87; Bostoen & Mundeke 2011: 198)

(71) *maam* *o-á-belle* *ma-ts*
mother S3:1-PRS.PROG-boil.APPL~CAUS CL6-water
‘Mother is boiling the water.’

⁶⁰ Bostoen & Mundeke (2011: 182) observe that in Mbuun the reflex of the vowel portion of PB *-id is /e/. The reflex of the consonant portion of *-id involves metathesis and assimilation of the consonant portion to the root final consonant of the verb root, i.e. *ka-sís* ‘to leave’ > *ka-sísse* ‘to leave for’, *ka-puup* ‘to blow’ > *ka-puuppe* ‘to blow for’.

Lastly, the combination of the applicative with other verbal affixes can lead to “special effects”. For instance, Rugemalira (1993) reports that in Nyambo the applicative can co-occur with the reflexive prefix *é-* or with the first and second person pronominal affixes, to add a sympathetic point of view to the utterance. Compare (72) and (73).

Nyambo (JE21; Rugemalira 1993: 63)

(72) *a-ka-rwâr-a*
he-PST-fall.ill-FV
'He fell ill.'

Nyambo (JE21; Rugemalira 1993: 63)

(73) *a-ké-é-rwâr-ir-a*
he-PST-REFL-fall.ill-APPL-FV
'He fell ill.' (sympathy)

In the discussion of applicative construction types in Chapter IV and of their functions in Chapter V, I do not address cases where reflexes of *-id co-occur with other morphemes or display non-applicative functions of the type in (71) or the type in (73).

CHAPTER IV

BANTU APPLICATIVE CONSTRUCTION TYPES

INVOLVING *-id

4.1 Chapter overview

In this chapter, I intend to focus primarily on the structural part of constructions which involve the Bantu *-id applicative suffix, but I cannot do so without minimally addressing some semantic aspects, which will be further developed in Chapter V. In §4.2, I set out preliminary considerations including the views of Bantuists on applicative construction types. Further, I present a language-specific, root-specific four-way distinction among Bantu applicative construction types, namely what I call Bantu Type A applicative constructions (§4.2.1), Bantu Type B applicative constructions (§4.2.2), Bantu Type C applicative constructions (§4.2.3), and Pseudo-applicative constructions (§4.2.4). The distinction among these four construction types is based on four parameters: (i) whether the applicative introduces an obligatorily present applied phrase; (ii) whether the applicative, without combining with other verbal suffixes, performs semantic/pragmatic functions besides introducing an obligatorily present (non-agent)⁶¹ applied phrase; (iii) whether the applicative stem in the construction is

⁶¹ As mentioned in §3.4, in this work I will not address causative extensions of the kind reported by Bostoen & Mundeke (2011); cf. exs. (70-71).

subject to lexicalization; and (iv) whether the construction is productive across verb classes.

4.2 Preliminary considerations to Bantu applicative construction types

It is widely recognized in the literature that applicative constructions in Bantu languages can be valence-increasing devices (Bentley 1887, Stapleton 1903, Doke 1935, Guthrie 1970, Trithart 1983, Creissels 1998, 2002, 2003, Du Plessis & Visser 1992, Ngonyani 1996, Buell 2003, Schadeberg 2003a, Thwala 2006, Botne et al. 2006, Möhlig & Kavari 2008, Creissels 2010, K. Van Otterloo 2011, De Kind & Bostoen 2012, Nicolle 2013, *inter alia*).

However, it is also well known that the Bantu *-id applicative suffix does not always behave as a valence-increasing operator, but sometimes performs a variety of non-valence related functions (Bentley 1887, Whiteley 1968, Guthrie 1970, Trithart 1983, Schaefer 1985, Harford 1993, Rugemalira 1993, Lemarechal 1998, Kawasha 2003, Marten 2003, Creissels 2004, Cann & Mabugu 2007, Peterson 2007, Poeta 2011, Jerro 2016a, *inter alia*). For instance, the same morpheme used sometimes for increasing valence can other times focalize locative and instrumental phrases and express completeness of the action described by the applied verb stem.

Before I proceed with the four-way distinction among applicative constructions in Bantu languages, a few important considerations should be made known to the reader. First, mine is certainly not the first attempt to subdivide the domain of applicative constructions in Bantu into different types. Other distinctions of types of applicative constructions usually draw a line between “canonical”, i.e. clear-cut valence-increasing applicatives, and “non-canonical” applicatives, i.e. non-valence increasing applicatives (Creissels 2004, Voisin 2006, Bostoen & Mundeke 2011, *inter alia*). I avoid

the labels “canonical” and “non-canonical” for one simple reason: I am incapable of providing a good reason for saying that ‘X’ is the canonical structure and function of an applicative construction instead of ‘Y’ or ‘Z’ without incurring a fallacy *ad autoritatem*. In other words, I would be simply asserting that the canonical function of the applicative morpheme in Bantu is that of being a valence-increasing device only because this is what the received wisdom of other linguists suggests.⁶²

Second, in the argumentation presented in the following sub-sections, I use three of the five criteria that Forker (2014) uses to distinguish between what she calls “canonical arguments” and “canonical adjuncts”. These criteria usually have a semantic and a morphosyntactic side. Unsurprisingly, the discussion of some of these criteria for Bantu will reflect what has been observed for a very long time in other languages, namely that the distinction between argument and adjunct is not clear-cut but gradual (see the discussion in §3.2) and distinct tests for argumenthood and adjuncthood can give contradictory results (Forker 2014: 27, Creissels 2014). Among the criteria proposed by Forker (2014), there are:

- a) **Grammatical relations:** Arguments bear one of the following grammatical relations to the verb: subject, direct object, indirect object; that is, they are “terms” in Tesnière’s (1959) and Relational Grammar terminologies. Adjuncts are obliques, that is, “non-terms”. There is also oblique-like coding of arguments as *on the shelf* in *I put the books on the shelf*.⁶³

⁶² Spike Gildea (p.c.) observes that this fallacy is general to many operational definitions used in typology.

⁶³ According to Van Valin (2001: 92) *on the shelf* would be semantically an argument but syntactically a non-term.

- b) **Obligatoriness:** Arguments are “required” by the predicate while adjuncts are not. This is divided into semantic and syntactic obligatoriness. Semantic obligatoriness means that arguments are necessarily entailed by the predicate to complete its meaning while adjuncts are not. For instance in *Raskolnikov killed the old woman in the house*, the woman is a more “necessary” semantic participant than the location to complete the event described by the lexical meaning of *kill*. Syntactic obligatoriness means that arguments are required by the syntax while adjuncts are optional. In the English example above, *the old woman* is “required” while *in the house* is not.⁶⁴ If one takes the criterion of syntactic obligatoriness vs. optionality as a sufficient and necessary test to distinguish between arguments and adjuncts, then anything introduced by the applicative is a syntactic argument because all applied phrases introduced by the applicative are obligatory in Bantu.
- c) **Iterability:** Adjuncts can be added quite freely to any clause, any number of times for the same semantic notion, while arguments cannot. Hence, it is possible to stack up locative and temporal adjuncts as in *Raskolnikov killed the old woman in the house in Saint Petersburg yesterday at 5 pm*, but this is not possible for arguments.

In addition to the criteria discussed above, Forker (2014) identifies seven “diagnostic tendencies” that can help distinguish arguments from adjuncts (cf. criterion a) above)

⁶⁴ However, Denis Creissels (p.c.) observes that this criterion is particularly problematic in the case of Tswana, since the general rule with underived transitive verbs is that the object NP can be freely omitted to express lack of specification of the P argument.

but are neither necessary nor sufficient to do so. Some of these tendencies are equivalent to the well known object diagnostics often applied in Bantu (underlined below). In the list below the symbol “>” indicates the divide between argument, which usually has the property to the left of the symbol, and adjunct which usually has the property to the right of the symbol. The tendencies are:

Tendency 1: fixed/uniform morphological encoding > variable

Tendency 2: marking by grammatical case > marking by semantic or spatial cases

Tendency 3: marking by case > marking by adposition

Tendency 4: indexing on the verb > no indexing on the verb

Tendency 5: accessible to valence-changing processes > not accessible

Tendency 6: restricted position > unrestricted position

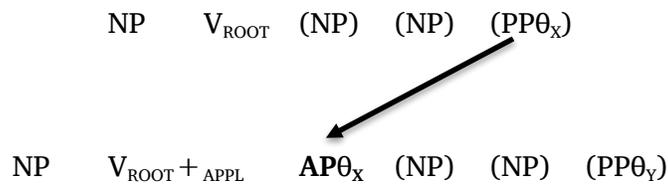
Tendency 7: closer to the verb > less close to the verb

4.2.1 Bantu Type A applicative constructions

In Type A applicative constructions the applicative morpheme expands the argument structure of the verb root by introducing an obligatorily present applied phrase which previously could not at all be used with that root (e.g. obligatory applicative constructions) or was not obligatory with that root (i.e. it could have been expressed as an optional oblique with that root, e.g. optional applicative constructions). Several distinct semantic roles can be mapped onto the applied phrase. This mapping depends heavily on the lexical meaning of the verb root and on context (cf. Stapleton 1903, Schaefer 1985, Du Plessis & Visser 1992, Bresnan & Moshi 1990, Rugemalira 1993, Creissels 2004, Thwala 2006, Cann & Mabugu 2007, Jerro 2016a, 2016b, Sibanda

2016, *inter alia*). They can combine with intransitive, transitive or ditransitive verb roots, depending on the language. The applicative morpheme in Type A applicative constructions can appear twice on the verb root to introduce two applied phrases (see discussion in §5.3). Type A applicative constructions can be optional, cf. (11) and (12) or obligatory, cf. (14). Schematically:

Type A optional applicative constructions

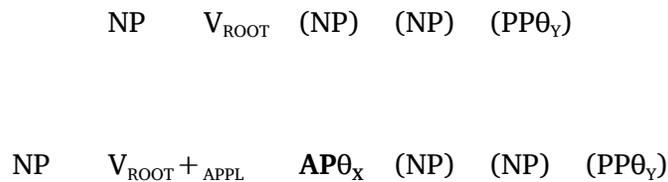


Note 1: θ_x in $\text{AP}\theta_x$ means that the Applied Phrase (AP) can have any semantic role except Agent and Patient. Also, $\theta_x \neq \theta_y$.

Note 2: The order in which $\text{AP}\theta_x$ appears relative to other constituents depends upon a number of factors including animacy, definiteness, semantic role, etc.

Note 3: In the case of motion verb roots combining with the applicative, $\text{PP}\theta_y$ cannot have the semantic role of Source if only one verb is present in the construction.

Type A obligatory applicative constructions



Note 1: $\text{AP}\theta_x$ **cannot** be expressed in the construction with a simple root and requires the applicative to be introduced.

Note 2: The relative order of $\text{AP}\theta_x$ works in the same way as in Type A optional applicative constructions above

Note 3: In the case of motion verb roots combining with the applicative, $\text{PP}\theta_y$ cannot have the semantic role of Source if only one verb is present in the construction.

The expansion of the argument structure by means of the applied phrase in Type A applicative constructions encompasses two scenarios. In the first scenario, the number of arguments of the verb root is quite indisputably increased: the applied phrase is a NP which bears the grammatical relation of object to its verb, that is, this NP gains all object properties and the base object(s) (if any) retain(s) all object properties.

To illustrate this first scenario, consider (22) and (23), reproduced as (74) and (75).

Tswana (S31; Creissels 2002: 390)

(74) *Ke file dikgomo letswai*
kì-f-íl-é *dí-q^hòmú* *lì-tswái*
 s1s-give-PFT-FV CL10-cow CL5-salt
 'I have given salt to the cows.'

Tswana (S31; Creissels 2002: 390)

(75) *Ke fetse bomalome dikgomo letswai*
kì-f-éts-í *bó-màlómé* *dí-q^hòmú* *lìtswái*
 s1s-give-APPL.PFT-FV CL2-uncle.POSS.1s CL10-cow CL5-salt
 'I have given salt to the cows for my uncles.'

The ditransitive verb root *f* 'give' in (74) takes three syntactic arguments: a subject 'I' and two objects 'salt' and 'cows'. Direct objects in Tswana have the following properties: they are syntactically unmarked for case; they can be simultaneously indexed on the verb by means of the same object indexing paradigm, and they can equally be made the Subject of a passive construction. In (75), the verb root *f* requires the applicative (i.e. the allomorph *-ets*) to add the Beneficiary applied phrase 'for my uncles'. There is no alternative way to express a Beneficiary in Tswana. The three object NPs present in (75) all display the syntactic properties of direct objects in Tswana. For example, (76) shows that they can all be indexed on the verb.

Tswana (S31; Creissels 2002: 390)

(76) *Ke le di ba fetse*

kì-lí-dí-bà-f-éts-ì

s1s-03:5-03:10-03:2-give-APPL.PFT-FV

'I have given it to them for them.' (salt = CL5, cows = CL10, uncles = CL 2)

On the basis of object properties, the valence of the ditransitive verb root *f* 'give' is increased by one in (75) and (76): the applied phrase has direct object properties and the original two objects of the verb root still display their object properties. So by the criterion of grammatical relations, 'for my uncles' is a syntactic argument. Notice that the property of verbal adjacency or immediately post-verbal position is useless in constructions such as (75) and (76), because the position in which object NPs appear with respect to the verb depends on their animacy and humanness status (human/animate object NPs precedes non-human/inanimate object NPs) and in (76) there are no lexical NPs but still three object arguments.

Let us now briefly consider the other argument vs. adjunct distinction criteria. The Beneficiary 'for my uncles' is not a semantically required argument to complete the meaning of the verb root 'give', since the verb 'give' can be accomplished without the notion of a Beneficiary, but it is syntactically required in the applicative construction in (75) and (76). Semantically it is more adjunct-like (i.e. a "peripheral semantic role"). By the iterability criterion 'for my uncles' is an argument because adding another beneficiary applied phrase by means of another applicative derivation would result minimally in pragmatic awkwardness, except perhaps with an intonation reflecting that the speaker is hesitating between 'for my uncles' and some other Beneficiary (Denis Creissels, p.c.).

Locative phrases introduced by the applicative in Ruanda appear to be argument-like and therefore would also fall into the first scenario. Consider (77) and (78).

Ruanda (JD61; Jerro 2016a: 41)

(77) *Habimana a-ri ku-vug-a (*mu mzu)*
 H. s3:1-be INF-talk-IPF CL18 house
 ‘Habimana is talking (*in the house).’

Ruanda (JD61; Jerro 2016a: 41)

(78) *Habimana a-ri ku-vug-ir-a mu nzu*
 H. s3:1-be INF-talk-APPL-IPF CL18 house
 ‘Habimana is talking in the house.’

In Ruanda, certain verb classes require the applicative to express the general location where the event described by the verb takes place. As shown in (77), the verb root ‘talk’ cannot freely combine with a location, but needs applicative derivation to do so, cf. (78). As discussed in §3.2.2, *mu* is a locative class prefix (class 18) according to Jerro (2016a). Jerro (2016a: 44) argues that locative-marked phrases such as *mu nzu* in (78) “are arguments of the verbs with which they appear, though they are often optional [i.e. with underived verb roots]”. By semantic obligatoriness ‘in the house’ is an adjunct in (78); by syntactic obligatoriness it is an argument since it cannot be omitted in (78). By the grammatical relation criterion, ‘in the house’ is an argument: Jerro (2016a) shows that it can be made the subject of a passive construction and it may be indexed on the verb by a subject index if passive or by an object index if non passive.

In the second scenario, the argument structure of the verb root is expanded because a new semantic participant is introduced by the applied phrase, but there is no clear-cut increase in the number of syntactic arguments of the derived verb stem.

Application of Forker’s criteria presented in §4.2 results in the conclusion that the applied phrase is a “fuzzy” syntactic entity in between an argument and an adjunct.

Consider (79) and (80).

Tswana (S31; Creissels 1998: 133)

(79) *Ke bolaile noga*

kì-búlá-íl-é *nóχà*

S1S-kill-PFT-FV CL9.snake

‘I killed the snake.’

Tswana (S31; Creissels 1998: 133)

(80) *Ke bolaetse noga mo letlapeng*

kì-búlá-éts-í *nóχà* *mó* *lítàpé-ḡ*

S1S-kill-APPL.PFT-FV CL9.snake LOC CL5.stone-LOC

‘I killed the snake on the stone.’

In (79), the transitive verb root *bolay* ‘kill’ takes two arguments, a subject ‘I’ and an object ‘snake’. In (80), in order to add the precise location where the event of killing takes place, the verb root *bolay* ‘kill’ requires the applicative allomorph *-éts*.⁶⁵ The applied phrase introduced by the applicative has a prepositional phrase form, composed by the preposition *mó* and a NP marked with the locative suffix *-ḡ*. In terms of the tendencies listed by Forker (2014), this marking suggests a more adjunct-like status. If we go by the criterion of semantic obligatoriness, the prepositional phrase *mo letlapeng* ‘on the stone’ is an adjunct: ‘on the stone’ does not seem to be a necessary semantic participant to complete the event described by the lexical root ‘kill’ in (80). By the criterion of syntactic obligatoriness, the prepositional phrase ‘on the stone’ is an

⁶⁵ The same verb root would not require the applicative to combine with a prepositional phrase expressing the General Location of the event such as ‘in the forest’ in ‘I killed the snake in the forest’.

argument: it cannot be omitted from (80). However, if we go by the criterion of grammatical relations, the prepositional phrase *mo letlapeng* is not an argument: it cannot be made the subject of a passive construction, it cannot be indexed on the verb by means of an object index and it cannot appear in immediate post-verbal position, i.e. before the object NP ‘snake’. The criterion of iterability is not useful in this case either: in Tswana, as in other Bantu languages, the “types” of Location which can freely combine with a verb root are determined on a root-by-root basis (e.g. some Locations require an applicative to combine with a given verb roots while others do not).

This second scenario also involves NPs with some but not all properties of direct objects. In the following paragraphs, I show how “degrees” of objecthood also have an impact on valence-increase claims attributed to applicative derivation. In a language where the applicative combines with transitive verb roots, and the applied phrase gains at least some object properties, there are six possible combinations with respect to the object properties of the applied phrase and the object properties of the base object. These possibilities are shown in Table 4, where “+” means ‘X has all object properties’, “~” means ‘X has at least one object property’, and “-” means ‘X has no object properties’. The “clear-cut” combinations (α) and (λ) in Table 4 have been traditionally called “symmetrical” and “asymmetrical” (cf. §2.4.2). But there is a gradient “gray” area in between the two represented by combinations (β) to (θ). Within a single language, the different semantic roles of the applied phrase can lead to different combinations.

Table 4: Combinatorial possibilities based on formal properties of applied phrase and base object

		OBJECT PROPERTIES ^a		
		APPLIED PHRASE	BASE OBJECT	
COMBINATIONS	(α)	+	+	“symmetrical”
	(β)	+	~	in between
	(γ)	~	+	
	(δ)	~	~	
	(θ)	~	-	
	(λ)	+	-	“asymmetrical”

^aI am unaware of whether combination θ is attested, but it seems a logical possibility.

I illustrate combinations α, β, γ, δ and λ below. Note that diagnostics used for identifying objecthood might vary from author to author, but recall that traditionally, Bantu object diagnostics typically include at least the following, based on Hyman & Duranti (1982): (i) the ability to appear in immediately post-verbal position, (ii) the ability to be indexed on the verb by means of object indexes, (iii) the ability to be made the subject of a passive construction.

COMBINATION (α): APPLIED PHRASE + ; BASE OBJECT +

Chewa (N31; Alsina & Mchombo 1993: 41)

- (81) *alēnje* *a-ku-lúk-ír-a* *mikēka* *pa-mchēnga*
 CL2-hunters s3:2-PRS-weave-APPL-FV CL4-mats CL16-CL3-sand
 ‘The hunters are weaving mats on the beach.’

In (81), the applied phrase *pa-mchēnga* is marked by the locative noun class prefix *pa-* and syntactically it is an object NP which displays all object properties. The NP ‘on the beach’ can appear in immediately post-verbal position, be indexed on the verb by means of a pronominal object prefix, be made the subject of a passive construction, be extracted by *wh-* movement, and allow indefinite (base) object deletion (i.e. the NP ‘on

the beach’ can appear in a construction such as (81) without the NP ‘mats’). The base object ‘mats’ retains the same object properties as the applied phrase.

COMBINATION (β): APPLIED PHRASE + ; BASE OBJECT ~

Chewa (N31; Alsina & Mchombo 1993: 21)

- (82) *anyāni* *a-ku-phwány-ír-a* *dēngu* *mwāla*
 CL2-baboons S3:2-PRS-break-APPL-FV CL5-basket CL3-stone
 ‘The baboons are breaking the basket with a stone.’

In Chewa, when the applied phrase has the semantic role of Instrument, the applied phrase is an object NP with all object properties. In (82), the NP ‘stone’ can appear in immediately postverbal position, can be indexed on the verb by means of a pronominal object prefix, can be made the subject of a passive, can be extracted by *wh*- movement, and allows indefinite (base) object deletion (i.e. the NP ‘stone’ can appear in a construction such as (82) without the NP ‘basket’). The base object ‘basket’, on the contrary, loses some object properties. Although it can appear in immediately post-verbal position, be indexed on the verb and be extracted by *wh*- movement, it cannot be made the subject of a passive construction.

COMBINATION (γ): APPLIED PHRASE ~; BASE OBJECT +

Ruanda (JD61; Kimenyi 1980: 85)

- (83) *umugabo* *a-ra-som-an-a* *ibárúwa* *ibyíshiimo*
 man he-PRS-read-MANN-ASP letter joy
 ‘The man is reading a letter with joy.’⁶⁶

⁶⁶ Recall from §1.5 that in Ruanda as in other Bantu languages, other suffixes such as *-an* in (83) (< PB *-an ‘reciprocal’) can be used with applicative function in addition to the reflexes of the PB applicative suffix *-id.

According to Kimenyi (1980), the manner applied phrase ‘joy’ in (83) acquires almost all object properties: it can be passivized, be indexed on the verb, be relativized and clefted, but it cannot undergo reflexivization, “existential insertion” (i.e. *‘There is joy with which he reads the letter’), or pseudo-clefting. The base object ‘letter’, on the other hand, preserves all object properties.

COMBINATION (δ): APPLIED PHRASE ~; BASE OBJECT ~

Chewa (N31; Alsina & Mchombo 1993: 18)

- (84) *chitsîru* *chi-na-gúl-îr-a* *atsíkána* *mphâtso*
 CL7-fool s3:7-PST-buy-APPL-FV CL2-girls CL9-gift
 ‘The fool bought a gift for the girls.’

In (84), the applied phrase ‘girls’ is an object NP with some of the object properties of a base object. The NP ‘girls’ can appear in immediately postverbal position, can be indexed on the verb by means of a pronominal object prefix, can be made the subject of a passive construction, but it cannot be extracted by *wh*- movement and it does not allow indefinite (base) object deletion (i.e. ‘girls’ cannot appear in a construction such as (84) without the NP ‘gift’). The base object ‘gift’ cannot appear in immediately postverbal position, cannot be indexed on the verb by means of a pronominal object prefix, cannot be made the subject of passive construction, but it can be extracted by *wh*- movement.

COMBINATION (λ): APPLIED PHRASE +; BASE OBJECT –

Tanzanian Ngoni (N12; Ngonyani & Githinji 2006: 34)

- (85) *m-geni* *i-gul-il-a* *va-ndu* *u-gimbi*
 CL1-guest PRS-buy-APPL-FV CL2-person CL14-beer
 ‘The guest is buying beer for people.’

According to Ngonyani & Githinji (2006), the applied phrase ‘people’ in (85) is an object NP which gains all object properties: it must appear in immediately post-verbal position; it can be indexed on the verb by means of an object prefix, it can be made the subject of a passive construction, and it allows unspecified (base) object deletion. However, the base object ‘beer’ displays none of these properties.

In combination (α) where both the applied phrase and the base object display all object properties, it might be claimed that the applicative does increase the valence of the verb root. In combinations (β) to (λ) however, it is unclear whether there is a clear-cut increase in the syntactic valence of the verb root. For instance, in combination (λ), where the applied phrase has all object properties but the base object has none, it is difficult to establish the syntactic nature of the base “object”. Although it is labeled “object” in the linguistic analysis and does not occur in a prepositional phrase, it loses all the syntactic properties that make it an object, and therefore the status as a syntactic core argument. On the other hand, it is not entirely an adjunct either. By the criterion of grammatical relations, the base object in (85) is in between an argument and an adjunct. By the criterion of obligatoriness, it appears to be both semantically and syntactically obligatory, in that it is required to “complete” the meaning of ‘buy’ and cannot be omitted from (85).

Within Type A applicative constructions, the interaction between the applicative morpheme and verbs of motion deserves a special mention. The applicative morpheme often introduces a Goal applied phrase with verbs of motion (cf. the discussion in Creissels 2004). Consider the following data from Tswana.

Tswana (S31; Creissels 2004: 12)

- (86) *Ke tlaa huduga (ko Kanye)*
kì-tlàà-húdúχ-à kó kàné
S1S-FUT-move-FV LOC CL1.Kanye
'I will move (from Kanye).'

Tswana (S31; Creissels 2004: 12)

- (87) *Ke tlaa hudugela ko Gaborone*
kì-tlàà-húdúχ-él-à kó χàbórónì
S1S-FUT-move-APPL-FV LOC CL1.Gaborone
'I will move to Gaborone.'

In (86), the root *hudug* [húdúχ] 'move' can optionally combine with a prepositional phrase which indicates the Source of movement, i.e. *kó kàné*. Notice that the preposition *kó* does not by itself indicate Source, and it usually expresses that the location *at, to or from* which the action is performed is relatively distant (Cole 1975: 341). In (87), the root *hudug* [húdúχ] 'move' combines with the applicative. The obligatorily present prepositional phrase introduced by the applicative in (87) is formally identical to the one in (86). However, the semantic role of the prepositional phrase in (87) is not Source, as in (86), but Locative Goal or Direction, i.e. 'to Gaborone'.

Morphosyntactically, the prepositional phrase in (87) does not gain any object properties. In Tswana, and in Bantu more generally, the Source and the Goal of movement with a verb such as 'move' cannot be expressed simultaneously in the frame of a single-verb construction, rather a sequence of two verbs is necessary, as in (88).

Tswana (S31; Creissels 2004: 12)

Ke tlaa huduga ko Kanye ke hudugele ko Gaborone

- (88) *kì-ttàà-húdúχ-à* *kó* *kàné* *kì-húdúχ-él-ì* *kó*
S1S-FUT-move-FV LOC CL1.Kanye S1S-move-APPL-FV LOC
χàbúróni
CL1.Gaborone
'I will move from Kanye to Gaborone.'

The impossibility to express Source and Goal of movement within the frame of a single-verb construction is shared by the language groups that Greenberg included in the Niger-Congo phylum, and is found also in Chadic (AfroAsiatic). This impossibility correlates with the lack of an ablative adposition (or case marker) in the languages in question (Denis Creissels, p.c.).⁶⁷

Finally, verbs participating in Type A applicative constructions can also undergo lexicalization. As an example, consider the Tswana applicative stem *lalele* [lál-él] 'ambush' derived from the verb root *lal* [lál] 'lie down, stay overnight, spend the night'. The verb root *lal* is a reflex of PB *dáád 'lie down, sleep, spend the night' (Creissels ms.a: 10), attested in fifteen zones including zone S. The root *lal* is syntactically intransitive in Tswana and takes only one core argument. This single argument is expressed by the subject index *rì-* in (89).

Tswana (S31; Creissels ms.b: 148)

- (89) *Re tlaa lala mo nageng*
rì-ttàà-lál-à (*mó* *nàχé-ŋ*)
S1P-FUT-lie.down-FV LOC CL9.bush-LOC
'We will lie down/spend the night in the bush.'

⁶⁷Denis Creissels (p.c.) indicates that there may be exceptions, but he is aware of none. He also notes that this generalization does not extend to Nilo-Saharan.

The applicative stem *lalel* [lál-él] introduces an applied phrase and increases the valence of the verb root *lal* [lál] by one. The derived verb *lalel* in (90) is syntactically transitive, as it takes the subject index *dí-* referring to the preceding class 10 noun ‘bandit’ and is followed by an object NP ‘travelers’, which displays all object properties.

Tswana (S31; Creissels ms.b: 149)

(90) *Dinokwane di lalela baeti*

dì-núkwání dí-lál-él-á bá-ètì

CL10-bandit S3:10-lie.down-APPL-FV CL2-traveler

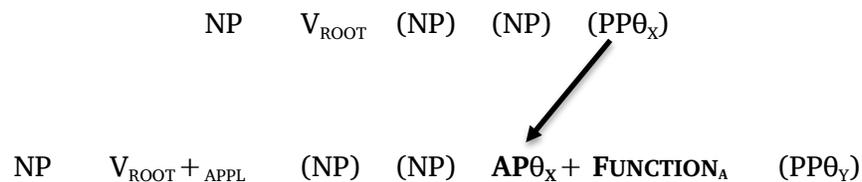
‘The bandits ambush the travelers.’

Besides introducing an applied phrase and increasing valence, the applicative form *lalel* [lal-él] ‘ambush’ also represents an instance of lexicalization: conceivably it was earlier a purpose applicative, something akin to ‘lie down for a purpose/reason’, the purpose/reason being concealing oneself to take an enemy by surprise.

Some of the semantic roles which can be introduced by the applicative in combination with different semantic classes of verbs in Type A applicative constructions will be discussed in §5.3 and subsections therein.

4.2.2 Bantu Type B applicative constructions

In Type B applicative constructions, the applicative morpheme expands the argument structure of the verb root by introducing an obligatorily present applied phrase. In addition, the applicative suffix performs semantic/pragmatic functions on the applied phrase alone, or on the whole clausal construction. Usually, the applied phrase in this construction type has a Location-related semantic role. Whether the semantic expansion of argument structure results in increased syntactic valence or not is a language specific, root specific issue which abides by the same considerations set out in §4.2.1. Schematically:



Note 1: The thematic role (θ_x) associated with the AP is usually General Location of the event described by the root.

Note 2: FUNCTION_A means the applicative does something more than introducing an AP. It can, for instance, place the AP under some kind of narrow focus.

Note 3: In this construction type, $AP\theta_x$ usually does **not** appear before other constituents such as (object) NPs (if the root that takes the applicative is transitive or ditransitive).

To show what I mean by additional semantic/pragmatic functions of the applicative morpheme in Type B applicative constructions, consider (91) and (92).

Tswana (S31; Creissels 2002: 413)

(91) *O sule ko Yuropa*

ú-sú-l-è (kó jùrópà)

S3:1-die-PFT-FV LOC CL1.Europe

‘He died in Europe.’

Tswana (S31; Creissels 2002: 413)

(92) *O swetse ko Yuropa*

ú-sw-éts-ì *kó* *jùrópà*
S3:1-die-APPL.PFT-FV LOC CL1.Europe
'He died IN EUROPE.'⁶⁸

In (91), the verb root *su~sw* 'die' can optionally combine with a prepositional phrase expressing the location of the death. Creissels (2002: 413) observes that in (91), both the death of the individual and the place where it occurred constitute new information. In (92), the only formal difference with respect to (91) is the presence of the applicative on the verb root. The prepositional phrase *kó jùrópà* is obligatory in (92) but it does not have the properties of an object NP. The function of the applicative in (92) is to signal that only the location of the death is new information. An alternative free translation of (92) would be an English cleft construction such as 'It is in Europe that he died.' In Tswana, this focalizing use of the applicative can be used to place focus only on locative phrases.

Another possible function of the applicative in Type B applicative constructions is to add the meaning of habituality to the action described by the verb root at a certain location. Compare (93) and (94).

Swahili (G41-43; Marten 2003: 10)

(93) *mpishi* *a-li-pik-a* (*jiko-ni*)
cook S3:1-PST-cook-FV kitchen-LOC
'The cook was cooking (in the kitchen).'

⁶⁸ The emphasis in the form of small caps is not present in the original source. However, Creissels (2002, 2004) makes it clear that the constituent I have emphasized in small caps is focused in (92).

Swahili (G41-43; Marten 2003: 10)

(94) *mpishi* *a-li-pik-i-a* *jiko-ni*
 cook S3:1-PST-APPL-cook-FV kitchen-LOC
 ‘The cook was cooking in the kitchen habitually.’

Marten (2003) argues that the applicative does not introduce an applied phrase in (94) because the underived verb root can equally combine with a NP marked by the locative suffix *-ni* in (93). However, unlike (93), in (94) the locative marked NP ‘in the kitchen’ cannot be omitted (Mokaya Bosire, p.c.). The function of the applicative is to add an aspectual meaning of habituality to the event of cooking in a specific location, i.e. the kitchen. Functions of Type B applicative constructions will be discussed in §5.4.1, §5.4.2 and §5.4.3.

Type A (minus cases of lexicalization) and Type B applicative constructions are regular and productive: they apply to different semantic classes of verbs (verbs of motion, surface contact, change of state, involuntary process, etc.).⁶⁹ This is a feature that distinguishes them from the next construction types we will discuss, TYPE C APPLICATIVES and PSEUDO-APPLICATIVES.

⁶⁹ This does not mean, however, that in all Bantu languages all verbs can participate in Type A and Type B applicative construction types. For instance, in Sotho, verbs expressing emotional/psychological states cannot combine with the applicative (Machobane 1989) (cf. discussion in §5.3.1).

4.2.3 Bantu Type C applicative constructions

In Type C applicative constructions, the applicative morpheme does not introduce an applied phrase. Instead, the applicative indicates that the action described by the root is performed to completion, or that the action is performed continuously, with intensity, persistence, excess or repetition, among others. In some Bantu languages this function is achieved by using one applicative suffix, while in others two applicative suffixes are required. Schematically:

$$\begin{array}{ccccccc} \text{NP} & & \text{V}_{\text{ROOT}} & & (\text{NP}) & & (\text{NP}) & & (\text{PP}) \\ & & & & & & & & \\ \text{NP} & & \text{V}_{\text{APPL}(\text{APPL})} + \text{FUNCTION}_{\text{B}} & & (\text{NP}) & & (\text{NP}) & & (\text{PP}) \end{array}$$

Note 1: FUNCTION_B means that the applicative suffix(es) add(s) some sort of semantic specification (completeness, iterativity, excess, intensity, duration, etc.) to the action described by the root.

The following examples show how one applicative derivation can convey the meaning of an action performed continuously. In (95), ‘shout’ needs to combine with the applicative to introduce the applied phrase ‘at the children’. In (96), the addition of another applicative suffix on the verb stem indicates that the action of shouting at the children takes place constantly.

Nyole (JE35; Wicks 2006: 107)

- (95) *ba-hayuh-ir-a* *aba-ana*
 s3:2-shout-APPL-FV CL2-children
 ‘They shout at the children.’

Nyole (JE35; Wicks 2006: 107)

- (96) *ba-hayuh-ir-ir-a* *aba-ana*
 s3:2-shout-APPL-APPL-FV CL2-children
 ‘They are always shouting at the children.’

It should be noted that not all verbs in the lexicon in a given Bantu language will have the ability to combine with one or two applicative derivations to convey these meanings. This means that Type C applicative constructions are less productive than Type A and B. In fact, this type often undergoes lexicalization. This can be seen by comparing (97) and (98).

Bemba (M42; Marten 2003: 12)

(97) *tu-ka-ly-a*
s1P-FUT-eat-FV
'We will eat.'

Bemba (M42; Marten 2003: 12)

(98) *tu-ka-li-il-a*
s1P-FUT-eat-APPL-FV
'We will feast/eat a lot'. (idiom: enjoy)

In (97), the Bemba root 'eat' is used intransitively. In (98), where the same root combines with the applicative *-il*, no applied phrase is added so that the verb stem is still intransitive, but the meaning of the stem is now 'feast' or 'eat a lot'; that is, the applicative adds the idea of excess to the verb root 'eat'. Marten (2003) indicates that the root plus the applicative in (98) has also acquired an idiomatic/fixed meaning 'enjoy'.

In Swahili, two applicative derivations can be used with some verb roots to convey intensity, completeness or repetitiveness of the action described by the root.

Consider the following pairs.

Swahili (G41-43; Mokaya Bosire, p.c.)

(99) *Juma a-li-pig-a m-sumari*
J. s3:1-PST-hit-FV CL3-nail
'Juma hit the nail.'

constructions over time can lose their intensifying, repetitive, persistive meaning and replace the root. Also, it is not always easy to draw a clear cut line between Type C applicative constructions and Pseudo-applicative constructions.

4.2.4 Bantu Pseudo-applicative constructions

PSEUDO-APPLICATIVE CONSTRUCTIONS are irregular and non-productive results of applicative derivation. In this construction type, lexicalized applicativized verb stems do not introduce an applied phrase to the argument structure of the verb root from which they are synchronically and/or historically derived. The applicative suffix(es) present on the resulting verb stems also do(es) not perform semantic or pragmatic functions like those described for Type B and Type C applicative constructions. If the verb root is syntactically intransitive, the pseudo-applicative is also intransitive; if the verb root is syntactically transitive, the pseudo-applicative can either remain transitive or, in some cases, become intransitive. If the verb root is syntactically ditransitive, the pseudo-applicative stem can either remain ditransitive or, in some cases, become transitive. Schematically:

NP	V_{ROOT}	(NP)	(NP)	(PP)
NP	$[V_{\text{APPL}(\text{APPL})}]$	LEXICALIZED	(NP)	(NP) (PP)

As an example, consider the Tswana applicative stem *lalel* [lál-él] ‘have dinner’ derived from the verb root *lal* [lál] ‘lie down, stay overnight, spend the night’. As shown in (89), the verb root *lal* [lál] is syntactically intransitive. The applicative verb form *lalel-* [lál-él] is also syntactically intransitive as the thing being eaten is optionally introduced by an instrumental preposition in (2), reproduced as (102).

Tswana (S31; Creissels ms.b: 149)

(102) *Re tlaa lalela ka dikgobe*

rì-tlàà-lál-él-à

(ká dí-q^hò:bè)

S1P-FUT-lie.down-APPL-FV

INSTR CL10-beans.and.maize

‘We will have dinner (with beans and maize).’

The applicative stem *lalele* [lál-él] ‘have dinner’ can be called a pseudo-applicative because: (i) it displays a non-compositional meaning with respect to the verb root from which it is derived (e.g. ‘lie down, stay overnight, spend the night’ > ‘have dinner’); (ii) the applicative morpheme does not introduce an applied phrase; and (iii) the applicative morpheme does not perform functions such as focalization of a locative phrase, expression of habituality, repetitiveness, excess, etc. described for Type B and Type C applicative constructions. The pseudo-applicative *lalele* [lál-él] is the regular reflex of a PB verb stem which likely already contains an applicative morpheme at the PB stage, *dáádid ‘have supper, look after, brood’, present in zones J, L, M and S. The verb form *dáádid is derived from *dáád ‘lie down, sleep’. In Tswana, the verb root *lal* [lál] ‘lie down, stay overnight, spend the night’ (< PB *dáád) combined with the applicative suffix and gave rise to two homophonous verb stems with different meanings: *lalele* [lál-él] ‘ambush’ in (90), a lexicalized applicative which introduces an applied phrase; and the pseudo-applicative form *lalele* [lál-él] ‘have dinner’ in (102), which displays lexicalization but does not introduce an applied phrase to the argument structure of its root.

The pseudo-applicative verb stem *lalele*- [lál-él-] ‘have dinner’ is also an instance of a PARSABLE PSEUDO-APPLICATIVE form. By “parsable pseudo-applicative” form I mean a verb stem which can synchronically be divided into a root plus an applicative morpheme. In parsable pseudo-applicative forms, a non-applicative verb root exists in

the language and some sort of semantic relation, albeit not immediately transparent, can be identified between the verb root and the pseudo-applicative stem.

NON-PARSABLE PSEUDO-APPLICATIVE forms, on the other hand, are synchronically non-segmentable verb stems which cannot be divided into a root plus an applicative morpheme. In non-parsable pseudo-applicative forms, a synchronic non-applicative verb root is absent or synchronically irretrievable.⁷¹ An example of a non-parsable pseudo-applicative in Tswana is *elēl* [èlèl] ‘flow’. This verb form is syntactically intransitive as it can only take a subject, expressed by the index prefix *dí-* on the verb in (103).

Tswana (S31; Creissels French-Tswana dictionary ms.b: 41)

(103) *Dinoka tse ga di elele ngwaga otlhe*

<i>dì-nùkà</i>	<i>tsé</i>	<i>χà-dí-èlél-í</i>	<i>ηwàχá</i>	<i>†ò:ttʰè</i>
CL10-river	CL10.DEM	NEG-S3:10-flow-FV	CL3.year	CL3.all
‘These rivers do not flow the whole year.’				

Synchronically, in Tswana a verb root such as *el* [èl], from which *elēl* [èl-èl] could be derived, does not exist. The synchronically absent verb root *el* [èl] would be the reflex of PB *gèd ‘flow’ attested in four zones including zone S, but not in Tswana. In non-parsable pseudo-applicatives, the loss of the applied-phrase introducing function of the applicative morpheme can be safely claimed only if the non-parsable pseudo-applicative is syntactically intransitive at the present synchronic stage. If the non-parsable pseudo-applicative is syntactically transitive, no safe claim can be made because the transitivity of the verb root from which the pseudo-applicative is derived cannot be determined.

Table 5 summarizes the features of applicative construction types discussed in this chapter according to the parameters of variation set out in §4.1. Applicative

⁷¹ The distinction between parsable and non-parsable is also valid for lexicalized Type A applicatives discussed in §4.2.1.

constructions types discussed here can be considered as gradient steps on a continuum from most productive (Type A and Type B) to somewhat productive but restricted in the amount of verb stems which can participate in the construction (Type C) to completely unproductive and lexicalized, with a concomitant loss of the applicative's ability to introduce an applied phrase (Pseudo-applicative constructions).

Table 5: Bantu applicative construction types and parameters of variation

	Parameters of variation			
	Introduces an obligatorily present AP	Semantic/pragmatic functions other than introducing an AP	Subject to lexicalization	Productive across verb classes
Type A optional NP V _{ROOT} (NP) (NP) (PP _{θ_x}) NP V _{ROOT} + APPL AP _{θ_x} (NP) (NP) (PP _{θ_y})	yes	no	yes	yes
Type A obligatory NP V _{ROOT} (NP) (NP) (PP _{θ_y}) NP V _{ROOT} + APPL AP _{θ_x} (NP) (NP) (PP _{θ_y})	yes	no	yes	yes
Type B NP V _{ROOT} (NP) (NP) (PP _{θ_x}) NP V _{ROOT} + APPL (NP) (NP) AP _{θ_x} + FUNCTION _A (PP _{θ_y})	yes	yes	no	yes
Type C NP V _{ROOT} (NP) (NP) (PP) NP V _{APPL(APPL)} + FUNCTION _B (NP) (NP) (PP)	no	yes	yes	restricted
Pseudo-applicatives NP V _{ROOT} (NP) (NP) (PP) NP [V _{APPL(APPL)}]LEXICALIZED (NP) (NP) (PP)	no	no	yes	no

A few important questions arise with respect to the applicative construction types I propose in Table 5. The first one is whether there is a conceptual connection or concept that unifies these constructions. For example, how is the function of introducing an applied phrase (Type A) related to the more aspectual function of nuancing the lexical meaning of a verb root (Type C) or to the narrow focus function on locative phrases (Type B)? Assuming that in fact there exists an underlying unified meaning for these constructions which has the syntactic reflections in Table 5, a second question is how are these constructions related diachronically.

Not having an answer to these questions at the present time makes it difficult to posit a sound theoretical definition of applicative construction(s) in Bantu. In fact, my definitions of different applicative construction types are operational and are based both on structural and functional features, an approach which can lead to problems (see Tomlin 1994: 151 for details). Perhaps Type A applicative constructions could be characterized conceptually as devices to signal that the participant introduced by the applied phrase is different from the (non-agent) argument that would be entailed based on the lexical argument of just the verb root.⁷² The problem is that at this point I do not have any good arguments to say that the theoretical definition of Type A should be *the* theoretical definition of applicative constructions in Bantu, vs. for instance Type B or Type C. The task of formulating a theoretical definition of applicative construction in Bantu should probably be postponed until the relationship between the constructions in Table 5 is better understood and investigated.

⁷² I owe the formulation of this conceptual characterization to Doris Payne.

4.2.5 Is it viable to study pseudo-applicative forms in Bantu languages?

Good (2007) addresses pseudo-passive and pseudo-causative morphology as instances of deponent forms, that is, displaying a mismatch between form and function. Pseudo-passive and pseudo-causative verbs are verbs which historically have a passive or causative suffix and therefore morphophonologically look like passive or causative verbs, but syntactically they do not behave as synchronic passive or causative verbs.

Good (2007) argues that although pseudo-applicatives appear at first glance to be very frequent in Bantu, it is more complicated to come up with convincing arguments that pseudo-applicatives are an instance of deponency compared to pseudo-passives and pseudo-causatives. Two of his arguments as to why it is complicated to claim deponency for pseudo-applicatives are as follows. First, unlike the passive and the causative morphemes, the applicative in Bantu has several functions besides the “canonical” valence-increasing one. Second, compared to passives and causatives, it is harder to find cases where the suffix *-id participates in special morphophonological processes that confirm that a certain verb form unequivocally belongs to the applicative class because of its morphophonological behavior; it is therefore harder, compared to pseudo-causatives and pseudo-passives, to establish that putative pseudo-applicative stems are not accidentally similar to roots with other verbal suffixes which just happen, by chance, to resemble the applicative.

Although I acknowledge the validity of Good’s argumentation, I would like to propose some possible counterarguments. With respect to argument (i), it is true that the Bantu applicative has several functions (see preceding sections and Chapter V). However, within a given language, one can separate “irregular”, non-productive uses of the applicative suffix (e.g. as in pseudo-applicatives and lexicalized applicatives) from

“regular” ones of either of Type A, B or C because these latter uses usually apply consistently to either entire semantic verb classes (Type A and B) or to a given number of verb roots (Type C).

With respect to argument (ii), morphophonological processes are not always conclusive evidence that a certain verb form belongs to the applicative class (or to any other class) because borrowed words can get inserted into a given class by analogy. Thus, it might be true that it is harder to find cases where the suffix *-id participates in special morphophonological processes confirming that a certain verb form unequivocally belongs to the applicative class, but it is also true that special morphophonological processes which characterize other verb classes (e.g. causatives) do not guarantee that a form X in fact belongs to a given class. For instance, all native Tswana verb stems ending in -s are reflexes of PB stems ending with the causative suffix *-i. The causative suffix *-i is never found in modern Tswana as a separate segment: its reflex is the palatalization of the last consonant of the stem (i.e. C > s). An example of a Tswana verb root with the frozen PB causative suffix is *dis* [dís] ‘lead to pasture’ from PB *dík-i ‘lead to pasture’ (Creissels 1999a: 321, 2007: 10), where *k + *i > s in Tswana. The synchronic applicative form of *dis* [dís] is *dis-ets* [dís-éts] ‘make someone lead to pasture’: the applicative allomorph here is *-ets*, which surfaces when the applicative combines (historically or synchronically) with another morpheme, such as the causative (i.e. *dik-i + -el > dis-ets). There are also verb stems ending in -s which are synchronically analyzable as derived causatives, i.e. *tlos* [tùs] ‘take away’ < *tlog* [tùχ] ‘move away’, where χ has palatalized to s in ‘take away’ because of the effect of PB *-i. In this case, too, the applicative form of the causative verb is *tlosets* [tùs-èts]. However, a verb root like *pos* [pós] ‘to post’ is a borrowing from English *post*.

Morphophonologically, this verb behaves as if the final consonant -s is the result of the presence of the proto-causative suffix *-i: as happens with causative verbs, the applicative form of *pos* [pós] is *pos-ets* [pós-éts] and not the expected *pos-el* [pós-él]. But *pos* [pós] is a borrowing, which by analogy was treated morphophonologically like the causative verbs. This indicates that the synchronic morphophonological behavior of a given root is not always conclusive evidence of the historical membership of the root in a given class (i.e. the causative class).

With respect to argument (ii), a possible way to rule out that a given verb form might just “accidentally” look as if an applicative suffix were present could come from comparative evidence. If we can trace back a purported pseudo-applicative to a PB form with regular reflexes in several Bantu languages, it would strongly suggest that the reflexes of the proto-applicative suffix *-id after a verb root are not the product of chance resemblance, or of the instantiation of other suffixes which synchronically look like the applicative when combined with certain verb roots. For example, Tswana has a pseudo-applicative form *elɛl* [èlèl] ‘flow’ for which no extant root can be found. This pseudo-applicative form has cognates in Nyamwezi (F22) *el-eel* ‘float’ (Maganga & Schadeberg 1992: 158) and Swahili (G41-43) *el-e* ‘float’ (Gérard Philippson p.c.). Although a proto-form such as *gèdɪd ‘flow’, from which the Tswana, Nyamwezi and Swahili reflexes could be derived, is not reported in the online database Bantu Lexical Reconstructions 3 (cf. §6.5 for a detailed discussion), it is likely that such a form was present in the proto-language before Nyamwezi, Swahili and Tswana split.

Based on such comparative evidence, the identification of pseudo-applicatives is at least possible, even if sometimes one cannot make a clearly conclusive case for a particular verb form.

In this chapter, I have proposed a four-way distinction among Bantu applicative constructions which is different from other distinctions made in the previous literature. My proposal establishes four parameters of variation for applicative constructions: (i) whether the applicative introduces an obligatorily present applied phrase; (ii) whether the applicative, without combining with other verbal suffixes, performs semantic/pragmatic functions besides introducing an obligatorily present (non-agent) applied phrase; (iii) whether the applicative stem in the construction is subject to lexicalization; and (iv) whether the construction is productive across verb classes.

The boundary is admittedly somewhat fuzzy between Type C and Pseudo-applicative constructions, as in neither of these types does the applicative introduce an applied phrase and both types often undergo lexicalization. It is often challenging to determine whether an applicative stem has reached a degree of lexicalization opaque enough with respect to the meaning of the root to include it as Pseudo-applicative construction.

The next chapter explores in greater detail the functions associated with Type A, Type B and Type C constructions.

CHAPTER V

SEMANTIC AND PRAGMATIC FUNCTIONS OF *-id APPLICATIVE CONSTRUCTION TYPES A, B AND C

5.1 Chapter overview

In this chapter, I focus more in depth on semantic and pragmatic functions belonging to Type A, Type B and Type C applicative constructions, some of which have been already introduced in Chapter IV. §5.2 reviews the functions of the Bantu *-id applicative suffix identified by Trithart (1983), most of which overlap with those I deal with, including those not discussed in depth in this work. However, Trithart (1983) does not sort the various functions of *-id relative to the construction types I have proposed in Chapter IV. Therefore, it is my aim here to more thoroughly discuss semantic roles which can be introduced by the applicative and other selected functions on a construction-by-construction basis. Specifically, §5.3 and subsections therein deal with semantic roles that can be introduced across different verb classes in Type A applicative constructions. §5.4 and subsections therein present functions of Type B applicative constructions, namely: extension of the scope of the locative applied phrase to the whole event, placement of locative and instrumental applied phrases under some sort of narrow focus, and expression of habituality of the action at a certain location. §5.5 and subsections therein present functions of Type C applicative constructions, that is, adding completeness, intensity, excess, repetitiveness, etc. to the action/event described by the verb root.

5.2 Semantic and pragmatic functions of the Bantu *-id applicative

Virtually all of the functions presented in this chapter, except perhaps one (habituality), have been documented by Trithart (1983: 160 and ff.). I am responsible, however, for the grouping of functions as they appear in the following subsections and for assigning functions to the types of structures presented in Chapter IV. I refer the interested reader back to Trithart (1983: 73) for additional functions not addressed here. Briefly, I note that these are: (i) use of the applicative with deverbative nouns expressing place, manner, and time; (ii) appearance of the applicative on the subordinate verb in ‘why/how’ clauses and questions; (iii) use of the applicative in combination with adverbs of time or manner; (iv) use of the applicative in conjunction with certain words which may have a broad adverbial classification (‘on purpose’, ‘intentionally’, ‘first’, ‘therefore’, ‘together’, ‘in vain’) (cf. also Steere 1884 who reports the use of the applicative in Zanzibar Swahili with *mbali* ‘out of one’s way’); (v) use of the applicative to signal emotionally laden locative NPs (cf. also Port 1981, Poeta 2011); (vi) use of the applicative in combination with the reflexive morpheme to indicate that an action was done by oneself, without external help.⁷³

The synchronic functions of the applicative morpheme in Bantu prompt the challenging question of which functions were already present in earlier stages of the

⁷³ The applicative in combination with the reflexive morpheme appears to have a variety of functions. Rugemalira (1993: 93) and Kimenyi (1992, cited by Rugemalira 1993) report that in Nyambo and Ruanda, the applicative in combination with the reflexive expresses a sympathetic point of view. K. Van Otterloo (2011) indicates that the applicative plus reflexive in Fuliuro conveys intention/purpose to the action. Poulos & Louwrens (1994: 133) report that in Northern Sotho the applicative plus the reflexive can indicate that the action described by the verb is performed by the subject alone or that the action is carried out haphazardly or purposelessly.

proto-language and feed into the debate of what original function was associated with this suffix in the proto-language (see Chapter VII).

5.3 Function of Type A applicative constructions: introduction of an applied phrase with a given semantic role

In Type A applicative constructions, the applicative extends the argument structure of a given lexical verb root by introducing an applied phrase which can have different semantic roles, depending on the lexical meaning of the verb root, and/or on context, and/or on the communicative intention of the speaker (i.e. what participant the speaker wants to introduce by using the applicative). Bearing in mind the difficulties discussed in §3.2.1 and §3.2.2, I make no claims as to whether syntactic valence is increased or not on a language-by language, verb root-by-verb root basis in the examples in the following subsections.

As already mentioned in §3.4, the applicative suffix *-id in Bantu is semantically underspecified: the same morphological form in combination with a verb root can express a wide array of semantic roles. These include: Beneficiary, Maleficiary, Recipient, Location, Goal, Instrument, Manner, Motive/Reason, Cause, Purpose, Time and Possessor.⁷⁴ Not all languages allow the applicative to license all of these semantic roles. To illustrate the variety in one language, examples (104) to (111) show that the applicative morpheme *-el* and its allomorph *-ets* in Tswana can express a variety of semantic roles, depending on the lexical meaning of the verb root, the choice of the

⁷⁴ Schadeberg (2003: 74) proposes a more generalized grouping of semantic roles that can be expressed by the applicative: (i) Beneficiary, (ii) Place – and by extension Time, Cause and Reason, and (iii) Instrument.

referent of the applied phrase (whose lexical meaning must be compatible with the lexical meaning of the verb root), and on extralinguistic context. In Tswana, the applicative can combine with intransitive verb roots (104) - (107), transitive verb roots (108) - (110) and ditransitive verb roots (111). In (104) - (111), underlined constituents require the applicative morpheme in order to appear in the clause or, in other words, the lexical verb root does not subcategorize for the underlined constituents.⁷⁵

Tswana (S31; Creissels 2004: 8)

(104) *Losea lo lelela go anya*

lò-sáá ló-líl-él-à χù-ánà

CL11-baby S3:11-cry-APPL-FV INF-suck

‘The baby is crying because he wants to suck.’

Tswana (S31; Creissels 2003: 93)

(105) *Bana ba taboga setlhare*

b-áná bá-tabúχ-él-à sít^hàrì

CL2-child S3:2-run-APPL-FV CL7.tree

‘The children are running towards the tree.’

Tswana (S31; Creissels 2004: 7)

(106) *Mosetsana yo o fosetsa batsadi*

mù-sétsánà jó ú-fós-éts-à bà-tsádì

CL1-girl CL1.DEM S3:1-be.wrong-APPL-FV CL2-parent

‘The girl behaves badly towards her parents.’

⁷⁵ Examples (104) to (111) do not exhaust the semantic roles that can be introduced by the applicative in Tswana.

Tswana (S31; Creissels 2004: 8)

(107) *Mosadi yo o akela ralebentlele*

mò-sádi jò ú-ák-él-à rálibíntfíli
CL1-woman 1.DEM S3:1-lie-APPL-FV CL1.shopkeeper

‘This woman is telling lies about the shopkeeper.’

Tswana (S31; Creissels 2004: 8)

(108) *Mosadi o biletsa bana ngaka*

mò-sádí ú-bíl-éts-á b-àná ṅákà
CL1-woman S3:1-call-APPL.PFT-FV CL2-child CL9.doctor

‘The woman is calling the doctor for the children.’

Tswana (S31; Creissels 2004: 7)

(109) *Kgosi e atlholetse monna bogodu*

qhósí í-át^hul-éts-í mò-ńná bú-χòdù
CL9.king S3:9-condemn-APPL.PFT-FV CL1-man CL14-theft

‘The king condemned the man for theft.’

Tswana (S31; Creissels 2004: 7)

(110) *Kgosi e atlholetse monna loso*

qhósí í-át^hul-éts-í mò-ńná lù-sù
CL9.king S3:9-condemn-APPL.PFT-FV CL1-man CL11-death

‘The king condemned the man to death.’

Tswana (S31; Creissels 2003: 93)

(111) *Ke fetse ngwanake baesekele madi*

kì-f-éts-í ṅw-ánàké báisíkíli mà-dí
S1s-give-APPL.PFT-FV CL1-child.POSS.1s CL9.bicycle CL6-money

‘I gave money to my son for a bicycle.’

In Tswana, as in other Bantu languages, the applicative suffix can be attached twice to the verb root to introduce two applied phrases. For instance, the transitive verb root

‘cook’ requires two consecutive applicative suffixes in (112) to introduce the Beneficiary ‘for the children’ and a specific Location, i.e. the vessel of cooking ‘in the pot’.

Tswana (S31; Creissels 2004: 13)

(112) *Lorato o tlaa apeelela bana motogo mo pitseng e tona*

<i>lòráǎ</i>	<i>ú-tǎá-àpè-èl-èl-à</i>	<i>b-àná</i>	<i>mù-tǎǎ</i>
CL1.Lorato	S3:1-FUT-cook-APPL-APPL-FV	CL2-child	CL3-porridge
<i>mó</i>	<i>pítsé-ǎ</i>	<i>é</i>	<i>túnà</i>
LOC	CL9.pot-LOC	CL9.LNK	CL9.big

‘Lorato will cook porridge for the children in the big pot.’

In the following subsections, I address only some semantic roles, namely: Beneficiary (under which I include Maleficiary and Recipient), Instrument, and Location-related semantic roles of various kinds (General Location, Goal/Direction, Source, Path, etc.). The purpose of these subsections is to show the variation across Bantu languages in the expression of these semantic roles by means of the applicative. In particular, it will emerge that while Beneficiary, Maleficiary, Recipient are quite “uniform” across Bantu languages, the expression of Location-related semantic roles often requires the use of the applicative and this is determined on a root-by-root basis. Further, unlike Beneficiary, Maleficiary, Recipient and Location-related roles, Instruments cannot be introduced by the applicative in all Bantu languages. The following subsections are also relevant to the debate concerning the original meaning/semantic role introduced by the *-id applicative in PB. Trithart (1983: 74) argues that the original function of the applicative suffix in PB (and further back in Niger-Congo) was that of introducing

Benefactive NPs.⁷⁶ Other scholars rather favor an original Locative/Goal adding function of this suffix (Endemann 1876, Van Eeden 1956, Kähler-Meyer 1966, Schadeberg 2003a, Cann & Mabugu 2007, De Kind & Bostoen 2012). This issue will be discussed in detail in Chapter VII.

5.3.1 Beneficiary, Maleficiary and Recipient

Based on his 50-language sample (which includes only Chewa as representative for Bantu languages), Peterson (2007: 40) suggested that if a language has a construction which can be defined as an applicative, most commonly the semantic role of the applied phrase will be that of Recipient and/or Beneficiary and/or Maleficiary.⁷⁷

Among Bantu scholars, there is agreement that, modernly, the semantic role most commonly associated with the applied phrase in Bantu is that of Beneficiary (Guthrie 1970, Du Plessis & Visser 1992, Shadeberg 2003, De Kind & Bostoen 2012, Marten & Kula 2014, *inter alia*). According to Peterson's sample (2007: 60), applicative constructions are almost never truly optional for expressing a Beneficiary. Similarly, Trithart (1983: 65) notes that the applicative construction is the only way to express Beneficiary arguments in many Bantu languages.

⁷⁶ Givón (p.c.) considers Trithart's proposal unlikely, because cross-linguistic evidence suggests that Beneficiary meanings usually evolve from/or are extensions of Goal ("allative") meanings (Givón 2015d: 281).

⁷⁷ As any generalization based on a sample, this generalization does not hold true in all cases. For instance, in Yagua (Peba-Yaguan) the applicative suffix *-ta* introduces Instruments and Comitatives but not Beneficiaries, Recipients, or Maleficiaries (Payne 1985: 271).

Applicative constructions in Bantu can map a Benefactive role onto an applied phrase with virtually any verb root, as long as the lexical semantics of the root and context allow for a benefactive interpretation.⁷⁸ In Luba-Kasai, the applicative construction is obligatory to syntactically express a Beneficiary, as in (113). The applicative *-el* in (113) can only have a benefactive reading. In Luba-Kasai, the applicative can add an object with the semantic role of Recipient only with transitive verb roots (De Kind and Bostoen 2012: 106).

Luba-Kasai (L31a; De Kind and Bostoen 2012: 103)

- (113) *mu-dibi* *ù-di* *ù-bòsok-el-a* *m-fùmù*
 CL1-fool S3:1-be S3:1-jump-APPL-FV CL1-chief
 ‘The fool is jumping for the chief (to please him).’

By contrast, in Mbuun, the applicative construction in (115) is optional: a Beneficiary can also be expressed by a prepositional phrase in a construction with the same verb root, as in (114).

Mbuun (B87; Bostoen & Mundeke 2011: 187)

- (114) *o-á-kón* *ó-te* *óṅgírá* *máám*
 S3:1-PRS.PROG-plant CL3-tree for mother
 ‘He is planting a tree for my mother.’

Mbuun (B87; Bostoen & Mundeke 2011: 187)

- (115) *o-á-kónné* *máám* *ó-te*
 S3:1-PRS.PROG-plant.APPL mother CL3-tree
 ‘He is planting a tree for my mother.’

⁷⁸ This may not be exceptionless across Bantu, however. Sibanda (2016: 327) argues that in Zimbabwean Ndebele (S44), Reason and Location, and not Beneficiary, are the thematic roles introduced by the applicative in all semantic verb classes.

In languages such as Tswana a reasonable analysis is that Beneficiary is the default interpretation of the semantic role of the applied phrase, unless the lexical meaning of the verb and of the applied phrase make another interpretation more plausible (Denis Creissels, p.c.). For instance, in (116), while a Beneficiary might be conceived as possible, a Maleficiary is certainly more plausible given the meaning of the verb root.

Tswana (S31; Creissels 2004: 8)

(116) *Mpho o jetse Kitso dinawa*

<i>m̩pʰɔ</i>	<i>ú-dz-éts-í</i>	<i>kítsɔ</i>	<i>dí-nàwá</i>
CL1.Mpho	S3:1-eat-APPL.PFT-FV	CL1.Kitso	CL10-bean

‘Mpho ate the beans (that were intended) for Kitso.’

Within the semantic role of Beneficiary, the applicative suffix can also introduce substitutive readings “where the agent performs the action instead of, on behalf of or in place of the substitute” (Marten & Kula 2014). In Bemba, (plain) Beneficiaries are introduced only by the applicative suffix *-el/-il* (117), while Substitutives are introduced by the applicative suffix plus the historically locative class 17 post-verbal clitic =*kó* (118).⁷⁹

Bemba (M42; Marten & Kula 2014: 3)

(117) <i>ábá-icé</i>	<i>bá-ká-send-el-a</i>	<i>im-fúmu</i>	<i>ubu-ta</i>
CL2-children	S3:2-FUT-carry-APPL-FV	CL9-chief	CL14-bow

‘The children will carry the bow for (the benefit of) the chief.’

⁷⁹ Marten & Kula (2014: 3) indicate that (118) is ambiguous between a substitutive benefactive interpretation and a locative interpretation.

Bemba (M42; Marten & Kula 2014: 3)

- (118) *ábá-icé* *bá-ká-send-el-a = kó* *im-fúmu* *ubu-ta*
CL2-children S3:2-FUT-carry-APPL-FV = LC.CL17 CL9-chief CL14-bow
‘The children will carry the bow on behalf of (instead of) the chief.’

In some Bantu languages, there are restrictions on whether the applicative suffix can introduce a Beneficiary applied phrase with certain verb classes. For instance, Machobane (1989) argues that in Sotho, the applicative cannot combine with “experiencer” verbs (cf. the ungrammaticality of (120)), that is, verbs of cognition/perception such as ‘fear’ in (119).

Sotho (S33; Machobane 1989: 89)

- (119) *ntate* *o-tsaba* *hore* *bashanyana* *ba-tla-loana*
father S3:1-fear that boys S3:2-will-fight
‘My father fears that the boys will fight.’

Sotho (S33; Machobane 1989: 89)

- (120) **ntate* *o-tsab-el-a* *malome* *hore* *bashanyana* *ba-tla-loana*
father S3:1-fear-APPL-FV uncle that boys S3:2-will-fight
(intended meaning: ‘My father fears for my uncle that the boys will fight.’)

Syntactically, it seems to be virtually always the case that an applied phrase with the semantic role of Beneficiary gains the full array of object properties typical of the base object. This has been observed in Shona (Hawkinson & Hyman 1974), Haya (Duranti & Byarushengo 1977, Hyman & Duranti 1982), Sotho (Morolong & Hyman 1977, Machobane 1989), Mwiini (Kisseberth & Abasheikh 1977), Meru (Hodges 1977), Luyia and Mashi (Gary 1977), Ruanda (Kimenyi 1980), Chewa (Baker 1988a, 1988b, Alsina & Mchombo 1993), Sotho (Machobane 1989), Chaga (Bresnan & Moshi 1993), Swahili and Ndendeule (Ngonyani 1996), Kikuyu and Tanzanian Ngoni (Ngonyani &

Githinji 2006), just to mention a few languages. Acquisition of the full array of object properties is directly related to the fact that Beneficiaries are often human or animate. In this respect, Morolong & Hyman (1977) point out that human arguments are higher in the personal hierarchy and are assigned more direct object properties than non-human arguments because they are more prominent, affected or topical in discourse. Similarly, Duranti (1979: 32) proposes the following Bantu-specific thematic hierarchies of “candidates” for syntactic operations such as passivization and object indexation (121).

(121)

1st > 2nd > 3rd

Benefactive > Goal > Patient > Instrument/Locative

Human > animate > inanimate

“Candidates” to the left of the symbol “>” are more likely than others to be the target of syntactic operations. Duranti (1979) observes that in Haya and Shambala, if two object NPs are indexed on the verb, the slot immediately before the verb root is reserved for indexing the higher object NP on one of the hierarchies in (121).

5.3.2 Instrument

The possibility to use reflexes of the PB applicative suffix *-id to introduce an Instrumental applied phrase has been reported for several Bantu languages including: Swahili, Bukusu, Ndendeule, Ngoni and Wuunjo (De Kind and Bostoen 2012: 116), Digo (Nicolle 2013), Bemba (Sharman 1963), Rangi (Stegen 2002), Chewa (Mchombo 2004), Tumbuka (Chavula 2016), Makhuwa (van der Wal 2009), Saamia (Botne et al. 2006) and Lingala (Meeuwis 2010), among others. Below are some examples.

Digo (E73; Nicolle 2013: 109)

- (122) *mayo a-nda-jita na kuni*
CL1a.mother s3:1-FUT-cook COM CL9/10.firewood
'Mother will cook with firewood.'

Digo (E73; Nicolle 2013: 109)

- (123) *a-nda-zi-jit-ir-a*
s3:1-FUT-o3:10-cook-APPL-FV
'She will cook with it.'

Makhuwa (P31; van der Wal 2009: 72)

- (124) *Amíná o-n-rúw' eshimá ni nkhóri*
CL1.Amina s3:1-PRS.CJ-stir CL9.shima with CL3.spoon
'Amina prepares shima with a spoon.'

Makhuwa (P31; van der Wal 2009: 72)

- (125) *Amíná o-n-rúw-él' eshimá nkhóri*
CL1.Amina s3:1-PRS.CJ-stir-APPL CL9.shima CL3.spoon
'Amina prepares shima with a spoon.'

In Mbuun (Bostoen & Mundeke 2011), Akoose (Hedinger 2008), Shona (Cann & Mabugu 2007), Sotho (Machobane 1989), Tswana (Creissels 2002), Luba-Kasai (De Kind & Bostoen 2012), Ruanda (Kimenyi 1980) and Cuwabo (Guérois 2015), just to mention a few, the *-id applicative suffix cannot be used to introduce an Instrumental applied phrase.

According to Trithart (1983: 179), within individual Bantu languages, the Instrumental function looks newer compared to the Benefactive and Locative functions. Arguments adduced in support of this statement are various. First, unlike for Beneficiaries, use of the applicative to introduce Instruments is never obligatory; that is, a verb root can combine with an instrumental prepositional phrase to express nearly the

same meaning expressed by its applicative counterpart. Second, the instrumental function of the applicative across Bantu languages is very uniform compared to the Location-related functions (see §5.3.3), which show wide variation. Third, lexicalized applicative forms which would reflect an early instrumental function are almost completely absent in Bantu.

With respect to the function/usage of the applicative counterparts of (122) and (124), Trithart (1983: 181) suggests that the instrumental function of the applicative suffix *-id in Bantu is an extension of the usage of this suffix with manner adverbs and that instrumental applicative constructions are used when the instrumental applied phrase functions as a discourse topic (for a detailed account and evidence from individual Bantu languages see Trithart 1983: 181 and ff.). Similarly, Peterson (2007: 83 and ff.) reports that in Hakha Lai and Wolof applicative constructions (not necessarily instrumental) are used in discourse for applicative objects exhibiting topic continuity or topicworthiness.

Finally, although not discussed here, it has been observed that an erstwhile instrumental adjunct in the construction of a given verb root can appear as the subject of the applicative stem of the same verb root, even in languages where reflexes of the applicative suffix *-id cannot be used to introduce Instrumental applied phrase. This has been noted by Creissels (2004: 9) for Tswana, as shown by comparing (126), where the NP 'meat' appears in an oblique instrumental phrase with the root 'flavor', and (127), where 'meat' is the subject of the applicative stem 'flavor' and triggers a subject index on the verb.

Tswana (S31; Creissels 2004: 9)

(126) *O ne a apaya kgaka a šaba bogobe ka nama ya yone*

<i>ú-nè</i>	<i>à-àpaj-à</i>	<i>qáká</i>	<i>á-fàb-à</i>
S3:1-AUX	S3:1.SEQ-cook-FV	CL9.guinea.fowl	S3:1.SEQ-flavor-FV
<i>bù-χǎbé</i>	<i>ká</i>	<i>námà</i>	<i>já-jǎné</i>
CL14-porridge	INSTR	CL9.flesh	CL9.GEN-CL9.PRO

‘He cooked the guinea-fowl and flavored the porridge with its flesh.’

Tswana (S31; Creissels 2004: 9)

(127) *Nama e šabela bogobe*

<i>námà</i>	<i>í-fáb-él-à</i>	<i>bù-χǎbè</i>
CL9.meat	S3:9-flavor-APPL-FV	CL14-porridge

‘Meat is used to flavor the porridge/Meat flavors the porridge.’

The same function is reported by Trithart (1983: 180) and Peterson (2007: 152) for other Bantu languages where reflexes of the PB causative suffix *-i/*-ici also function as applicative suffixes.

5.3.3 Location-related semantic roles

In her survey of 40 Bantu languages, Trithart (1983) notes that the following locative-related functions of the *-id applicative appear from northwestern Bantu down to southern Bantu: (i) the assignment of a semantic role of Goal to a NP in combination with verbs of motion and non-motion; (ii) the assignment of a semantic role of Source to a NP in combination with verbs such as ‘leave’, ‘come’, ‘eat’ and ‘drink’; (iii) its appearance with ‘in’ and ‘at’ applied locative phrases. Further, she notes that within all Bantu zones except zone A, the applicative can occasionally be used to express meanings such as ‘near’, ‘on’, ‘through’, ‘over’ and ‘in front’. Within zones B to S, the

applicative may acquire “specialized” uses with verbs such as ‘sit’, ‘sleep’, ‘lean’ and ‘lie’ as well as discourse-related functions (cf. §5.4). Two extensive case studies of the interaction between verb classes and locative applied phrases are Rugemalira (1993) for Nyambo and Jerro (2016a) for Ruanda.

5.3.3.1 With non-(translational) motion verb roots

In many Bantu languages, non-(translational) motion verb roots require an applicative derivation to express General Location or other Location-related semantic roles (cf. Trithart 1993: 160 and Rugemalira 2004 for a list of some languages). Whether the applicative is required for expressing the General Location of the event is determined on a root-by-root basis within individual languages.

For instance, in Nyambo ‘talk’ requires the applicative derivation to indicate General Location (128)-(129),⁸⁰ while ‘find’ does not (130)-(131).

Nyambo (JE21; Rugemalira 1993: 71)

(128) *gamb-ir-á omu-nju*
 speak-APPL-FV LOC-house
 ‘speak in the house’

Nyambo (JE21; Rugemalira 1993: 71)

(129) **gamb-á omu-nju*
 speak-FV LOC-house
 (intended meaning: ‘speak in the house’)

⁸⁰ Rugemalira (1993) finds that in his 530 Nyambo verb sample, over 71% of verb roots require the applicative suffix to add a locative phrase expressing General Location.

Nyambo (JE21; Rugemalira 1993: 71)

- (130) *a-ka-mu-sang-á* *omu-nju*
he-PST-her-find-FV LOC-house
'He found her in the house.'

Nyambo (JE21; Rugemalira 1993: 71)

- (131) **a-ka-mu-sang-ir-á* *omu-nju*
he-PST-her-find-APPL-FV LOC-house
(intended meaning: 'He found her in the house.')

With non-motion verb roots that do not require the applicative to combine with a phrase expressing general Location, e.g. 'store' in (132), the applicative can add a temporal locative reading, as in (133).

Nyambo (JE21; Rugemalira 1993: 80)

- (132) *biik-á* *X* *omu-nju*
store-FV x LOC-house
'store X in the house'

Nyambo (JE21; Rugemalira 1993: 80)

- (133) *biik-ir-á* *X* *omu-nju*
store-APPL-FV x LOC-house
'store X when in the house'

Rugemalira (1993: 80) refers to semantic role of *omunju* in (132) as a spatial locative, while that of *omunju* in (133) as a temporal locative.

In Ndebele, the root 'cry' requires the applicative to express General Location (134)-(135), while 'cook' does not (136).

Ndebele (S44; Sibanda 2016: 316)

- (134) *u-sane* *lu-Ø-khal-a*
CL11-baby s3:11-TNS-cry-a
'The baby is crying.'

Ndebele (S44; Sibanda 2016: 316)

- (135) *u-sane* *lu-Ø-khal-el-a* *pha-ndle*
CL11-baby s3:11-TNS-cry-APPL-a CL16-outside
'The baby is crying outside.'

Ndebele (S44; Sibanda 2016: 315)

- (136) *u-mama* *u-Ø-phek-a* *i-lambazi* (*pha-ndle*)
CL1a-mother s3:1a-TNS-cook-a CL5-porridge (CL16-outside)
'Mother is cooking the porridge (outside).'

In combination with non-(translational) motion verb roots, the applicative can also introduce an applied phrase with the semantic role of Source, as the following examples from Tumbuka show.

Tumbuka (N21; Chavula 2016: 128)

- (137) *gule* *wa-ka-yamb-a*
CL1.dance s3:1-PST-start-FV
'The dance started.'

Tumbuka (N21; Chavula 2016: 128)

- (138) *gule* *wa-ka-yamb-il-a* *mu-nyumba*
CL1.dance s3:1-PST-start-APPL-FV CL18-CL3.house
'The dance started from the house.'

In some cases, without further context, the semantic interpretation of an applied phrase with a non-(translational) motion verb root can be ambiguous between General Location and Goal. As seen in (139), the verb 'grow' in Ndebele must combine with the applicative to license either a Location ('at the neighbors') or a Goal ('towards/into the neighbors').

Ndebele (S44; Sibanda 2016: 323)

- (139) *isi-hlahla* *si-ya-khul-el-a* *ko-makhelwane*
CL7-tree s3:7-TNS-grow-APPL-a LOC-neighbor
'The tree is growing towards/into the neighbors (place).'
'The tree is growing at the neighbors (place).'

5.3.3.2 With motion verb roots

In some languages, translational motion verb roots such as 'run' in (140) require an applicative to introduce the semantic role of either General Location or Goal, as in (141).

Ndebele (S44; Sibanda 2016: 318)

- (140) *u-themba* *u-ya-gijim-a*
CL1a-T. s3:1a-TNS-run-a
'Themba is running.'

Ndebele (S44; Sibanda 2016: 318)

- (141) *u-themba* *u-Ø-gijim-el-a* *e-nkundleni*
CL1a-T. s3:1a-TNS-run-APPL-a LOC-stadium
'Themba is running to/in the stadium.'

The use of the applicative construction to assign the semantic role of Goal to motion verbs is the most widely described "locative" use of this suffix in Bantu (Trithart 1983: 160). In fact, Cann & Mabugu (2007) and De Kind & Bostoen (2012) propose an underlying Goal meaning from which they derive the other synchronic functions of the applicative in Shona and Luba-Kasai, respectively.

In some languages, various verbs of motion can optionally combine with a phrase expressing the Location of the event without the need of an applicative.⁸¹

Consider the following examples.

Chewa (N31; Trithart 1983: 168)

- (142) *a-na-thamang-a* (*ku* *sukulu*)
he-PST-run-FV at school
'He ran (at school).'

Tswana (S31; Creissels 2004: 11)

- (143) *Ke tlaa taboga ko tseleng*
kì-tlàà-tábuχ-à (*kó* *tsflè-ŋ*)
S1S-FUT-run-FV LOC CL9.road-LOC
'I will run (on the road).'

Lunda (L52; Kawasha 2003: 261)

- (144) *wahóloka mukaloña*
wu-a-hólok-a (*mu-ka-loña*)
S3:1-PST-fall.down-FV LOC-CL12-river
'He fell down ((while he was standing) in the river).'

When the verb roots 'run' in (142) and (143) and 'fall down' in (144) combine with an applicative, the semantic role of the obligatorily present applied phrase is not general Location but Goal.

Chewa (N31; Trithart 1983: 168)

- (145) *a-na-thamang-ir-a* *ku* *sukulu*
he-PST-run-APPL-FV at school
'He ran to/towards school.'

⁸¹ The statement about the optionality of the phrase expressing general Location in (142)-(144) is based on the Tswana data. I am assuming that the same is true in other Bantu languages.

Tswana (S31; Creissels 2004: 11)

(146) *Ke tlaa tabogela ko tseleng*

kì-ttàà-tábúχ-él-à kó tsflè-ŋ

S1S-FUT-run-APPL-FV LOC CL9.road-LOC

'I will run to the road.'⁸²

Lunda (L52; Kawasha 2003: 261)

(147) *Wahólokela mukalóña*

wu-a-hólok-el-a mu-ka-lóña

S3:1-PST-fall.down-APPL LOC-CL12-river

'He fell into the river.'

In (145) and (146) the applicative indicates that the action of running moves towards a certain direction rather than taking place *at* a location. Similarly, while in (144) the action of falling takes place while the subject is already in the river, in (147) the river is the goal of the falling event. In Tswana (and presumably in other languages too), the applied phrase in (146) cannot be omitted from the construction.

The applicative can also combine with motion verb roots which may allow an optional Source component in their non-derived form.⁸³ Consider the following examples.

Tswana (S31; Creissels 2004: 12)

(148) *Ke tlaa huduga ko Kanye*

kì-ttàà-húdúχ-à (kó kàŋé)

S1S-FUT-move-FV LOC CL1.Kanye

'I will move (from Kanye).'

⁸² See Schaefer (1985: 73) for a list of other Tswana verbs which, in combination with the applicative and a prepositional phrase, show the same behavior as 'run'.

⁸³ The statement about the optionality of the phrase expressing the Source in examples (148)-(151) is based on Tswana and Luba-Kasai data and generalized to other Bantu languages.

Shona (S11-15; Cann & Mabugu 2007: 15)

- (149) *Beatrice a-ka-dzok-a ((ku-bv-a) ku-chi-koro)*
CL1a.Beatrice s3:1-PST-return-FV from CL17-CL7-school
'Beatrice returned (from school).'

Luba-Kasai (L31a; De Kind & Bostoen 2012: 119)

- (150) *mu-àna ù-dì ù-nyeem-a (mu-ngàngà)*
CL1-child s3:1-be s3:1-escape-FV CL1-doctor
'The child escapes (from the doctor).'

Lunda (L52; Kawasha 2003: 161)

- (151) *hañ-a (ku-ka-lóña)*
chase-FV LOC-CL12-river
'chase (from the river)'

When the applicative combines with 'move (from)', 'return (from)' or 'escape (from)', the obligatorily present applied phrase is assigned the semantic role of Goal. This is shown in the applicative counterparts of (148) - (151) below.

Tswana (S31; Creissels 2004: 12)

- (152) *Ke tlaa hudugela ko Gaborone*
kì-tlàà-húdíχ-él-à kó χàbúróni
S1S-FUT-move-APPL-FV LOC CL1.Gaborone
'I will move to Gaborone.'

Shona (S11-15; Cann & Mabugu 2007: 15)

- (153) *Beatrice a-ka-dzok-er-a ku-chi-koro*
CL1a.Beatrice s3:1-PST-return-APPL-FV CL17-CL7-school
'Beatrice went back to school.'

Luba-Kasai (L31a; De Kind & Bostoen 2012: 119)

- (154) *mu-àna ù-dì ù-nyeem-en-a mu-ngàngà*
CL1-child s3:1-be s3:1-escape-APPL-FV CL1-doctor
'The child escapes/flees to the doctor.'

Lunda (L52; Kawasha 2003: 161)

(155) *hañ-il-a ku-ka-lóña*
chase-APPL-FV LOC-CL12-river
'chase toward the river'

The use of the applicative illustrated in (152) - (155) is reported in several other Bantu languages, among which are Nyakyusa, Haya, Hangaza (Rugemalira 2004: 287), Nyambo (Rugemalira 1993: 82-83), Makhuwa (van der Wal 2009), and Swahili (Gérard Philippson p.c.). Recall from §4.2.1 that in Tswana and in Bantu more generally, it is not possible to express Source and Goal of movement within the frame of a single-verb construction, that is, it is not possible to add a phrase expressing Source in (152) to (155) without adding another verb form too. Some authors (cf. Kawasha 2003) analyze the contrast between (151) and (155) by claiming that the applicative changes the semantic role of the locative phrase from that of Source, in the construction of the verb root, to that of Goal, in the construction of the applicative stem. Perhaps a more economical analysis is to claim that the applicative usually adds an applied phrase with the semantic role of Goal to motion verbs. Under this conceptualization, the Ndebele construction in (141), the Chewa, Tswana and Lunda constructions in (145)-(147) and the Tswana, Shona, Luba-Kasai and Lunda constructions in (152)-(155) all fall under the same "type". A disadvantage of adopting the analysis of Kawasha (2003) is that it is not clear what the difference between (145)-(147) and (152)-(155) on one hand, and (141) (in its Goal reading), on the other hand, would be.

It should be noted that in contrast to the use of the applicative, some Bantu languages can specify the difference between General Location and motion towards a Goal by resorting to the use of different locative markers (prepositions or noun class

markers). This is the case in Luba-Kasai, where the verb root ‘go’ can combine with semantically different locative phrases without the need of an applicative derivation. Compare (156) and (157), where the use of *mu* versus *ku* indicates whether the walking takes place at a location or towards a location.

Luba-Kasai (L31a; De Kind & Bostoen 2012: 119)

(156) *ù-di ù-y-a mu n-jila*
 s3:1-be s3:1-go-FV LOC.CL18 CL1n-road
 ‘She is walking on the road.’

Luba-Kasai (L31a; De Kind & Bostoen 2012: 119)

(157) *ù-di ù-y-a ku n-jila*
 s3:1-be s3:1-go-FV LOC.CL17 CL1n-road
 ‘She is walking to the road.’

Besides the semantic role of Goal, depending on the lexical meaning of the motion verb root, the applicative can also introduce applied phrases with other Location-related semantic roles. For instance, motion verbs such as ‘cross’ (158) may combine with the applicative to introduce the semantic role of Source (159).

Ruanda (JD61; Jerro 2016a: 56)

(158) *Mukamana y-Ø-ambuts-e (mu) n-yanja*
 M. s3:1-PST-CROSS-PERF CL18 CL9-ocean
 ‘Mukamana crossed the ocean.’

Ruanda (JD61; Jerro 2016a: 56)

(159) *Karemera y-Ø-ambuk-iy-e i Mombasa (mu) n-yanja*
 Karemera s3:1-PST-CROSS-APPL-PERF CL23 Mombasa CL18 CL9-ocean
 ‘Karemera crossed the ocean from Mombasa.’

Maganga and Schadeberg (1992: 157) also report some verbs in Nyamwezi for which the applicative derivation adds the semantic role of Source: *-mga* ‘leave’ / *-kw-ɪng-ɪl-a*

‘leave from’,⁸⁴ *-shooka* ‘return’ / *-shook-el-a* ‘return from’ (cf. also Trithart 1983: 160 for examples in other Bantu languages).

In combination with motion verbs such as ‘enter’ (160) and ‘go’, the applicative can license the semantic role of Path (of motion) (161).

Ruanda (JD61; Jerro 2016a: 55)

(160) *n-di* *kw-injir-a* *mu* *n-zu*
 s1s-be INF-enter-IPF CL18 CL9-house
 ‘I am entering the house.’

Ruanda (JD61; Jerro 2016a: 55)

(161) *n-di* *kw-injir-ir-a* *mu* *mu-ryango* (*mu* *n-zu*)
 s1s-be INF-enter-APPL-IPF CL18 CL3-door CL18 CL9-house
 ‘I am entering (the house) through the door.’⁸⁵

A similar behavior is observed in Luba-Kasai. In this language, ‘go’ can combine with a locative goal/direction phrase in its non-derived form (cf. (162) and (157)).

When ‘go’ combines with the applicative, the semantic role of the applied phrase is that of Path (163), or “transit” in De Kind and Bostoen’s words.

Luba-Kasai (L31a; De Kind and Bostoen 2012: 110)

(162) *ng-èndààmùshingà* *ù-di* *ù-y-a* (*ku* *ci-salu*)
 CL1n-merchant s3:1-be s3:1-go-FV LOC.CL17 CL7-market
 ‘The business man is going (to the market).’

⁸⁴ In Nyamwezi, in addition to the applicative suffix *-il/-el*, there is a ‘long’ applicative extension *-il/-eel*. This is probably derived from the short applicative by reduplication and subsequent shortening (Maganga and Schadeberg 1992: 157).

⁸⁵ Jerro (2016a: 55) observes this behavior in Ruanda with verbs which lexicalize some sort of path in their meaning, such as ‘enter’, ‘exit’, ‘descend’, ‘ascend’ and ‘climb’.

Luba-Kasai (L31a; De Kind and Bostoen 2012: 110)

- (163) *ng-èndààmùshingà* *ù-di* *ù-y-il-a* *ku* *ci-salu*
CL1n-merchant S3:1-be S3:1-go-APPL-FV LOC.CL17 CL7-market
'The businessman is going via the market.' (*'The businessman is going to the market.')

Similar examples are reported by Chavula (2016) for Tumbuka.

5.3.3.3 Participant locative vs. event locative

For certain verb roots in some Bantu languages (see Rugemalira 2004: 288 for a list), the applicative construction is necessary for expressing the General Location where the event/action takes place. Rugemalira (1993: 81, 2004: 288) refers to this as “event locative” Without the applicative, the verb roots can allow a Specific Location of a participant of the event/action. Rugemalira (1993: 81, 2004: 288) refers to this as “participant locative” For instance, in Nyambo, ‘cook’ and ‘wrap’ can combine with a locative phrase indicating a Specific Location, e.g. “inside” the vessel of cooking (164) or the wrapping of an object in a banana leaf (165) without the need of an applicative derivation.

Nyambo (JE21; Rugemalira 1993: 81)

- (164) *teek-á* *omu-nyungu*
cook-FV LOC-pot
'cook in the pot'

Nyambo (JE21; Rugemalira 1993: 82)

- (165) *semb-á* *omu-rubabi*
wrap-FV LOC-leaf
'wrap in a leaf'

To introduce the General Location where the cooking and wrapping take place, these verb roots need to combine with an applicative as shown in (166) and (167).

Nyambo (JE21; Rugemalira 1993: 82)

- (166) *teec-er-á omu-nju*
 cook-APPL-FV LOC-house
 ‘cook in the house’

Nyambo (JE21; Rugemalira 1993: 82)

- (167) *semb-ér-á omu-nju*
 wrap-APPL-FV LOC-house
 ‘wrap in the house’

An opposite pattern to the one described for Nyambo is found in Tswana (Creissels 2004). In Tswana, ‘cook’ can optionally combine with a locative phrase expressing the General Location where the cooking takes place, e.g. ‘in the yard’ in (168) without the need of any applicative derivation.

Tswana (S31; Creissels 2004: 13)

- (168) *Lorato o tlaa apaya motogo ko jarateng*
lòrátǎ ú-tláá-àpàj-à mù-tǎχǎ kó dzáráté-ŋ
 CL1.Lorato S3:1-FUT-cook-FV CL3-porridge LOC CL9.yard-LOC
 ‘Lorato will cook the porridge in the yard.’

However, to express the vessel as the location of cooking, the verb root ‘cook’ requires the applicative.

Tswana (S31; Creissels 2004: 13)

- (169) *Lorato o tlaa apeela motogo mo pitseng e tona*
lòrátǎ ú-tláá-àpè-èl-à mù-tǎχǎ mó pítse-ŋ
 CL1.Lorato S3:1-FUT-cook-APPL-FV 3-porridge LOC CL9.pot-LOC
é tónà
 CL9.big CL9.LNK
 ‘Lorato will cook porridge in the big pot.’

5.4 Functions of Type B applicative constructions

In the preceding sections we have seen that in Type A applicative constructions, the applicative licenses an applied phrase with a variety of semantic roles. In Type B applicative constructions, besides expanding the argument structure of a given verb root (with or without a concomitant increase in the syntactic valence), the applicative has semantic/pragmatic effects on the applied phrase or on the entire clause.

5.4.1 Extension of the scope of the locative applied phrase to the whole event

In some languages, the presence of the applicative widens the scope of a locative applied phrase to the entire clause. Consider (170) and (171).

Shona (S11-15; Cann & Mabugu 2007: 18)

(170) *Patrick* *a-ka-on-a* *va-sikana* *mu-gomo*
CL1a.P. s3:1-PST-see-FV CL2-girl CL18-CL5.mountain
'Patrick saw the girls [while they were] on the mountain.'

Shona (S11-15; Cann & Mabugu 2007: 18)

(171) *Patrick* *a-ka-on-er-a* *va-sikana* *mu-gomo*
CL1a.P. s3:1-PST-see-APPL-FV CL2-girl CL18-CL5.mountain
'Patrick saw the girls [while he was] on the mountain.'

Cann & Mabugu (2007) say that in (170), where the verb root 'see' is in its underived form, the location of the object NP 'girls' must be on the mountain but the location of the subject doing the seeing is vague: he may or may not have been on the mountain when he saw the girls. On the other hand, in (171), where the verb root 'see' undergoes applicative derivation, the event of Patrick seeing the girls is true if and only if he was on the mountain while seeing the girls.

Hyman et al. (1980) reports a similar situation in Haya (cf. also Trithart 1977).

Haya (JE22, Hyman et al. 1980: 578)

- (172) *η-ka-bón-a kat' ómú-nju*
I-PST3-see-FV Kato in-house
'I saw Kato [while he was] in the house.'

Haya (JE22; Hyman et al. 1980: 578)

- (173) *η-ka-bón-el-a kat' ómú-nju*
I-PST3-see-APPL-FV Kato in-house
'I saw Kato [while I was] in the house.'

Hyman et al. (1980) argue that in (172) the locative 'in the house' is part of the verb complement (i.e. it modifies 'Kato'), while in (173) the locative 'in the house' is outside of the verb complement and relates to the entire assertion, including the subject relationship to the action; that is, the locative has scope over the entire event (cf. also Grégoire 1998).

Trithart (1983: 170) observes that this function is present in all Bantu zones except zone A. She calls the function of the applicative suffix in (173) "implicit contrast" and argues that the applicative brings in additional information (i.e. the fact that the subject must be located within the house) with scope over the entire sentence. A contrast identical to that of Shona and Haya is reported by Rugemalira (2004: 288) for Swahili.

It should be noted that Rugemalira (2004) includes the function described in this section under the function "participant locative" vs. "event locative" described in §5.3.3.3. In particular, Rugemalira argues that constructions such as (171) and (173), where an applicative is present are instances of "event locative", or alternatively, "subject orientation", while constructions such as (170) and (172), without the

applicative, are instances of “participant locative” or “object orientation”. However, compared to the function described in §5.3.3.3, the applicative is not necessary to introduce the Location where the event takes place, e.g. ‘on the mountain’ or ‘in the village’ but rather when present, the locative phrase becomes obligatory, and the applicative broadens the scope of the locative phrase to the whole clause.

5.4.2 Narrow focus on locative and instrumental applied phrases

In some Bantu languages the applicative is also a strategy for placing focus on the applied phrase.⁸⁶ This focus function is usually restricted to locative and instrumental phrases. It appears that this function was observed already in the nineteenth century by Bentley (1887) for some variety of Kongo (H10). Bentley (1887: 628) notes that the “the applied form is not only used in interrogative sentences [...] but also in making an emphatic and definite statement as to the *reason, purpose, aim, means, manner, instrument, locality, &c.*, of an action.” (emphasis in the original). More recently, the focalizing function of the applicative, especially with locative phrases, has been reported for Ruanda (Kimenyi 1980, Trithart 1983), Bemba (Marten 2003), Tswana (Creissels 2004), Lunda (Kawasha 2003: 159), Shona (Cann & Mabugu 2007), Luba-Kasai (De Kind and Bostoen 2012: 117), Swahili (Port 1981, Marten 2003, Poeta 2011) and Nyole (Wicks 2006), among others.

When describing this function, not all authors use the same term to refer to it. Some use “emphasis”, others “concept strengthening”, and yet others “focus”. In fact, one conclusion that can be drawn from the following discussion is that probably the

⁸⁶ Outside of Bantu, see Voisin (2006) for an account of the applicative as a focalizing device in Wolof (West-Atlantic, Niger-Congo).

applicative can be used – depending on the language and on the construction – to express more than one type of “focus” (Watters 1979, Dik et al. 1981, Lambrecht 1994, van der Wal 2016). Definitions of focus vary from author to author (cf. Vallejos Yopán 2009: 403 and ff.). For instance, for Dik et al. (1981: 42) “focus” is a pragmatic function “which represents what is relatively the most important or salient information in a given setting.” For Lambrecht (1994: 213), “focus” is “the semantic component of a pragmatically structured proposition whereby the assertion differs from the presupposition”, where “(pragmatic) presupposition” means a set of propositions the speaker assumes the hearer already knows or is ready to take for granted when the sentence is uttered, and “pragmatic assertion” means the proposition the hearer is expected to know or take for granted as a result of hearing such a proposition (Lambrecht 1994: 52). Further, within focus studies, a distinction is usually made between “narrow” focus, where only a single constituent in a clause is focused, and “broad” focus, where more than one constituent is under the domain of focus (Vallejos Yopán 2009: 405 and ff.)

In what follows, I reproduce the terms used by individual authors to refer to the pragmatic effect conveyed by the applicative on locative phrases and then try to place this pragmatic effect within the system of focus types of Dik et al. (1981).

Kimenyi (1980) uses the term “emphasis on the locative NP” to describe the contrast between (174) and (175), which at first glance appear synonymous.

Ruanda (JD61; Kimenyi 1980: 37)

(174) *ábáána* *ba-ra-kin-a* *amákáráta* *kú* *mééza*
 children they-PRS-play-ASP cards on table
 ‘The children are playing cards on the table.’

Ruanda (JD61; Kimenyi 1980: 37)

(175) *ábáána* *ba-ra-kin-ir-a* *amákáráta* *kú* *mééza*
 children they-PRS-play-APPL-ASP cards on table
 ‘The children are playing cards on the table.’

Kimenyi states that while in (174) everything in the clause is new information, in (175) everything is old information except the locative NP ‘on the table’. A clause such as (175) could be used, for instance, in answering a question that asks *where* the action took place (cf. also Trithart 1983: 171 who labels the function illustrated in (175) as “new information”). Assuming that Kimenyi’s description in terms of new vs. old information perhaps has to do with presupposed vs. asserted information, the “emphasis” described by Kimenyi would be (narrow) “completive” focus in the typology of Dik et al (1981: 60), that is, focus information which does not involve contrast and fills in a gap in the pragmatic knowledge of the hearer. Clearest cases of “completive” focus are *wh*- questions.

Like Kimenyi (1980), Cann & Mabugu (2007: 18) state that the applicative in Shona can “emphasise the event and where it specifically took place”. Specifically, the applicative may have a “contrastive” focus interpretation. Compare (176) and (177).

Shona (S11-15; Cann & Mabugu 2007: 19)

(176) *mu-biki* *a-no-bik-a* *sazda* *pa-moto*
 CL1-cook S3:1-PRS-cook-FV CL5-sazda CL16-CL9.fire
 ‘The cook is cooking sazda on an open fire.’

Shona (S11-15; Cann & Mabugu 2007: 19)

(177) *mu-biki* *a-no-bik-ir-a* *sazda* *pa-moto*
 CL1-cook S3:1-PRS-cook-APPL-FV CL5-sazda CL16-CL9.fire
 ‘The cook is cooking sazda on an open fire.’⁸⁷

According to Cann & Mabugu (2007), (177) indicates that the subject is cooking sazda on an open fire instead of another place. This same so-called “emphasizing” effect can also occur with applicative forms of verbs which, in their non-derived form, imply the presence of a Source.

Shona (S11-15; Cann & Mabugu 2007: 20)

(178) *Patricia* *a-ka-simuk-a* *(ku-Edinburgh)*
 CL1a.P. S3:1-PST-depart-FV CL17-E.
 ‘Patricia departed from Edinburgh.’

Shona (S11-15; Cann & Mabugu 2007: 20)

(179) *Patricia* *a-ka-simuk-ir-a* *ku-Edinburgh*
 CL1a.P. S3:1-PST-depart-APPL-FV CL17-E.
 ‘Patricia departed from Edinburgh.’

Cann & Mabugu (2007) observe that when the underived verb root ‘depart’ is used in (178), there is no information about whether the syntactically optional Source of departure is also the initial point of the travel (e.g. Edinburgh might be a stop over). In (179), however, ‘Edinburgh’ must be interpreted as the initial point of the travel. The interpretation can also allow “contrastive” focus (i.e. Patricia departed from Edinburgh instead of somewhere else). The “contrastive” focus interpretation reported by Cann & Mabugu would be labelled as (narrow) “selective” focus in the typology of Dik et al. (1981: 62), that, is focus information which “selects one item from among a

⁸⁷ For another possible reading of (177) see §5.4.3.

presupposed set of possible values.” Unlike “completive” focus, “selective” focus implies contrast (e.g. it is X and not Y).

Similarly, Kawasha (2003) indicates that with some Lunda verb roots, e.g. ‘teach’ in (180), the applicative “places an emphasis on the location/setting of the event or state” (181).

Lunda (L52; Kawasha 2003: 159)

(180) *tañish-a* *ku-Ndola*
teach-FV LOC-Ndola
‘teach in Ndola’

Lunda (L52; Kawasha 2003: 159)

(181) *tañish-il-a* *ku-Ndola*
teach-APPL-FV LOC-Ndola
‘teach in Ndola’

Wicks (2006), too, reports the “emphatic” use of the applicative in Nyole with locative phrases. According to Wicks (2006), a verb root that does not require the applicative to license a locative phrase (182) can combine with the applicative (183) and the result is “stronger emphasis” on the location of the action. The same root can also combine with the applicative and a locative clitic (184) and the result is still “stronger emphasis”.

Nyole (JE35; Wicks 2006: 100)

(182) *a-loma* *mu* *hibiina*
s3:1-talks in class
‘He talks in class.’

Nyole (JE35; Wicks 2006: 100)

(183) *a-lom-er-a* *mu* *hibiina*
s3:1-talks-APPL-FV in class
'He talks in class.' (emphasis in the original)

Nyole (JE35; Wicks 2006: 100)

(184) *a-lom-er-a-mo* *mu* *hibiina*
s3:1-talks-APPL-FV-LOC.CL18 in class
'He talks in class.' (emphasis in the original)

Without additional information, it is hard to determine whether Kawasha's (2003) and Wicks' (2006) "emphatic" uses of the applicative in Lunda and Nyole are more like "completive" focus (cf. Ruanda) or more like "selective" focus (cf. Shona).

Marten (2003: 11) claims a similar function on locative and instrumental phrases in Bemba and Swahili⁸⁸ and labels it "concept strengthening", defined as a "conceptual-pragmatic function of applied verbs as an instruction to the hearer to create a stronger concept" (Marten 2003: 10). In Marten's discussion, concept strengthening might or might not be concomitant with a formal increase in verbal valency. An example from Bemba is given in (185)-(186). In (185), 'eat' appears in its non-derived form and the clause could be used as an answer to a 'what happened' question. In (186), 'eat' appears in combination with the applicative and the result is "emphasis" on the place where the eating is happening.

⁸⁸ The "emphasizing" function in Swahili was documented also by Port (1981: 80) who states that Swahili intransitive verbs such as 'die' combine with the applicative suffix "primarily for comment on the relevance of the location to the events occurring there."

Bemba (M42; Marten 2003: 11)

(185) *n-de-ly-a* *mumuputule*
s1s-PRS-eat-FV in.room

‘I am eating in the room.’ (“neutral”, as an answer to: What are you doing?)

Bemba (M42; Marten 2003: 11)

(186) *n-de-li-il-a* *mumuputule*
s1s-PRS-eat-APPL-FV in.room

‘I am eating in the room.’ (“emphatic”, as an answer to: Where are you eating?)

While (185) has a broad or “predication focus” in Dik et al.’s (1981) terminology, it appears that in (186), the applicative provides (narrow) “completive” focus. This narrow focus effect can be obtained also when the applicative introduces an instrumental applied phrase, as in the following examples from Swahili. While (187) is claimed to be pragmatically unmarked, (188) is preferred as an answer to the question ‘How did Ms. Sauda cut the bread?’

Swahili (G41-43; Marten 2003: 8)

(187) *Bi Sauda a-li-kat-a* *mkate kwa kisu*
Ms S. s3:1-PST-cut-FV bread with knife

‘Ms. Sauda cut bread with a knife.’

Swahili (G41-43; Marten 2003: 8)

(188) *Bi Sauda a-li-kat-i-a* *mkate kisu*
Ms S. s3:1-PST-cut-APPL-FV bread knife

‘Ms. Sauda cut bread with a knife.’

In a recent study, Poeta (2011) explores several cases of what she calls “non-standard applicatives” in the Helsinki Corpus of Swahili and by consulting native speakers’ judgments. She addresses the following pairs of non-applicative/applicative verbs: *anguk-a/anguk-i-a* ‘fall’, *kuf-a/kuf-i-a* ‘die’, *kul-a/kul-i-a* ‘eat’, *ka-a/kal-i-a* ‘sit’ and

pik-a/pik-i-a ‘cook’. She finds that the applicative version of the verbs “emphasizes” where the event takes place rather than the event *per se*. As an illustrative example, consider the following question and answer pairs with the non-applicative and applicative versions of the verb ‘die’.

Swahili (G41-43; Poeta 2011: 42)

[Context: (189) is an answer to the question: ‘What happened to his father?’]

(189)	<i>a-li-kuf-a</i>	<i>bahari-ni/</i>	<i>*a-li-f-i-a</i>	<i>bahari-ni</i>
	S3:1-PST-die-FV	sea-LOC	S3:1-PST-die-APPL-FV	sea-LOC
	‘He died at the sea.’ ⁸⁹			

Swahili (G41-43; Poeta 2011: 42)

[Context: (190) is an answer to the question: ‘Where did his father die?’]

(190)	<i>a-li-kuf-a</i>	<i>bahari-ni/</i>	<i>a-li-f-i-a</i>	<i>bahari-ni</i> (preferred)
	S3:1-PST-die-FV	sea-LOC	S3:1-PST-die-APPL-FV	sea-LOC
	‘He died at the sea.’			

In (189), where the question is about the event of dying, the applicative form of the verb ‘die’ in the answer was considered ungrammatical by two speakers and infelicitous by a third one. However, in (190), where the question is about the specific location of the event, the applicative form was preferred by all three speakers (Poeta 2011: 43). In (190), as in previous examples from other Bantu languages, it appears that the applicative is used for “completive” focus, i.e. as a preferred answer to a *wh*- question. Similar results hold true in Poeta’s study for the applicative forms of the verbs ‘fall’, ‘eat’, ‘cook’ and ‘sit’. For the applicative form of ‘sit’, two contexts are possible: as an

⁸⁹ Interestingly, Poeta (2011) notes that one speaker reported that the non-applicative form can be used to present the listener with the death of X person. On the other hand, when the applicative form is used, the listener already knows that X is dead but he wants to know where X died (Poeta 2011: 40). This is fully consistent with the narrow focus function of the applicative.

answer to a question about the location of the sitting event (191), or in what she calls “contrastive” focus type utterances (i.e. X sat on the chair, not on the bed) as in (192).

Swahili (G41-43; Poeta 2011: 44)

[Context: (191) is an answer to the question: ‘Where did he sit?']

(191) *a-li-ka-a* *baraza-ni/* *a-li-ka-li-a* *baraza-ni* (preferred)
 s3:1-PST-sit-FV baraza-LOC s3:1-PST-sit-APPL-FV baraza-LOC
 ‘He sat on the baraza.’⁹⁰

Swahili (G41-43; Poeta 2011: 44)

[Context: (192) is an answer to the question: ‘Do you want to sit on the bed or on the chair?']

(192) *ni-ta-ka-a* *kiti-ni/* *ni-ta-ka-li-a* *kiti* (preferred)
 s1s-FUT-sit-FV chair-LOC s1s-FUT-sit-APPL-FV chair
 ‘I will sit on the chair.’

It seems that in Swahili too, as in Shona (see (177)), the applicative conveys (narrow) selective focus in (192).

Creissels (2004) observes that the applicative in Tswana can be used to focalize only locative applied phrases. More precisely, this focalizing function is available only with verbs that in their non-applicative form can combine with a locative phrase expressing General Location, such as ‘cook’ (168) and ‘run’ (143). Consider these two derived verbs in (193) and (194). Caps in the free translations indicate that the constituent is somehow in focus.

⁹⁰ Poeta (2011: 44-45) notes that the applied forms of some of these verbs require the location to be expressed by the locative suffix *-ni*, while others do not permit *-ni* and the NP expressing the semantic location “looks like” a direct object.

Tswana (S31; Creissels 2004: 15)

(193) *Lorato o apeela mo jarateng*

lòrátó *ú-ápé-él-à* *mó* *dzáràté-ḡ*
CL1.Lorato s3:1-cook-APPL-FV LOC CL9.yard-LOC
'Lorato does the cooking IN THE YARD.'

Tswana (S31; Creissels 2004: 15)

(194) *Ke tlaa tabogela ko tsileng*

kì-tlàà-tábúχ-él-à *kó* *tsílè-ḡ*
S1S-FUT-run-APPL-FV LOC CL9.road-LOC
'I will run ON THE ROAD.'⁹¹

The Tswana constructions in (193) and (194) could be translated by an English cleft construction such as 'It is in the yard that Lorato does the cooking' and 'It is on the road that I will run', respectively (Denis Creissels, p.c.). Creissels (2002: 413) states that if the applicative is absent in (193) and (194), both the actions described by the verbs and the locations are presented as "new information". However, with the applicative, only the location constitutes "new" information. The Tswana examples appear to express (narrow) "completive" focus, similar to Ruanda and several other languages reviewed in this section. To provide a unified account of the grammatical and discourse functions of the applicative in Tswana, Creissels (2004) argues that the placement of constituents in immediate postverbal position and the applicative construction share two important

⁹¹ Recall that in Tswana certain verbs of movement such as *tabog* [tábúχ] 'run' in their applicative form assign the semantic role of Goal to an applied phrase (cf. §5.3.3.2). Therefore, depending on context, the applicative form of 'run' can have two functions: (i) assign the semantic role of goal to the locative phrase (e.g. 'I will run to the road'), or (ii) focalize the locative phrase expressing the general location where the event of running is taking place. For an alternative reading of constructions such as (193) and (194), see §5.4.3.

features: they are both related to appearance of syntactic object NPs and focalized constituents.

De Kind & Bostoen (2012) show that the applicative can signal what they call “assertive/informational focus” with scope on the locative phrase in Luba-Kasai. For example in answer to the *wh*- question in (195), the applicativized form of ‘put’ in (196) is a pragmatically more appropriate answer than would be the root without the applicative.

Luba-Kasai (L31a; De Kind & Bostoen 2012: 118)

(195) *maamù* *ù-di* *ù-tèèk-el-a* *dì-lòngò* *penyì?*
 mother s3:1-be s3:1-put-APPL-FV CL5-plate where
 ‘Where did mother put the plate?’

Luba-Kasai (L31a; De Kind & Bostoen 2012: 118)

(196) *ù-di* *ù-di-tèèk-el-a* *pa* *mèèsà*
 s3:1-be s3:1-O3:1-put-APPL-FV LOC.CL16 table
 ‘She puts it on the table.’

Judging from the examples, the term “assertive/informational focus” used by De Kind & Bostoen appears to be equivalent to Dik et al.’s (1981) (narrow) “completive” focus. In Luba-Kasai, the applicative can also be used with certain verb roots in “contrastive” focus answers to yes/no questions, as in (197) and (199). The contrastive focus falls on on the general location (198) or on the source of the event (200). The applicative is not required in the answers in (198) and (200), but it makes the utterance pragmatically more felicitous.

Luba-Kasai (L31a; De Kind & Bostoen 2012: 118)

(197) *maamù* *ù-di* *ù-tèèk-(el)-a* *dì-lòngò* *pa-nshì* *penyì?*
 mother s3:1-be s3:1-put-APPL-FV CL5-plate LOC.CL16-ground Q
 ‘Did mother put the plate on the ground?’

Luba-Kasai (L31a; De Kind & Bostoen 2012: 118)

(198) *tô* *ù-di* *ù-di-tèèk-el-a* *pa* *mèèsà*
no s3:1-be s3:1-o3:1-put-APPL-FV LOC.CL16 table
'No, she puts it on the table.'

Luba-Kasai (L31a; De Kind & Bostoen 2012: 118)

(199) *mu-àna* *ù-di* *ù-fùm-(in)-a* *kù-à* *mu-ngàngà* *anyì?*
CL1-child s3:1-be s3:1-come.from-APPL-FV PP.CL17-CONN CL1-doctor Q
'Does the child come from the doctor?'

Luba-Kasai (L31a; De Kind & Bostoen 2012: 118)

(200) *tô* *ù-di* *ù-fùm-in-a* *kù-à* *m-fùmù*
no s3:1-be s3:1-come.from-APPL-FV PP.CL17-CONN CL1-chief
'No, he comes from the chief.'

The use of the applicative in (198) and (200) would be labelled “replacing” focus by Dik et al. (1981: 63), that is, “a specific item in the pragmatic information of the addressee is removed and replaced by another, correct item”.

In sum, we have seen that the applicative suffix usually involves some kind of narrow or constituent focus (e.g. completive, selective, replacing) on locative and instrumental phrases (cf. Swahili).

De Kind & Bostoen (2012) agree with Creissels (2004) that the applicative’s syntactic function of licensing a (usually) immediately postverbal object may explain why the applicative has developed a focus function in relation to locative phrases, which usually do not occur in immediately postverbal focus position. De Kind & Bostoen further argue that the focalizing function of the applicative in Bantu can only be accounted for by positing that the applicative’s original meaning in PB was Goal and not Beneficiary, contra Trithart’s (1983) proposal. In particular, De Kind & Bostoen

(2012: 120) argue that positing an underlying Goal meaning for the applicative, and considering that Goals are usually spatial/locative, explains the extension of the applicative effect of introducing applied phrases in immediately postverbal focus position to focalizing locative phrases which usually do not occur in this focus position.

With respect to the possible origins of the focus function of the applicative, Creissels (2004) observes that knowing how extensive is the use of the applicative as a focalizing device within Bantu languages is crucial to determine whether this use is an innovation or a relic of a usage already present in the proto-language. He suggests that the latter is more probable under the hypothesis that syntactic structures are the result of the fossilization of discursive devices. However, comparative data on the focus function are difficult to obtain because most grammars do not provide adequate information on focus phenomena. This is despite the fact that recent work suggests that verbal morphology in Bantu is frequently involved in focus phenomena.⁹²

⁹² In his review of the contribution of African linguistics to the theory of focus, Bearth (1999, cited by Creissels 2004) discusses studies addressing the relation between focus and tense-aspect morphology (Givón 1975, Hyman & Watters 1984, Wald 1997), the relation between different types of focus and the so-called conjunctive and disjunctive verb forms (Creissels 1994, 1996; more recently see also van der Wal & Hyman 2017), and the correlation between the locative inversion construction and “presentational focus” (Bresnan & Kanerva 1989, Demuth & Mmusi 1997), among others. See also Güldemann (2003), for the isomorphic marking of predication focus and present progressive in Bantu languages and a proposed grammaticalization path where the former led to the latter; see van der Wal & Maniacky (2015) on the grammaticalization of clefts in some Bantu languages, van der Wal & Namyalo (2016a) on focus marking strategies in Luganda, and van der Wal (2016b) on diagnostics for focus.

5.4.3 Habituality of the action at a certain location

The applicative suffix can also add a connotation of habituality to the meaning expressed by certain verb roots. In all of the examples in this section, the constructions with the applicative can have either a habitual reading or a focus reading (cf. §5.4.2). Marten (2003: 10) notes that the Swahili verb root ‘cook’ (201), when in combination with the applicative and followed by a locative phrase (202) can receive a habitual reading.

Swahili (G41-43; Marten 2003: 10)

(201) *mpishi* *a-li-pik-a* *jiko-ni*
cook S3:1-PST-cook-FV kitchen-LOC

‘The cook was cooking in the kitchen.’

Swahili (G41-43; Marten 2003: 10)

(202) *mpishi* *a-li-pik-i-a* *jiko-ni*
cook S3:1-PST-APPL-cook-FV kitchen-LOC

‘The cook was cooking in the kitchen habitually.’/‘The cook was cooking in the kitchen (as an answer to a “where” question).’

An identical interpretation is possible in Shona when a verb root combines with a locative phrase and the applicative suffix. In addition to the so-called “emphasis” reading illustrated in §5.4.2, Cann & Mabugu (2007) report that (177), reproduced as (204), can also mean that the subject habitually cooks *sazda* on an open fire.

Shona (S11-15; Cann & Mabugu 2007: 19)

(203) *mu-biki* *a-no-bik-a* *sazda* *pa-moto*
CL1-cook S3:1-PRS-cook-FV CL5-sazda CL16-CL9.fire

‘The cook is cooking *sazda* on an open fire.’

Shona (S11-15; Cann & Mabugu 2007: 19)

(204) *mu-biki a-no-bik-ir-a sazda pa-moto*
CL1-cook S3:1-PRS-cook-APPL-FV CL5-sazda CL16-CL9.fire

‘The cook is (habitually) cooking sazda on an open fire.’/ ‘The cook is cooking sazda on an open fire (instead of somewhere else).

Creissels (1998) observes the habitual function in Tswana with verb roots that can combine with a locative phrase without applicative derivation.

Tswana (S31; Creissels 1998: 134)

(205) *O apaya mo tlung*
ú-ápáj-à mó tšú-ŋ
S3:1-cook-FV LOC CL9.house-LOC

‘She cooks in the house.’

Tswana (S31; Creissels 1998: 134)

(206) *O apeela mo tlung*
ú-ápé-èl-à mó tšú-ŋ
S3:1-cook-APPL-FV LOC CL9.house-LOC

‘She habitually cooks in the house.’/‘She cooks IN THE HOUSE.’⁹³

5.5 Functions of Type C applicative constructions: completeness, excess, repetitiveness, etc. of the action

In Type C applicative constructions, one or more applicative suffixes present on a verb root do not introduce an applied phrase. Instead, the function of the applicative morpheme(s) is to convey repetitiveness, completeness, thoroughness, excess, intensity or intentionality, among others, to the action described by the verb root. These functions could probably be further subdivided, but for convenience I lump them under

⁹³ Creissels (p.c.) observes that while both a focus and habitual interpretation are possible with roots such as ‘cook’ and ‘run’, ‘die’ in combination with the applicative can obviously have only a focus reading.

one section. Guthrie (1970: 97) labels the function(s) described in this section as “O =”, meaning that the derived verb “has the same capacity to support objects as the corresponding simplex verbal”. Guthrie (1967-71: 144) also posits a starred extension *-idid ‘persistent’ (Comparative Series #2189). In her survey of applicative functions in 40 Bantu languages, Trithart (1983: 153) finds that double or single applicatives can indicate repetition, intensity, excessiveness or completeness in almost half of the languages surveyed.⁹⁴ Trithart (1983: 188) calls this function “more of the action of the verb”.

I review below some examples of these functions across several Bantu languages. The reader will note that meanings listed by different authors for applicative stems in this section strongly suggest that some of these verb forms are undergoing lexicalization

The function of carrying out an action to full completion is sometimes described in the literature as “perfectivity” (Kawasha 2003: 162) or “perfective” (Sharman 1963: 67). The expression of completeness, intensity, repetitiveness, etc. of an action in Type C applicative constructions is usually achieved by using one, two⁹⁵ or even three applicative derivations depending on the syllable structure of the verb root.

Crabtree (1921: 118) notes that in Ganda, most usually, the double applicative denotes persistency and effort in the action described by the verb, or the cumulative

⁹⁴ Trithart (1983: 153) finds that a single applicative suffix can express completeness, intensiveness, etc., in Tunen (A44), Duma (B51) and Mongo (C61) among others. In Fuliuro, the idea of intensity of the action described by a verb root is achieved by combining the applicative (-iir/-eer) and the causative (-ez/-iz) extensions, as in *bèr* ‘cut’ and *bèr-ééréz* ‘cut repeatedly, intensively.’ (Van Otterloo K. 2011: 333).

⁹⁵ Recall that depending on the language, a double applicative can also be used to introduce two applied phrases (cf. 112).

effect of a number of consecutive actions. Contrary to what is claimed by Guthrie (1970: 97), according to Crabtree (1921) the verb stems in (207) are intransitive in their intensive meaning and require causative derivation to take an object.⁹⁶

Ganda (JE15; Crabtree 1921: 118)

(207)

<i>im-a</i>	‘take up a position’	<i>im-ir-ir-a</i>	‘remain standing’
<i>lind-a</i>	‘wait’	<i>lind-ir-ir-a</i>	‘wait patiently’
<i>liny-a</i>	‘tread on’	<i>liny-ir-ir-a</i>	‘trample upon’
<i>tony-a</i>	‘drop, rain’	<i>tony-er-er-a</i>	‘go on raining incessantly, drizzle’

Sharman (1963) states that “completive” and/or “repetitive” meanings can be achieved by using two or three applicative derivations in Bemba, depending on the shape of the root (cf. also Guthrie 1970: 106). Note that CV and V radicals, such as *fú* ‘die’, *sí* ‘leave’ and *i* ‘go’ in (208) take three applicative extensions. Notice also that some forms display lexicalization (cf. *end* and *end-el-el*).

Bemba (M42; Sharman 1963: 67-69)

(208)

<i>end</i>	‘go’	<i>end-el-el</i>	‘go towards steadily and without noise’
<i>konk</i>	‘follow’	<i>konk-el-el</i>	‘follow persistently’
<i>pú</i>	‘end’	<i>pú-il-il-il-</i>	‘become completely finished’
<i>fú</i>	‘die’	<i>fú-il-il-il-</i>	‘die utterly’
<i>sí</i>	‘leave’	<i>sí-il-il-il-</i>	‘abandon’
<i>i</i>	‘go’	<i>i-il-il-il-</i>	‘go for good’
<i>pól</i>	‘get better’	<i>pól-el-el-</i>	‘get completely cured’
<i>pít</i>	‘pass’	<i>pít-il-il-</i>	‘pass by without stopping’
<i>káan</i>	‘refuse’	<i>káan-in-in-</i>	‘refuse absolutely’
<i>fuut</i>	‘rub out’	<i>fuut-il-il-</i>	‘keep rubbing out’

⁹⁶ Other authors cited in this section do not make any claims with respect to a change in the transitivity value of the verb stem when the applicative is added twice to convey completeness, intensity, etc.

Interestingly, Sharman (1963) observes that some forms with the double applicative acquire almost the opposite meaning to completeness or intensity, as shown in (209).⁹⁷

Bemba (M42; Sharman 1963: 68)

(209)

<i>sunk</i>	‘push’	<i>sunk-il-il</i>	‘push a little at a time’
<i>pyang</i>	‘sweep’	<i>pyang-il-il</i>	‘sweep a little at a time’
<i>ló</i>	‘become sweet’	<i>ló-el-el</i>	‘become a little sweet’

Polomé (1967) observes that in Swahili the reduplication of the applicative derivation stresses that the action is carried up to completion, as seen in (210). Guthrie (1962: 105) calls the function of the double applicative in Swahili “intensive”, with a meaning akin to English ‘very’ or ‘much’. Arguably, here too, some also display some degree of lexicalization (see *end-a* ‘go’ and *end-e-le-a* ‘progress’, cf. also Port (1981)).

Swahili (G41-43; Polomé 1967: 85 and Mokaya Bosire, p.c.)

(210)

<i>shik-a</i>	‘hold’	<i>shiki-i-li-a</i>	‘hold on tightly’
<i>kat-a</i>	‘cut’	<i>kat-i-li-a</i>	‘cut right off’
<i>shind-a</i>	‘press’	<i>shind-i-li-a</i>	‘ram down’
<i>end-a</i>	‘go’	<i>end-e-le-a</i>	‘progress’
<i>pig-a</i>	‘hit’	<i>pig-i-li-a</i>	‘hit repeatedly (like driving in a nail)’
<i>finy-a</i>	‘squeeze’	<i>finy-i-li-a</i>	‘squeeze tightly, squash tightly against sthg else’
<i>chom-a</i>	‘burn’	<i>chom-e-le-a</i>	‘burn on/against another until fused, weld together’

⁹⁷ It is interesting that reduplication appears to be used in other language families as well to express both attenuation and intensity. For instance, in Cabécar (Chibchan, Costa Rica) qualifying adjectives can have reduplicated forms of all or parts of the root to express both a lesser or bigger degree of a certain quality.

Kawasha (2003) reports that in Lunda the reduplicated extension for expressing a situation carried out to full completion is restricted to a very small number of verbs. The double applicative extension might also be involved in some degree of lexicalization; cf. ‘hold’ and ‘make effort, brace’; and ‘fill in hole’ and ‘bank up earth’ in (211).

Lunda (L52; Kawasha 2003: 162)

(211)

<i>úm-a</i>	‘dry’	<i>úm-in-in-a</i>	‘be dried up completely’
<i>kúm-a</i>	‘end’	<i>kúm-in-in-a</i>	‘be the very end’
<i>kwát-a</i>	‘hold’	<i>kwát-il-il-a</i>	‘make effort, brace’
<i>tíy-a</i>	‘hear’	<i>tíy-il-il-a</i>	‘listen carefully’
<i>shúik-a</i>	‘fill in hole’	<i>shik-il-il-a</i>	‘bank up earth’

Similarly, Cole (1975) observes that in Tswana the reduplicated form of the applicative can indicate that an action is carried out completely or exhaustively.

Tswana (S31; Cole 1975: 203 and Denis Creissels, p.c.)

(212)

<i>bab-a</i>	‘be bitter, itch, irritate’	<i>bab-al-el-a</i>	‘be unbearable’
<i>gan-a</i>	‘refuse’	<i>gan-el-el-a</i>	‘refuse completely, be adamant’
<i>gat-a</i>	‘tread upon’	<i>gat-el-el-a</i>	‘force down, suppress’
<i>leb-a</i>	‘look at’	<i>leb-el-el-a</i>	‘watch carefully, guard’
<i>les-a</i>	‘let go, leave’	<i>les-el-el-a</i>	‘let go completely’
<i>kgabetl-a</i>	‘chop, cut into pieces’	<i>kgabetl-el-el-a</i>	‘chop, slice thinly’
<i>ku-a</i>	‘shout out, scream’	<i>ku-el-el-a</i>	‘shout out very loudly’
<i>seg-a</i>	‘cut with a knife/blade’	<i>seg-el-el-a</i>	‘cut in small pieces’
<i>fet-a</i>	‘pass’	<i>fet-el-el-a</i>	‘go too far’
<i>utlw-a</i>	‘hear, feel, taste, smell’	<i>utlw-el-el-a</i>	‘listen’

Interestingly, it appears that in Tswana double applicatives with the meaning of intensity or completeness, probably due to high frequency of usage, have sometimes

replaced base forms. For instance, the Tswana double applicative *pitlelel* [pìtì-èl-èl] ‘rub’ has no simple, non-applied form. The simple form *piti* [pìtì] ‘exert pressure/force, crush out, press tightly, compress’ is, however, preserved in the closely related Northern Sotho language.

After taking a look at this plethora of semantic and pragmatic functions, a natural question is: which functions were already present in earlier stages of the proto-language? Which ones (if any) should be posited as independent parallel innovations? What was the original function from which others evolved? The purpose of Chapter VI is to determine what applicative lexicalizations tell us (if anything) about the origins of the applicative suffix.

CHAPTER VI

PSEUDO-APPLICATIVE CONSTRUCTIONS IN TSWANA: A CASE STUDY

6.1 Chapter overview

In this chapter I undertake a case study of 78 pseudo-applicative forms in Tswana, a language which belongs to Guthrie's zone S. The nature of this study is historical in that I am attempting to link synchronic Tswana roots and applicative stems to PB roots and stems in form and meaning, and establish what kinds of semantic shift have occurred between the meaning of a proto-form and the meaning of the Tswana reflex. For this purpose I will use the *Reconstructions lexicales bantoues/Bantu lexical reconstruction 3* database (Bastin et al. 2002) (cf. §6.5 for discussion). This database specifies, among other things, the Bantu zones in which a given reconstructed root is attested. Depending on the geographical distribution of the zones indicated, a given root might reconstruct only back to an intermediate node. Before I undertake this task, in the first part of this chapter, I present essential information to understand claims that will be made in the second part of the chapter. In §6.2, I briefly discuss the status of zone S as a (non-)genetic unit based on shared sound changes. This discussion feeds directly into the proposed sound correspondences between Proto-Bantu and Tswana (§6.3) that I will use to link synchronic Tswana roots/stems to PB forms in §6.6. §6.4 and subsections therein deal with basic morphosyntactic features of Tswana which will

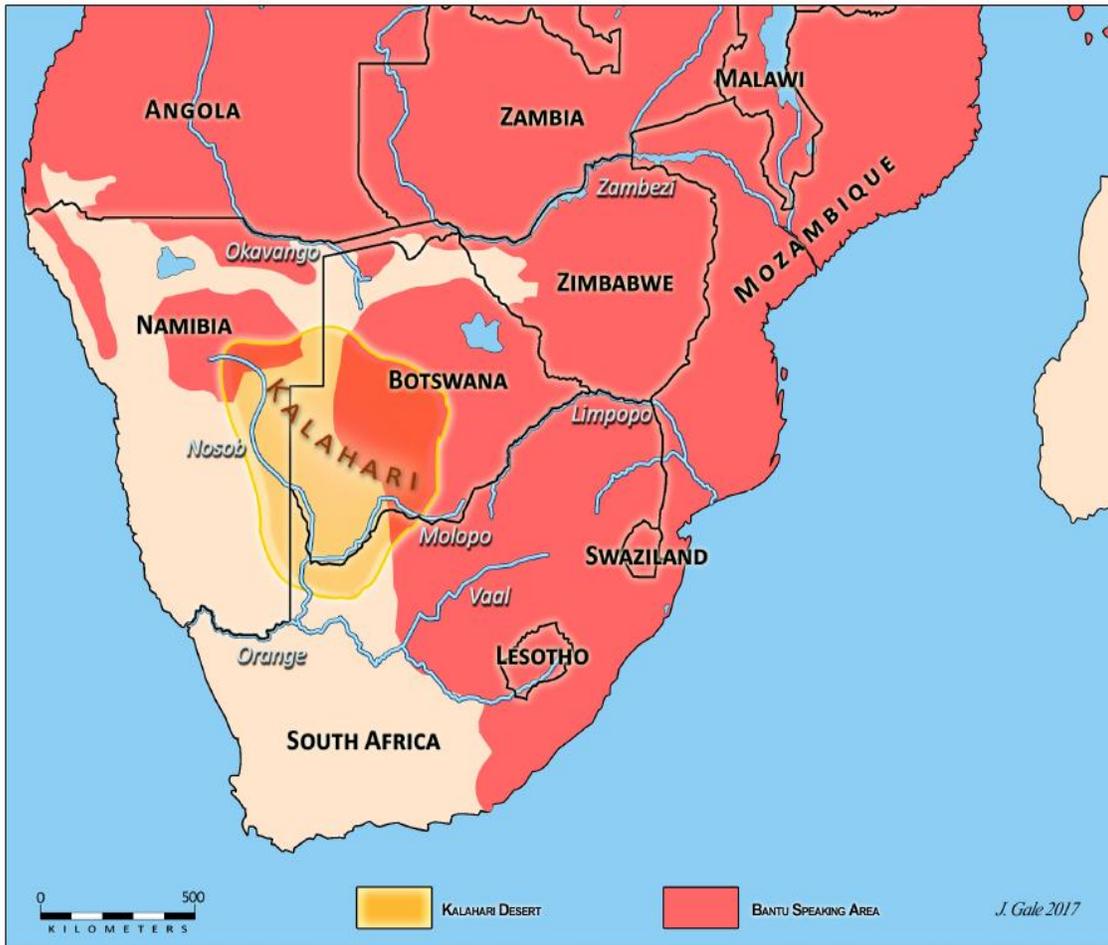
help the reader understand claims related to syntactic transitivity of verb roots and stems, among others, in §6.6. §6.5 and §6.6 constitute the heart of this chapter. In §6.5, I present the Tswana corpus used for the case study and the adopted methodology. In §6.6 and subsections therein presents the results of the case study.

6.2 Zone S as a (non-)genetic unit

As we know from §1.3, Guthrie's Bantu zones seldom correspond to genetic units. Therefore, we need to address first whether "zone S" is a viable genetic unit. This section briefly addresses the current state of knowledge about zone S as a genetic unit and is immediately relevant to §6.3 which is dedicated to the sound correspondances between PB and Tswana.

The languages identified by Guthrie as belonging to zone S are spoken in Zimbabwe, Malawi, Mozambique, Botswana, South Africa, Swaziland and Lesotho (Gowlett 2003). Lozi (K21), a Sotho-based language of Zambia and Namibia, has recently been added to zone S (Gowlett 2003). Figure 8 shows the geographic location of countries where languages of zone S are spoken.

Figure 8: Countries where zone S languages are spoken



Per Guthrie’s classification, there are six language groups/clusters in zone S. The term “group” here should be understood as “an aggregation of languages possessing common salient phonetic and grammatical features, and having a high degree of mutual understanding” (Doke 1954: 20). These six groups are shown in Table 6. Under each group, languages relevant to the discussion in this section are included. The list of languages under each group is not exhaustive (see Gowlett 2003 for details).

Table 6: Language groups in zone S and their geographical locations (after Gowlett 2003)

	Group/cluster	Geographical distribution
S10	Shona group Shona dialect cluster S10	Zimbabwe, Mozambique, Zambia, eastern Botswana
S20	Venda group Venda S21	Northern province of South Africa, southern Zimbabwe
S30	Sotho-Tswana group (includes K21) (cf. Doke 1954 <u>Sotho group</u>) Tswana S31 Northern Sotho S32 Southern Sotho S33 Kgalagadi S311	Botswana, South Africa, Zimbabwe, Lesotho, Zambia, Namibia
S40	Nguni group Xhosa S41 Zulu S42 Ngoni S42a (Zulu dialect) Swati S43 Zimbabwean Ndebele S44	South Africa, Malawi, west-central Zimbabwe, Swaziland, southern Lesotho
S50	Tshwa-Ronga group (cf. Doke 1954 <u>Tsonga group</u>) Tshwa S51 Tsonga S53 Ronga S54	North-central, south-central and southern Mozambique, northern province of South Africa, southeastern Zimbabwe, border of Mozambique and northern KwaZulu-Natal province of South Africa
S60	Copi group (cf. Doke 1954 <u>Inhambane group</u>) Copi S61 Tonga S62	Mozambique

Some of the languages in Table 6 are spoken by several million people and have official status, standardized written forms and written literature. For instance, Shona (S10) is the official language of Zimbabwe; Venda (S20), Tswana (S31), Northern Sotho (S32a),

Swati (S43), Zulu (S42), Xhosa (S41), Tsonga (S53) and southern South African Ndebele (S408) are official languages of South Africa.⁹⁸ Tswana is also an official language in Botswana.

From a linguistic perspective, zone S languages usually fall under the so-called “South-Eastern Bantu” group, a subdivision within (Narrow) Bantu based on shared phonological and morphological features compared to the rest of Bantu (cf. Doke 1937, 1954). Geographically, “South-Eastern Bantu” roughly means languages located south of the Zambezi river and east of the Kalahari desert (cf. Figure 8), with individual offshoots found further away (cf. Ngoni, some dialects of Zulu, and Lozi) (Doke 1954: 20). Doke (1954) proposes a further subdivision of zone S languages into two sub-zones. For Doke (1954: 20) “zone” means “a geographical term applied in a special way to a language area characterized by uniform or similar linguistic phenomena”. The two sub-zones proposed by Doke (1954) are: a South-Central sub-zone comprising only the Shona group (S10), and a South-Eastern sub-zone comprised of the rest, i.e. Venda (S20), Sotho (S30), Nguni (S40), Tsonga (S50, cf. Tshwa-Ronga in Table 6) and Inhambane (S60, cf. Copi in Table 6). Doke considers that the Shona group in many respects represents an intermediate bridge/corridor between Central and South-Eastern Bantu and is different from other zone S languages (cf. the discussion in the following paragraphs). Figure 9 shows the approximate location of language groups within the South-Eastern subzone. The reason why Makhuwa (P30) is included in this map will be explained in the following paragraphs.

⁹⁸ Gowlett (2003: 610) observes that although southern South African Ndebele is an official language of South Africa, in practice it has a lower status than Zulu or Xhosa.

languages. These phonological features distinguish South-Eastern Bantu from the rest of Bantu (Doke 1954, Janson 1991/1992, Gowlett 2003). Distinctive morphological features include: the formation of locative nouns mainly by suffixation instead of prefixation; the lack of locative “concord”; the fact that diminutive and augmentative forms of nouns are not indicated by a change of noun class prefix but by using diminutive suffixes (Doke 1937, 1954, Gowlett 2003).

As far as internal genetic classification of zone S languages goes, two things should be noted. First, several scholars have argued based on lexicostatistical data that, as already observed by Doke (1954), Shona is separate from the rest Southern Bantu (Ehret 1972a, 1972b, 1973, Ehret & Kinsman 1981). Janson (1991/1992) states that there is no evidence that Shona has undergone the same sound changes as the remaining zone S languages, and that the similarities between Shona (S10) and Venda (S20) are probably the result of comparatively recent developments due to extensive contact between the two groups. Second, there is evidence for a genetic relationship between the Sotho group (S30) and the Makhuwa group of Mozambique (P30) (Janson 1991/1992, Louw & Finlayson 1990, Philippson 2013). In what follows I leave these two issues aside and summarize (in a simplified way) the major sound shifts discussed by Janson (1991/1992) which indicate a genetic relationship among zone S languages excluding Shona (for further discussion see Louw & Finlayson 1990, van der Spuy 1990, Hinnebusch et al. 1981, Nurse 1988) and Makhuwa (P30), which I exclude from this discussion. Janson (1991/1992) adopts the group terminology of Doke (1954) as discussed above (see Table 6).

Common sound changes in what Janson calls “Southern Bantu” (excluding Shona (S10)) are: (a) sound changes affecting stops (voiceless stop shift, development of

PB prenasalized stops, and spirantization); (b) lateralization of fricatives; and (c) palatalization of labialized stops. I review each of these in turn.

(a) Sound changes affecting stops

The first process to be discussed is the so-called “voiceless stop shift” illustrated in Table 7.

Table 7: Voiceless stop shift in genetically related zone S languages (before PB *a, *ɔ, *u) (based on Janson 1991/1992: 75)^a

PB	Nguni (S40)	Tsonga (S50)	Inhambane (S60)	Venda (S20)	Sotho (S30)
*p	p ^h	h	h	ϕ	ϕ, f
*t	t ^h	r	r	r	r ^b
*k	k ^h or k	k	k ^h or k	fi	x

^a Janson (1991/1992: 79) observes that before *ε and *ɪ the situation is similar, except that in many cases when *ε and *ɪ follow *k and *t this can result in alveolar or dental affricates or sibilants (*ki/*ti > tsi; *ki/*ti > si).

^b Janson (1991/1992) does not specify whether /r/ stands for a flap or a trill or something else. However, in the Inhambane group, Copi has /r̥/, a breathy voiced trill, in the Tsonga group, Tsonga has both /r̥/ and /r/ (trill), Venda has /r/ (flap); in the Sotho group, Tswana has /r/ (trill) and Sotho has /R/ (uvular trill) (Gowlett 2003: 615 and ff.).

As can be seen from Table 7, the lenition/weakening of PB voiceless stops has been carried out completely only in the Venda and Sotho (to which Tswana belongs) groups, where *p, *t, *k have fricatives or flaps as reflexes. All groups except Nguni have the change *t > *t^h > r. The development of *k in Nguni and Inhambane is less clear, yielding both aspirated and plain /k/. Janson concludes that the voiceless stop shift confirms the idea of a common history for the languages, but does not clearly indicate internal sub-divisions.

The second sound change affecting stops has to do with the developments of the PB pre-nasalized stop series, as shown in Table 8.

Table 8: Developments of PB pre-nasalized stops in genetically related zone S languages (before PB *a, *ɔ, *u) (based on Janson 1991/1992: 79)

PB	Nguni (S40)		Tsonga (S50)	Inhambane (S60)	Venda (S20)	Sotho (S30)
	Zulu, Xhosa	Swati				
*mp	mp	mp ^h	m ^h	p ^h	p ^h	p ^h
*nt	nt	nt ^h	nh	t ^h	t ^h	t ^h
*ŋk	ŋk	ŋk ^h	n ^h	k ^h	k ^h	k ^h
*mb	mb	mb	mb	mb	mb	p/p'
*nd	nd	ndz	ndz	nd	nd	t/t'
*ŋg	ŋg	ŋk	ŋg	ŋg	ŋg	k/k'

As can be seen from Table 8, members of the Nguni groups show different developments: while Zulu and Xhosa maintained the original PB pre-nasalized stops, Swati has pre-nasalized aspirated stops and affricates. Pre-nasalized voiceless stops (*mp, *nt, *ŋk) have changed in all other languages. Inhambane, Sotho and Venda lost pre-nasalization in the voiceless series (a feature common also in non-Southern Bantu languages such as Swahili). Janson considers it probable that, with the exception of Zulu and Xhosa, all the other languages went through a stage of pre-nasalized aspirated voiceless stops (preserved in Swati) and from there underwent further individual changes. The pre-nasalized voiced stops (*mb, *nd, *ŋg) show no change in Tsonga, Zulu, Xhosa, Inhambane and Venda as happens in the great majority of non-Southern Bantu languages. Additionally, Sotho shows a special development not found elsewhere

in which the voiced pre-nasalized stops become plain voiceless stops or voiceless ejective stops.

The third sound change affecting stops is so-called “spirantization”. Recall from Chapter III that PB has been reconstructed with seven vowels which are phonetically *i, *ɪ, *e, *a, *ɔ, *ʊ, *u. In zone S languages, the Sotho group (except Lozi) has maintained the seven vowel system, while all other groups have developed a five vowel system (i, e, a, o, u). “Spirantization” is very widespread in a great number of eastern Bantu languages. In spirantization, the most (in Bantu terminology “extra” or “super”) high vowels *i and *u affected the preceding consonant by making it a fricative or affricate. Spirantization occurred in Bantu languages which developed a five vowel system only, but not in those that maintained the original seven vowel system; that is, after *i and *u affected the preceding consonants, they then merged with their respective high vowels *ɪ and *ʊ resulting in a five vowel system *i, *e, *a, *o, *u (see, however, Philippson 2013 for P30 languages and Lozi as exceptions to this generalization). Spirantization changes are in Table 9, where 5VS and 7VS stand for five and seven vowel systems respectively.

Table 9: Spirantization before PB “super high” vowels *i and *u in genetically related zone S languages (based on Janson 1991/1992: 80)^a

PB	Nguni (S40) 5VS	Tsonga (S50) 5VS	Inhambane (S60) 5VS	Venda (S20) 5VS	Sotho (S30) 7VS (except Lozi)
*pu	fu	fu	fu	fu	ϕu/fu
*tu	fu	fu	fu	fu	ru
*ku	fu	fu	fu	fu	hu/xu/fu
*bu	vu	vu	bvu	vu	bu
*du	vu	dzu	-	bvu	du
*gu	vu	pfu	bvu	vu	u

^a I limit myself here to report cases with a following *u; *i leads to similar results.

Let’s consider first the reflexes of the voiced stops (*b, *d, *g) followed by the extra high vowel *u. Table 9 shows that Nguni, Tsonga, Inhambane and Venda all underwent spirantization (as did central Bantu languages like Swahili), but the Sotho group (to which Tswana belongs) did not: it either maintained the voiced stop or lost it in the case of *g. Let us now consider the reflexes of voiceless stops (*p, *t, *k) followed by *u. Again in Nguni, Tsonga, Inhambane and Venda there is clear evidence for spirantization (i.e. *p, *t, *k/_*u > f). In the Sotho group, reflexes of PB voiceless stops followed by *u might look as if they are the result of spirantization, but this is not the case. In the Sotho group, *t > r and *p > ϕ, f in all environments, that is, before extra-high vowels *i and *u but also before non-high vowels *a, *ɔ, *ɔ (cf. Table 7). The change *p > ϕ, f, however, is also compatible with spirantization. As for the development of *k, Janson (1991/1992) argues that the Sotho group had an original general sound change *k > x before the extra high vowels *u and *i but also elsewhere. These facts, along with the fact that the Sotho group has retained the original seven vowel system, indicate that

there is no evidence that the Sotho group underwent spirantization. Janson concludes that in Nguni, Tsonga, Inhambane and Venda, spirantization must have occurred before the voiceless stop shift and applied to all instances of extra-high vowels so that the voiceless stop shift could not apply anymore in those contexts (cf. PB *tand ‘love’ > Nguni *thand* as a result of voiceless stop shift, but PB *tund ‘teach’ > Nguni *fund* as a result of spirantization).¹⁰⁰ In Sotho, the voiceless stop shift applied everywhere, even in contexts where spirantization would have been applicable (cf. PB *tand ‘love’ > Sotho *rat*, PB *tund ‘teach’ > Sotho *rut*).

The fact that all groups but Sotho underwent spirantization and the seven to five vowel shift, and that all groups have several sound changes in common, suggest two possible scenarios according to Janson: (1) spirantization and vowel shift spread as areal changes but for some reason they did not affect Proto-Sotho; (2) the ancestors of Nguni, Tsonga, Inhambane and Venda moved south from somewhere in the eastern area where spirantization and vowel shift were happening actively, while the Sotho group came from an area where these sound changes did not take place.

(b) Lateralization of fricatives (before *i, *e, *a, *ɔ, *u)

The posited sounds *c and *j in PB were most likely fricatives or affricates according to Janson (1991/1992) even if the notation indicates otherwise. Reflexes of these sounds in most Bantu languages are alveolar fricatives. However, in Southern Bantu languages

¹⁰⁰ Janson (1991/1992: 82) observes that spirantization and the voiceless stop changes bleed each other. The voiceless stop shift may have affected even stops before high vowels (as shown in Sotho), and thus apply in the same environment as spirantization. But if one of the two changes applies, the other cannot, because there are no stops left after either change to undergo the other process.

some of the reflexes are lateral fricatives or affricates (cf. PB *ca > Tsonga ɬa, Tswana tʰa). It is only in Southern Bantu that lateral reflexes occur.

Table 10: Reflexes of PB *c in genetically related zone S languages (based on Janson 1991/1992: 85)

PB	Nguni	Tsonga	Sotho		Venda
			Tswana	Kgalagadi	
*ca	ɬa	ɬa	tʰa	tʰa	ɬa
*co	ɬo	ɬo	tʰo	tʰo	ɬo

The situation with these reflexes is quite complex and data is missing (including data from the Inhambane group). However, in general, as Table 10 shows, Tsonga and Nguni have lateral fricatives, Venda and Kgalagadi (the Bantu language most remote from Venda and Nguni, spoken in the Kalahari desert by people who arrived in present Botswana before the Batswana) have dental stops, and the other Sotho languages usually have lateral affricates. Janson argues that is hard to come up with a credible reconstruction of an intermediate stage for all groups that would account for lateral fricatives and dental stops. According to Janson, the lateral affricates in some Sotho languages are probably a later development.

(c) Palatalization

Palatalization affects only the Sotho and Nguni groups, in different ways and to different extents (Doke 1954). In some morphophonological contexts, a non pre-palatal or non-alveolar consonant becomes pre-palatal or alveolar when under the influence of certain morphemes. For example, in Tswana, adding the passive suffix *-w* to a verb root ending in /p/, /pʰ/, /b/ or /h/ ([f]) produces the following changes: p > tʃ; p > tʃʰ; b > j; and f > ʃ (Cole 1975: 43). Some examples are: *ngap-a* ‘scratch’ > *ngatf-w-a* ‘be scratched’, *tʰɔpʰ-a* ‘choose’ > *tʰɔtʃʰ-w-a* ‘be chosen’, *arab-a* ‘answer’ > *araj-w-a* ‘be

answered’, *alaf-a* ‘cure’ > *alaf-w-a* ‘be cured’. Janson (1991/1992) argues that besides obviously confirming a period of shared history, this sound change represents a credible parallel for the partly common development of laterals (cf. Table 10).

Considering the available evidence presented above, Janson (1991/1992) suggests that Nguni and Tsonga groups show some common developments, such as lateralization of *c and *j and some retention of *k. For Venda and Sotho, there is stronger evidence of common history: these two groups share the same developments of prenasalized voiceless stops. In Venda and a language of the Sotho group (Kgalagadi) *c and *j have dental stops as reflexes, and both groups have the so-called “strengthening”.¹⁰¹ Janson proposes a broad division into Nguni and Tsonga, versus Venda and Sotho, but there are problems (*t > r is common to all groups except Nguni). Inhambane is not placed.

6.3 Sound correspondances between Proto-Bantu and Tswana

This section briefly illustrates Tswana-specific phonological developments within the Sotho group (S30). This is essential for the historical discussion of the Tswana case study of pseudo-applicatives in §6.6, where Tswana pseudo-applicative stems and corresponding roots will be linked to PB verb roots. This overview is based on the historical work of Creissels (1999a, 2007). Conditioning environments which result in

¹⁰¹“Strengthening” is a morphophonological process by which in certain environments, vowels and semi-vowels become preceded by /k/, voiced stops such as /b/ > (m)p’ and /d/ > (n)t’, while fricatives become aspirated stops or affricates, i.e. f > (m)p^h, r > (n)t^h, ʃ > (ɲ)t^h. For example, the Southern Sotho verb stem *bòna* ‘see’ > *fiu-mpòna* when the 1SG object index *fiu-* precedes the stem (Doke 1954: 123).

unexpected sound correspondences will also be discussed as relevant in the analysis of pseudo-applicative verb stems in §6.6 and subsections therein.

The reconstructed PB vowel system has been expressed by different notational systems. I reproduce some of these in Table 11.

Table 11: Some notational systems for the PB seven vowel system (based on Schadeberg 2003b: 147)

	Degree of aperture						
	1st	2nd	3rd	4th	3rd	2nd	1st
Guthrie, Meeussen	i	i	e	a	o	u	ɥ
BLR2, BLR3	i	ɪ	e	a	o	ʊ	u
IPA	i	ɪ	ɛ	a	ɔ	ʊ	u

In what follows I will use the *Reconstructions lexicales bantoues/Bantu lexical reconstructions 3* (BLR3) system (Bastin et al. 2002), because this database is the source of the proto-forms I will link to Tswana reflexes in §6.6. Unlike BLR3, however, I will use the IPA symbol [ɪ] instead of [ɪ]. Therefore, my notation of PB vowels will be as follows: *i, *ɪ, *e, *a, *o, *ʊ, *u.

As observed in §6.2, Tswana, as other languages in the Sotho group (S30) has preserved the seven vowel system found in PB. Reflexes of PB vowels in Tswana are in Table 12. Note that the reflexes of *e and *o are conditioned by the presence or absence in the following syllable of *i, *ɪ, *u or *ʊ. Notwithstanding the complementary distribution of the Tswana reflexes of *e and *o in Table 12, the distinction between /e/ and /ɛ/ and /o/ and /ɔ/ has become phonologized in Tswana, yielding a nine-vowel system (see Creissels 2005a for details).

Table 12: Tswana reflexes of PB vowels in absence of special conditioning

*i > i	*u > u
*I > I	*U > U
*e > e/_____ *i, *I, *u, *U	*o > o/_____ *i, *I, *u, *U
*e > ε elsewhere	*o > ɔ elsewhere
*a > a	

Some examples of these correspondences are below.

*tíndé ‘clod, stump’ > (sì-) <i>ríté</i> ‘thatch’	*béǵúd > <i>béúI</i> ‘shave’
*kímbà > (sì-/mà-) <i>sípá</i> ‘excrement’ ¹⁰²	*dòǵ > <i>I</i> ‘bewitch’
*péd ‘end, get lost’ > <i>hél</i> ‘finish’	*jòǵù > <i>tlòù</i> ‘elephant’
*ǵènd > <i>èt</i> ‘walk, travel’	*bón > <i>bón</i> ‘see’

Creissels (2005a: 195) observes that in the environment of an initial *j followed by either *I or *U and a nasal, *I and *U have ε and ɔ as reflexes in Tswana: *jím > *ém* ‘stand’, *jóm > *óm* ‘be/become dry’.

Some PB forms are reconstructed with vowel sequences V₁V₁ or V₁V₂, where V₁ ≠ V₂. The phonotactic status of these sequences in PB is unclear (cf. Creissels 1999: 302). These vowel sequences always have, in Tswana, a single syllable nucleus as a reflex (cf. for instance *dúad > *lwál* ‘be ill’). Creissels (1999a) observes that unlike other Bantu languages, Tswana offers no synchronic evidence of a historical distinction between long and short vowels in tonal morphology. In terms of vowel quality, the reflexes of a PB sequence of vowels are identical to the reflexes of single vowels.

However, PB *ai may have any of the front vowels as a reflex: *dài > *lèlè* ‘long’; *N-jái

¹⁰² In this section, if the meaning of a proto-form and the meaning of the Tswana reflex are identical, the gloss is indicated only once, after the Tswana reflex. Further, in this section, unlike others, only the phonetic transcription of a Tswana word is indicated, in italics. The orthographic equivalent is not included.

(CL9) ‘outside’ > *nt̩t̩*; *tái (CL6) > (*mà-*)*tʰí* ‘saliva’. Similarly, PB *oi may have any of the front vowels as a reflex preceded by /w/: *gòinà (CL9) > *kwènà* ‘crocodile’, *kòì (CL1) > (*mù-*)*χwé* ‘son in law’, *mòì > *ɲwì* ‘one’.

As can be seen from the examples immediately below Table 12, Tswana verbs and nouns traceable to a PB root generally have the same tone as the corresponding reconstruction. However, it has been noted (Philippson 1999, Nurse & Philippson 2003) that S30 languages and several other groups outside of zone S share irregularities in the reflexes of *HH and *HL nominal tone patterns. The tone of Tswana verbs traceable to PB might also not match the tone reconstructed for the PB form, as examples in the following paragraphs will show.

We now turn to the Tswana reflexes of the consonants reconstructed for PB. As we have seen in §3.4, there is no consensus as to whether *b, *d, *g should be reconstructed as stops or as continuants *β, *ɹ, *ɣ (cf. Hyman 2003). As we have seen in §3.4 and §6.2, the exact phonetic value of *c and *j is also uncertain: it is unclear whether they should be posited as stops, fricatives or affricates and whether they should be posited as palatal segments (Hyman 2003: 42).

Table 13 shows the so-called “weak reflexes”, that is, Tswana consonantal reflexes corresponding regularly to PB consonants not immediately preceded by a nasal. Table 14 shows “strong reflexes”, that is, Tswana consonantal reflexes corresponding regularly to PB consonants immediately preceded by a nasal. In both tables, the reflexes are to be understood as those occurring without any special conditioning factor.

Table 13: Tswana “weak” consonantal reflexes in absence of special conditioning

*p > h/f	*t > r	*c > tʰ	*k > χ
*b > b	*d > d/l ^a	*j > Ø ^b	*g > Ø
*m > m	*n > n	*ɲ > n	

^a The regular Tswana reflex of PB *d before /i/ and /u/ is [d], in complementarity with [l] before all the other vowels.

^b For problems and controversies with the reconstruction of PB *j (also indicated as *y by some authors) see Creissels (1999a: 304 and ff.).

Some examples of weak reflexes are below.

*p > h ‘give’	*bón > bón ‘see’
*tét ‘speak, say, quarrel, scold, insult’ > rér ‘conspire, preach’	*dìm > ìim ‘cultivate’
*cúá > (mù-/mì-) tʰwá ‘termite’	*gìrà ‘whole, healthy’ > ìm-à ‘be pregnant’
*kóɲ ‘fold’ > χòn ‘bend a limb’	*jánik > ánéχ ‘dry in the sun’

Table 14: Tswana “strong” consonantal reflexes in absence of special conditioning

*mp > p ^h	*nt > t ^h	*nc > tʰ	*ɲk > q ^h
*mb > p	*nd > t	*nj > tʰ	*ɲg > k

Some examples of strong reflexes are as follows (“N” indicates a nasal segment).

*tònt > ròt ^h ‘drip’	*N-pàdá (CL9) > p ^h àlá ‘impala antelope’
*gènd > èt ‘walk, travel’	*N-dá (CL9) > ñ-tá ‘louse’ ¹⁰³
*bímb ‘cover’ > bìp ‘cover’	*N-jàdà (CL9) > tʰàlà ‘hunger’
*diàngò > (mù-/mì-) dzàkò ‘door’	*N-càká (CL9) > tʰàχá ‘thicket’

¹⁰³ In *NC sequences interrupted by a morpheme boundary where *N is the prefix of class 9 or 10 and *C is the initial consonant of a noun stem (e.g. *N-dá), *C in *NC has the same reflexes in Tswana as sequences of *NC not interrupted by a morpheme boundary (cf. *jànk > àq^h where *nk > q^h; and *N-kúpá (CL9) > q^húhá, where *N-k > q^h). The *N of class 9/10 is deleted only in stems with at least two syllables (cf. *N-jàdà ‘hunger’). In monosyllabic stems, the reflex of *N in *NC sequences is a low tone syllabic nasal (cf. *N-dá > ñ-tá ‘louse’).

*jànk > àq^h ‘swing’

*N-kúpá (CL9) > q^húhá ‘tick’

It is important to note that in a quite considerable number of cases, a PB consonant not preceded by a nasal has a strong reflex in Tswana and not the expected weak one (Creissels 2007: 318). For instance, PB *dím ‘go off’ has *túm* as a reflex, where Tswana *t* is the regular reflex of *nd; but the reconstructed protoform in BLR3 starts with *d, not *nd (the regular reflex of *d should be /d/ before *i). Similarly, the BLR3 reconstruction *kád ‘dry up’ corresponds to Tswana *q^hal* ‘dry up’ where *q^h* is the regular reflex of *ŋk and not of supposed *k (the reflex of *k is *χ*).

Conditioning environments such as some PB vowels or sequences of vowels can alter the Tswana reflexes of PB consonants presented in Table 13 and Table 14. Some of these, relevant to the analysis of pseudo-applicative stems in §6.6, are illustrated in Table 15.

Table 15: Reflexes of PB consonants in Tswana conditioned by vowels or vowel sequences

Conditioning environment	Examples
*c, *k > s/___ *i, *I, *e	*bíci ‘raw, fresh, unripe’ > (lù-) bísí ‘fresh milk’ *kít > sír ‘hide’
*c, *k > s/___ *I, *e + V	*ké-a > sá ‘dawn’
*Nc, *Nk > ts ^h /___ *i, *I, *e	*N-kîi (CL9) ‘eyebrow’ > ñ-ts ^h í ‘eyelash’ *N-címbá (CL9) ‘wild cat’ > ts ^h ípa ‘genet’
*Nj, *Ng > ts/___ *i, *I, *e	*N-jidà (CL9) > tsìlà ‘path’ *N-gìgè (CL9) > tsìè ‘locust’
*k > h/___ *u	*kútà (CL6) > (mà-) húra ‘fat’
*k > s(w)/___ *u + V	*kú-a ‘die’ > sw-á ‘die’
*Nk > k ^h /___ *u	*N-kúdù (cl9) > k ^h údú ‘turtle’
*b, *d, *g > ts/___ *i + V	*bíad > tsál ‘give birth’ *gìi (CL3) > (mù-/mì-)tsì ‘village’ *búúd-i-a > búts-á ‘ask’
*b, *d, *g > ts(w)/___ *u + V	*búang > tswák ‘mix’ *dù-a > tsw-à ‘come out/from’ *mù-gúì (CL3) > (mù-)tswí ‘arrow’
*p > ʃ(w)/___ *I, *e + V	*píà > ʃ(w)a ‘new’
*p > ʃ(w)/___ *U, *o + V	*dìp-u-a > lìf-w-à ‘be payed’
*b > dʒ(w)/___ *I, *e + V	*bíad > dʒ(w)ál ‘sow’
*b > dʒ(w)/___ *U, *o + V	*gàb-u-a > adʒ-w-à ‘be divided’
*d > dʒ/___ *I, *e + V	*dí-a > dʒ-á ‘eat’
*m > ɲ(w)/___ *u + V	*jámu-a > áɲ(w)-à ‘suck’

In addition to these conditioning environments, there are several problems with Tswana forms corresponding to proposed reconstructions (in BLR3 or previous versions) beginning with *ji (for an exhaustive list of these forms and possible explanations for non-matching reflexes, see Creissels 1999a: 325 and ff.). In many cases, the initial syllable *ji has no reflex in Tswana. In addition, the reflexes of remaining syllables in reconstructions beginning with *ji do not always match with the expected reflexes of

reconstructed forms. In the following examples, forms preceded by the symbol ° indicate a non-attested form suggested by Creissels (1999a), different from the posited reconstructed proto-form in BLR3 or previous versions (indicated with the symbol *), from which the synchronic Tswana form could have evolved as a regular reflex.

*jínǵid > <i>tsén</i> ‘enter’ < °ngén	*jígu > <i>úttw</i> ‘hear’ < °unju
*jìj > <i>t</i> ‘come’ < °nj ~ ìnj	*jìtuk > <i>tsʰùχ</i> ‘become startled’ < °ntiuk
*jìtid > <i>tsʰél</i> ‘pour’ < °ntì-ìd	*jìgùà (CL3) > (<i>mú-</i> , <i>mí-</i>) <i>tłwá</i> < °mò-ínjua

6.4 Morphosyntactic features of Tswana

After having discussed sound correspondances between PB and Tswana and some complications to these, it is now necessary to present basic morphological and syntactic features of Tswana which are essential to understanding examples of pseudo-applicatives and their argument structure in §6.6.

Tswana (or Setswana, S31) is a Southern Bantu language spoken in Botswana, South Africa and Zimbabwe. It is the first language of almost 6 million people (Simons & Fennig 2017).¹⁰⁴ There are several mutually intelligible dialectal varieties of Tswana according to their geographical location. Central Tswana (S31a) includes Rolong, Ngwaketse and Hurutshe; Eastern Tswana (S31b) includes Kgatla and East Kwena; Northern Tswana (S31c) includes Ngwato and Tawana; and Southern Tswana (S31e) includes Tlharo and Tlhaping. The data presented in this chapter belong to the Ngwaketse (S31a) and Ngwato (S31c) varieties of Tswana. Their location is shown in

¹⁰⁴ The linguistic description of Tswana presented in this section draws mainly from Cole (1975) and Creissels (2002, 2003). I have omitted almost entirely morphophonological processes and complexities involved with nouns and verbs unless directly pertinent to the discussion of applicatives.

Figure 10. Tswana's closest relatives are Northern and Southern Sotho, which along with Tswana form a dialect continuum from a strictly linguistic point of view (Andersson & Janson 1997: 25, Creissels 2004: 1).

Figure 10: Location of (Ba-)Ngwato and (Ba-)Ngwaketse varieties of Tswana (based on and adapted from Andersson & Janson 1997: 24)



The following descriptive account of Tswana is limited to the features that are relevant to the case study of pseudo-applicatives presented in §6.6 and subsections therein.

6.4.1 Noun morphology and verb template

Typologically, Tswana has most of the features that are considered typical of Bantu languages (see Nurse & Philippson 2003: 7). Nouns have a gender system (i.e. noun class system) by means of prefixes. Singular and plural noun class pairings are listed in Table 16.

Table 16: Tswana noun class system^a

CLASS	SG	PL	CLASS
1	mù-	bà-	2
1a	∅-	bó-	2a
3	mù-	mì-	4
5	lì-	mà-	6
7	sì-	dì-	8/10 ^b
9	∅-	dì-	8/10
11	lù-	dì-	8/10
11	lù-	mà-	6
14	bù-	mà-	6
15/17	χù-		

^a For historical reasons (see §3.2.2), there are only vestiges of locative classes 16 and 18 synchronically in most Southern Bantu languages. Tswana retains just one locative class, from PB class 17 (Creissels 2011).

^b Class 8 (plural of 7) and class 10 (plural of 9) are reconstructed as two distinct classes (with distinct noun prefixes and distinct agreement prefixes) at PB level. In the Sotho-Tswana group (S30) and some other languages, class 8 and 10 have merged into a single class. Formally, the markers of this class are the reflexes of PB class 10 markers. The label 8/10 is intended to reflect the fact that, functionally, it includes the plural forms that originally belonged to PB class 8 (Denis Creissels, p.c.).

Tswana has obligatory head-dependent agreement in the noun phrase. For instance, agreement on each constituent of the NP is triggered by the class of the noun ‘woman’

(CL1) in (213). Likewise, agreement on each constituent of the NP is triggered by the class of the noun ‘boy’ (CL5) in (214).

Tswana (S31; Creissels 2003: 58)

(213) *Mosadi yo moleele yo montsho yo o opelang yole*

<i>mù-sádi</i>	<i>jó</i>	<i>mù-léélè</i>	<i>jó</i>	<i>mú-̀ntsʰù</i>
CL1-woman	CL1.LNK	CL1-tall	CL1.LNK	CL1-black
<i>jó</i>	<i>ú-̀pél-à-̀j</i>	<i>jó-lé</i>		
CL1.LNK	S3:1-sing-FV-REL	CL1-DEM		

‘that tall black woman who is singing’

Tswana (S31; Creissels 2003: 58)

(214) *Lekau le lelele le lentsho le le opelang lele*

<i>̀lì-káù</i>	<i>lé</i>	<i>̀lì-léèlè</i>	<i>lé</i>	<i>̀lì-̀ntsʰù</i>
CL5-boy	CL5.LNK	CL5-big	CL5.LNK	CL5-black
<i>lé</i>	<i>̀lì-̀pél-à-̀j</i>	<i>lé-lé</i>		
CL5.LNK	S3:5-sing-FV-REL	CL5-DEM		

‘that tall black boy who is singing’

Tswana also has obligatory agreement of free pronouns (215)-(216) and bound pronominal morphemes with the class of the noun they refer to, i.e. subject (217) and object (218) indexes.¹⁰⁵

¹⁰⁵ As observed in 3.2.1, footnote 46, I use the term “index” in the sense of Haspelmath (2013) for subject and object bound pronominal forms in the verb because this term is neutral about obligatoriness/optionality of the bound form. The term “concord” and “agreement” are problematic, especially for the grammatical relation of object in Tswana, because object indexes in the verb are syntactically not obligatory (Denis Creissels, p.c.). As in most zone S languages, object indexes on the verb in Tswana are used instead of a NP or together with a NP to emphasize it (Gowlett 2003: 636), as will be shown in the following sections.

Tswana (S31; Creissels 2003: 59)

(215) *Ke bua le ene*

kì-bú-à lí-èné

s1s-talk-FV with-CL1.PRO

'I talk with her (the woman).'

Tswana (S31; Creissels 2003: 59)

(216) *Ke bua le lone*

kì-bú-à lí-lòné

s1s-talk-FV with-CL5.PRO

'I talk with him (the boy).'

Tswana (S31; Creissels 2003: 58)

(217) *Lekau le lapile*

lì-káú lí-láp-ìl-è

CL5-boy s3:5-be.tired-PFT-FV

'The boy is tired.'

Tswana (S31; Creissels 2003: 58)

(218) *Ke le thusitse*

kì-lí-t^hús-íts-è

s1s-O3:5-help.PFT-FV

'I have helped him.' (the boy)

A verb root in Tswana usually has a CVC shape (cf. *láp* 'be tired' in (217)), but VC, CV, CVCVC and other syllable shapes are also possible. Verb morphology is rich and the verbal tonology is particularly complex even compared to other Bantu languages (see Creissels et al. 1997 and Creissels 1999b for a detailed description). Tswana inflected verb forms can be divided into the following categories: indicative, circumstantial, relative, subjunctive, sequential, imperative and infinitive. All of these inflected verb forms change depending on whether they have positive or negative polarity except the sequential, whose negative form is expressed analytically. The indicative, subjunctive, imperative and infinitive categories roughly correspond in function to the functions these labels have in Indo-European languages (Creissels 2006b: 2). Examples of imperative and subjunctive forms are in (219) and (220), respectively.

Tswana (S31; Creissels 2003: 78)

(219) *Lema*

lìm-á

cultivate-FV

'Cultivate!'

Tswana (S31; Creissels 2003: 78)

(220) *(Ke batla gore) a leme*

á-lím-è

s3:1-cultivate-FV

'(I want that) s/he cultivates.'

The circumstantial verb forms are used in subordinate adverbial clauses and have a different tonal contour with respect to the indicative verb forms. Relative verb forms are marked by the presence of a high tone syllabic *-ŋ* after the final vowel of the verb, as in (221). Notice that the relativized verb must be obligatorily preceded by a “linker” (historically a demonstrative) which agrees with the noun class of the noun that is being relativized on (i.e. ‘knife’ in (221)).

Tswana (S31; Creissels 2006b: 3)

(221) *Thipa e ke segang borotho ka ene e kae?*

<i>tʰipá</i>	<i>é</i>	<i>kí-síχ-à-ŋ</i>	<i>bù-rótʰó</i>	<i>ká</i>	<i>èné</i>	<i>í-kâi</i>
CL9.knife	CL9.LNK	S1S-CUT-FV-REL	CL14-bread	INSTR	PRO3:9	S3:9-where

‘Where is the knife I use to cut the bread?’ (lit: the knife I cut the bread with it)

Sequential verb forms are used for non-initial coordinate clauses. There are two sequential markers and their use depends on the Tense Aspect Modality (TAM) value of the verb in the first clause (cf. *kà-* in (222)).

Tswana (S31; Creissels 2006b: 3)

(222) *Ke ile toropong ka reka ditlhako*

<i>kì-ìl-é</i>	<i>tòrópó-ŋ</i>	<i>kà-rék-á</i>	<i>dí-tʰàkú</i>
S1S-go.PFT-FV	CL9.town-LOC	S1S.SEQ1-buy-FV	CL8-shoe

‘I went to town and bought shoes.’

The indicative, circumstantial and relative inflected verb forms have the following TAM distinctions: present, perfect (i.e. “anterior”), future and potential.¹⁰⁶ Examples (223) - (226) are all indicative verb forms: (223) shows an indicative perfect positive verb

¹⁰⁶ On the functions and interpretation of the Tswana perfect, see Creissels (1999c). On compound verbal tenses formed by an auxiliary and a lexical verb, see Cole (1975) and Creissels (1999c, 2003).

Tswana (S31; Creissels 2006b: 4)

(228) *O tsamaile Mpho*

ú-tsámà-ìl-è m̀pʰɔ́

s3:1-go-PFT-FV CL1.Mpho

‘He has gone, Mpho that is.’

We now turn to the structure of the Tswana verb template, divided into position classes in Figure 11.

Figure 11: Tswana verb template (after Creissels 2006b)

-4	-3	-2	-1	0	+1	+2	+3	+4	+5
(NEG)	(SUBJ) (INF)	(TAM/ NEG)	(OBJ)/ (REFL)	ROOT	(VAL)	(PFT)	(PASS)	FINAL V	(PL.IMP)/ (REL.V)/ (INTERR.)

The simplest verbal form in Tswana comprises at least a root (slot 0) and a final vowel (slot +4). This form would be an imperative, cf. (219). Position -4 is occupied in the indicative present negative and in the indicative perfect negative by the negation marker $\chi\hat{a}$ -. Position -3 is occupied by a subject index in all tenses and moods except the imperative. In the infinitive, position -3 is filled by the prefix of noun class 15 $\chi\hat{u}$ -. Position -2 hosts a multitude of TAM morphemes (cf. \acute{a} - ‘perfect’ in (224)), some negation morphemes and a morpheme which signals a disjoint verb form (cf. Creissels 1996, 2017a) in the present tense of the indicative mood when the clause is affirmative. Position -1 can be filled by one, two, or three object indexes; or by two object indexes and reflexive marker, which behaves morphologically as an object index, as shown in (229).

Tswana (S31; Creissels 2003: 73)

(229) *E mo itemisetse!*

í-mú-í-tùm-ís-éts-é

03:9-03:1-REFL-cultivate-CAUS-APPL-FV

-1 -1 -1 0 +1 +1 +4

‘Make him cultivate it for you!’

Position +1 immediately after the root is occupied by valence-changing morphology, such as causative, applicative, reciprocal and decausative suffixes. Notably, all valence-changing morphology occupies position +1, except the passive suffix which occupies position +3. Position +2 can be optionally filled by the perfect affirmative morpheme (cf. *-il* in (223), which has very complex allomorphy. Position +4 cannot be left empty: it must be filled by one of four possible final vowels: *-a* (225), *-i* (226), *-ε* (220) or *-e~i* (223). The final vowels are inflectional in nature, for instance, they indicate the change between indicative and subjunctive categories. Position +5, also called “post-final” because it occurs after the final vowel, can be filled by one of three morphemes which are mutually exclusive: a low-tone syllabic nasal *-ŋ* which marks plural imperative, a high-tone syllabic nasal *-ŋ̄* typical of verb forms within relative clauses, or a high tone syllabic nasal *ŋ̄* which is the clitic form of the interrogative pronoun *eng* [iŋ] ‘what’.

6.4.2 Clause structure and syntactic arguments

With this background in mind, we now turn to Tswana clause structure and grammatical relations which are essential for understanding applicative constructions. Like the majority of African languages (Creissels 2005b: 66), Tswana displays a nominative-accusative alignment system. This type of alignment is manifested in several

overt properties. Within the verb template, identical subject indexes occur for transitive and intransitive subjects before tense/mood prefixes and negation, while object indexes occur immediately before the root (cf. Figure 11). Subject and object indexes in Tswana are in Table 17. Note that except for 1SG, 2SG and 3SG of class 1 nouns, subject and object indexes are segmentally identical.

Table 17: Subject and object indexes in Tswana (Creissels 2003: 82)

		SUBJECT INDEXES	OBJECT INDEXES
1SG		ki-/ŋ-	ŋ-
2SG		u-	χù-
1PL		ri-	rí-
2PL		lu-	lú-
3	CL1	u-/a-	mù-
	CL2	ba-	bá-
	CL3	u-	ú-
	CL4	i-	í-
	CL5	li-	lí-
	CL6	a-	á-
	CL7	si-	sí-
	CL8/10	di-	dí-
	CL9	i-	í-
	CL11	lu-	lú-
	CL14	bu-	bú-
	CL15/17	χu-	χú-

Tonal properties of subject indexes are too varied and complicated to be represented here (see Creissels et al. 1997 and Creissels 2003 for details). There are four sets of subject indexes with different tonal patterns according to the TAM value of the verb

stem (see Creissels et al. 1997: 31).¹⁰⁷ On the other hand, object indexes have a constant tone pattern regardless of the choice of a particular verb form (indicative, sequential, subjunctive, etc.) but they still present complex tonal alternations conditioned by the phonological environment.

As for clause structure, Tswana is rigidly an AVOX language (where X indicates obliques). Object NPs must immediately follow the verb, cf. (230) unless the object is dislocated to “topic” or “afterthought” position. No element can occur between the verb and the object in non-interrogative clauses (Creissels 2002: 387).

Except in the imperative and the infinitive, every single verb form in Tswana obligatorily has a subject index, whether or not a coreferential subject NP is present in the construction. This can be seen by comparing (230) and (231), where the subject index *ú-* is present in both, but the coreferential subject NP is present only in (230).

Tswana (S31; Creissels 2003: 12)

(230) *Monna o lemile tshimo maabane*

<i>mù-ńńá</i>	<i>ú-ńm-ńl-é</i>	<i>ts'ímú</i>	<i>máábání</i>
CL1-man	S3:1-cultivate-PFT-FV	CL9.field	yesterday

‘The man has cultivated a/the field yesterday.’

Tswana (S31; Creissels 2003: 12)

(231) *O lemile tshimo maabane*

<i>ú-ńm-ńl-é</i>	<i>ts'ímú</i>	<i>máábání</i>
S3:1-cultivate-PFT-FV	CL9.field	yesterday

‘He/she has cultivated a/the field yesterday.’

¹⁰⁷ Tense forms in present-day Bantu languages are the result of the univerbation of a sequence of an auxiliary plus a main verb. The auxiliary carried subject indexes, whereas the lexical verb was preceded by object indexes, as in: subj-index + Auxiliary # obj-index + Verb. In the process of univerbation, the interaction between the tone of the former auxiliary, reanalyzed as a TAM-polarity prefix, and the tone of subject indexes caused huge variation in the surface tone of subject indexes (Denis Creissels, p.c.).

By contrast, syntactically transitive verb roots display object indexation if and only if the object argument has already been mentioned in discourse, i.e. if it is identifiable. In this case, a coreferential object NP must be either absent (232) or dislocated (233).

Tswana (S31; Creissels 2003: 12)

(232) *Monna o e lemile maabane*

mù-ńńá ú-í-łìm-łl-é máàbáńì

CL1-man s3:1-o3:9-cultivate-PFT-FV yesterday

‘The man has cultivated it yesterday.’ (it = the field)

Tswana (S31; Creissels 2003: 12)

(233) *Monna o e lemile maabane tshimo*

mù-ńńá ú-í-łìm-łl-é máàbáńì ts^hímò

CL1-man s3:1-o3:9-cultivate-PFT-FV yesterday CL9.field

‘The man has cultivated it yesterday, the field.’

In (232), there is no overt lexical object NP, but the object index on the verb shows that the “omitted” discourse-coreferential object NP must be of class 9. Note that in (232) it would be ungrammatical to have an immediately post-verbal object NP co-occurring with the object index on the verb.¹⁰⁸ In (233), the object concord of class 9 is present but the object NP is dislocated, that is, the NP does not occupy the immediately postverbal position. Therefore, in Tswana, a good syntactic test to determine whether a given verb root is syntactically transitive is whether the verb can take an object index in a construction where an object NP is dislocated or absent.

In ditransitive constructions, Tswana shows neutral object alignment in the sense of Mal’čukov et al. (2010), where R (the Recipient of verbs of transfer such as

¹⁰⁸ The occurrence of both a lexical overt object NP and an object index is possible only with a disjoint verb form, when the lexical overt object NP functions as an afterthought (as in *He has eaten it, the sorghum*) (Denis Creissels, p.c.).

‘give’) and T (the Theme or transferred entity) are both treated formally like the Patient (P) of a simple transitive verb like ‘hit’ or ‘cut’.¹⁰⁹ This means that Tswana is a language which allows constructions in which two or even three objects of a single verb show all properties typical of the grammatical relation of object. Consider a ditransitive verb root such as *f* ‘give’ which, without derivation, can take two object NPs. Both object NPs are syntactically unmarked for case (234); (ii) they are both indexed on the verb by means of the same object indexing paradigm (235);¹¹⁰ (iii) they can both equally be made the Subject of a passive (236)-(237).

Tswana (S31; Creissels 2002: 390)

(234) *Ke file bana dikwalo*

kì-f-íl-é b-àná dì-kwálò
 s1s-give-PFT-FV CL2-child CL10-book
 ‘I have given the books to the children.’

Tswana (S31; Creissels 2002: 389)

(235) *Ke di ba file*

kì-dí-bà-f-íl-è
 s1s-O3:10-O3:2-give-PFT-FV
 ‘I have given them to them.’ (cf. books = CL10, children = CL2)

Tswana (S31; Creissels 2002: 390)

(236) *Bana ba filwe dikwalo*

b-àná bá-f-íl-w-é dì-kwálò
 CL2-child S3:2-give-PFT-PASS-FV CL10.book
 ‘The children were given the books.’

¹⁰⁹ For this discussion of Tswana, I use the term “neutral object alignment” to relate object types to typological discussions of alignment. In Bantu discussions of languages relative to object types, Tswana would be considered as a “symmetrical” object type language.

¹¹⁰ Apparently, Tswana is the only language in zone S which allows two or even three objects to be indexed on the verb (Gowlett 2003: 637).

Tswana (S31; Creissels 2002: 390)

(237) *Dikwalo di filwe bana*

dì-kwáló *dí-f-íl-w-é* *b-àná*
CL10-book S3:10-give-PFT-PASS-FV CL2-child

‘The books were given to the children.’

Constructions with up to three objects are possible in Tswana when the valence of the verb is increased by means of applicative derivation. This can be observed in (238) where the applicative adds an object with the semantic role of Beneficiary (i.e. ‘my uncles’) to ‘give’.

Tswana (S31; Creissels 2002: 390)

(238) *Ke fetse bomalome dikgomo letswai*

kì-f-éts-í *bó-màlómé* *dí-q^hòmú* *lì-tswáì*
S1S-give-APPL.PFT-FV CL2-uncle.POSS.1S CL10-cow CL5-salt

‘I have given salt to the cows for my uncles.’

The Theme (‘salt’ CL5), the Recipient (‘cows’ CL10) and the Beneficiary (‘uncles’ CL2) can also be optionally indexed on the verb, as in (239).

Tswana (S31; Creissels 2002: 390)

(239) *Ke le di ba fetse*

kì-lí-dí-bà-f-éts-ì
S1S-O3:5-O3:10-O3:2-give-PFT-FV

‘I have given it to them for them.’ (salt = CL5, cows = CL10, uncles = CL2)

The Beneficiary object, as well as the Theme and Recipient objects (cf. (236)-(237)), can also be made the subject of a passive construction, as shown in (240).

Tswana (S31; Creissels 2002: 390)

(240) *Bomalome ba fetswe dikgomo leswai*

bó-màlómé *bá-f-éts-w-í* *dí-q^hòmú* *lì-tswái*

CL2-uncle.POSS.1S S3:2-give-PFT.APPL-PASS-FV CL10-cow CL5-salt

‘My uncles were given salt to the cows.’ (i.e. ‘My uncles were benefited by giving salt to the cows.’)

In constructions with two or three objects, the order in which lexical full object NPs appear is determined by a hierarchy of animacy rather than by the semantic roles of the objects.¹¹¹ In (234), the animate object occurs before an inanimate one, and in (238) a human object occurs before a non-human animate one, which in turns occurs before an inanimate one.

The animacy hierarchy also operates in argument indexation on the verb (cf. (235), (239)). In this context, the order of the object indexes is the mirror image of the order of full object NPs (234): this affix order is rigid and depends more on the status of the objects on the animacy hierarchy than on their semantic role. In (235), the object referent indexed immediately before the verb root is animate (i.e. ‘the children’) and is immediately preceded to its left by the object with an inanimate referent (i.e. ‘the books’). In (239), the object referent indexed closest to the left of the verb root is human (‘uncles’), the one further away from the root to the left is animate (‘cows’) and the furthest away to the left is inanimate (‘salt’). If two objects have equal status on the

¹¹¹ Denis Creissels (p.c.) informs me that when both full lexical object NPs are animate or human (as in *I gave the chickens to the dog* or *I gave the woman to the man*), semantic roles would be taken into account so that the Recipient object should precede the Theme object. However, speakers tend to avoid such constructions due to possible ambiguity if the interpretation is not disambiguated by the context. Ambiguities may also arise with human and non-human animate objects. For instance, *bolaisa motho ntša* is ambiguous between ‘make the man kill the dog’ or ‘make the dog kill the man’ (Creissels 2013: 5).

animacy hierarchy, the semantic role is taken into account to determine their relative order, but speakers are often hesitant in their judgments in this respect (Creissels 2002: 391).

From a typological point of view, verb roots in Bantu are usually associated with a basic (lexicalized) valence, and the addition of valence-modifying morphology results in verb stems whose argument structure can be predicted by the combination of the root plus derivational suffixes (Good 2007: 3).

In Tswana, a great number of underived verb roots are strictly intransitive in syntactic terms. This means that a root such as ‘cry’ in (241) cannot appear in a transitive clausal construction (i.e. it cannot be followed by an object NP and/or it cannot take an object index), unless it undergoes some sort of valence-increasing operation, such as the applicative in (242).

Tswana (S31; Creissels ms.b: 156)

(241) *Ngwana o a lela*

<i>ŋw-àná</i>	<i>ú-á-líl-à</i>
CL1-child	S3:1-DJ-cry-FV
‘The child cries.’	

Tswana (S31; Creissels ms.b: 157)

(242) *Batho ba lelela moswi*

<i>bà-t^hò</i>	<i>bá-líl-él-à</i>	<i>mò:-swí</i>
CL2-person	S3:2-cry-APPL-FV	CL1-dead.person
‘The people cry their dead person.’		

There is, however, no special derivational or inflectional morphology that intransitive underived verb roots take and other underived verb roots do not or vice versa, aside from object indexes. The (in)transitivity of a given underived verb root is then visible only at the clause level.

Creissels (to appear) applies to Tswana a questionnaire specifically designed to check the behavior of verbs that typically show cross-linguistic variation in their transitivity properties. He concludes that Tswana is a language where the degree of “transitivity prominence” is very high. Out of 26 semantically bivalent verbs, 25 of these are coded transitively in Tswana, while only one shows two alternative argument structures (transitive and intransitive in free alternation). “Transitivity prominence” is to be understood as the extent to which a language makes use of transitive encoding for semantically bivalent or trivalent verbs such as ‘help’, ‘follow’, ‘look at’, ‘know’, ‘break’, ‘cover’, ‘give’, etc. (Haspelmath 2015).¹¹²

On the other hand, almost any syntactically transitive Tswana verb root, i.e. a root which has the ability to be followed by an object NP or to take an object index, displays A-lability (Agent-preserving lability). “Lability” here is understood in the broad sense according to which a verb is labile if it can be used transitively or intransitively without any formal change in its segmental or suprasegmental structure (Kibrik et al. 1977, Dixon 1994, Dixon & Aikhenvald 2000).¹¹³ In Agent-preserving lability or A-lability, when the verb is used intransitively, it implies the same participants with the same semantic roles as in its transitive use (i.e. *She drinks beer* vs. *She drinks*), but the Patient participant is not expressed, cf. (223)-(226). It has sometimes been suggested that A-lability may be functionally akin to object-demoting or anti-passive constructions

¹¹² Haspelmath (2015: 136) proposes the following cross-linguistic definition of transitivity: “a verb is considered transitive if it contains an A and a P argument. A and P are defined as the arguments of a verb with at least two arguments that are coded like the ‘breaker’ and the ‘broken thing’ micro-roles of the ‘break’ verb”.

¹¹³ Dixon (1994) uses the term ‘ambitransitive’. Dixon & Aikhenvald (2000: 38) recognize ‘labile’ as a synonym of ‘ambitransitive’.

(Hewitt 1982, Payne 1997, Givón 2001). In fact, some Tswana verb roots such as ‘buy’ allow a non-specific interpretation of the unexpressed object argument (Creissels 2014b: 913), with a resultant change in the meaning of the verb when used intransitively.

Compare (243) and (244).

Tswana (S31; Creissels 2003: 87)

(243) *Maburu a rekile dikgomo*

mà-búru á-rék-íl-é dí-q^hòmú

CL6-Afrikaner S3:6-buy-PFT-FV CL10-cow

‘The Afrikaners bought (the) cows.’

Tswana (S31; Creissels 2003: 79)

(244) *Ke ne ke reka*

kì-nè kí-rèk-á

S1S-AUX S1S-buy-FV

‘I was shopping.’

On the contrary, P-lability, where a syntactically transitive verb root is used intransitively and retains its most Patient-like argument (i.e. *I broke the vase* vs. *The vase broke*) is extremely rare in Tswana and happens only with a handful of verbs (Creissels 2002: 392). Whether A-lability with syntactically transitive verb roots is typical of Tswana or of Bantu languages more generally is largely unknown (Creissels to appear).

Tswana usually does not allow the absence of a NP object to be construed as a definite null complement (i.e. definite zero-anaphora) in the sense of Fillmore (1986): regardless of the nature of the referent, any object anaphor triggers the presence of an object index on the verb (Creissels 2002: 392).¹¹⁴

¹¹⁴ Denis Creissels (p.c.) observes that he has never come across a Tswana transitive verb interpreted as referring to a specific object in the absence of an object NP or object index.

According to the typology of transitivity proposed by Payne (2009), Tswana intransitive underived verb roots have their transitivity value set at the root level and can be changed only by additional derivation morphology (Payne's "type 1"). On the other hand, the A-labile and the few P-labile verb roots have underspecified transitivity at the root level: a verb with no derivational morphology can go into either a syntactically intransitive frame (not having a "definite null" object) or into a syntactically transitive frame (Payne's "type 3").

6.4.3 Obliques

In Tswana, while NPs functioning as subjects or objects have no formal marking of their grammatical status by case affixes, adpositions or tonal variations, obliques are formally marked by prepositions and/or affixes. There are no prepositions with benefactive meaning (i.e. 'for') in Tswana. A Beneficiary or Recipient can only be expressed as an applied object NP by means of applicative derivation, cf. (238).

Creissels (2013) makes a distinction in Tswana between prepositions, which cause propagation of high tone to the immediately following syllable and may be followed by a downstep (which is typical for word boundaries), versus prepositional affixes, which cause propagation of high tone to the following two syllables and cannot be followed by a downstep (which is typical for the tonal interaction between morphemes belonging to the same word).

There is also a group of quasi-prepositions, that is, elements that behave phonologically like prepositions but are syntactically optional. This heterogeneous group of oblique markers is in Table 18. Table 18 does not include the genitival marker

-a, and not all meanings of prepositions and affixes are listed (cf. the discussion below for details).

Table 18: Tswana oblique markers

Affixes	Prepositions	
<i>le</i> [lí-] ‘comitative’	<i>ka</i> [ká] ‘instrumental, manner, time’	
<i>go</i> [χó-] ‘locative’	<i>ke</i> [kí] ‘Agent <i>by</i> -phrase’	
<i>-ng</i> [-ŋ] ‘locative’	Locative quasi-prepositions	<i>fa</i> [fá] ‘at, to, from (proximate)’ <i>ko</i> [kó] ‘at, to, from (distant)’ ^a <i>mo</i> [mó] ‘in, on, around, into, out of’ ^b

^a *ko* [kó] has a dialectal variant *kwa* [kwá] (Cole 1975: 341)

^b The quasi-preposition *mo* [mó] is in process of gaining full prepositional status.

The prefix *le* [lí-] is used in Tswana to express comitative/associative meanings, as in (245).¹¹⁵

Tswana (S31; Creissels 2013: 12)

(245) *Ngaka ya Setswana e agile mo motseng le batho*

ŋàkà *já-sì-tswáná* *í-ách-íl-è* *mó* *mú-tsì-ŋ*
CL9.medicine CL9.GEN-CL7-tswana S3:9-live-PFT-FV LOC CL3-village-LOC

lí-bá-t^hù

with-CL2-person

‘The traditional doctor lives in the village with people.’

This prefix is also used for additive coordination of nominal constituents, in which case it does not introduce an oblique. When the first and the second nouns linked by *le* refer to human referents they trigger class 2 agreement, whereas when they refer to non-human referents they trigger a plural subject index of class 8/10 (cf. *dí-* in (246)).

¹¹⁵ The prefix *le* [lí-] appears to be an innovation within S30 languages. Creissels (2013) suggests that the only possible etymology at the present stage of knowledge is the one proposed by Cole (1975), from the PB verb *dì ‘be’.

Tswana (S31; Creissels 2013: 14)

(246) *Mokwepa le lengau di bonanye*

mù-kwépa lí-lí-ḡáù dí-bòn-áḡ-ì
CL3-mamba and-CL5-cheetah s3:8/10-see-REC.PFT-FV

‘The mamba (snake) and the cheetah saw each other.’

The prefix *le* can also be used as an additive connector (like the English *too* in the sentence *Mpho too has left*).

The preposition *ka* (possibly from PB *ngà ‘be similar to’) introduces instrumental (247), manner (248), temporal (249), and ‘about’/Theme (250) oblique phrases.

Tswana (S31; Creissels 2013: 15)

(247) *Ba mmeditse ka thupa le ka thipa*

bá-m-mìd-íts-è ká tʰúpà lí-ká tʰípá
s3:2-o3:1-beat-PFT-FV INSTR CL9.stick and-INSTR CL9.knife

‘They have beaten him with a stick and a knife.’

Tswana (S31; Creissels 2013: 19)

(248) *Ba tsamaya ka dinao*

bá-tsámáj-à ká dí-nàù
s3:2-go-FV INSTR CL10-foot

‘They go by foot.’

Tswana (S31; Creissels 2013: 19)

(249) *Ba gorogile ka tshipi ba tswa Gaborone*

bá-ḡòróḡ-íl-è ká tsʰípí bá-tsw-á ḡàbúróni
s3:2-arrive-PFT-FV INSTR CL9.sunday s3:2-leave-FV CL1.Gaborone

‘They arrived on Sunday from Gaborone.’

Tswana (S31; Creissels 2013: 20)

(250) *Basadi ba bua maswe ka (ga) banna*

bà-sádí bá-bú-á mà-swé ká (χά-)bà-ńnà
CL2-woman S3:2-speak-FV CL6-bad INSTR (CL17.GEN-)CL2-man

‘The women talk badly about the men.’¹¹⁶

Ka can also be used in combination with other prepositions with a meaning that is not easy to pinpoint. Compare (251) and (252).

Tswana (S31; Creissels 2013: 21)

(251) *Kitso o ile ko ga Mpho*

kítsó ú-ìl-é kó χά-mp^hó
CL1.Kitso S3:1-go.PFT-FV LOC CL17.GEN-CL1.Mpho

‘Kitso has gone to Mpho’s house.’

Tswana (S31; Creissels 2013: 22)

(252) *Kitso o ile ka ko ga Mpho*

kítsó ú-ìl-é ká kó χά-mp^hó
CL1.Kitso S3:1-go.PFT-FV through LOC CL17.GEN-CL1.Mpho

‘Kitso has gone to Mpho’s house (by overcoming some obstacle).’

According to Cole (1975), in (252) the preposition *ka* adds the idea that to get to Mpho’s house, Kitso has to overcome some sort of obstacle (a river, a mountain, etc.).

For additional functions of the preposition *ka* see Creissels (2013).

The preposition *ke* [kí], etymologically probably from *ke* [ki] an invariable identificational word (e.g. ‘it is X’), introduces Agent *by*-phrases in passive constructions such as (253). The Agent *by*-phrase ‘by the policemen’ in (253) is a full oblique which can be freely omitted from the construction.

¹¹⁶ In (250), *ka* is in free variation with *ka ga*, where *χά-* is the genitive marker of locative class 17 (etymologically ‘the place of’) (Creissels 2013: 20).

Tswana (S31; Creissels 2013: 23)

(253) *Lekau le beditswe ke mapodisi*

lì-káú lí-bìd-ìts-w-è kí má-pòdísí
CL5-boy s3:5-hit-PFT-PASS-FV by CL6-policeman
'The boy has been hit by the policemen.'¹¹⁷

With few exceptions, any constituent functioning as a locative expression in Tswana must, at least, present a morphological marking of location. Exceptions to this rule are very few nouns inherently belonging to locative class 17 and toponyms, among others. This locative morphological marking is carried out by the suffix *-ng* [-ŋ] (cf. the historical discussion in §3.2.2) or by the prefix *go* [χó-]. These two affixes are in complementary distribution: [-ŋ] is used when a nominal constituent starts with a noun that does not refer to a kinship relation and does not make its plural in class 2a (with the noun class prefix *bo-*), cf. (254); [χó-] is used when the first noun of a nominal constituent is a kinship term (255) or with a noun that has its plural in class 2a (with *bo-*), or if the nominal constituent starts with a pronoun.

Tswana (S31; Creissels 2013: 28)

(254) *Ke ile sekoleng*

kì-ìl-é sì-kólé-ŋ
s1s-go-FV CL7-school-LOC
'I have gone to school.'¹¹⁸

¹¹⁷ Creissels (2002: 395) hypothesizes that (253) originated in a juxtaposed sequence of two sentences, as in *The boy has been hit. It is the policemen (who have hit him)*.

¹¹⁸ Example (254), in which the locative marked noun 'school' is not preceded by a preposition is much less common in discourse than locative marked nouns preceded by prepositions.

Tswana (S31; Creissels ms.b: 329)

(255) *Ke tswa (ko) go malome*

kì-tsw-à (*kó*) *χú-màlómè*
s1s-come.from-FV LOC LOC-CL1.uncle.POSS.1S
'I am coming from my uncle's.'

Notice that in Tswana, any constituent which is locative marked in some way does not make any distinction by itself between origin, static location or destination. The more precise semantic interpretation of a locative marked constituent depends on the lexical meaning of the verb. This can be seen by comparing (254) and (256), where the noun 'school' marked by the locative suffix [-*ń*] can be interpreted as a destination or as an origin, respectively.

Tswana (S31; Creissels 2013: 28)

(256) *Re tswa sekoleng*

rì-tsw-à *sì-kólé-ń*
s1P-come.from-FV CL7-school-LOC
'We come from school.'

Locative expressions in Tswana, including those marked by the locative affixes [-*ń*] and [*χú-*] are usually preceded by one of the three locative quasi-prepositions *ko* [*kó*], *fa* [*fá*] and *mo* [*mó*], as shown in (257)-(260).¹¹⁹

Tswana (S31; Creissels 2013: 32)

(257) *Ke ile sekoleng*

kì-ìl-é *kó* *sì-kólé-ń*
s1s-go-FV LOC CL7-school-LOC
'I have gone to school.'

¹¹⁹ On the historical origins of these quasi-prepositions see §3.2.2.

Tswana (S31; Creissels 2013: 28)

(258) *Re tswa ko sekoleng*

rì-tsw-à *kó* *sì-kólé-ṅ*
S1P-come.from-FV LOC CL7-school-LOC

‘We come from school.’

Tswana (S31; Creissels 2013: 33)

(259) *Mapodisi a fitlhetse madi mo dikgetsing tsa legodu*

mà-pòdísí *á-fit^héts-í* *mà-dí* *mó* *dí-q^hètsí-ṅ*
CL6-policeman S3:6-find.PFT-FV CL6-money LOC CL10-pocket-LOC

tsá-lí-χódù

CL8/10.GEN-CL5-thief

‘The policemen have found money in the pockets of the thief.’

Tswana (S31; Creissels 2013: 33)

(260) *Dinku di fula fa masimong a borakgadi*

dì-ṅkú *dí-fúl-à* *fá* *mà-símú-ṅ* *á-bó-ràq^hádì*
CL10-sheep S3:10-graze-FV LOC CL6-field-LOC CL6.GEN-CL2-aunt

‘The sheep graze in the fields of my aunts.’

According to Creissels (2013), *ko*, *fa* and *mo* are “quasi-prepositions” because phonologically they behave like separate words, but syntactically they are optional (cf. absence of any of these prepositions before locative-marked nouns in (254) and (256)), although they are extremely common in discourse (Creissels 2013: 30). According to Cole (1975: 341), *fa* indicates that the location at, to or from which the action is performed is relatively proximate; *ko* indicates that the location at, to or from which the action is performed is relatively distant; and *mo* indicates that the action is performed in, on or around, or is directed into or out of a given location without reference to the distance involved.

These three quasi-prepositions can also function as locative deictics (cf. (64) in §3.2.2) and relativizers (see Creissels 2013 for a detailed account). Of these three quasi-prepositions, *mo* seems to be on its way to become a full-fledged preposition since it has developed non-locative semantics and omitting *mo* from constructions such as (261) and (262) would result in ungrammaticality. However, the entire constituents consisting of *mo* plus the locative marked nouns in (261) and (262) can be freely omitted from the constructions as they are obliques.

Tswana (S31; Creissels 2013: 34)

(261) *Ga ke reke dikgomo mo legodung*

χà-kí-rék-í dì-q^hòmú mó lí-χòdù-ḡ
 NEG-S1S-buy-FV CL10-cow LOC CL5-thief-LOC

‘I do not buy cows from a thief.’

Tswana (S31; Creissels 2013: 34)

(262) *Re aga maraka go sireletsa dikgomo mo dibataneng*

rì-áχ-á má-ràká χù-síreléts-à dì-q^hòmú
 S1P-build-FV CL6-park INF-protect-FV CL10-cow

mó dí-bàtànè-ḡ
 LOC CL8-wild.animal-LOC

‘We build parks to protect cows from wild animals.’

In general, in Tswana, nouns marked by affixes such as *le* [lí-], *go* [χú-] and *-ng* [-ḡ] and nouns introduced by prepositions or locative quasi-prepositions behave syntactically as obliques: they cannot be indexed on the verb by means of an object index, they cannot be made the subject of a passive construction and they are structurally optional. However, as happens in many other languages, prepositions and locative quasi-prepositions can be used to introduce required/obligatory “oblique arguments” of certain verbs such as the place where the object of ‘put’ is located in (263).

Tswana (S31; Creissels 2013: 33)

(263) *Monna o beile madi mo kgetsing*

<i>mù-ńná</i>	<i>ú-bé-íl-é</i>	<i>mà-dí</i>	<i>mó</i>	<i>q^hètsí-ŋ</i>
CL1-man	s3:1-put-PFT-FV	CL6-money	LOC	CL9.pocket-LOC

‘The man put the money in the pocket.’

In (263), the prepositional phrase has two out of three properties of obliques: it cannot be indexed on the verb, it cannot be made the subject of a passive, but unlike other obliques it cannot be omitted from the construction.

6.4.4 The applicative suffix in Tswana: form and functions

The applicative morpheme in Tswana has a basic form [-el], cf. (264a), and allomorphs [-el], [-ed], [-ets], and [-al]. Briefly, the allomorph [-el] occurs when a palatal segment or a front vowel follows as in (264b); [-ed] occurs in the presence of an immediately following [i] and is reminiscent of a historical l/d allomorphy, as in (264c); [-ets] occurs when the applicative morpheme conflates with certain morphemes, such as the perfect [-il] or the causative [-is], as in (264d); [-al] occurs when the applicative co-occurs with another suffix starting with an [-a], such as the reciprocal [-an], as in (264e). The applicative morpheme is underlyingly toneless: in fact, all the components of a verb stem are underlyingly toneless with the exception of the verb root (Creissels 2003).

(264)

(a) /bérék-à/ ‘work-FV’ > /bérék-él-à/ ‘work-APPL-FV’ > [bérék-él-à]

(b) /bérék-í/ ‘work-FV’ (present negative) > /bérék-él-í/ ‘work-APPL-FV’ > [bérék-él-í]

(c) /bíts-á/ ‘call-FV’ > /bíts-él-íl-é/ ‘call-APPL-PFT-FV’ > [bíl-éd-íts-é]

(d) /àpé-íl-é/ ‘cook-PFT-FV’ > /àpé-él-íl-é/ ‘cook-APPL-PFT-FV’ > [àpé-éts-í]

(e) /lày-à/ ‘give instructions-FV > /là-él-àn-à/ ‘give instr.-APPL-RECPR-FV > [là-àl-àn-à]

Some functions of the semantically underspecified applicative morpheme in Tswana, and in Bantu more generally, have been illustrated in §5.3-§5.5. In Tswana, one single applicative derivation can have the following functions: introduce an applied phrase (in the form of object NP or a prepositional phrase) with a variety of semantic roles, except instrument, determined by the lexical verb meaning and context (cf. §5.3 and sub-sections therein); place narrow focus on locative applied phrases exclusively (cf. §5.4.2) and convey a habitual meaning to the action described by the verb (cf. §5.5). Two consecutive applicative suffixes can introduce two applied phrases (cf. (112) in §5.3) or indicate completeness, intensity, repetitiveness, etc. of the action described by the verb root (cf. §5.5). Recall from §2.3 that applicative constructions in Tswana are always obligatory, in the sense that there are no non-applicative counterparts in which phrases with the same meaning/semantic role can appear as obliques. Note that in Tswana this goes well beyond Beneficiary semantic roles.

Beyond those functions, applicative stems in Tswana have often undergone lexicalization: the meaning of an applicative stem is often not the compositional sum of the meaning of the root plus the applicative morpheme. Some examples of applicative verbs that do introduce an applied phrase to the argument structure of their roots and at the same time display lexicalization are illustrated below.

The verb root *tshwan* [ts^hwán] ‘resemble, be similar’ acquires the meaning ‘fit, be suitable’ in its applicative form *tshwanel* [ts^hwán-él]. Compare (265) and (266).

Tswana (S31; Creissels 2017b: 82)

(265) *Nare e tshwana le kgomo*
nárf í-ts^hwán-á lí-q^hòmú
 CL9.buffalo s3:9-resemble-FV with-CL9.cow
 ‘The buffalo looks like a cow.’

Tswana (S31; Creissels 2017b: 82)

(266) *Ditlhako tse di tshwanela ngwana*
dì-t^hàkú ts-é dí-ts^hwán-él-á ηw-àná
 CL8-shoe CL8-DEM CL8-resemble-APPL-FV CL1-child
 ‘These shoes fit the child well.’

In (265), *tshwan* [ts^hwán] appears in an intransitive construction where the second term of comparison is an obligatorily present NP marked by the comitative prefix *lí-*. In (266), the verb stem *tshwanel* [ts^hwán-él] is transitive, as shown by the presence of a subject index on the verb (*dí-*) and an object NP immediately after the verb (‘child’). Thus, the applicative increases the valence of the verb root *tshwan* but it also changes its meaning in a non-compositional way from ‘look like’ to ‘fit, be suitable’.¹²⁰ The verb root *tshwan* [ts^hwán] is the regular reflex of PB *púan which has two meanings: ‘resemble each other’, more widespread across Bantu zones, and ‘be fitting’, found in four zones only (Creissels 2017). In itself, the PB verb form *púan is derived from *pú ‘be fitting’ with the addition of the reciprocal morpheme *-an. Creissels observes that in Tswana, these two historically related meanings have been lexically set apart by adding the applicative suffix for the meaning ‘fit’.

Another case of lexicalization is *im* [im] ‘become pregnant’ and its applicative form *imel* [im-èl] ‘be heavy to someone, overcharge, disturb’.

¹²⁰ The applicative form *tshwanel* can also express deontic modality (‘must’) when followed by an infinitive verb (see Creissels 2017 for details).

Tswana (S31; Otlogetswe 2012: 141)

Nnaka o se ka wa ima o sa ntse o tseña sekolo

(267)	<i>ñnàkà</i>	<i>ú-sìkà</i>	<i>wá-ìm-à</i>	<i>ú-sáńtsì</i>
	sibling.POSS.1s	s2s-AUX	s2s-get.pregnant-FV	s2s-AUX
	<i>ú-tsèn-á</i>	<i>sì-kò:lo</i>		
	s2s-enter-FV	CL7-school		

‘My young sister, you should not get pregnant while being a student.’

Tswana (S31; Creissels ms.b: 87)

Magapu a ke a rweleng ka tlatlana a a nkimela

(268)	<i>mà-χápù</i>	<i>á</i>	<i>kí-à-rwélè-ń</i>	<i>ká</i>	<i>tátłànà</i>
	CL6-watermelon	CL6.LNK	s1s-O3:6-carry.PFT-REL	INSTR	CL9.basket
	<i>á-á-ń-kím-è:l-à</i>				
	s3:6-DJ-O1s-be.pregnant-APPL-FV				

‘The watermelons I carry on my head with a basket weigh on me.’¹²¹

The verb root *im* [im] ‘become pregnant’ is a reflex of PB *gimà ‘whole, healthy’, along with the Tswana adjective *kima* [kìmà] ‘thick’ (Creissels ms.a: 1). In this case, it appears that the root *im* [im] specialized in a particular kind of ‘wholeness’ (become pregnant), while the applicative kept a meaning which is closer to that of the protoform (‘whole > heavy > be heavy for/to’).

There is also the unusual case of *tl* [tł] ‘come’ and *tłel* [tł-ɛl] ‘bring (for)’ (*tl* [tł] < PB *jij ‘come’, cf. Creissels ms.a: 3, 1999a: 325). As can be seen by comparing (269) and (270), while ‘come’ is an intransitive root, ‘bring’ is a ditransitive stem.

¹²¹ The change of *im* to *kím* in (268) is the result of the so-called “strengthening” (cf. §6.2). In this case the stem *im* [im-ɛl] starts with a vowel and is preceded by 1sG object index *ń-* which causes the presence of /k/ before /i/.

Tswana (S31; Otlogetswe 2012: 601)

(269) *Batsadi ba tla gompieno*

bà-tsádí bá-tl-à χómptè:nú

CL2-parent S3:2-come-FV today

‘The parents are coming today.’

Tswana (S31; Creissels ms.b: 278)

(270) *Pela e ne ya kopa tshipo go e tlela mogatla*

pílá í-nè já-kùp-à ts^hpó χù-í-tl-él-á

CL9.hyraX S3:9-AUX S3:9-ask-FV CL9.springhare INF-O3:9-come-APPL-FV

mú-χàt^há

CL3-tail

‘The hyrax asked the springhare to bring him a tail.’

The case of ‘come’ and ‘bring’ in Tswana is unusual because while ‘bring’ can be expressed in some languages as ‘come with’ (cf. English *She brought her baby* and *She came with her baby*), at least synchronically, the applicative derivation in Tswana cannot be used to license instrumental or comitative phrases. Judging by (270), the applicative increases the valence of the root *tl* [tʰ] by two, since it introduces a Theme ‘tail’ and a Recipient ‘him’ object NPs.

There are also cases where a given verb root has disappeared in Tswana and has been replaced by a stem with an applicative morpheme. This is the case of the ditransitive non-parsable applicative stem *lokel* [lòkèl] ‘put an object in a place’.

Tswana (S31; own elicitation, phonetic transcription and glossing by Denis Creissels)

(271) *Ke lokela fone yaaka mo potleng*

kì-lòkèl-à fò:mi yáàká mó pótlè-ìj

S1S-put-FV CL9.phone CL9.mine LOC CL9.pocket-LOC

‘I am putting my phone in the pocket.’

The applicative stem *lokel* [lòkèl] is the regular reflex of PB *dòngid ‘pack carefully’ (Creissels ms.a: 14), attested in zones H, M, R, S and reconstructed with the applicative suffix *-id already at the PB stage. According to the *Reconstructions lexicales bantoues/ Bantu lexical reconstructions 3* (BLR3) (Bastin et al. 2002), the form *dòngid is in itself derived from *dòng ‘heap up, arrange, pack up’ which has a much wider distribution than *dòngid. In Tswana, the reflex of *dòng (> *lok* [lòk], from which *lokel* [lòk-èl] would have been derived) is synchronically no longer present and the applicative form *lokel* [lòkèl] has replaced the root.

One last example is the transitive root *lom* [lóm] ‘bite’ (from PB *dóm ‘bite’, cf. Creissels ms.a: 16, 1999a: 312) in (272), and the applicative stem *lomel* [lóm-él] ‘wedge in (eg. the haft of an axe), mortise, dovetail’ (Snyman et al. 1990: 88). For *lomel* [lóm-él], Creissels reports the meanings ‘fit, slot, assemble’, cf. (273).

Tswana (S31; Otlogetswe 2012: 279)

(272) *Ngwana yo o rata go loma batho fa ba batla go mo jesa*

<i>ŋw-àná</i>	<i>jó</i>	<i>‘ú-rát-á</i>	<i>χù-lóm-á</i>	<i>bá-t^hù</i>
CL1-child	CL1.DEM	S3:1-like-FV	INF-bite-FV	CL2-person
<i>fá</i>	<i>‘bá-bátł-à</i>	<i>χù-mù-jĩs-à</i>		
when	S3:2-want-FV	INF-O3:1-feed-FV		

‘This child likes to bite people when they want to feed him.’

Tswana (S31; own elicitation, phonetic transcription and glossing by Denis Creissels)

(273) *Ke lomela wallete mo potleng*

<i>kì-lóm-él-á</i>	<i>wallete</i>	<i>mó</i>	<i>pótlè:-ŋ</i>
S1S-bite-APPL-FV	CL9.wallet	LOC	CL9.pocket-LOC

‘I am fitting the wallet in my pocket.’

The situation with the applicative stem *lomel* [lóm-él] is unclear. On one hand there are “fixed expressions” such as *go lomela selepe* ‘fit the handle of an axe’ (where there is no

specification of an “into” argument) and then examples such as (273), where apparently ‘in my pocket’ cannot be omitted from the construction. It is also unclear how the semantic shift from ‘bite’ to ‘wedge in (eg. the haft of an axe), mortise, dovetail, fit, slot, assemble’ took place, except perhaps for an underlying idea of tight enclosure.

With this background in mind, we now turn to the data which constitutes the case study of this chapter, an explanation of the methodology used and results of the case study of nearly 80 pseudo-applicative forms in Tswana.

6.5 A case study of Tswana pseudo-applicatives: data and methodology

Recall from §4.2.4 that pseudo-applicative stems are lexicalized applicativized verb stems which do not introduce an applied phrase to the argument structure of the verb root from which they are synchronically and/or historically derived. The applicative suffix(es) present on the resulting verb stems also do(es) not perform a semantic or pragmatic function like those described for Type B and Type C applicative constructions (cf. §5.4 and §5.5).

The synchronic data for this case study has been provided by native Tswana speakers of the Ngwato and Ngwaketse varieties (cf. Figure 10) and collected by Denis Creissels during several fieldtrips to Botswana between 1991 and 1999. Denis Creissels collected a list of potential lexical entries from existing Tswana dictionaries, none of which provided a precise phonetic transcription, and retained those whose existence was confirmed by the consultants. The collection of such data led to an unpublished Tswana-French dictionary (Creissels ms.b). The examples in Creissels’ dictionary, many of which are used in this study, were extracted from various types of printed texts (school textbooks, novels, short stories, newspapers, etc.) and were checked with the

consultants. In addition, I have carried out elicitation with two native Tswana speakers (of the Bakwena variety) originally from South Africa and now located in Portland, Oregon, to fill in some gaps in the data.

The data analyzed in the following sections started out as a “raw” list of 285 Tswana verb forms extracted from Creissels’ Tswana-French dictionary. These 285 verb forms formally looked as if applicative derivations were present immediately after the verb root. For the majority of these verb forms, the dictionary did not include information about a possible synchronic Tswana root from which they could be derived. Two examples of such an entries are *feel-a* and *dikel-a* (English translation from French is my own).

dikela [díkélá] pft. -tse: set (of sun); disappear.

feela [féélà] pft. -tse: sweep; *Ke ne ka tsaya lofeelo ka ya go feela jarata yotlhe*: I took the broom and swept the whole yard; *Phefo e feela mmu o o boleta e o isa le naga*: The wind sweeps the thin soil and carries it into the bush.

For the remaining cases, the dictionary did include information about the root and also included meaning extensions which clearly indicated lexicalization, as in the case of *fetel-a*.

fetela [fitèlà]: 1. appl. of feta; *Khumo ya gagwe e fetetse kwa bajabosweng ba gagwe*: His fortune has gone to his heirs; *Boemong wa karabo a fetela mo phaposing ya gagwe*: Instead of answering she went to her room; *Fetela pele*: On your way! Be off with you!

2. be contagious. *Bosula bo ntse jaaka bolwetse jwa mmokonyane, bo a fetela*: Ill-will is like measles, it is contagious.

As illustrated in §6.4.4, the Tswana reflex of the PB applicative suffix *-id is *-el* [-el] with allomorphs *-ed* [-ed], *-el* [-el], *-ets* [-ets], and *-al* [-al]. However, verbs stems in Tswana can be derived from nouns, adjectives and ideophones by means of

verbalizing suffixes such as *-f* [-f], *-fal* [-fal], *-l* [-l], *-lal* [-lal], *-mel* [-mɛl], *-sel* [-sɛl] and *-el* [-ɛl], among others (Cole 1975: 221). As a result, a verb stem containing one of these suffixes might be mistakenly considered as an instance of applicative derivation when in fact the verb stem is the result of denominal, deadjectival or deideophonic derivation. To give an example, the verb stem *dikel* [díkél] ‘set (of sun), disappear’ could be mistakenly taken for an applicative verb form. The existing root *dik* [dík] ‘surround and attack’ might be thought to contain the applicative suffix *-el*, resulting in a lexicalized applicative with non-compositional meaning *dikel* [dík-él] ‘set (of sun), disappear’. However, this is a spurious analysis. The verb stem *dikel* is in fact derived from *dike* [díké], an ideophone denoting a sudden disappearance behind something (Snyman et al. 1990: 17), plus the verbalizing suffix *-l*. For such reasons, I checked each putative pseudo-applicative stem in the corpus against the following sources to determine whether the formal similarity with an applicative form was due to chance, and might in fact be the result of some other kind of derivation: a trilingual Tswana-English-Afrikaans dictionary (Snyman et al. 1990), a bilingual Tswana-English dictionary (Matumo 1993), a bilingual Tswana-French dictionary (Creissels & Chebanne 2000), two monolingual Tswana dictionaries (Kgasa & Tsonope 1995, Otlogetswe 2012), a bilingual Northern Sotho-Afrikaans dictionary (Kriel 1989), a bilingual Northern Sotho-English dictionary (Kriel et al. 1997), a Tswana grammar (Cole 1975), a Southern Sotho grammar (Doke & Mofokeng 1985), two Northern Sotho grammars (Ziervogel 1977, Poulos & Louwrens 1994), and two theses on Tswana and Xhosa ideophones (Weakley 1973, Prinsloo 1991). The inclusion of grammars and dictionaries from the closely related Northern and Southern Sotho increased the chance of spotting undetected ideophones and finding additional information on apparent pseudo-applicative forms. In

several cases, while a root for a pseudo-applicative could not be found in Tswana sources, it was possible to find such a form in Sotho sources. The use of this wide range of sources also improved the possibility of detecting borrowings. For instance, the verb form *lotlel* [lótʰél] ‘lock under key’ looks like an applicative stem with the applicative suffix *-el*. However, dictionaries indicate that this verb form is a borrowing from Afrikaans *sleutel* ‘key’ (Snyman et al. 1990: 89). The Tswana verb form *lotlel* [lótʰél] is an instance of backformation, where the verb form was originally a nominal borrowing and the initial *s-* segment was reinterpreted as a noun class prefix (Denis Creissels, p.c.).¹²² The derivation of a verb from a noun in this context is performed simply by dropping the reanalyzed noun class prefix *s-* and by adding the final vowel *-a* to the borrowed verb form (Cole 1975: 223), as follows: *lotlel-a* [lótʰél-á] ‘lock under key’ < *se-lotlolo* [sì-lótʰólò] ‘CL7-key’ < Africans *sleutel* ‘key’.

After having gathered exhaustive and relatively reliable information about each verb form in the data, 31 verb forms (out of 285) were set apart from the rest of the data because they were found to be one of the following: (i) regular cases where the applicative suffix introduces an applied phrase (cf. §5.3), lexicalized applicative stems which still introduce an applied phrase (see §6.4.4 for examples); or (iii) double applicative stems which add completeness, intensity, iterativity, intentionality, etc. to the meaning of the root (cf. §5.5). I divided the remaining 254 entries into four groups: (i) deideophonic, denominal or deadjectival derivations which accidentally happen to

¹²² This process is quite productive in Tswana. For instance, *sekolo* [sì-kóló] is a borrowing from Dutch *school* ‘school’. The initial *s-* of the borrowed word was reanalyzed in Tswana as the noun class prefix of class 7, *sì-*. The plural of *sekolo* is *dikolo* [dì-kóló], where *dì-* is the plural noun class marker corresponding to class 7 singular nouns.

look like applicatives, (ii) single pseudo-applicatives, i.e. verb forms with just one applicative derivation (cf. Appendix B); (iii) double pseudo-applicatives, i.e. verb forms with two applicative derivations (cf. Appendix C); and (iv) unidentifiable cases, that is, lexical entries for which no deideophonic/denominal/deadjectival derivation could be determined, and cases for which no possible root without an applicative can safely be posited in Tswana. I shall illustrate first groups (i) and (iv). Table 19 and Table 20 offer examples of de-adjectival/de-nominal derivation and de-ideophonic derivation respectively. Recall that suffixes used to derive verbs from nouns, adjectives and ideophones include: *-f* [-f], *-fal* [-fal], *-l* [-l], *-lal* [-lal], *-mel* [-mɛl], *-sel* [-sɛl] and *-el* [-ɛl], among others (Cole 1975: 221).

Table 19: Instances of de-nominal and de-adjectival derivation in the Tswana corpus

Entry	Formation: Adjective/Noun + verbalizer
<i>papiel</i> [pápí-él] ‘flatten by pressing or tramping down’	<i>papi</i> [pápí] ‘flat’ + <i>el</i> [él]
<i>gotel</i> [χóté-l] ‘be/become scorching’	(<i>mo-</i>) <i>gote</i> [mú-χótè] ‘heat, fever’ + <i>l</i> [l]
<i>gobelet</i> [χòb-èl-èl] ‘be partial, be biased’	(<i>se-</i>) <i>gòbò</i> [sì-χòbò] ‘curve, bend’ + <i>el</i> [ɛl](reduplicated)
<i>tlhokomel</i> [tʰókó-mél] ‘pay attention to’	<i>tlhoko</i> [tʰókó] ‘observantness, care’ + <i>mel</i> [mɛl]

Table 20: Instances of de-ideophonic derivation in the Tswana corpus

Entry	Formation: ideophone + verbalizer
<i>purusel</i> [p ^h ùrù-sèl-] ‘flap wings quickly’	<i>purr</i> [p ^h ùrr] ‘flapping sound’ + <i>sel</i> [sɛl]
<i>potokel</i> [pòtòk-èl] ‘gallop’	<i>potoko</i> [pòtòkò] ‘galloping’ + <i>el</i> [ɛl] (cf. Cole 1975: 379)
<i>nenemel</i> [nènè-mèl-] ‘slip’	<i>nene</i> [nènè] ‘slither’ + <i>mel</i> [mɛl]
<i>thothomel</i> [t ^h òt ^h ò-mèl-] ‘penetrate deeply’	<i>to</i> [t ^h ò] ‘liquid falling in large drops’ + <i>mel</i> [mɛl]
<i>tobuel</i> [tóbú-él] ‘fall into a liquid, dive’	<i>tobu</i> [tóbú] ‘sound of diving’ ¹²³ + <i>el</i> [ɛl]
<i>kgael</i> [q ^h à-èl-] ‘be exhausted’	<i>kga</i> [q ^h à] ‘sound of choking’ (Northern Sotho) + <i>el</i> [ɛl]
<i>ribel</i> [ríbé-l-] ‘bend down (as if ducking)’	<i>ribe</i> [ríbè] ‘sudden bending down when ducking’ + <i>l</i> [l]
<i>tsetsepel</i> [tsìsìp-èl-] ‘hold firmly’	<i>tsepe</i> [tsìpì] ‘standing up very straight’ + <i>el</i> [ɛl]

Within group (i), i.e. de-nominal, de-adjectival or de-ideophonic derivations, instances of de-nominal or de-adjectival derivations (cf. Table 19) were scarce compared to de-ideophonic derivation (cf. Table 20), a very productive process in Tswana and other Bantu languages (see Creissels 2001). Even when it was not possible find the suspected ideophone involved in verbal derivation in the available sources, verb forms suspicious of being the result of de-ideophonic derivation have been included in group (i) based on the following form/meaning criteria. In terms of meaning, ideophones in Tswana usually express verbal concepts such as: ‘disappear’ (e.g. *ferelèl* [fírélél] ‘disappearing by getting deeper into a forest or a crowd’, *kolomel* [kólómél] ‘disappear in the horizon’); ‘pour or flow heavily’ (cf. *phothosel* [p^hòt^hòsèl] ‘flow like a waterfall’); quick, sudden movements (e.g. *tsopatsopel* [tsópátsópèl] ‘go in zigzag’, *huhumel* [húhúmél]

¹²³ Other ideophones to express something that falls into water include *thabu*, *tompu*, *kgolobu* and *tolobu* (Creissels ms.b).

‘weave/snake in and out’, *sesel* [sésél] ‘run in small fast steps’); meanings related to excess or intensity (e.g. *subel* [súbél] ‘stuff, fill’, *fophelel* [fúp^hélél] ‘serve food in abundance’, *kubel* [kùbèl] ‘eat too much’, *foruelel* [fórúélèl] ‘pour excessively (sugar, flour)’, *tlopel* [tłópél] ‘put something in excess’); meanings such as ‘dive’, ‘sink’, ‘shiver’ and ‘tremble’ (see examples in Table 21).

In terms of form, verb stems resulting from de-ideophonic derivation usually have more syllables than other verb stems; they often show reduplication; there is often more than one de-ideophonic stem expressing the same or very similar meaning; and de-ideophonic stems with the same/similar meanings display unusual consonantal or vocalic alternations.¹²⁴ Instances of these formal features are shown in Table 21.

¹²⁴ Similar vocalic and consonantal changes in pairs or triplets of ideophones with the same or very similar meanings are also observed in Xhosa (Weakley 1973).

Table 21: Other instances of possible de-ideophonic derivation in the Tswana corpus

De-ideophonic verb stems	Consonant/vowel alternations Reduplication
<i>subel</i> [súbél]/ <i>sukel</i> [súkél] ‘stuff, fill’	b/k
<i>kolomel</i> [kólómél]/ <i>kotlomel</i> [kótłómél] ‘disappear in the horizon’, <i>kodumel</i> [kódúmél] ‘disappear’	l/tł/d
<i>thabuel</i> [tʰábùèl] / <i>thobuel</i> [tʰòbùèl] / <i>tobuel</i> [tóbúél] / <i>tompuel</i> [tómputél] ‘dive, fall into a liquid’	tʰa/tʰo/to, b/mp
<i>thamukel</i> [tʰàmùkèl]/ <i>tlhamukel</i> [tʰàmùkèl] ‘be smeared with food’	tʰ/tʰ
<i>tlapel</i> [tłápél] ‘make so. feel sick’, <i>tlhapel</i> [tʰàpèl] ‘intoxicate’	tł/tʰ
<i>tšhoromel</i> [tʃʰòròmèl]/ <i>tšoromel</i> [tʃòròmèl]/ <i>joromel</i> [dʒòròmèl] ‘spring’	tʃʰ/tʃ/dʒ
<i>nanabel</i> [nànàbèl] ‘move furtively’, <i>ngwangwael</i> [ŋwàŋwàèl] ‘go furtively’	n/ŋw, b/∅ reduplication
<i>tetesel</i> [tètèsèl] ‘tremble’, <i>tlakasel</i> [tłàkàsèl] ‘tremble, shiver’	reduplication
<i>totomel</i> [tòtòmèl] ‘sink deeply’, <i>ririmel</i> [rìrìmèl] ‘sink’, <i>phosumel</i> [pʰòsùmèl] ‘subside (of sun), sink at once’	reduplication
<i>tsetsepel</i> [tsìtsìpèl]/ <i>kakatlel</i> [kàkàtłèl] ‘hold firmly’	reduplication
<i>phurusel</i> [pʰùrùsèl] ‘flap wings’, <i>phaphasel</i> [pʰàpʰàsèla] ‘flap wings, float in the wind’	reduplication

Some instances of entries in group (iv), i.e. unidentifiable cases, are given in Table 22.

The untraceable verb stems in Table 22 are suspicious of being the result of applicative derivation. However, no synchronic or historical verb root could be found and no other kind of non-applicative derivation could be posited for these verb forms.

Table 22: Some instances of untraceable verb stems in the Tswana corpus

<i>babalel</i> [bábálél]	‘look after, take care of, protect’
<i>boulel</i> [bòùlèl]	‘be jealous’
<i>duel</i> [dúél]	‘pay, compensate, reimburse’
<i>farel</i> [fárél]	‘cause pain to the mother at the moment of birth (of a cub)’
<i>kganel</i> [q ^h ánél]	‘defend somebody, prevent, interdict, prevent, deprive, resist’
<i>khuel</i> [k ^h úél]	‘blow on something’
<i>kopel</i> [kòpèl]	‘button (clothing)’
<i>okomel</i> [òkòmèl]	‘look into or through something’
<i>otsel</i> [òtsèl]	‘drowse’
<i>rathel</i> [ràt ^h èl]	‘fall pregnant while breastfeeding’
<i>rušel</i> [rúšél]	‘do something early in the morning’
<i>siel</i> [síél]	‘give food or drink to somebody’
<i>solofel</i> [sólóféel]	‘wait, count on somebody’
<i>tlamel</i> [tłàmèl]	‘provide, take care of’

As for entries in groups (ii), i.e. single pseudo-applicatives, and (iii) double pseudo-applicatives, I have checked them against the first two editions ever of a Tswana-English dictionary: the second edition of the first Tswana dictionary compiled by Rev. John Brown of the London Missionary Society (1895, originally in 1876), and the third edition of the same dictionary, enlarged with findings from the new compiler, Rev. John T. Brown (1924). This was done with the purpose of verifying whether the entries in groups (ii) and (iii) were present in older stages of the language and, if so, with what meanings. Information from either of these two sources has been included in the discussion of the entries in §6.6 only if it contributed to a better understanding of the entries. A serious limitation with these two dictionaries is that they do not indicate tone. Another limitation lies in that both Brown (1895) and Brown (1924) are based on the Tlhaping variety of Tswana (southern), while data for this study comes from the Ngwato (northern) and Ngwaketse varieties (central).

Single pseudo-applicatives with one applicative suffix (group ii) and double pseudo-applicatives with two applicative suffixes (group iii) have been further subdivided into parsable and non-parsable pseudo-applicatives. Parsable (single or double) pseudo-applicatives are verb stems which can synchronically be divided into a root plus one or two applicative suffixes (see Table 23 and Table 24).¹²⁵ In the case of parsable pseudo-applicatives, I have attempted to posit a Tswana verb root from which the pseudo-applicative is derived. Some sort of semantic relation, albeit not immediately transparent, can be posited to exist between the two. Whenever possible, I have tried to link synchronic Tswana roots and pseudo-applicative stems to a PB form of which they could be the reflex.

Table 23: Instances of parsable single pseudo-applicative stems in the Tswana corpus

Tswana single pseudo-applicative stem	Tswana root	PB root (from BLR3)
<i>hupel</i> [húp-él] ‘breathe with difficulty, suffocate’	<i>hup</i> [húp] ‘hold in the mouth (with the lips closed or between closed lips), drink a mouthful’	*kúmb ‘enclose, embrace’
<i>fetel</i> [fit-èl] ‘be infectious, be contagious’	<i>fet</i> [fit] ‘pass or overtake something, exceed, surpass, pass away’	*pìnd ‘pass’
<i>rwalel</i> [rwál-él] ‘gather wood for fire’	<i>rwal</i> [rwál] ‘carry on the head, wear, put on (e.g. shoes, hat, gloves)’	*tóad ‘carry on the head, carry, bring, carry away, be chief, include’

¹²⁵ Entries in Table 23 and Table 24 are different from entries in Table 22 because for entries in Table 22 and Table 23 it was possible to identify a root from which they are synchronically derived. This confirmed that entries in Table 23 and Table 24 are in fact instances of applicative derivation which display different levels of lexicalization.

Table 24: Instances of parsable double pseudo-applicative stems in the Tswana corpus

Tswana double pseudo-applicative stem	Tswana root	PB root (from BLR3)
<i>agelel</i> [áχ-él-él] ‘build/erect a fence/wall/hedge around something’	<i>ag</i> [áχ] ‘build, live/settle in somewhere’	*jáκ ‘build’
<i>bopelel</i> [búp-él-él] ‘form a procession, form a line, stand in line’	<i>bop</i> [búp] ‘mould, form, shape (e.g. with clay), create’	*búmb ‘mould pottery, heap up, close (mouth/hand)’
<i>tswelel</i> [tsw-èl-èl] ‘continue, last’	<i>tsw</i> [tsw] ‘come out, come from, become, come out (of a class), depend on, go out to cultivate’	*dù ‘come/go out, ooze, bleed’
<i>thebelel</i> [t ^h ìb-èl-èl] ‘stock a fire’	<i>theb</i> [t ^h ìb] ‘pile up earth, ram’	*tééb ‘gather (firewood)’

Non-parsable (single/double) pseudo-applicatives, on the other hand, are synchronically non-segmentable verb stems which cannot be divided into a root plus one or two applicative morpheme(s). In non-parsable (single/double) pseudo-applicatives, a synchronic non-applicative root is absent or irretrievable, although a historical root might be retrievable. Because there is no synchronic Tswana root available for non-parsable pseudo-applicatives, these forms are not segmented in Table 25 and Table 26 (e.g. I transcribe *gatsel* as [χátsél] and not as [χáts-él]). In the case of non-parsable pseudo-applicatives too, I have attempted to link the synchronic verb stems to a proto-root as shown in Table 25 and Table 26.

Table 25: Instances of non-parsable single pseudo-applicative stems in the Tswana corpus

Tswana single pseudo-applicative stem	PB root (from BLR3)
<i>gatsel</i> [χátsél] ‘freeze, become solid’	*kác ‘dry up (intr.), coagulate, be hard’
<i>gwel</i> [χwél] ‘mate, copulate’	*kóid ‘marry, copulate’
<i>huparel</i> [húparél] ‘hold in a close hand’	*kúmbat ‘hold in arm, hand’

Table 26: Instances of non-parsable double pseudo-applicative stems in the Tswana corpus

Tswana double pseudo-applicative stem	PB root (from BLR3)
<i>selel</i> [sèlèl] ‘pour out meal to form a conical heap and thus separate the bigger granules gathering at the base’	*ká~*kí ‘gather (fruit)’

The matching between reconstructed proto-forms, obtained from the database *Reconstructions lexicales bantoues/Bantu lexical reconstructions 3* (BLR3) (see discussion immediately below) and Tswana reflexes is sometimes problematic. In some cases, the tone reconstructed for the proto-form does not match the tone of the Tswana root or pseudo-applicative and the consonantal reflexes are “unexpected”. Consider for instance the entry *thebelel* [t^hìb-èl-èl] ‘stoke a fire’ linked to the proto-form *tééb ‘gather (firewood)’ in Table 24. There are two problems with reflexes of the proto-form *tíab in Tswana *thebelel* [t^hìb-èl-èl]. First, while the proto-form is reconstructed with a high tone in BLR3, while the reflex in Tswana has a low tone. This is a common problem in Bantu reconstructions (Denis Creissels p.c.). Second, recall from §6.3 that the reflex of a *t not preceded by a nasal, as in *tíab, should be /r / in Tswana (cf. *rwal* [rwál] < *túad in Table 23). However, in *theb* [t^hìb], the reflex of *t is /t^h/. Usually in Tswana, /t^h/ is the

“strong” reflex of *t preceded by a nasal (*Nt). Recall from §6.3 that in a quite considerable number of cases, a PB consonant not preceded by a nasal, as *t in *táb, has a strong reflex in Tswana, i.e. /t^h/ in this case, and not the expected one which is /r/(< *t). Notwithstanding these inconsistencies, proto-forms and reflexes which are similar enough in meaning and contain “attested” irregularities in sound correspondances have nevertheless been posited as related to one another.

Besides consulting grammars and dictionaries, linking a given entry to a possible proto-form has proved to be particularly useful in eliminating vs. verifying additional cases of verb forms which coincidentally resemble pseudo-applicatives. For instance, consider the Tswana applicative verb form *fel* [fél] ‘end, be finished, be concluded’. Formally, this verb conceivably might seem to be derived by means of the applicative from a root such as *f* [f] ‘give’. However, the semantic relationship between this root and the applicative stem seems untenable, so it could be said that there is no synchronically available root for *fel* [fél]. But in fact, further investigation shows that *fel* is the regular reflex of PB *péd ‘end (intransitive), get lost’. According to BLR3, this proto-form has reflexes in nine zones, among which is zone S. This is then a case of “chance resemblance” in which /ɛl/ in *fel* [fél] is not the reflex of the PB applicative suffix *-ɪd (i.e. it is not *f-ɛl*), but rather is part of the root (i.e. *fel* < *péd).

In order to find a reconstructed proto-form for a synchronic Tswana root/stem, I have used the online database *Reconstructions lexicales bantoues 3/ Bantu lexical reconstructions 3* (Bastin et al. 2002), abbreviated “BLR3”. The search interface of BLR3 looks as in Figure 12.¹²⁶

¹²⁶ Figure 12 is not a representation of the interface of the downloadable BLR3 database. This is the interface available on the website of the Royal Museum for Central Africa

Figure 12: Interface of BLR3

The screenshot shows the BLR3 search interface. At the top left, there is a search scope indicator 'Search All'. The form contains several rows of input fields:

- Row 1: Label (dropdown), Source (text), English (text)
- Row 2: ID (text), SrcID (text), French (text)
- Row 3: Fiability (text)
- Row 4: Tone (text), C1 (dropdown), V11 (dropdown), V12 (dropdown), C2 (dropdown), V21 (dropdown), V22 (dropdown), C3 (dropdown), V3 (dropdown), C4 (dropdown), V4 (dropdown), REST (text)
- Row 5: PB (text), followed by 11 small text input boxes corresponding to the fields in Row 4.
- Row 6: Gram (text), Regions (text), Zones (text)
- Row 7: NClass (dropdown), Total Spread: Regions (text), Zones (text)

Below the form, there is a note: "This entry form does not show phonetic symbols. Type capital I U N for ." At the bottom of the form are two buttons: "Start Search" and "Clear this form".

Searches in this online database can be done, among others, by English/French translations (i.e. one can search for words such as ‘eat’ or ‘mouth’) or by selecting a sequence of consonants and vowels of a given proto-form in the consonant and vowel grid in Figure 12 (cf. C1, V11, V12, C2, etc.). In order to proceed with this second option, one has to work backwards from a synchronic Tswana verb form and know the correspondances between synchronic reflexes of consonants and vowels in Tswana and the corresponding consonants and vowels in PB. In order to determine that a given Tswana entry might be the reflex of a certain Bantu proto-form, I have used the sound correspondances between Tswana and PB set out in Creissels (1999a, 2007, ms.a) and discussed in §6.3. After this, I did the search according to what could be the possible proto-form of a Tswana form and see if any results matched my search in BLR3. Some correspondances between Tswana roots/stems addressed in this study and PB forms

(http://www.africamuseum.be/collections/browsecollections/humansciences/blr/any_lexicon_dictionary). The “find layout” of the downloadable database is similar but not identical to Figure 12.

have already been posited by Creissels (1999a, 2007, ms. a). This is specified under each entry discussed in §6.6. The absence of such specification indicates that the attempt to link a BLR3 proto-form with a Tswana root/stem is my own. The correspondences set forth by Creissels (1999a, 2007, ms. a) come from an earlier version of the same database (BLR2). For this reason, I have re-checked the proto-forms indicated in Creissels (1999a, 2007, ms. a) against the available data in BLR3 to see if any changes were made in form or meaning in the proto-forms by the editors of BLR3.

BLR3 is a constantly updated and revised lexical database with almost “10.000 form-meaning associations of variable time-depth and reliability” (Bostoën & Bastin 2016: 8). The database draws on more than one century of research, including notably Meeussen’s (1980b) Bantu lexical reconstructions, Guthrie’s (1967-1971) Comparative Series, Meinhof & van Warmelo’s (1932) historical phonology of Bantu languages plus contributions from numerous other authors (for a complete list of contributors see <http://linguistics.africamuseum.be/BLR3.html>). Although more of a working tool than a finished product, BLR3 is considered the most complete database of accumulated research in Bantu lexical reconstruction since the late nineteenth century (Fleisch 2008, Bostoën & Bastin 2016: 21).

As for the reliability of the reconstructed proto-forms, I have limited myself almost entirely to proto-forms which are present in at least three different Bantu zones (per Guthrie’s 1967-1971 standards) and which are labelled in the online BLR3 database with the abbreviations MAIN, DER, or VAR. In BLR3, MAIN indicates that an entry in the database is a reliable reconstruction according to the authors and editors of BLR3, who verify and/or correct and/or improve reconstructed forms by previous authors (e.g. Meeussen 1980b, Guthrie 1967-1971, Meinhof & van Warmelo 1932, etc.) against data

from other Bantu languages which became available after the earliest reconstructions. Reconstructions which originally included only languages from a certain geographical area (i.e. East Bantu) have been revised by the editors, and languages from other areas have been included to come up with a less geographically-biased reconstruction (see Bostoen & Bastin 2016: 10 for details).

DER means that an entry is formally derived from (i.e. by means of derivational affixes) or forms the base for other reconstructions. A verb form is considered to be semantically derived from another verb form when the meaning of the “derived” verb form is distributionally less frequent/common than the meaning associated with the posited “main” entry verb.¹²⁷ When the database is queried, a report can be generated. Figure 13 illustrates only a section of the printable output for the query *kúmb including a MAIN entry, a DER entry and an unconfirmed entry.

¹²⁷ The authors of BLR3 admit that in some instances classifying an entry as semantically derived from a main entry is a somewhat arbitrary decision.

Figure 13: Examples of MAIN, DER and unconfirmed entries in BLR3

BLR 2120 MAIN	Source: 2120
kumb H V	
bend	
plier	
Regions 4: NW SW Ce NE ; Zones 7: B C D J H K L	
Gt 1266	
<hr/>	
BLR 3825 DER	Source: kumb H 2120
kumb H V	
enclose, embrace	
entourer, embrasser	
Regions 4: NW SW NE ; Zones 3: C F H	
Tv	
<hr/>	
BLR 3824	Source:
kumb	
tell lies	
mentir	
Regions 1: SW ; Zones 1: R	
Hb25	

The first form *kúmb ‘bend’ in Figure 13 is a V(erb) reconstructed with H(igh) tone. The entry is labelled as MAIN and is assigned a number in BLR3 (cf. BLR 2120 MAIN). The second and third lines within this first entry show the English and French translations, respectively. The fourth line indicates that this form has reflexes in seven zones (B, C, D, J, H, K, L) and that these seven zones are comprised within four broad geographical regions (northwest, southwest, central, northeast). The last line shows that this entry was originally reconstructed by Guthrie (1967-1971) and corresponds to his Comparative Series #1266 (abbreviated “Gt 1266”). There is also a formally identical verb form *kúmb ‘enclose, embrace’ labelled as DER (cf. BLR 3825 DER). Notice that this form has a more restricted distribution than *kúmb ‘bend’ and is present only in three Bantu zones (C, F, H). This derived entry was added by the team of the Royal Museum of Central Africa in Tervuren, Belgium (abbreviated “Tv”). Finally, there is also an entry *kumb ‘tell lies’ (cf. BLR 3824), present only in zone R, which does not have any label

next to it (MAIN, DER, VAR or other) and for which tone is not specified. The absence of a label indicates that this entry has not been confirmed yet as being a main entry or being related/derived from other existing entries by the editors of BLR3.

VAR means that a reconstruction is unmistakably related to another but they cannot be reduced or merged into a single proto-form by means of regular sound correspondences. This problem is known in Bantu linguistics as “osculance” (Bostoen 2002, Bostoen and Bastin 2016: 7). An example of a main and a variant entry is shown in Figure 14.

Figure 14: Examples of MAIN and VAR entries in BLR3

BLR 1645 MAIN	Source: 1645
ka H V	
gather (fruit)	
cueillir (fruit)	
Regions 4: NW SW Ce SE ; Zones 4: B D R S	
Hb, Gt 971	
BLR 1786 VAR	Source: ka H 1645
ki H V	
gather (fruit)	
récolter (fruit)	
Regions 2: SW Ce ; Zones 2: H N	
Gt 1047 1/2	

In Figure 14, the main entry *ká ‘gather (fruit)’ has a wider distribution than the variant entry *kí ‘gather (fruit)’. Because of the different quality of the two vowels after *k no single proto-form can be posited.¹²⁸

¹²⁸ The abbreviations discussed so far do not exhaust all types of entries available in BLR3. The remaining abbreviations used to classify entries in this database include REF, indicating that a given entry has been refused by the editors because it is considered a wrong reconstruction; INC

Note that besides indicating Bantu zones, the distribution line in Figure 13 and Figure 14 also indicates geographical areas in which a given proto-form shows reflexes. Therefore, the term “proto-form” might refer to a proto-form that has reflexes in all or almost all Bantu zones and is therefore “general”, or to a proto-form that has reflexes only in zones within a certain region, e.g. Proto-Eastern Bantu (also called Proto-Savannah Bantu).

Since this work looks especially at changes in meaning between Tswana roots and pseudo-applicative stems and between these and the meaning of a corresponding PB form, a few observations are in order with respect to the semantic reconstructions offered in BLR3. Bostoen & Bastin (2016: 18) specifically indicate that while phonological forms are indeed reconstructed in BLR3, the meanings of such phonological forms are not. Rather, the English (and French) translations of proto-forms “reflect the present-day cross-linguistic polysemy of an etymon rather than its reconstructed meaning.” In general, diachronic semantics and semantic reconstructions have been neglected compared to sound change and phonological reconstructions in Bantu historical linguistics (Schadeberg 2002, Fleisch 2008, Bostoen & Bastin 2016). As observed by Schadeberg (2002: 193), the reconstruction of meanings of PB words is still at an embryonic stage. In many instances, there are lists of attested meanings but no insights into the processes of semantic change. Obviously, the study of historical word meaning in Bantu has been hindered by the lack of historical sources on which to base

indicating an entry identical to another one (i.e. *jáđì ‘girl at puberty’ and *jáđì ‘woman’) which was posited in earlier versions of the database as distinct and whose meaning has been included under the corresponding main entry (i.e. *jáđì ‘girl at puberty, woman’); and COMP indicating that a given entry is a compound and contains at least two separate roots.

etymological investigations (Fleisch 2008: 73). Semantic problems have been also carried over from earlier reconstructions. Fleisch (2008) offers several examples of potential problems with the meanings of Guthrie's starred forms in his Comparative Series (1967-1971). To give an example, Guthrie (1967-1971) posits two formally identical starred forms *tínà 'root' as entry #1755 and *tínà 'base of the trunk' as #1756. Reflexes of the meaning 'root' occur in noun classes 5/6 or 7/8, while reflexes of the meaning 'base of tree trunk' occur in classes 5/6, 7/8, 9/10 and (with restrictions) in 9/6. Reflexes of both meanings are very widespread across all Bantu zones. One problem with these two reconstructions is the fact that 'root' and 'base of the trunk' are considered as separate entries despite them having an identical form and despite the fact that the different meanings might be the result of metonymical extension. Further, Fleisch (2008) observes that the approximate translations given by Guthrie for starred forms are not to be taken as etymologies, even though Guthrie himself posits synchronic lexical meanings to be the meanings of his starred, reconstructed forms. Despite these difficulties, several important advances have been made in several domains of Bantu historical lexical semantics (cf. for instance Bastin 1985, 1994, 2001, Bostoen 2002, Schoenbrun 1997, *inter alia*).

The work of Bastin (1985) has been pivotal in gaining a better understanding of historical semantics in Bantu. Bastin (1985) observes that two morphological processes play a fundamental role in establishing semantic relations between words in Bantu: the noun class system and verbal suffixation. As for the noun class system, the same noun root can appear in different classes and have different meanings depending on which class prefix the noun takes. For example in Songe (L23), the noun root *bě̀lè* means 'mammary gland, breast' when it combines with the class 5 noun prefix, and 'milk'

when it combines with the class 6 noun prefix. Similarly, verbal suffixes are used to convey different semantic senses to a verb root. According to Bastin (1985), any derived verb stem constitutes a “node” for additional nominal or verbal derivation where the semantic meaning specified by the root can be variously modified. She offers the example in Table 27 of the highly polysemous Ruanda verb root *síg* (JD61).¹²⁹

Table 27: Semantic extensions of the Ruanda root *síg* through derivation (Bastin 1985: 16)

Verb Root <i>síg</i>	Meanings
	‘go away by leaving sthg behind, leave/abandon a place’ ‘quit, abandon someone who was being looked after’ ‘retreat in a certain state’ ‘outrun, leave behind’ ‘escape one’s understanding’ ‘save up, set aside, spare’ ‘fill in for someone’ ‘cause an event’ ‘leave after having done something’
Root + reciprocal <i>síg-an</i>	‘distance one another when walking’
Root + contactive <i>síg-ar</i>	‘stay behind, be left behind’ ‘remain, reside, sustain oneself’ ‘stay to do sthg while others are busy doing sthg else’ ‘(of animates or objects) be found only in a certain place’ ‘have learning difficulties’ ‘be obliged to do sthg one is not used to, to be reduced to’
Root + contactive + causative <i>síg-az</i>	‘stop eating or drinking without having exhausted available food or drink’
Root + applicative <i>síg-ir</i>	‘leave a portion of sthg to someone’
Noun (CL10) <i>sígane</i>	‘people or things which grow at different levels’

¹²⁹ Table 27 reproduces only some of the meanings and forms derived from the Ruanda root *síg*. For a complete account see Bastin (1985: 16 and ff.).

Noun (CL4) <i>sígaro</i>	'name given to a child born after the father has died'
Noun (CL9) <i>sígazi</i>	'straggler, laggard'
Noun (CL9) <i>sígalizi</i>	'straggler, laggard, survivor, lone person after losing all family members'

Bastin (1985) observes that while semantic shifts from the meaning of the verb root *síg* through nominal and verbal derivational morphology in Table 27 are more or less relatable, there are also much less transparent cases where a root in combination with a derivational suffix develops an unexpected frozen meaning and sometimes also retains the expected one. For instance, in Rundi (JD62), the causative form *fásh* of the verb root *fát* 'take' means 'help'; the root *ráar* 'spend the night' in its causative form *ráaz* can mean either 'make someone spend the night' (expected meaning) or 'save for the next day' (frozen meaning). Similarly, in Shi (JE404), the root *nyo* 'drink' has a frozen reciprocal form *nywaan* 'seal a blood pact', and the root *fu* 'die' in combination with the reciprocal (*faan*) can mean either 'die with' or 'be related (i.e. by marriage)'.

Importantly for this case study, Bastin observes that Bantu languages have a special predisposition for metonymy of different types (ellipsis, synecdoche, etc). For example, the same term might be used to refer to body parts with common traits (e.g. between men and animals) even if their physical appearance is different. For instance in Kiga (JE14), the reflex of *PB *jòjá 'hair (of the body)' has developed the meaning 'feather' which could be a synecdoche (hair > spikes of feathers) or a metonymy (both feathers and hair cover the body). Similarly, reflexes of PB *kópè 'eyelash' in languages from different Bantu zones have developed metonymical meanings such as 'eyebrow' and 'eyelid' besides 'eyelash'. In certain regions, reflexes of PB *kópè have come to mean 'face' and 'sleep'. Bastin (1985) argues that the meaning 'sleep' is probably not

directly from *kópè ‘eyelash’ but through the verb *kóp ‘wink, blink (eye)’ derived from the noun *kópè. Metonymy is also pervasive in verb-noun derivations, as shown in the following pairs: *gènd ~ *jènd ‘walk, travel, go’ > *jèndò ‘leg’, *còng ‘sharpen to a point’ > *còngà ‘tooth’ (on the natural tendency towards this type of semantic change see Wilkins 1996). Meaning narrowing or specialization and ellipsis are also very common. In Kiga (JE14), the reflex of PB *jùdí ‘hair (on head)’ is now used for ‘frizzy hair’, whereas the reflex of *PB *jòjá ‘hair (of the body)’ is used for ‘non-frizzy hair’. The reflex of *dòngò ‘joint, knee’ (< *dòng ‘join by tying’) means ‘joint of the leg’ in Kete (L21), ‘joint of knee’ in Sanga (L35), and ‘knee’ in Songe (L23). These meanings show that in some cases the original meaning ‘joint’ became either specialized or was lost.

As for the semantic relations between derived entries in BLR3, Schadeberg (2002) offers several examples of how meanings are classified as semantically related in this database. I reproduce here one of such illustrative examples. The verb form *pád ‘scrape, scratch’ is claimed by Schadeberg (2002) to be a safe PB reconstruction with reflexes attested in all zones except A and D. This verb form has related reconstructions, as shown in Table 28.

Table 28: Verb root *pád ‘scrape, scratch’ and related entries in BLR3 (Schadeberg 2002: 192)

BLR3 Entry	Attested zones
*pád (MAIN) ‘scrape, scratch’	B, C, E, G, H, J, K, L, M, N, P, R, S
*pád (DER) ‘vex, persecute’	J
*pádud (DER) ‘scrape, scratch (out)’	C, J, M
*pádat (DER) ‘scrape, scratch’	J, L, M
*pádì (DER) ‘tanner’	F, J

The verb form *pad (MAIN) occurs with a variety of extensions, such as the separative [-ud]. In some instances, there is no change in meaning (cf. *pád and *páðakat). The entry *pád (DER) ‘vex, persecute’ is posited as a metaphorical extension of ‘scrape, scratch’ as an action leading to feelings of irritation, a semantic shift also attested in other African languages (cf. Schadeberg 2002: 192). There is also a case of nominalization, i.e. *pádì by means of the suffix -ì. A ‘tanner’ is semantically related to ‘scrape, scratch’ because this profession involves scraping leather.

Schadeberg (2002) indicates that there is also a set of items which on purely formal grounds could all be derived from the verb *pád ‘scrape, scratch’. These are shown in Table 29.

Table 29: Other entries derived from the verb root *pád ‘scrape, scratch’ in BLR3 (Schadeberg 2002: 193)

BLR3 Entry	Attested zones
*pádì (DER) ‘polygamy’	A, F, J, K, L, M, N
*pádì (DER) ‘jealousy among co-wives’	J
*pádík (DER) ‘live in polygamy’	J, K, M, N, S

On the basis of other attested de-verbal nominal derivations, Schadeberg (2002) considers that the nouns *pádì ‘polygamy’ and *pádì ‘jealousy among co-wives’ could be derived from *pád ‘scrape, scratch’. Likewise, *pádík ‘live in polygamy’ could be derived from the noun *pádì ‘polygamy’. According to Schadeberg (2002: 192), “the clue for the semantic link lies in the particular meanings attested in zone J, i.e. the unfriendly feelings between co-wives, and the metaphorical use of ‘scrape’ referring to people annoying each other”. Schadeberg (2002) substantiates this claim with a Nyamwezi proverb about hoes scraping each other and the fact that this proverb is used when instructing a girl about marriage. In sum, claims about semantic change and relatedness

between posited proto-forms are carried out in BLR3 by taking into account cultural traits of Bantu speakers.

With all these semantic considerations in mind, for all pseudo-applicatives in the corpus (groups ii and iii), I have tried to establish a plausible lexicalization path between Tswana synchronic verb roots, their corresponding pseudo-applicative stems and the proto-forms they could be linked to (if any). In this study, I adopt the following definition of “lexicalization”:

the change whereby in certain linguistic contexts speakers use a syntactic construction or word formation as a new contentful form with formal and semantic properties that are not completely derivable or predictable from the constituents of the construction or the word formation pattern. Over time there may be further loss of internal constituency and the item may become more lexical (Brinton & Traugott 2005: 96)

By “lexicalization path” I mean a plausible semantic shift/change¹³⁰ which could account for how a pseudo-applicative form developed a non-compositional meaning from the meaning of the synchronic Tswana verb root or proto-root plus the addition of the applicative suffix. As Fleisch (2008: 98) observes, “an important aspect of semantic change is that it can stretch over time in fairly unpredictable ways.” This makes the identification of lexicalization paths or semantic shifts a speculative task in general.

Considering the fact that “meanings” of the proto-forms in BLR3 are not etymologies but attestations of synchronic (polysemous) meanings, the reader should be aware that my narratives regarding semantic shifts between meanings of PB roots and

¹³⁰ Wilkins (1996: 267) notes that although semantic change and lexical change are often used interchangeably, lexical change should be understood as change in form, meaning and combinatorial properties, while in semantic change, only the meaning of a lexeme changes but not its form.

Tswana roots and pseudo-applicative stems in the following sections are also speculative. The purpose of my analysis in §6.6 is not to claim “this is what happened with these forms and meanings” but rather “here is a hypothesis for how this change in meaning might have come about.” Within the extremely murky territory of semantic change, I have tried as much as possible to take into account widespread shifts based on mechanisms such as metaphor, metonymy (including synecdoche), semantic extension or widening, semantic narrowing or specialization, hyperbole and taboo replacement, among others. According to some authors, figurative language in the form of metaphor is one of the most productive sources of semantic change (Sadock 1979: 48). I have also taken into account common attested directions of semantic change (cf. Sweetser 1990, Wilkins 1996, Traugott & Dasher 2002, Brinton & Traugott 2005, *inter alia*). Given the discussion of semantic changes in Bantu languages discussed above, I have included, whenever possible, Tswana nouns related to the same root as pseudo-applicative stems, because nominal derivations can be very informative about the meaning evolution of a given entry or proto-form. As we will see, the changes in meaning presented in the following sections often fit more than one type of semantic change (e.g. a metaphor can have a metonymical basis). In addition, when considering semantic changes, I have tried to take into account, whenever relevant, the influence of cultural traits salient in Tswana and Southern Bantu communities more generally (Brown 1926, Schapera 1937, Denbow & Thebe 2006), including cultural information found in proverbs and taboo domains (Mayr 1912, Campbell 1972, Courlander 1975, Madadzhe 2010).

Depending on the source, attested meanings of Tswana verb roots and applicative stems vary slightly. For example, some dictionaries include more meanings for a given entry than others. In every case, I have included as many meanings as found

in the sources, given that synchronic polysemy can offer crucial clues in the investigation of semantic change and support hypotheses of meaning relatedness (Ullmann 1957, Wilkins 1996, Schadeberg 2002).

6.6 Results

After applying the methodology described in §6.5, the 254 Tswana verbal entries in the corpus were found to distribute as shown in Table 30.

Table 30: Grouping of entries in the Tswana corpus

Groups	Tokens	Percentage
(i) De-ideophonic/nominal/adjectival derivation	106	41.7%
(ii) Single pseudo-applicatives	47	18.5%
(iii) Double pseudo-applicatives	31	12.2%
(iv) Unidentifiable/untraceable	70	27.6%
Total	254	100%

As can be observed from Table 30 a relatively high percentage of entries are instances of deideophonic or denominal derivation (41.7%). Next, there is a percentage of lexical entries that cannot be sorted into any of the analytical categories proposed here (27.6%). The rest of the data (30.7%) can be divided into pseudo-applicative stems with one applicative extension, and pseudo-applicative stems with two applicative extensions.

The analysis of data in groups (ii) and (iii) is presented as follows: non-parsable single pseudo-applicative stems in §6.6.1, parsable single pseudo-applicative stems in §6.6.2, non-parsable double pseudo-applicative stems in §6.6.3, and parsable double pseudo-applicative stems in §6.6.4.

In the following subsections, for each pseudo-applicative stem, I have attempted to gather the following information: an example of the syntactic valence of the root from which it is derived; an example of the syntactic valence of the pseudo-applicative stem which indicates that the form has lost the ability to introduce an applied phrase to the argument structure of its root; and a section called “historical information” where I include one or more reconstructed proto-forms obtained from BLR3 of which the synchronic Tswana root or pseudo-applicative stem can be said to be the reflex, nominal derivations related to the synchronic Tswana root and/or pseudo-applicative stem and a hypothesis about the semantic shift that occurred between the synchronic Tswana root and the pseudo-applicative stem on one side, and the proto-form to which they are related.

Unfortunately, there are gaps in the data. For some entries, I could not find clause-level examples of roots and/or pseudo-applicative stems. In addition, many synchronic Tswana roots are polysemous, and the valence pattern associated with the polysemous root might vary according to the meaning that the root expresses in a particular context. I often could not find clause-level examples of all the possible valence patterns of a polysemous root. For this reason, pseudo-applicative tokens in Table 30 have been further subdivided according to the type of semantic shift that they undergo, and not according to the parameter of the syntactic transitivity of pseudo-applicative stems with respect to the transitivity of their roots. This choice appears to be much more informative for Chapter VII, where the historical origins of the applicative suffix in PB will be discussed and certain lexicalization paths/semantic shifts will be adduced as evidence of an original locative function of the applicative suffix, contra what has been claimed by Trithart (1983).

The types of semantic shifts I was able to identify are in Table 31. Problematic cases (§6.6.1.5, §6.6.2.6 and §6.6.4.7) and “miscellaneous” (§6.6.4.6) have not been included in Table 31 (6 entries in total, 78-6 = 72 remaining).

Table 31: Types of semantic shift affecting pseudo-applicative stems in the Tswana corpus^a

Types of semantic shift	Tokens	Percentage
Lexicalization/conflation of a Goal applied phrase	8	11.1%
Lexicalization/conflation of a Purpose applied phrase	13	18%
Lexicalization/conflation of a Beneficiary applied phrase	1	1.4%
Semantic narrowing/specialization	29	40.3%
Concrete to abstract metaphor	13	18%
Intensification (single applicative forms only)	3	4.2%
Loss of original intensifying function (double applicative forms only)	4	5.6%
Semantic broadening/extension	1	1.4%
Total	72	100%

^a I use “intensifying function” as a general cover term for the functions of the applicative suffix discussed in §5.5 (completeness, repetitiveness, intensity, excess, etc.).

As can be seen from Table 31, most pseudo-applicative stems in the corpus display semantic narrowing/specialization with respect to the meaning of their synchronic or historical roots (40.3%). This confirms the tendencies of semantic specializations observed by Bastin (1985) in Bantu nouns and verbs. Second, there are instances where the pseudo-applicative stems originally added either a Goal or a Purpose applied phrase to the argument structure of their root (29.1%).¹³¹ Third,

¹³¹ The semantic shifts “lexicalization/conflation of a Goal applied phrase” and “lexicalization/conflation of a Purpose applied phrase” are counted together because Purpose

pseudo-applicative stems appear to have developed an abstract meaning derived metaphorically from the more concrete meaning of their synchronic or historical roots (18%). Fourth, in few cases, the lexicalization of one single applicative derivation on a verb stem can be analyzed as having had an original intensifying function (4.2%). Fifth, some double pseudo-applicative stems appear to have lost their original intensifying function and now have meanings identical to those of their corresponding synchronic roots (5.6%). Finally, there is only one instance of lexicalization of a Beneficiary applied phrase (1.4%) and only one instance where a pseudo-applicative stem shows semantic broadening with respect to the meaning of its historical root (1.4%).

6.6.1 Non-parsable single pseudo-applicatives

Recall now that “pseudo-applicative” means that the historical and/or synchronic applicative morpheme present on a given verb root no longer has the function of introducing an applied phrase, nor does it perform synchronic semantic/pragmatic functions typical of the applicative morpheme in Bantu (cf. §5.4 and §5.5).

Non-parsable pseudo-applicatives lack a synchronic Tswana root from which they could be derived. However, all non-parsable single pseudo-applicatives in the Tswana corpus under investigation can be linked to a PB form. In some instances, the proto-form already contains the applicative suffix. In the case of non-parsable single (or double) pseudo-applicatives, “pseudo-applicative” status can be safely claimed only for applicative verb stems which are synchronically syntactically intransitive. In the case of

can be considered as an abstract extension of an underlying Goal meaning. See discussion in §6.6.1.

syntactically transitive non-parsable pseudo-applicatives, no certain claim can be made about the fact that the applicative stem has lost the ability to introduce an applied phrase because it is not possible to determine what was the valence associated with the (proto) root from which they are derived. If the synchronically irretrievable verb root was historically syntactically transitive/ditransitive, then there would be a “mismatch” (i.e. transitive/ditransitive verb root > transitive/ditransitive applicativized verb stem), but not so if the synchronically irretrievable verb root was syntactically intransitive. If historically intransitive, such cases would be instances of Type A lexicalized applicative stems (cf. §4.2.1), that is, cases where the applicative stem displays lexicalization but still introduces an applied phrase. Therefore, in the following sub-sections, when the non-parsable single pseudo-applicative is syntactically transitive, the use of the term “pseudo-applicative” should be considered as a cover term for either a true pseudo-applicative (e.g. assuming that the synchronic irretrievable root or the historical root was also syntactically transitive) or a lexicalized (Type A) applicative (e.g. assuming that the synchronic irretrievable root or historical root was syntactically intransitive). With this caveat in mind, all non-parsable single pseudo-applicative verb forms identified in the corpus have been grouped according to the semantic shift they undergo.

- a. **Lexicalization/conflation of a semantic Goal argument** into the lexical meaning of the pseudo-applicative stem. The synchronic pseudo-applicative stem may have originally added a Goal argument to its verb root (§6.6.1.1).
- b. **Lexicalization/conflation of a semantic Purpose argument** into the lexical meaning of the pseudo applicative stem. The synchronic pseudo-applicative stem may have originally added a Purpose argument to its verb root. This semantic

shift is based on the development ALLATIVE > PURPOSE which can also be construed as a metaphorical change from a more concrete domain (physically go towards a place) to a more abstract domain (go towards a non-physical goal > reach a purpose) (cf. the English metaphor PURPOSES ARE DESTINATIONS) (§6.6.1.2).

- c. **Semantic narrowing/specialization.** The lexical meaning of the pseudo-applicative appears to have been restricted/narrowed compared to the meaning posited for the proto-root (§6.6.1.3).
- d. **Semantic broadening/extension.** The lexical meaning of the pseudo-applicative appears to have widened compared to the meaning posited for the proto-root (§6.6.1.4).

In the following, entries are presented in alphabetical order within sub-section dealing with a given semantic shift. This is true also for all subsequent sections (§6.6.2, §6.6.3, etc.). All reconstructions come from the BLR3 database (Bastin et al. 2002), without exceptions. The symbol “<” means ‘historically from’. Recall that because there is no synchronic Tswana root available for non-parsable single (or double) pseudo-applicatives, these verb stems are not segmented (e.g. *elɛl* is transcribed as [èlèl] and not as [èl-èl]). Problematic cases will be discussed in §6.6.1.5.

6.6.1.1 Lexicalization/conflation of a semantic Goal argument

Pseudo-applicatives in this group display synchronic meanings which are identical to those of their corresponding proto-roots. The general hypothesis is that these applicative stems may have originally added a Goal argument to their (historical) verb roots. This Goal was later subsumed as part of the meaning of the applicative stem and therefore lost the ability to add an applied phrase. Cases discussed in this section and those in §6.6.2.1 would clearly support an original Location-related or Goal-related function of the applicative in PB.

elēl [èlèl] ‘flow’ <
*gèd ‘flow’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *elēl* is syntactically intransitive as it can only take a subject index as shown in (274).

Tswana (S31; Creissels ms.b: 41)

(274) *Dinoka tse ga di elele ngwaga otlhe*

<i>dì-nòká</i>	<i>tsé</i>	<i>χà-dí-èlél-í</i>	<i>ηwàχά</i>	<i>ˈô:tʰè</i>
CL10-river	CL10.DEM	NEG-CL10-flow.APPL-FV	CL3.year	CL3.all
‘These rivers do not flow the whole year.’ ¹³²				

¹³² All Tswana examples in this chapter have been parsed and glossed by Denis Creissels. The reader will notice that while in Tswana examples by Creissels from earlier years downstep and penultimate lengthening are not indicated, they are instead indicated in all examples obtained from the Tswana-French dictionary (ms.b) in this chapter. Both downstep and penultimate lengthening are predictable in Tswana, but Creissels considers that is better to indicate them explicitly in more recent work. Glosses of verb forms which are not immediately relevant to the discussion of pseudo-applicatives have been simplified. As a convention, I segment only parsable pseudo-applicatives, i.e. pseudo-applicatives which have a synchronic Tswana root.

HISTORICAL INFORMATION: The synchronically absent root *el* [ɛl] in the applicative stem *elɛl* [ɛ̀ɛ̀l] is the regular reflex of PB *gèd ‘flow’ (Creissels ms.a: 7, 1999a: 312), attested in zones C, E, J and S. Entries derived from the main entry *gèd ‘flow’ in BLR3 include *gèd ‘pass along’ (C, E, J), *gèdà ‘stream’ (CL3/4) (B, C, J, L, S), *gèdè ‘downstream’ (CL9) (B, C), and *gèdì (CL3/4) ‘stream’ (C, D, F, J, H, K, L, S). The synchronically absent root *el* [ɛl] is present in Brown (1895) with the meaning ‘flow as water, pour down, drop down as perspiration’. In Brown (1895), the applicative form *elɛl* [ɛ̀ɛ̀l] is present with the meaning ‘flow as water, flow with or to’. Considering the meaning in Brown (1895), the pseudo-applicative probably added some sort of Goal (e.g. flow to/into) or a Comitative/Instrument (e.g. flow with) applied phrase. The latter hypothesis seems less likely for two reasons: first, according to Trithart (1983) the instrumental function of the applicative in Bantu languages looks “newer” compared to others and there are virtually no lexicalized applicatives that could be traced back to an original instrumental function; second, at least synchronically, in Tswana the applicative cannot be used to introduce an instrumental applied phrase. Possibly, because of the frequent use of the applicative form with a locative expression, the applicative form might have replaced the root *el* [ɛl]. Although a proto-form such as *gèdid ‘flow’ is not reported in BLR3, reflexes of this applicative stem are also present, besides Tswana, in Nyamwezi (F22) *el-eel* ‘float’ (Maganga & Schadeberg 1992: 158) and Swahili (G41-43) *el-e* ‘float’ (Gérard Philippson p.c.).

Nouns derived from *elɛl* [ɛ̀ɛ̀l] in Tswana include *se-eledi* [sì-èlèdì] ‘liquid’ (CL7), *se-ela* [sì-èlá] ‘liquid’ (CL7), *keledi* [kèlèdì] ‘tear’ (CL9) and *kelelo* [kèlèlò] ‘channel, (blood) circulation, good will’ (CL9).

feela [fʲéél] ‘sweep’ <
*píagid ‘sweep’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *feel* is syntactically transitive because it can take an object NP. e.g. ‘yard’ in (275).

Tswana (S31; Creissels ms.b: 48)

(275) *Ke ne ka tsaya lofeelo ka ya go feela jarata yotlhe*

<i>kì-nè</i>	<i>kà-tsájá</i>	<i>lù-fééló</i>	<i>kà-jà</i>	<i>χù-féél-á</i>
s1S-AUX	s1S-take	CL11-broom	s1S-go.SEQ	INF-sweep.APPL-FV
<i>dzáràtá</i>	<i>ʼj-ò:tʰè</i>			
CL9.yard	CL9-all			

‘I took the broom and swept the whole yard.’

HISTORICAL INFORMATION: The applicative stem *feel* [fʲéél] is the reflex of PB *píagid ‘sweep’ (Creissels ms.a: 3) which apparently already contains an applicative suffix and has reflexes in zones E, M, N, P and S. The lexicalization of this verb stem has occurred also in Swahili (zone G) where the applicative stem *fag-i* ‘sweep’ has no synchronically available root. BLR3 has several variant reconstructions for the meaning ‘sweep’, that is, cases of “osculance”. These are: *píagid (D, F, G), *píang (D, L, M, R), *píed (N, P), *píed (A, E, K) and *piod (A). Conceivably, and considering that the meaning of some variant forms without the applicative is also ‘sweep’, the applicative might have originally added some sort of location such as sweeping ‘into’ or ‘out of/from’ a place. An instrumental function (e.g. ‘sweep with’) seems less likely for the same reasons exposed above for *elēl* [èlèl].

Nouns derived from the stem *feel* [fʲéél] in Tswana include *lo-feelo* [lù-fééló] ‘broom’ (CL11), *mo-feedi* [mù-féédí] ‘sweeper’ (CL1) and the applicative stem *feelel* [fʲéél-él] ‘sweep together neatly (the remaining dirt which is to be collected in a dustpan)’.

relel [rèlèl] ‘slip, escape, float’ <
*tèdid ‘slip’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *relel* is syntactically intransitive as it can only take a subject, e.g. the index *ba-* in (276).

Tswana (S31; Otlogetswe 2012: 498)

(276) *Fa o ka tshololela metsi fa fatshe batho ba tlaa relela ba golafale*

<i>fá</i>	<i>ʼú-ká-tsʰúlùlèlà</i>	<i>mètsí</i>	<i>fá</i>	<i>fàtsʰí</i>	<i>bá-tʰò</i>
if	S2S-POT-pour.APPL	CL6.water	LOC	on.the.ground	CL2-person
<i>bá-tláá-rèlèl-à</i>	<i>bà-χóláfâ:lì</i>				
S3:2-FUT-slip.APPL-FV	S3:2-get.injured.SEQ				

‘If you pour water on the ground, people will slip and get injured.’

HISTORICAL INFORMATION: This pseudo-applicative is the regular reflex of PB *tèdid- ‘slip’ (Creissels ms.a: 3). This PB form already shows lexicalization of the applicative suffix -id in zones A, B, F, G, J, M, N and S. BLR3 posits *tèdid ‘slip’ as a main entry despite the presence of the derivational morphology (*-id) given how widespread this form is. In BLR3, the form *tèd ‘slip’, without the applicative suffix, is posited as “derived” from *tèdid: its only attestation is in Bemba (M42). Other entries derived from *tèdid include the verb stems *tèdidi ‘slip’ (E, G and P), *tèdimuk ‘slip’ (C, G, H, L, M), *tèdim ‘be slippery’ (L, M, S) and the noun *tèdidi ‘slipperiness’ (B, G, J, N and S). Notice that verb stems with different derivational suffixes (*-id, *-id-i, *-im-uk) have the same meaning ‘slip’ (cf. discussion in Bastin 1985 and Schadeberg 2002). BLR3 also lists another main entry *cèd ‘slip’ for this same meaning (B, C, M, N, P, R) and variant entries *cìd ‘slip’ (C, H) and *cèn (A, L). Entries derived from *cèd ‘slip’ include *cèdid ‘come or go down’ attested in zones E, G, K, N and P and forms with derivational suffixes (or extensions) other than the applicative such as *cèdimuk ‘slip’ (C, D, L, S). Given the existence of *tèdid ‘slip’ with a wide distribution and *cèdid ‘come or go

down’ and considering that we are in the domain of verbs of movement, possibly the applicative *-*id* originally added a Goal endpoint ‘slip into/in/towards’ to **tèd* and due to the high frequency of usage of this form in combination with an applied Goal phrase, eventually the forms with the applicative lexicalized the Goal endpoint meaning and/or replaced roots without the applicative. In Tswana in particular, *relel* [rèlèl] has developed the additional meanings ‘escape’ and ‘float’ (Creissels ms.b, Creissels & Chebanne 2000). The meaning ‘escape’ can be easily connected to ‘slip’ by intentionally moving or sliding out of position of someone’s grasp (cf. English *slip out* can be used to mean ‘escape without being noticed’). In fact, Brown (1924) reports the form *relel* meaning ‘slip, slide, slip away, slip out of the hands’. How the meaning ‘float’ might have originated is less clear.

Forms derived from *relel* [rèlèl] include *relelekwane* [rèlélék^wàní] ‘slippery, elusive person’ (CL1a), *ma-reledi* [mà-rèlèdí] ‘slippery place’ (CL6), *thelelo* [t^hèlèlò] ‘slipping, skidding, changing the mind’ (CL9) and *theledi* [t^hèlèdì] ‘kneecap’ (CL9).

***thel* [t^hèl] ‘pour, flow, have diarrhea, transmit a contagious disease’ <
 *jìtɪd ‘pour’ <
 *jìt ‘pour’**

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: Synchronic *thel* [t^hèl] has two argument frames. When expressing the meaning ‘pour’, it is syntactically transitive, as shown in (277).

Tswana (S31; Creissels ms.b: 265)

(277) *Thela mabele mo kgetsing*
t^hèl-á má-bèlémó (mó q^hètsî-î)
 pour.APPL-FV CL6-sorghum LOC CL9.bag-LOC
 ‘Pour the sorghum (in the bag).’

When expressing the meaning ‘flow’, it is syntactically intransitive, that is, it takes only a subject index in (278).

Tswana (S31; Creissels ms.b: 265)

(278) *Molatswana o o thela mo molapong wa Zambezi*
mù-làtswànà ó ’ú-t^hél-à (mó mú-làpó-î)
 CL3-river.DIM CL3.DEM s3:3-pour.APPL-FV LOC CL3-river-LOC
wá-Zambezi
 CL3.LNK-Zambezi
 ‘This little river flows (into the Zambeze river).’

HISTORICAL INFORMATION: The applicative stem *thel* [t^hèl] is synchronically in alternation with *tshel* [ts^hèl] ‘flow, pour’. *Thel* [t^hèl] can be posited as the reflex of *jìtd ‘pour’ (Creissels ms.a: 21, 1999a: 325), attested in zones B, E, G, H, K, L, M, R and S. Recall from §6.3 that often *jì has no reflex in Tswana. The other problem with *thel* [t^hèl] is that *t should have the weak reflex /r/ as a reflex in Tswana; however, *t shows the strong reflex /t^h/ in [t^hèl]. But this is a quite common situation, as we know from §6.3 and from the many instances in this case study of unexpected strong reflexes in Tswana of PB consonants not preceded by a nasal. In BLR3, *jìtd ‘pour’ is listed as being derived from *jìt ‘pour’, attested in zones B, C, E, F, M, N and S. The fact that *jìtd is reconstructed with an applicative suffix already at the PB stage implies that the lexicalization found in Tswana is probably present in several other zones. Given the meaning of *jìt ‘pour’, the most likely scenario is that the form *jìtd originally added a destination or Goal applied phrase, as in ‘pour into something’ and that due to high

frequency in usage in many zones the applicative stem replaced the simple root *jìt. In Tswana, the pseudo-applicative stem *thel* [t^hèl] has developed several other meanings from ‘pour’: ‘flow’ is probably obtained metonymically since pouring a liquid implies that the liquid flows out of a container; ‘have diarrhea’ can be seen as a specialization derived from ‘flow’ for bodily functions; and ‘transmit a contagious disease’ could be seen as metaphorically derived from ‘flow’ (something that travels from one point to another but not physically as a stream of water).

Derivatives of *thel* [t^hèl]/*tshel* [ts^hèl] include *thelegel* [t^hèl-èχèl] ‘pour down upon, rush upon, come or go to in great numbers’, *tshgelegel* [ts^hèl-èχèl] ‘converge, flock’ and *tshelan* [ts^hèl-àn] ‘splash each other with liquid, infect each other (disease).

***tlwael* [t^hwáél] ‘become used to, accustomed’ <
*jóg ‘be accustomed’**

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *tlwael* can either take an object, cf. the object index *dí-* in (279) or can be followed by an infinitive clause (280).

Tswana (S31; Creissels ms.b: 302)

(279) *Ditlhako tse di nkitsa go tshameka sentle ka ke sa di tlwaela*

<i>dì-t^hàkú</i>	<i>‘tsé</i>	<i>‘dí-ń-kítsà</i>	<i>χù-ts^hámíká</i>	<i>sí-ńt^hè</i>
CL8-shoe	CL8.DEM	S3:8-O1S-prevent	INF-play	CL5-beautiful

ká kí-sà-dí-t^hwáél-à

since S1S-NEG-O3:8-be.accustomed.APPL-FV

‘These shoes do not let me play well because I am not well accustomed to them.’

Tswana (S31; Creissels ms.b: 302)

- (280) *Ke lemoga gore mosadi a tlwaetse go robatsa ngwana fa ntle fa a feela*
mù-sádí ʼú-tʰwáéts-í χù-rʰbátsá ηw-àná
 CL1-woman S3:1-be.accostomed.APPL.PFT-FV INF-sleep.CAUS CL1-child
fá ñtʰé ʼfá á-fêê:là
 LOC outside when S3:1-sweep
 ‘The woman is accustomed to the child sleeping outside when she sweeps.’

HISTORICAL INFORMATION: The root inside the applicative stem *tlwael* [tʰwáéí], i.e. *tlwa* [tʰwá] could be posited as the reflex of *júg ‘be accustomed (to)’ attested in zones G, H and S. Linking these two forms presents several problems. First, as already discussed in §6.3, the reflexes of *j and *ji are problematic in Tswana, but there are many forms reconstructed with an initial *ji which have /tʰ/ as a reflex in Tswana (cf. *jij ‘come’ > tʰ ‘come’; *jijad ‘become full’ > tʰál ‘be, become full’; *jijòkòdò (CL1) ‘grandchild’ > (mù-)tʰúχóló ‘grandchild’, Creissels 1999a). The second issue is with *u which apparently resulted in a diphthong /wa/ in Tswana instead of the expected reflex /u/ (*g as expected > Ø). If we assume, despite these formal problems, that that a synchronically absent root *tlwa* can be posited as the reflex of *júg, then the presence of the pseudo-applicative stem *tlwael* [tʰwáéí] can most easily be explained by positing that initially the applicative introduced a Goal argument, ‘be accustomed to something, someone’. Interestingly, there are several reconstructed entries in BLR3 with the meaning ‘be accustomed to’ which already present one or two applicative derivations at some earlier node of PB. These include: *jijíbid ‘be accustomed to’ (L and M) derived from *jijib ‘know’ (B, C, G, H, J, K, M, N, R, S) and *mànjidid ‘be accustomed to’ (J) derived from *mànj ‘know’ (A, C, D, E, F, G, J, L, M, N, P).

Derivatives of *tlwael* [tʰwáéí] in Tswana include: *mo-tlwaedi* [mù-tʰwáéí] ‘regular customer’ (CL1), *tlwaelo* [tʰwáéí] ‘custom, adaptation, habit, experience, usage’ (CL9),

bo-tlwaelo [bù-tʰwáéíǀ] ‘habituation, addiction’ (CL14), *tlwaetso* [tʰwáétsǀ] ‘adaptation’ (CL9) and *tlwaolol* [tʰwá-ól-ól] ‘get out of the habit of something’.

6.6.1.2 Lexicalization/conflation of a semantic Purpose argument

For the cases discussed in this section and those in §6.6.2.2 and §6.6.4.2, I propose that the Tswana pseudo-applicative stem originally added a Purpose applied phrase, schematically [X Verb_{APPL} (in order) to do Y]. One can easily argue that any Purpose meaning of the applicative is a more abstract extension of an underlying more concrete Goal/Direction meaning (cf. Heine et al. 1991: 151). Therefore, lexicalizations in this section also support an original Goal meaning of the applicative suffix in PB.

The intimate relationship between Goals/Destinations and Purposes finds cognitive support in metaphors such as PURPOSES ARE DESTINATIONS, e.g. English *reach one’s goals, work towards a solution* (Lakoff & Johnson 1980, Kövecses 2002, Johnson 2007). According to Lakoff (1987: 277), this metaphor arises from recurrent human experience, where people usually need to go towards a place to achieve a certain goal (for instance, go to a store to buy food). Further, from when humans are toddlers and have the intention of going to a location for a purpose, we move our bodies from a starting point A, through an intermediate sequence of locations, to the end point B which ideally satisfies the purpose of our moving towards that location. The shift from Goal to Purpose is widely attested in grammaticalization phenomena. For instance, Heine et al. (1993) and Heine & Kuteva (2002: 39) offer plenty of examples from languages with different genetic affiliations (e.g. Albanian, Imonda, Lezgian, Basque, Bodic languages, Rama, To’aba’ita) where allative markers give rise to purpose/reason markers, and eventually to infinitive markers). Similarly, Bybee et al. (1994: 229) argue

that intention is the most commonly mentioned agent-oriented use that gives rise to purpose clauses. In turn, intention can develop, among others, out of movement toward a goal.

Often, cases discussed in this section and those in §6.6.2.2 and §6.6.4.2 can also be categorized as cases of cause-effect metonymy. In particular, the applicative stem usually expresses the meaning of an event or action which spatially or temporally follows the meaning of the event expressed by the root.

gwel [χwél] ‘mate, copulate (of sheep, goats, cattle)’ <
 *kóid ‘marry, copulate’ <
 *kó ‘give bridewealth’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: This pseudo-applicative is syntactically transitive as shown by the presence of an object NP after the verb in (281).

Tswana (S31; Otlogetswe 2012: 131)

(281) *Poo e, e tlaa gwela dikgomo tsa bone*

<i>pòó</i>	<i>é</i>	<i>ʼí-tláà-χwél-á</i>	<i>dí-q^hòmú</i>
CL9.bull	CL9.DEM	S3:9-FUT-mate.APPL-FV	CL10-cow
<i>tsá-bà:né</i>			
CL10.GEN-CL2.PRO			

‘This bull will mate with his cow.’

HISTORICAL INFORMATION: This verb form can be traced back to PB *kóid ‘marry, copulate’ (Creissels ms.a: 15), already containing the applicative suffix *-id, with reflexes in zones B, D, G, H, L, P, R and S. Given the meanings reported in BLR3, *kóid must have been used originally for humans. BLR3 derives *kóid ‘marry, copulate’ from *kó ‘give bridewealth’, a form that is attested only in two zones (F, J). Other entries derived from *kó ‘give bridewealth’ include: *kóan ‘make friends’ (J), *kóánò (CL3)

‘friendship’ (J), *kóánò (CL9) ‘bridewealth’ (J) and *kói (CL1, CL14) ‘relation by marriage’ (A, B, C, D, F, G, H, J, L, M, R, S). Possibly, *kóid originally meant ‘give bridewealth for the purpose of marrying/in order to marry and therefore copulate’. According to Denbow & Thebe (2006: 136), at the beginning of the nineteenth century, in Tswana traditional societies a gift of cattle from the groom’s to the bride’s family was the primary means to make a marriage legitimate in the eyes of the public. Thus, the events of ‘give bridewealth’ and ‘marry/copulate’ are in a cause-effect relationship. If we assume this as a possible scenario, the synchronic meaning of Tswana *gwel* [χwél] ‘mate, copulate (of animals)’ has undergone both metonymy (a part of the process has substituted for another part: marry then copulate > copulate) and semantic narrowing in that this verb form can synchronically be used only in relation to animals.

Nouns that are probably cognate etymologically with *gwel* [χwél] in Tswana include *mo-gwe* [mù-χwél] ‘son-in-law’ (CL1), *bogwe* [bù-χwél] ‘place of residence of a man’s in-laws’ (CL14), *bo-gwagadi* [bù-χwáχàdí] ‘groom’s in-laws’ (CL2a) and *mo-gwagadi* [mù-χwáχàdí] ‘husband’s parent-in-law’ (CL1). These nominal derivations still show relics of the meaning ‘marry’ associated with the proto-form *kóid ‘give bridewealth’.

***rapel* [ràpèl] ‘pray, entreat, beseech’ <
 *támb ‘offer, offer sacrifice’ <
 *támb ‘call’**

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: This verb form is syntactically transitive, as shown by the presence of the object NP ‘ducks’ after the verb in (282).

Tswana (S31; Creissels ms.b: 219)

(282) *Khudubane ya rapela dihudi gore di se ka tsa e tlogela*

k^húdùbání *já-ràpèl-à* *dì-húdí* *χóri* *dí-siká*
CL9.turtle S3:9-beg.APPL-FV CL8-duck that S3:8-AUX

tsà-í-ttúχê:là

S3:8-03:9-abandon

‘The turtle begged the ducks not to abandon her.’

HISTORICAL INFORMATION: The synchronically unattested historical root in *rapel* [ràpèl], i.e. *rap* [ràp] would be the regular reflex of PB *tám̄b ‘call’, attested in zones D, G, H, M and S. The tone, however, does not match: while the proto-form has a high tone, the synchronic Tswana form has a low tone. BLR3 reports several entries derived from *tám̄b ‘call’: *tám̄b ‘offer, offer sacrifice’ (F, H, J, S), *tám̄bik ‘offer, offer sacrifice’ (E, G, H, L, M, N, R), *tám̄bik ‘call’ (H, K, L) and *tám̄bud ‘name, quote’ (G, R). Some derived entries show other verbal extensions such as the stative/neuter *-ik and the transitive reversive *-ud, but no form with an applicative reconstructed at the PB stage has been posited in BLR3. There is a quite transparent relation between ‘call’ and ‘offer (sacrifice)’ when ‘call’ is considered in relation to Bantu religious beliefs and practices. Historically, Tswana and Bantu-speaking tribes of Southern Africa more generally believed in ancestor worship, that is, in the worship of the spirits of the dead (Brown 1926, Eiselen & Schapera 1937, Denbow & Thebe 2006). Tswana tribes believed that ancestor spirits have the power to protect or punish their descendants: good fortune is the result of the spirit’s benevolence, while calamity might be the result of neglecting the ancestor’s spirit. The good relationship with the ancestor spirits were kept by making a special offering whenever a beast was slaughtered or beer had been brewed. Communication between worshippers and ancestors was established generally through prayer accompanied by an offering or sacrifice (Brown 1926: 71, Eiselen & Schapera

1937: 255). Brown (1926: 148) describes this as “sacrifice of atonement”. This rite is called *xo phas̄ha* in Tswana groups (Eiselen & Schapera 1937). Briefly, in this rite, once the designated animal is slaughtered, the priest takes a bit of *psanyi*, the half-digested grass found in the stomach of the animal, puts it to his lips, emits a little saliva and spits out the whole thing pronouncing the *xo phas̄ha* to consecrate the offering to the ancestor spirits. Then a stereotyped prayer is pronounced, often reprimanding the ancestor spirit if he has caused trouble or asking him to accept the sacrifice and protect and bless his descendants. Therefore ‘call upon the spirit’ and ‘offer sacrifice’ are usually interrelated practices. Again, as in the case of *gwel* [χwél] ‘mate, copulate’, ‘offer sacrifice’ and ‘call upon a spirit’ are in a metonymical relationship of cause/effect. From this scenario, conceivably the Tswana applicative stem *rapel* [ràpèl] could have started out as an applicative adding a Purpose applied phrase, as in ‘offering sacrifice (in order) to call upon the spirit’ > ‘call upon the spirit to obtain benevolence’ > ‘pray, beseech, entreat’ in Tswana. In support of this hypothesis, Brown (1895) reports *rapel* [ràpèl] ‘conciliate, entreat’.

Verbs and nouns derived from *rapel* [ràpèl] in Tswana include: *rapelel* [ràpèl-èl] ‘pray to/for’, *rapeleseg* [ràpèl-èsèχ] ‘be accessible to prayers’ and *mo-rapelo* [mù-ràpèlò] ‘prayer’ (CL3).¹³³

¹³³ The meaning ‘offer a sacrifice’ is expressed synchronically in Tswana by the root *ntsh* [nts^h] ‘make appear, present, produce’ and the noun *se-tlhabelo* [sì-t^hàbèlò] ‘sacrifice’ (from *tlhab* [t^hàb] ‘stab, pierce, slaughter’).

6.6.1.3 Semantic narrowing/specialization

This section includes only two cases. In the first one, the pseudo-applicative appears to have a narrower meaning with respect to the meaning posited for its corresponding historical root. In the second, the pseudo-applicative has specialized in one of the meanings posited for its historical root. This second instance could also be considered a case of ellipsis.

gatsel [χάτσέλ] ‘freeze, solidify (e.g. meat soup or fat)’ <
*kác ‘dry up (intr.), coagulate, be hard’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The stem *gatsel* is syntactically intransitive as it can only ever have a subject index in our corpus, e.g. à- in (283).

Tswana (S31; Creissels ms.b: 68)

(283) *Manyerenyere e re a sena go tsidifala a gatsela a nne tshipi*

<i>mà-nèréjéré</i>	<i>írì</i>	<i>á-síná</i>	<i>χù-tsidífálà</i>	<i>à-χάτσέλ-ì</i>
CL6-ore	when	S3:6-AUX	INF-get.cold	S3:6-solidify.APPL-FV
<i>à-nní</i>	<i>‘ts^hɪpì</i>			
S3:6-become	CL9.iron			

‘After the ore gets cold, it solidifies and becomes iron.’

HISTORICAL INFORMATION: The historical root *gats* [χάts] in *gatsel* [χάτσέλ] can be posited as the reflex of PB *kác ‘dry up (intr.), coagulate, be hard’, present in zones A, B, H, L, R and S. One problem is that *c should have /t^h/ as a reflex in Tswana and not /ts/.

BLR3 indicates that the proto-form (without an applicative suffix) should be reconstructed as an intransitive predicate. In BLR3, *kácú ‘dry’ is an adjective derived from *kác, attested in zones H and M. Brown (1895) and Brown (1924) report *gatsel* ‘become frozen, be stiff with cold, congeal, freeze’. No base form is present in either dictionary. Additionally, Brown (1924) indicates that *gatsel* [χάτσέλ] is an intransitive

predicate. The meaning of the proto-root *kác is wider than the meaning of the applicative stem in Tswana. While the meaning of the proto-form does not in principle imply that a dried, solid state is reached by means of coldness, the Tswana applicative stem does seem to have (at least partially) specialized in solidification as a result of cold temperature rather than other external causes. Therefore, the applicative stem seems to have developed a narrower meaning in Tswana.

Nouns related to *gatsel* [χátsél] in Tswana that seem to confirm this meaning specialization are: *bo-gatsu* [bù-χátsú] ‘numbness, pins and needles, cramps, stiffness’ (CL14) and *se-gatsetsa* [sì-χátsètsá] ‘rheumatism’ (CL7) derived from the causative form of *gatsel*, *gatsets* [χáts-éts] ‘cause to freeze or solidify’.

***opel* [ópél] ‘sing’ <
*jím̩b ‘sing, dance’**

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *opel* [ópél] is syntactically intransitive, as shown by the absence of an object NP in (284).¹³⁴

Tswana (S31; Creissels ms.b: 191)

(284) *Khwaere e tlaa opela maitseboa*

k^{hw}áírí *‘í-tláà-ópél-á* *mà-ítsíbù:á*

CL9.choir S3:9-FUT-sing.APPL-FV CL6-tonight

‘The choir will sing tonight.’

HISTORICAL INFORMATION: The historical root of *opel* [ópél] would be *op* [óp]. This historical root could be the reflex of PB *jím̩b ‘sing, dance’ attested in all Bantu zones.

¹³⁴ Creissels (p.c.) speculates that very likely *opel* [ópél] can be used in cognate object constructions such as ‘sing a song’, although no such example is present in his corpus.

BLR3 also lists a variant form *dímb ‘sing, dance’ attested only in zones C and J. The Tswana reflex [ǃp] is not without problems. The tone matches, *mb > p, *j > Ø but the vowel of the Tswana applicative stem is back instead of front and the degree of aperture is not the same as that posited for the proto-form. These inconsistencies are not surprising when dealing with reflexes of *j in Tswana (cf. §6.3). Interestingly, BLR3 also reports *jímbid ‘sing’ as a lexicalized applicative at the PB stage in zones A, C, H. Zone S could probably be added to this list. The presence of this form in northwestern zones such as A, C, H and in zone S indicates that this lexicalization is probably very old. While the proto-form *jímb encompasses both singing and dancing, the Tswana applicative stem *opel* [ǃpél] has specialized only in one of the meanings, i.e. ‘sing’.¹³⁵ In this case, the root seems to have specialized in just one of the meanings attributable to the proto-form.

The meaning specialization of the applicative can be explained considering the close relatedness that existed in southern Bantu tribes between dancing and singing. Kirby (1937) reports that instrumental music of the Bantu people of South Africa included at the time of his writing dancing-rattles worn on the ankles or shaken in the hand, conical wooden drums and animal horns as signal trumpets. The Tswana also had the so-called reed-flute ensemble which are used for ceremonial purposes. In the 1920s and 1930s, at least, men alone were flute-players, who danced while they played, while women may beat the drums. Historically, vocal music usually accompanied instrumental music, unless songs were performed by a soloist or unless the song was choral (Kirby 1937: 285, Brown 1926). Thus, the meaning narrowing from *jímb ‘sing,

¹³⁵ At least in Tswana, ‘dance’ is expressed by *bin* [bín], a reflex of PB *bín ‘dance, sing’ (Creissels ms.a: 2, 1999a: 309), present in 13 zones.

dance' to *opel* [ópél] 'sing' might be the result of a metonymy, i.e. the profiling of only a part of the activity which usually involves singing, dancing and playing instruments. This hypothesis is confirmed by the fact that several entries in BLR3 are derived from the verb root *jím̩b 'sing, dance' and have preserved only the meaning 'sing'. These have a limited spread and include: *jím̩bì 'singer' (zones J and S) and *jím̩bì 'singer' (zone C). Much more widespread is the noun *jím̩bò 'song, dance' which is attested in all zones except zone S and has preserved both meanings of verb root from which it was derived.

Synchronic nouns derived from *opel* [ópél] 'sing' in Tswana include *mo-opedi* [mò-ópédí] 'singer' (CL1) and *mo-opedisi* [mò-ópédìsì] 'conductor' (CL1) derived from the causative form of *opel* [ópél] which is *opedis* [ópéd-ís]. The form *opelel* [ópél-él] 'sing for someone' is the synchronic applicative form of *opel* [ópél].

6.6.1.4 Semantic broadening/extension

The following entry is the only instance of semantic broadening/extension found in the entire corpus. There are no other applicative stems which display a broader meaning compared to that of their synchronic and/or historical roots.

***sel* [sèl] 'pick up, gather, harvest (a poor crop)' <
*kí 'gather (fruit)'**

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *sel* [sèl] is syntactically transitive, as shown by the presence of an object NP after the verb in (285).

Tswana (S31; Creissels ms.b: 240)

(285) *Mmutla o ne wa sela mitlwa ya noko*

<i>m̄-mútlá</i>	<i>ú-nè</i>	<i>wá-sél-á</i>	<i>mítłwà</i>
CL3-hare	S3:3-AUX	S3:3-gather.APPL-FV	CL4.spine

yá-nù:kú
CL4.GEN-CL9.porcupine
'The hare gathered the spines of the porcupine.'

Other examples in the corpus show that *sel* [sèl] can also be used in expressions such as 'pick up money'.

HISTORICAL INFORMATION: The synchronically absent historical root *s* in the applicative stem *sel* [sèl] is possibly the reflex of PB *kí 'gather (fruit)' a variant entry attested only in zones H and N. The main entry related to *kí in BLR3 is *ká 'gather (fruit)' attested in zones B, D, R and S. The reflex of *ká in Tswana is *g-a* [χ-á] 'ladle, pick or harvest (e.g. beans or morogo)' (cf. the discussion of *gelel* [χ-él-él], double applicative stem of *g-a* [χ-á], in §6.6.4.3). In Tswana, front vowels caused the palatalizations of *k (among other consonants) so that *k > s/____V_{+front}, i.e. *l in the case of *kí (cf. Table 15 in §6.3 and Creissels 2007: 7 for further details). What I am proposing is that for some reason, both the variant forms *kí and *ká 'gather (fruit)' have reflexes in Tswana. However, there is again the problem of a non-matching tone between the proto-form (high tone) and Tswana reflex (low tone). Nevertheless, evidence that *kí could be the root from which *sel* derived is found in Brown (1895) and Brown (1924), who report *sel* [sèl] with the meanings 'pick up one by one, gather up by picking one by one with the fingers, peck up as a fowl'. No verb root for *sel* [sèl] is found in either dictionary. These older meanings already show meaning broadening with respect to the meaning of *kí

dedicated exclusively to gathering fruits, as BLR3 reports it. These older meanings could conceivably point to the gathering roots and tubers from the ground, and thus be closer to the meaning of the proto-form. Additionally, both Brown (1895) and Brown (1924) report the applicative form of *sel*, *selel* [sèl-èl] meaning ‘pick up for or pick up into’ (on the lexicalization of the double applicative *selel* [sèl-èl] see §6.6.3). Synchronically, the applicative stem *sel* [sèl] represents an instance of meaning broadening, from ‘gather (fruit)’ to ‘gather’, although a meaning closer to that of the proto-root is presumably still kept in the sense ‘harvest (a poor crop)’.

The Tswana noun *le-selo* [lì-sèlò] ‘winnowing basket’ (CL5) is derived from *sel* [sèl], presumably by metonymical extension (an instrument used to separate grain from chaff after harvesting). Other derivatives of *sel* [sèl] are *lo-selo* [lò-sèlò] ‘minivan’ (CL11) and *mo-sele* [mò-sèlé] ‘water furrow, trench, ditch’ (CL3): these are possibly also metonymical extensions because both refer to containers where one can gather entities or substances. Further, there are also the nouns *le-selwa* [lì-sèlwà] ‘illegitimate child’ (CL5) (possibly from the idea of a man “picking up” a child that is not one’s own), *di-selamma* [di-sèlàmmàpá] ‘competitors, contestants (those who collect, gather up side by side) (CL8/10) and *bo-selamma* [bò-sèlàmmàpá] ‘rivalry’ (CL14).

6.6.1.5 Problematic cases

dumel [dùmèl] ‘accept, admit, believe, agree, receive greetings’ <

*dùmɪd (not confirmed) ‘assent’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The syntactic transitivity of *dumel* [dùmèl] is shown in (286), where the verb takes a subject index *ú-* and is followed by an object NP, ‘the tribe’s request.

Tswana (S31; Creissels ms.b: 39)

(286) *Goromente o dumetse kopo ya morafe*

<i>χùrùméñté</i>	<i>ú-dùméts-í</i>	<i>kúpò</i>	<i>já-mù-ráǻ</i>
CL1.government	s3:1-accept.APPL.PFT-FV	CL9.request	CL9.GEN-CL3-tribe

‘The government accepted the tribe’s request.’

HISTORICAL INFORMATION: The applicative stem *dumel* [dùmèl] is possibly a reflex of *dùmɪd ‘assent’ (Creissels ms.a: 19) which already contains an applicative suffix and is present in zones K, M, R and S. BLR3 also includes the entry *dùm ‘assent’, present in zones N and S. However, neither *dùmɪd nor *dùm are confirmed entries in BLR3, that is, there is uncertainty as to whether these forms are related or derived from other entries by the editors of BLR3. Additionally, there appears to be a possible simple root related to *dumel* [dùmèl] in synchronic Tswana, namely *dum* [dùm] ‘moan, roar’, from *dùm ‘roar, rumble’ attested in twelve zones. However, it is quite a stretch to make a semantic connection of some kind between the meaning of the root *dum* [dùm] ‘moan, roar’ and the pseudo-applicative *dumel* [dùmèl]. As a result, I do not posit *dum* to be the root form from which *dumel* is derived. To further complicate the situation, *dumel* has synchronically developed several other meanings such as ‘believe’ and ‘receive greetings’. Possibly, the original meaning or etymology of the historical root *dùm ‘roar,

rumble' was different from the ones synchronically available in Tswana (Denis Creissels p.c.).

Derivatives of *dumel* include *bo-dumedi* [bù-dùmédí] 'belief, religion' (CL14), *mo-dumedi* [mò-dùmédí] 'believer' (CL1), *se-dumedi* [sì-dùmédí] 'religious custom, belief' (CL7), and *ma-dume* [mà-dùmé] 'greetings' (CL6).

6.6.2 Parsable single pseudo-applicatives

Parsable pseudo-applicatives are synchronically segmentable verb stems which can be divided into a synchronically existing Tswana root plus an applicative morpheme. A non-applicative root for the pseudo-applicative stem exists in Tswana and some sort of semantic shift can be posited to explain the non-compositional meaning of the pseudo-applicative stem. In the majority of cases, both the root and the applicative stem could be linked to a proto-form reconstructed in BLR3.

Parsable single pseudo-applicatives in Tswana vary along several parameters. First, some of them have maintained a regular use of the applicative derivation in co-existence with the pseudo-applicative lexicalized form. Second, some are syntactically transitive and some are syntactically intransitive. Third, they vary in the type of semantic shift that has taken place between the lexical meaning of the pseudo-applicative and the lexical meaning of its synchronic root and that of the proto-form to which both can be related. On the basis of this last parameter, the following types can be identified.

- a. **Lexicalization/conflation of a semantic Goal argument** into the lexical meaning of the pseudo-applicative stem. The synchronic pseudo-applicative stem may have originally added a Goal argument to its verb root (§6.6.2.1).
- b. **Lexicalization/conflation of a semantic Purpose argument** into the lexical meaning of the pseudo applicative stem. The synchronic pseudo-applicative stem may have originally added a Purpose argument to its verb root. This semantic shift is based on the development ALLATIVE > PURPOSE which can also be construed as a metaphorical change from a more concrete domain (physically go towards a place) to a more abstract domain (go towards a non-physical goal > reach a purpose) (cf. the English metaphor PURPOSES ARE DESTINATIONS). The lexicalization of a semantic Purpose argument can also be construed as a case of cause-effect metonymy in a sequence of two events spatially and temporally interconnected. (§6.6.2.2)
- c. **Semantic narrowing/specialization.** This shift in the case of parsable single pseudo-applicatives includes several possible cases of semantic narrowing/specialization: (i) both the synchronic Tswana root and pseudo-applicative stem have specialized in one of the meanings posited for their corresponding proto-form; (ii) the meaning of the synchronic Tswana root is identical to the meaning of the proto-form of which it is a reflex, and the Tswana pseudo-applicative stem shows meaning specialization; (iii) a given Tswana root and pseudo-applicative can be linked to a proto-form which has a more general meaning and the synchronic Tswana root and pseudo-applicative stem each have specialized in a narrower meaning (§6.6.2.3).

- d. **Concrete to abstract metaphor.** The Tswana synchronic pseudo-applicative stem has a more abstract meaning derived metaphorically from the more concrete meaning of the verb root and that of the proto-form from which the root derives. The concrete to abstract metaphor might be based on an implied Endpoint or implicit Goal in some cases (§6.6.2.4).
- e. **Intensification.** In some cases, the lexicalization of a form with one single applicative derivation can be analyzed as having had an original intensifying function. This is peculiar because in Tswana, at least synchronically, two applicative derivations are necessary to add intensity, completeness, repetitiveness, etc. to the action/state described by a verbal root (§6.6.2.5).

We now turn to the analysis of each of these semantic types. Problematic cases will be discussed in §6.6.2.6.

6.6.2.1 Lexicalization/conflation of a semantic Goal argument

In this group, the root and the pseudo-applicative practically display identical meanings or meanings which can be considered synonyms. Some sort of lexicalization path, however, can be posited in which originally the applicative added a locative Goal to the construction of the root. This Goal was later subsumed as part of the meaning of the applicative stem and therefore lost the ability to add an applied phrase.

babael [bàbà-èl] ‘walk stealthily, tread or step lightly/gingerly (owing to sore feet)’ <

baba [bàbà] ‘walk softly on account of tender or sore feet, walk stealthily’ <
*bàb ‘walk heavily’ (not confirmed)

SYNTACTIC VALENCE OF ROOT: There are no clause-level example of the root *baba* [bàbà] in our corpus or in other available sources. This root is reported only by Matumo (1993) as archaic. Brown (1895) and Brown (1924) report *babea* ‘walk softly on account of tender or sore feet, walk stealthily’. Neither of these two older dictionaries reports the applicative stem *babael* [bàbà-èl].

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *babael* [bàbà-èl] is syntactically intransitive, as it takes only a subject index, as in (287).

Tswana (S31; Otlogetswe 2012: 11)

(287) *Ke ene tota! bona jaaka a gata a babaela e kare kgomo e bolawa ke menala*

<i>kí</i>	<i>èné</i>	<i>tòtá</i>	<i>bónà</i>	<i>dzáàká</i>	<i>á-χàtá</i>
it.is	CL1.PRO	really	see	how	S3:1-put.the.foot.on
<i>á-bábá-èl-à</i>		<i>í-ká-rí</i>		<i>q^hòmú</i>	<i>í-bùlává</i>
S3:1-walk-APPL-FV		S3:9-POT-say		CL9.cow	S3:9-kill.PASS

<i>kí</i>	<i>mù-nâ:là</i>
by	CL4-hoof

‘It’s really him! Look how he walks on the tip of the toes like a cow that suffers from its hoofs.’

HISTORICAL INFORMATION: the root *baba* [bàbà] could be linked to PB *bàb ‘walk heavily’, attested, according to BLR3, in zones C, H an L. BLR3 also lists *bàbat ‘walk’ in zone L. The problem is that neither *bàb nor *bàbat has been confirmed in BLR3. If one assumes that the meaning of *bàb ‘walk heavily’ is indeed close to the real etymology of this unconfirmed proto-form then there seems to have been a reversive shift in Tswana

and related languages from ‘walk heavily’ > ‘walk stealthily’. In the closely related Northern Sotho, *babail* means ‘walk painfully’ (Kriel et al. 1997: 5). Because ‘walk’ is a verb of movement, the most likely hypothesis is that the applicative stem *babael* [bàbà-èl] originally added a Goal/Destination applied phrase to the construction. Eventually, due to high frequency/overuse the applicative form replaced the root. I was not able to find any derivatives of either *bab* or *babael* in the materials available to me.

***bolel* [ból-él] ‘say, announce’ <
bol [ból] ‘divulge, make known, inform (without authority to do so)’ <
 *búúd ‘tell’**

SYNTACTIC VALENCE OF ROOT: There are no clause-level examples of the root *bol* [ból] in our corpus. Brown (1924) classifies it as a transitive verb root. This root is not reported in Otlogetswe (2012) nor in Creissels & Chebanne (2000). Snyman et al. (1990) report the fixed expression *go bola molao* ‘tell of a forbidden custom’. In Brown (1895) and Brown (1924) *bol* [ból] is reported with the meaning ‘tell news’.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *bolel* [ból-él] is syntactically transitive, as shown in (288).

Tswana (S31; Creissels ms.b: 24)

(288) *Ba ne ba bona naledi e e bolelang botsalo jwa kgosikgolo*

<i>bá-nè</i>	<i>bà-bóná</i>	<i>‘nálódi</i>	<i>é</i>	<i>‘f-ból-él-à-ń</i>
s3:2-AUX	s3:2-see	CL9.star	CL9.LNK	S3:9-divulge-APPL-FV-REL
<i>bù-tsálò</i>	<i>dž^wá-q^hósíq^hô:lò</i>			
CL14-birth	CL14.GEN-emperor			

‘They saw the star that announces the birth of an emperor.’

In (288), *bolel* [búl-él] appears in a relative clause and is marked for this function by the high tone nasal suffix *-ǰ*. This verb form takes a subject index *í-* and is followed by an object NP (cf. ‘the birth of the emperor’). Note that if a Recipient were to be added to the construction (e.g. ‘announce something *to* someone’) the applicative *bolel* [búl-él] would need to undergo another applicative derivation, i.e. *bolelel* [búl-él-él]. Brown (1895) and Brown (1924) report *bolel* [búl-él] with the meanings ‘tell, proclaim, relate’.

HISTORICAL INFORMATION: The root *bol* [búl] is the regular reflex of PB *búúd ‘tell’ (Creissels ms.a: 17, 1999a: 322), attested in zones F, H, J, L and S. BLR3 also reconstructs several derived forms, including: *búúdid ‘inform’ (zone J), *búúdidí ‘ask’ (zones G and N) and *búúdi (D, E, F, G, J, M, P, S). It is not unreasonable to imagine that at some point the use of the applicative form *bolel* [búl-él] was very high in frequency with its regular function of adding an applied phrase with the semantic role of Goal (i.e. Addressee), as in ‘say, tell, announce, divulge *to* someone’. Probably due to high usage, this form was at some point in competition with the root and the most complex stem lost its original applicative function. Nowadays both forms co-exist probably with a difference in terms of usage frequency. Interestingly, BLR3 reconstructs several derived entries from *búúd ‘tell’ which display applicative lexicalization (cf. *búúdid ‘inform’ and *búúdidí ‘ask’). This seems to support the analysis proposed here (inform/ask *to* someone). Derivatives of *bolel* [búl-él] in Tswana include: *mmodedi* [m̀- múlédí] ‘person who tells’ (CL1) and *me-bolelo* [m̀- búlélǰ] ‘chattering’ (CL4).

kekel [kèk-èl] ‘spread unobtrusively over a large area’ <
kek [kèk] ‘spread unobtrusively over a large area’

SYNTACTIC VALENCE OF ROOT: There are no clause-level examples of the root *kek* [kèk]. The root *kek* [kèk] is absent in Brown (1895) and Brown (1924). The pseudo-applicative *kekel* [kèk-èl] is present in both dictionaries with the meaning ‘smoulder, spread as a sore or a fire’. In Snyman et al. (1990), both the root *kek* [kèk] and applicative stem *kekel* [kèk-èl] are reported with exactly the same meaning ‘spread unobtrusively over a large area’ and both are said to be syntactically intransitive. In a much more recent Tswana monolingual dictionary (Otlogetswe 2012), the root *kek* [kèk] is absent. This might indicate either that the simple root is seldom used nowadays, or that the applicative version has completely supplanted the base form.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *kekel* [kèk-èl] is syntactically intransitive. In (289), the pseudo-applicative shows only a subject prefix *bú-* and is not followed by an object NP.

Tswana (S31; Otlogetswe 2012: 177)

(289) *Bosenyi jwa bana ba motse o bo ntse bo a kekela*

<i>bù-síni</i>	<i>dzʷá-b-àná</i>	<i>ʰbá-mú-tsi</i>	<i>ó</i>
CL14-misbehavior	CL14.GEN-CL2-child	CL2.GEN-CL3-village	CL3.DEM
<i>bú-ñtsí</i>	<i>ʰbú-á-kék-è:l-à</i>		
S3:14-AUX	S3:14-DJ-spread-APPL-FV		

‘The misbehavior of the children of this village is still spreading.’

The fact that *kekel* [kèk-èl] can appear in a construction such as (289) without being followed by an applied phrase shows that this applicative stem has lost its ability to introduce an applied phrase.

HISTORICAL INFORMATION: There are multiple main and derived entries in BLR3 with the meaning ‘spread’ but none of them can be even remotely linked to either the Tswana root *kek* [kèk]. Considering the lexical meaning of the root, a reasonable hypothesis is that initially the applicative stem *kekel* [kèk-èl] introduced the destination or Goal of the spreading, as in ‘spread to/towards X > spread’. In Northern Sotho, *kek* means ‘spread, increase’, while the applicative *kekel* means ‘spread, walk sideways’ (Kriel et al. 1997).

6.6.2.2 Lexicalization/conflation of a semantic Purpose argument

As observed in §6.6.1.2, for the cases discussed in this section, I argue that the applicative originally added a semantic Purpose applied phrase to the applicative stem. Purpose can be viewed as an abstract extension of an underlying Goal/Direction meaning. Recall from §6.6.1.2 the semantic shift between a given root and the applicative stem in this section can also be analyzed as cause-effect metonymy. In particular, the applicative stem usually expresses the meaning of an event or action which spatially or temporally follows the meaning of the event expressed by the corresponding root.

***dibel* [dìb-èl] ‘protect (from injury or damage), defend, fend off, reverse’ <**
***dib* [dìb] ‘protect (from injury, damage)’ <**
***dìb ‘stop up, prevent’**

SYNTACTIC VALENCE OF ROOT: The root *dib* [dìb] is present only in the dictionary of Otlogetswe (2012: 74) with the meaning ‘protect (from injury, damage)’ and is given as a synonym of *dibel* [dìb-èl] ‘protect (from injury or damage), defend, fend off’. All other Tswana dictionaries I have consulted include only *dibel* [dìb-èl]. Kriel (1989) and Kriel

et al. (2000) report this same root in Northern Sotho with the meaning ‘stop (up), hinder, prevent’. The applicative form *dibel* is reported as a regular applicative (i.e. ‘stop for/to’) in Kriel (1989). Although there are no clause-level examples in our corpus, the root *dib* [dib] is probably syntactically transitive. It is also likely that *dibel* [dib-èl] replaced its root in at least some varieties of Tswana.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *dibel* [dib-èl] is syntactically transitive. In (290), *dibel* [dib-èl] appears in a subordinate clause and takes a subject and an object index. The locative phrase introduced by *mo* after the applicativized verb is optional.

Tswana (S31; Creissels ms.b: 32)

(290) *Batho bangwe ba lepeletsa sekopelo mo dikoloing tsa bone gore se ba dibele mo dikotsing*

<i>bà-t^hù</i>	<i>bà-ŋwì</i>	<i>bá-lépélètsà</i>	<i>sì-kàpèlè</i>	<i>mó</i>	<i>‘dí-kólólí-ŋ</i>
CL2-person	CL2-one	CL2-hang	CL7-medal	LOC	CL10-car-LOC
<i>tsá-bòné</i>	<i>χúrì</i>	<i>sí-bá-dìb-él-è</i>		<i>(mó</i>	<i>dí-kòtsì-ŋ)</i>
CL10.GEN-CL2.PRO	that	S3:7-O3:2-protect-APPL-SUBJ		LOC	CL10-accident-LOC

‘Some people hang a medal in their cars so that it protects them (against accidents).’

Denis Creissels (p.c.) indicates that in his corpus prepositional phrases such as ‘against accidents’ in (290) behave similarly to the English *against* phrase in combination with the English verb *defend* in that they can be freely omitted from the construction of this verb. Brown (1895) reports *dibel* meaning ‘save, keep, spare’. Brown (1924) report the same form meaning ‘guard/keep from harm, take care of, save from injury’.

HISTORICAL INFORMATION: The root *dib* [dìb] is the regular reflex of PB *dìb ‘stop up, prevent’ (Creissels ms.a: 2), attested in zones J and S. Recall from §6.3 that *d has /d/ as a reflex in Tswana before *i and *u. In BLR3, *dìb ‘stop up, prevent’ is derived from the main entry *dìb ‘shut, shut eyes’ with a much wider distribution (A, B, C, G, H, J, L, M, N, P). I posit a link between Tswana *dib* [dìb] ‘protect (from injury, damage)’ and *dìb ‘stop up, prevent’ instead of *dìb ‘shut, shut eyes’ because in the closely related Northern Sotho *dib* [dìb] still preserves the meanings ‘stop (up), hinder, prevent’ (Kriel 1989 and Kriel et al. 2000). Other derived entries of *dìb ‘shut, shut eyes’ in BLR3 include *dìbikid ‘stop up, shut eyes’, with the stative/neuter extension *-ik and the applicative *-id, attested in zones B, E, H, L, *dìbud ‘unstop, open’ (B, L), dìbat ‘be closed’ (J, L) and dìbò (CL7/8) ‘stopper’ (G, J, M, N, S). A semantic connection between ‘shut’ and ‘stop up, prevent’ is not difficult to imagine. For instance, Lestrade (1937: 127) reports that in Tswana tribes, once people retired to sleep doors were carefully shut (the small houses in which people lived had no windows) to keep away evildoers but especially evil spirits that were believed to go about during the night and get into the huts to attack sleepers. A conceivable lexicalization path for the pseudo-applicative *dibel* [dìb-èl] is that it originally added a purpose applied phrase as in ‘shut (in order to) > stop up/prevent (in order to) > protect/defend’. A possible problem with this analysis is that, based on the available information, the Tswana root *dib* [dìb] without the applicative also had the meaning ‘protect (from injury or damage)’ before having been presumably replaced by the applicative counterpart *dibel* [dìb-èl]. The meaning shift in the Tswana root *dib* [dìb] ‘protect (from injury or damage)’ (and in the applicative stem *dibel* [dìb-èl]) from *dìb ‘stop up, prevent’ might have occurred

through cause/effect metonymy: stopping, preventing often results in defending/protecting someone.

Derivatives of *dibel* [dìb-èl] include: *me-dibelo* [mì-dìbèlò] (CL4) (in the expression *ntlo ya medibelo*) ‘house in which a mentally deranged person is isolated’ and *se-dibelo* [sì-dìbèlò] ‘earthenware vase for water’ (CL7). Derivatives of the root *dib* [dìb] include: *se-dibo* [sì-dìbú] ‘piece of cloth to patch’ (CL7), *le-dibogo* [lì-dìbòχò] ‘ford (of a river)’ (CL5), *dibol* [dìb-ùl] ‘tear, rip’ (with the reversive transitive suffix -ùl) and *dibolol* [dìb-ùl-ùl] ‘cut a large circular hole’. Some of these derivations, in particular *se-dibo* [sì-dìbú] ‘piece of cloth to patch’ (CL7) and *le-dibogo* [lì-dìbòχò] ‘ford (of a river)’ (CL5) do indicate that the root *dib* [dìb] had at some point in Tswana a meaning closer to that of the proto-form *dib ‘stop up, prevent’, that is, a patch is something used to close up a hole in a piece of garment and a ford is a place where water “stops”/is shallow enough to allow people to cross a river.

femel [fìm-èl] ‘protect, defend’ <
fem [fìm] ‘ward off, avert (e.g. a blow)’

SYNTACTIC VALENCE OF ROOT: The root *fem* [fìm] ‘ward off, avert (a blow)’ is syntactically transitive, as shown by the presence of an object NP in (291).

Tswana (S31; Creissels & Chebanne 2000: 114)

(291) *O femile sekgoreletsi*

ú-fìm-íl-é *sì-q^húrélè:tsí*

S3:1-avert-PFT-FV CL7-obstacle

‘He averted the obstacle.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *femel* [fɪm-èl] is also syntactically transitive, as shown by the presence of a subject index on the verb and a following object NP in (292).

Tswana (S31; Creissels ms.b: 50)

(292) *Kgano o femetse ngwana mo nogeng*

<i>q^hànú</i>	<i>ú-fɪm-éts-í</i>	<i>ŋw-àná</i>	<i>(mó</i>	<i>‘nóχê-ŋ)</i>
CL1.mongoose	S3:1-ward.off-APPL.PFT-FV	CL1-child	LOC	CL9.snake-LOC

‘The mongoose defended the child (against the snake).’

On a purely semantic basis, it could be argued that the prepositional phrase introduced by *mo* in (292) is an argument. However, Denis Creissels (p.c.) has examples in his data in which the prepositional phrase introduced by *mo* in combination with the applicative stem *femel* [fɪm-èl] is absent, as happens with *dibel* ‘defend, protect, ward off’ (cf. (290)). Therefore, it appears the phrase *mo nogeng* in (292) is an oblique.

HISTORICAL INFORMATION: If one considers form only, the root *fem* [fɪm] could be posited as the regular reflex of PB *pìm ‘measure’, a main entry with reflexes in zones G, L, M, N, P, S. The problem is that it is hard to imagine a semantic link between ‘measure’ and ‘ward off, avert’. Tswana synchronic verb roots meaning ‘measure’ (cf. *el-a*, *lekany-a*, *nos-a*) do not appear to be reflexes of *pìm ‘measure’. Brown (1895) records the root *hem*, a dialectal variety of *fem*, with the meanings ‘defend oneself, avoid blows, parry’. In Brown (1924) the same root is reported with the meanings ‘handle a weapon, avoid blows, parry’. Both Brown (1895) and Brown (1924) report *hemel* as the applicative form of *hem* with the meanings ‘defend another, parry blows aimed at another’. A likely scenario for the lexicalization of *femel* [fɪm-èl] is to posit an original Purpose applied phrase such as ‘avert (a blow) to defend another’ or even an original

Goal applied phrase such as ‘avert a blow directed to/towards another’. Derivatives of the root *fem* [fim] include: *mo-femedi* [mù-fimèdì] ‘defender’ (CL1) and *femeg* [fim-èχ] ‘be evitable’.

***ilel* [ìl-èl] ‘show reverence by abstaining from certain practices, consider as sacred’ <**

***il* [ìl] ‘abstain from, abhor, hate, dislike, treat with aversion’ <**

***gìd ‘abstain from, avoid, refuse, be taboo, be punished’**

SYNTACTIC VALENCE OF ROOT: Syntactically, *il* [ìl] is synchronically a transitive verb root, as shown by the presence of an object NP after the verb in (293).

Tswana (S31; Creissels ms.b: 87)

(293) *Fa motho a ìla tlhapi, o ìla le monkgo wa yone*

<i>fá</i>	<i>mú-t^hò</i>	<i>á-ìl-á</i>	<i>t^hâ:pi,</i>	<i>ú-ìl-à</i>
if	CL1-person	S3:1-abstain.from-FV	CL9.fish	S3:1-abstain.from-FV
<i>lí-mú-íq^hò</i>	<i>wá-jòné</i>			
even-CL3-smell	CL3.GEN-CL9.PRO			

‘When we hate fish, we also hate its smell.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *ilel* [ìl-èl] is also syntactically transitive, as can be seen from the subject index *wá-* plus the object index *mù-* on the verb in (294).¹³⁶

Tswana (S31; Otlogetswe 2012: 141)

(294) *Ngwana fa e le gone a tsholwang, o tshwanetse wa mo ilela*

<i>ngw-àná,</i>	<i>fá</i>	<i>‘í-lí</i>	<i>χòné</i>	<i>‘á-ts^hólwà-íj</i>	<i>ú-ts^hwánétsí</i>
CL1-child	if	CL9-be	there	S3:1-be.born-REL	S2S-must

wá-mù-ìl-è:l-à
S2S-O3:1-abstain.from-APPL-FV

‘A child, if he is about to be born, you must consider him sacred.’

¹³⁶ Note that in the dependent clause introduced by *fá* in (294), the verb ‘be’ has a class 9 subject prefix because it constitutes an impersonal construction. The default subject indexation in impersonal constructions is either class 9 or class 17 for locatives (Denis Creissels p.c.).

In southern Bantu societies such as Venda, pregnancy is included among the experiential domains which are considered taboo (Madadzhe 2010). Denbow & Thebe (2006: 181) state that in Botswana custom, members of the public should refrain from seeing an infant until it is three months old. This is because children are believed to be gifts from ancestor spirits (*badimo*) and during the three months period the child is “hovering between this life and the realm of the ‘badimo’, [and so] the ‘gift’ must be acknowledged” (Denbow & Thebe 2006: 181).

HISTORICAL INFORMATION: The root *il* [il] is the regular reflex of PB *gìd- ‘abstain from, avoid, refuse, be taboo, be punished’ (Creissels ms.a: 2, 1999a: 311), attested in zones A, C, E, F, G, H, J, K, L, M, N, R and S. This is classified as a main entry in BLR3 from which other entries are derived, including: *gìdik ‘be taboo’ (K, L, R), which includes the stative/neuter suffix -ik, and *gìdú ‘relative by marriage’ (zone C). The Tswana root *il* [il] has preserved the original meaning of *gìd and also extended it semantically to ‘hate’, probably as a result of abstaining from something because of dislike. As supporting evidence, Brown (1924) lists ‘hate’ as one of the meanings of *il* and specifies that this was not the original meaning of the verb but “has come to be regarded by many as its chief meaning” (Brown 1924: 100). Both Brown (1895) and Brown (1924) report an additional meaning for *il* [il] ‘regard with superstitious fear or dread’. The more recent Tswana dictionaries (Creissels & Chebanne 2000, Creissels ms.b, Otlogetswe 2012) list ‘dislike, detest, hate’ as the only meanings of *il* [il]. Assuming that nowadays the main meaning of the root *il* [il] is ‘hate, dislike’, the pseudo-applicative *ilel* [il-èl] appears to have preserved a meaning that is much semantically closer to that of the proto-form *gìd. Brown (1895) and Brown (1924) report for *ilel* [il-èl] the

meanings ‘keep sacred certain days, as after rain or the death of a relative, by abstaining from work’. Creissels & Chebanne (2000) report *ilelwa* [ìl-èl-w-à] with the passive suffix *-w* meaning ‘be sacred’. Considering that fear played a central role in the religious beliefs of the Tswana tribes in at least the early twentieth century (Brown 1926: 91), a possible lexicalization path for *ilel* [ìl-èl] is to assume that it originally added a Purpose/Reason applied phrase to the clause, as in ‘to abstain from X in order to show/because of respect, fear, holiness’ > ‘to consider as sacred/taboo’.

Derivatives of *ilel* [ìl-èl] include *kilelo* [kìlèlò] ‘taboo’ (CL9); *di-kilo* [dì-kìlò] ‘hatred, aversion, abstinence from’ (CL8/10), *kilano* [kìlànò] ‘mutual hatred’ (CL9) and *mo-ila* [mò-ìlá] ‘prohibited, taboo (adj.)’ are derived from the root *il* [ìl].

***kgobel* [q^húb-él] ‘pile up, stack’ <
kgob [q^húb] ‘collect, gather’ (Northern Sotho)**

SYNTACTIC VALENCE OF ROOT: The root *kgob* [q^húb] is found only in Northern Sotho (Kriel 1989). This root is not reported in any of the Tswana dictionaries that I have consulted.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *kgobel* [q^húb-él] is syntactically transitive, as shown by the presence of a subject index on the verb *ú-* and an object NP following the verb in (295). The prepositional phrase introduced by *fa* in (295) can be freely omitted from the construction.

Tswana (S31; Otlogetswe 2012: 193)

(295) *O kgobela diaparo fa godimo ga bolao*

ú-q ^h úb-él-á	dí-àpàrò	(fá	χùdíμù	χá-bù-lâ:ò)
S3S-stack-APPL-FV	CL8-cloth	LOC	on.top	CL17.GEN-CL14-bed

‘She is stacking the clothes (on the bed).’

HISTORICAL INFORMATION: There is no reconstructed proto-form in BLR3 that could be linked to either Northern Sotho *kgob* [q^húb] or Tswana *kgobel* [q^húb-él]. A possible lexicalization path is that the applicative originally indicated some sort of Purpose argument as in ‘gather in order to make a pile, stack’ or a Location, ‘gather into > stack, pile up’. The root then got replaced by the applicative form in Tswana, but both are still present in the closely related Northern Sotho, where the root *kgob* means ‘collect, gather’, *kgobel* means ‘gather up, put away’ and *kgobelé*, the applicative of *kgobel*, means ‘gather to/for’ (Kriel et al. 1997: 58). The meanings found in Northern Sotho for *kgobel* suggest that a similar lexicalization to that of Tswana might have occurred in this language too. However, the existence in Tswana of nouns such as *mo-kgobe* [mù-q^húbé] ‘pile, heap’ (CL3) would suggest a denominal derivation, from the noun *mo-kgobe* ‘pile, heap’ to *kgobel* ‘pile up, stack’ with the addition of the verbalizer suffix *-l*. On the other hand, the Northern Sotho data rather support the hypothesis of two parallel derivations (applicative derivation and de-verbal derivation) from a common root **kgob* at some stage of Proto-Sotho-Tswana.

lalel [lál-él] ‘sup, have dinner’ <
lal [lál] ‘lie down, stay overnight, spend the night’ <
 *dáádid ‘have supper, look after, brood’ <
 *dáád ‘lie down, sleep, spend the night, be fallow (i.e. a field)’

SYNTACTIC VALENCE OF ROOT: The root *lal* [lál] is syntactically intransitive, as shown in (296). The locative prepositional phrase ‘in the bush’ can be omitted from the construction.

Tswana (S31; Creissels ms.b: 148)

(296) *Re tlaa lala mo naging*

rì-tlàà-lál-à (mó nàχé-ŋ)
 S1P-FUT-lie.down-FV LOC CL9.bush-LOC

‘We will spend the night (in the bush).’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *lalel* [lál-él] is also syntactically intransitive, as the thing being eaten, introduced by an instrumental preposition, is optional in (297).

Tswana (S31; Creissels ms.b: 149)

(297) *Re tlaa lalela ka dikgobe*

rì-tlàà-lál-él-à (ká dí-q^hò:bè)
 S1P-FUT-lie.down-APPL-FV INSTR CL10-beans.and.maize

‘We will have beans and maize for dinner.’ (lit: ‘we will have dinner (with beans and maize)’)

HISTORICAL INFORMATION: The root *lal* [lál] is the regular reflex of PB *dáád ‘lie down, sleep, spend the night, be fallow (of a field)’ (Creissels ms.a: 10), attested in all Bantu zones. Among the meanings of this main entry in BLR3 is ‘be fallow’, said of a field. This appears to be a metaphorical extension of ‘lie down’ or ‘sleep’. Considering that Bantu tribes (used to) exploit soil for agriculture before moving to a new patch of soil, ‘be fallow (of a field)’ could have originated as a metaphor of letting a field or land lie

still, “sleep”, or rest to recover fertility. BLR3 also reports the derived entries *dáádíd ‘have supper, look after, brood’ with an applicative already at PB stage as present in zones J, L, M, and S, and *dááda ‘leftovers, fallow field’ (F, J, L, P, N, M, S). In BLR3, both of these entries are derived from the root *dáád ‘lie down, sleep, spend the night, be fallow (of a field)’. The Tswana pseudo-applicative stem *lalele* [lal-él] is the reflex of *dáádíd ‘have supper, look after, brood.’ Possibly, ‘have supper’ is the basic meaning and ‘look after’ and ‘brood’ are different extensions (cf. brood = ‘lie down in order to hatch eggs’). Cultural features of Tswana and southern Bantu tribes more generally help cast a light on how the semantic shift from ‘lie down, spend the night’ to ‘have supper’ might have taken place. In Bantu tribal life, the evening meal was important compared to other meals and used to be the only substantial meal of the day (Lestrade 1937: 126). While for the morning meal members were dispersed and served wherever they happened to be, everybody was at home for the evening meal including guests, if any. When food was ready, members of the family sat down to the evening meal which was usually eaten outside. After the evening meal, the family rested. People would traditionally sit around fires, men and older boys in one group and women and children in another. Story-telling would traditionally follow. After, the inhabitants of the village would retire to sleep. Considering this cultural feature, there is a tight spatial and temporal relationship between lying down and eating the evening meal. In particular, ‘lie down’ leads to ‘eat dinner’. If we consider this as a complex event, then the sub-events of ‘lying down’ and ‘eating dinner’ are in a cause-effect metonymical relationship. It is conceivable to posit that *lalele* [lál-él] ‘sup, have dinner’ originally added a Purpose applied phrase: lie down to eat > have dinner (take the evening meal). The lexicalization path through an original Purpose applied phrase seems to be

supported also by other lexicalizations of applicative stems. For instance, in Tswana there is another applicative stem *lalele* [lál-él] ‘ambush’ from the root *lal* [lál] which can also be posited as having originally being a Purpose applicative: ‘lie down to take an enemy by surprise’. The meaning ‘brood’ of PB *dáádíd can also be analyzed as having introduced initially a Purpose applied phrase: ‘lie down to hatch eggs’ > ‘brood’. The meaning ‘look after’ of PB *dáádíd could also have come about from something akin to ‘lie down to take care of the family/guests’ during the evening meal. Given these other lexicalizations, it seems less likely that in the cases discussed above the applicative originally added an instrument in *lalele* [lál-él] ‘have dinner’, i.e. ‘lie down with food’ > ‘have dinner’. According to Trithart (1983) lexicalizations involving an original instrumental applied phrase in Bantu languages are almost non-existent.

Derivatives of the root *lal* [lál] in Tswana include: *lalaan* [láláán] ‘lie about in great numbers’, *lalele* [lál-él] ‘ambush’, *mo-laledi* [mò-lálédí] ‘person who lies in ambush’ (CL1), *se-laledi* [sì-lálédí] ‘person or animal skilled in ambushing’ (CL7) and possibly *mo-lala* [mò-lálá] ‘grass of the previous year’ (CL3).¹³⁷ The noun *se-lalelo* [sì-láléló] ‘dinner, Holy Communion’ is derived from the applicative stem *lalele* [lál-él] ‘sup, have dinner’.

¹³⁷ Assuming that *mo-lala* is related to *lal* [lál] in Tswana, then the presence of this noun suggests that perhaps a meaning similar to that of the proto-form *dáád ‘be fallow (of a field)’ could have been present in Tswana at some earlier point in time.

rael [ráél] ‘tempt’ <
ray [ráj] ‘tell, say to, refer to, mean’ <
 *tá ‘call, name’

SYNTACTIC VALENCE OF ROOT: The root *ray* takes three arguments, a subject, an object (addressee) and a complement clause which expresses the thing being told.¹³⁸ This argument structure is illustrated in (298). It should be noted that in Tswana [j] in forms such as [rá-j-à] ‘tell’ is epenthetic and surfaces when there are two vowels in a sequence, in this case the [a] of the root and the final vowel [a].

Tswana (S31; Creissels ms.b: 221)

(298) *Mmutla o ne wa raya tau wa re mutlwa wa noko ke boboa jwa one*

<i>m-mútlá</i>	<i>ú-nè</i>	<i>wà-ráj-á</i>	<i>tàú</i>	<i>wá-rì</i>	<i>mútlwà</i>
CL3-hare	S3:3-AUX	S3:3-tell-FV	CL9.lion	S3:3-that	CL3.spine
<i>wá-nùkú</i>	<i>kí</i>	<i>bú-bùá</i>	<i>dž^wá-àné</i>		
CL3.GEN-CL9.porcupine	it.is	CL14-hair	CL14.GEN-CL3.PRO		

‘The hare told the lion that the spine of the porcupine was one of its hairs.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *rael* [rá-él] has two functions. First, it can be the regular applicative of *ray* [ráj] ‘tell’ and add (for instance) a beneficiary argument to the construction (e.g. tell something to someone *for/on behalf of* someone else), resulting in a four-argument derived stem. Second, it is a pseudo-applicative with the meaning ‘tempt’. In this second sense, the applicative stem is syntactically transitive, as shown by the presence of a subject and object index in (299).

¹³⁸ The base verb *ray* [ráj] ‘tell’ (in older dictionaries *rae*) is functionally a ditransitive form of the transitive verb *re* [rì] ‘say’. The verb *re* [rì] ‘say’ can only occur in an argument structure with a subject and a complement clause expressing the thing being said. The verb *ray* ‘tell’ adds the addressee argument to the argument structure of *re* [rì]. But, historically, there is no reason to suppose that *ray* is derived from *re* by means of applicative derivation (Denis Creissels, p.c.).

Tswana (S31; Creissels ms.b: 216)

(299) *Loeto lo lo mo rael thata*

<i>lù-ètò</i>	<i>ló</i>	<i>lú-mù-rá-él-à</i>	<i>t^hâtà</i>
CL11-travel	CL11.DEM	S3:11-O3:1-tell-APPL-FV	much

‘That travel tempts him/her much.’¹³⁹

HISTORICAL INFORMATION: The root *ray* [ráj] (where [j] is epenthetic) is the regular reflex of PB *tá ‘call, name’ attested in zones B, C, H, P and S. In BLR3, the main entry *tá ‘call, name’ has a derived entry *táid ‘name, quote’ in zone L. The lexicalization of *rael* [rá-él] is already attested in Brown (1895) and Brown (1924), where *rael* [rá-él] is given with the meanings ‘tempt, set a trap for, ensnare in speech, poison water, food’. It is not unreasonable to imagine that initially *rael* [rá-él] added a Purpose argument, as in ‘tell someone into doing sthg > entice, persuade > tempt. ‘Tempt’ is also arguably less concrete than ‘tell’, which involves the oral production of speech, so that this shift can also be seen as a change from a more to a less concrete domain (production of speech > mental state of being tempted/enticed not necessarily by production of speech). There is also arguably a concomitant change in semantic roles from the root *ray* [ráj] to the pseudo-applicative *rael* [rá-él], from <speaker – addressee> to <stimulus – experiencer>. Note that BLR3 lists another main entry homophonous with *tá ‘call, name’: *tá ‘throw away, throw, lose, put, trap, play game, do’ attested in zones B, C, D,

¹³⁹ There might be other argument structures in which *rael* [rá-él] ‘tempt’ occurs, but there is no evidence for them in the corpus. Otlogetswe (2012: 490) offers an example of *rael* [rá-él] in a construction with a subject, an object, and an infinitive complement clause (i.e. X tempts Y to do Z). Considering that (299) is grammatical, the infinitive complement clause is unlikely to be obligatory.

E, H, J, K, L, M, R and S. Because of the meaning ‘trap’, one could be tempted to propose that *rael* [rá-él] ‘tempt’ developed from *tá ‘throw away, throw, lose, put, trap, play game, do’, instead of from *tá ‘call, name’. This possibility is, however, ruled out, because the reflex of *tá ‘throw away, throw, lose, put, trap, play game, do’ in Tswana is *thay* [t^háj] ‘set a trap, protect by means of charms, lay a foundation’, where *t has the unexpected strong reflex /t^h/ in Tswana instead of the expected weak reflex /r/.

Derivatives of *rael* [rá-él] in Tswana include *mo-raedi* [mù-ráédí] ‘tempter’ (CL1) and *raeleseg* [rá-él-ésèχ] ‘become tempted’. The noun *mo-reetsi* [mù-réétsí] ‘listener’ is derived from the causative form of the root *ray* [ráj], which is *reets* [rééts].

***supel* [sùp-èl] ‘testify, witness (in favor of somebody)’ <
sup [sùp] ‘show, point, prove, indicate, designate’**

SYNTACTIC VALENCE OF ROOT: the root *sup* [sùp] is syntactically transitive. In (300), this verb takes a subject index and is followed by an object NP. The phrase introduced by the preposition *ka* is optional.

Tswana (S31; Creissels ms.b: 251)

(300) *Batho ba supa maikutlo a bone ka go opela*

<i>bà-t^hò</i>	<i>bá-súp-á</i>	<i>mà-íkútlò</i>	<i>á-bòné</i>	<i>ká</i>	<i>χù-ópê:là</i>
CL2-person	s3:2-show-FV	CL6-feeling	CL6.GEN-CL2.PRO with		INF-sing

‘The people show their feelings with/through singing.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *supel* [sùp-èl] has two functions. First, it is the regular applicative of *sup* [sùp] and can add, for instance, a Beneficiary or Recipient to the construction (e.g. to point for/behalf of/to), i.e. ‘you’ in (301).

Tswana (S31; own elicitation, phonetic transcription and glossing by Denis Creissels)

(301) *Ba go supetse tsela*

bá-χú-sùp-éts-í *tsf:là*
 S3:2-O2SG-show-APPL.PFT-FV CL9.road

‘They showed you the road.’

Second, it is a pseudo-applicative with the meaning ‘testify for someone, witness’. In this second function, the verb form is syntactically transitive, as shown by the subject and object indexes on the verb in (302). The locative phrase ‘in court’ is optional.

Notice that the 1SG object index *n-* [ŋ-] causes “strengthening” (cf. §6.2) on the applicative stem so that *supel* [sùp-èl] becomes *tshupel* [ts^hùp-èl].

Tswana (S31; Creissels ms.b: 251)

(302) *Monna yo o tlaa ntshupela mo tshekong*

mò-ńnà *jó* *ú-tláá-ń-tshùp-èl-à* (*mó* *ts^hékò:-ŋ*)
 CL1-man CL1.DEM S3:1-FUT-O1S-show-APPL-FV LOC CL9.court-LOC

‘This man will testify for me (in court).’

HISTORICAL INFORMATION: The root *sup* [sùp] cannot be linked to any proto-form present in BLR3. Both Brown (1895) and Brown (1924) report the base form *shup* [ʃup] (a dialectal variation of *sup*) with the meaning ‘show, prove, testify, point out’ and the applicative *shupel* [ʃupel] with the meaning ‘offer to/for, sacrifice’. This suggests that about a century ago, at least in the dialectal varieties of Tswana described by Brown (1895) and Brown (1924), the root *sup* used to mean ‘testify’ and the applicative stem *supel* had a different meaning than the one it has synchronically. Whatever the case might be, the synchronic meaning of *supel* [sùp-èl] ‘testify, witness (on behalf of)’ might have developed out of an original Purpose applied phrase such as ‘show, point to evidence (in order) to defend/support someone’.

Derivatives of the root *sup* [sùp] include *bo-supi* [bù-sùpì] ‘testimony, evidence’ (CL14), *le-supi* [lì-sùpì] ‘demonstrative’ (CL5), *mo-supi* [mò-sùpì] ‘witness’ (CL3) and *se-supò* [sì-sùpò] ‘sign, indication, proof, evidence, attestation, receipt’ (CL7).

***thebel* [tʰìb-èl] ‘earth up, bank up, pile up’ <
theb [tʰìb] ‘pile up earth, ram’ <
 *tééb ‘gather (firewood)’**

SYNTACTIC VALENCE OF ROOT: The root *theb* [tʰìb] is only found in one of the dictionaries that I have consulted (Kgasa & Tsonope 1995). There are no clause-level examples of this root in the corpus. None could be obtained in elicitation.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The pseudo-applicative stem *thebel* [tʰìb-èl] is syntactically transitive, as shown by the presence of a subject index on the verb and a following object NP in (303).

Tswana (S31; own elicitation, phonetic transcription and glossing by Denis Creissels)

(303) *Monna mogolo o thebela furu ya dikgomo*

<i>mò-ńná</i>	<i>mò-χóló</i>	<i>ʰó-tʰìb-él-à</i>	<i>fúru</i>
CL1-man	CL1-old	S3:1-pile.up-APPL-FV	CL9.grass
<i>yá-dí-qʰò.mó</i>			
CL9.GEN-CL10-cow			

‘The old man is piling up the grass of the cows.’

HISTORICAL INFORMATION: The root *theb* [tʰìb] could be posited as the reflex of PB *tééb ‘gather (firewood)’, present in zones C, M, N, and S. In BLR3, the derived entry *tééb ‘gather (firewood)’ coexists with a derived entry with identical meaning, *tíab, but different distribution (A, B, D, J, H, K, L, M, R). Both entries are derived in BLR3 from *tí ‘tree, stick’ attested in fourteen zones including zone S. There are two problems with

the proposed Tswana reflex of *tééb. First, while the proto-form is reconstructed with a high tone, the Tswana reflex has a low tone. The reflex of *t in Tswana should be /r/, but in [tʰìb], the reflex of *t is /tʰ/. Usually in Tswana, /tʰ/ is the (“strong”) reflex of *nt. Recall from §6.3 that in a quite considerable number of cases, a PB consonant not preceded by a nasal, as *t in *tééb, has a strong reflex in Tswana, i.e. /tʰ/ in this case, and not the expected weak one, i.e. /r/ < *t. As for the sequence of vowels *éé in *tééb, recall from §6.3 that sequences of PB vowels have single vowels as reflexes in Tswana. Semantic evidence that *theb* [tʰìb] ‘pile up earth, ram’ can nevertheless be posited as a reflex of *tééb ‘gather (firewood) comes from the double pseudo-applicative Tswana stem *thebelel* [tʰìb-èl-èl] ‘stoke a fire’ which arguably still holds some kind of fire-related semantic relation with *tééb (cf. the discussion of the double pseudo-applicative *thebelel* [tʰìb-èl-èl] in §6.6.4.3). Gathering firewood is, or at least used to be, a salient cultural activity in domestic and communal life of southern Bantu tribes (Schapera & Goodwin 1937). What is more, gathering burnable materials is an integral part of horticulture. For example, isolated fields among the Tswana were often protected by fences made of piles of dead thorn bush or similar material (Schapera & Goodwin 1937). Bantu populations practice (or used to practice) shifting cultivation of the soil. When a household turned over a new field, they burned bigger trees down while smaller ones were cut with axes, the grass and weeds were uprooted with the hoe. The loose foliage was then piled up in heaps and burned and the ashes are used as a ground fertilizer. Planting involved scattering the seeds over the land by hand and then covering them progressively with a hoe or a wooden spade or pointed stick (Schapera & Goodwin 1937: 135). What I am trying to show is that the pseudo-applicative *thebel* [tʰìb-èl] could originally have developed the meaning ‘pile up’ from the lexicalization of a

Purpose applied phrase as in ‘gather something (in order) to pile up’. Meanings such as ‘earth up’ and ‘bank up’ which involve heaping a substance into a mass or mound and covering the root of a plant with heaped-up earth, respectively, could have developed later and could have been prompted by the horticultural environment where burning wood and dry foliage and planting are interconnected.

I was not able to find any derivatives of the root *theb* [tʰɪb] or the applicative stem *thebel* [tʰɪb-èl] in the materials available to me.

***thulamel* [tʰúlám-él] ‘fall asleep’ <
thulam [tʰúlám] ‘slant, slope, become upside down’ <
 *túdam ‘be upside down, be inclined’**

SYNTACTIC VALENCE OF ROOT: the root *thulam* [tʰúlám] is syntactically intransitive, as it can take only a subject index, *kâ-* in (304).

Tswana (S31; Otlogetswe 2012: 595)

(304) *Ke batla mosamo o mokima gore ke se ka ka thulama*

<i>kì-bàttà</i>	<i>mù-sámò</i>	<i>ó</i>	<i>mókìmà</i>	<i>χùrì</i>	<i>kí-sìká</i>	<i>kà-tʰúlâm-à</i>
s1s-want	CL3-pillow	CL3.LNK	CL3-thick	that	s1s-SUBJ.NEG	s1s-slant-FV
‘I want a big pillow so that I do not slant/slope.’						

For this root, Brown (1895) reports the meaning ‘turn (e.g. a pot) upside down’, while Brown (1924) reports the meanings ‘be on one side, as a pot; fall away, as a descent’.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *thulamel* [tʰúlám-él] has two functions. First, it is the regular applicative of the root *thulam* [tʰúlám] and adds an applied phrase with the semantic role of Goal (i.e. slant/slope towards X). Second, it is a syntactically intransitive pseudo-applicative meaning ‘be asleep’, as in (305).

Tswana (S31; Creissels ms.b: 271)

(305) *Monna o ne a ipaya jaaka e kete o thulametse*

mù-ńńá *ú-nè* *à-ípájà* *dzáàká íkítí* *ú-t^húlám-ê:ts-ì*
CL1-man S3:1-AUX S3:1-pretend like as.if S3:1-slant-APPL.PFT-FV

‘The man pretended to have fallen asleep/be asleep.’

Both Brown (1895) and Brown (1924) report the applicative stem *thulamel* [t^húlám-él] with the meaning ‘sleep thoroughly’.

HISTORICAL INFORMATION: The root *thulam* [t^húlám] can be posited as the reflex of PB *túdam ‘be upside down, be inclined’ (C, D, H, J, L, M, S). The only problem with the Tswana reflex, as in many other cases, is that *t shows a “strong” reflex in Tswana (i.e. /t^h/) instead of the expected “weak” one (i.e. /r/).¹⁴⁰ Notice that *túdam contains the stative/positional extension *-am. BLR3 lists several derived entries for the main entry *túdam, including: *túdud ‘turn’ (zone D), *túdamok ‘fall over’ (zones L, M), *túdik ‘put upside down’ (zones J, M), *túdi ‘wrong way up’ (zone J), túdi (cl7) ‘epilepsy’ (zone J). It appears that the Tswana root *thulam* [t^húlám] has closely preserved the meaning attributed to the proto-form in BLR3. The meaning ‘fall asleep’ of the applicative stem *thulamel* [t^húlám-él] could have developed out of an original Purpose applied phrase. Being inclined, sloped or upside down is usually the position one takes in order to sleep. This can also be considered as a metonymical extension of cause-effect.

The noun *mo-thulama* [mù-t^húlámá] ‘slant, slope’ (CL3) is a derivative of the root *thulam* [t^húlám].

¹⁴⁰ This unexpected reflex is also attested in the Tswana reflex of *túd ‘hammer, forge’ which is *thul* [t^húl] ‘repair, butt (e.g. a ram), bump’ instead of the expected *rul*.

6.6.2.3 Semantic narrowing/specialization

As observed in §6.6.2, a further group of pseudo-applicatives encompasses several cases of semantic narrowing/specialization. It includes the following: (i) a reconstructed proto-form has more than one “meaning”, and the synchronic Tswana root and pseudo-applicative stem which are reflexes of the proto-form each have specialized in one of the meanings of the proto-form; (ii) the meaning of the synchronic Tswana root is identical to the meaning of the proto-form of which it is a reflex, and the pseudo-applicative stem shows meaning specialization with respect to the meaning of the Tswana synchronic root and its corresponding proto-form; (iii) the proto-form of which a given synchronic Tswana root is the reflex has a more general meaning and the synchronic Tswana root and pseudo-applicative stem each have specialized in a narrower meaning.

amogel [àmùχ-èl] ‘accept, welcome, usher, admit, agree with, earn, receive, receive a salary’ <
amog [àmùχ] ‘deprive of, take away from’ <
**jamuk* ‘receive’

SYNTACTIC VALENCE OF ROOT: The root *amog* [àmùχ] is syntactically transitive but in the only example available in the corpus, it appears in the ditransitive external possession construction in (306), where the root *amog* takes an object index referring to ‘him’ (*mù-*), namely the owner of the bag, which itself appears as an object NP after the verb.

Tswana (S31; Otlogetswe 2012: 6)

(306) *Dirukutlhi di ne tsa mo amoga beke a tswa šopong*

<i>dì-rùkùtlhì</i>	<i>dí-nè</i>	<i>tsà-mò-àmòχ-à</i>	<i>béké</i>	<i>ʼá-tswá</i>
CL8-hooligan	S3:8-AUX	S3:8-03:1-deprive-FV	CL9.bag	S3:1-come.from
<i>ʼfópô:-ŋ</i>				
CL9.shop-LOC				

‘Some hooligans took his bag when he was coming from the shop.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: the pseudo-applicative remains syntactically transitive. In (307) it takes a subject index (i.e. *rr-*) and is followed by an object NP (i.e. ‘changes’) optionally modified by a relative clause.

Tswana (S31; Creissels ms.b: 6)

(307) *Re ne re amogela diphetolo tse di neng di itumedisa*

<i>rì-nè</i>	<i>rí-ámòχ-èl-à</i>	<i>dì-p^hètòlò</i>	<i>tsé</i>	<i>dí-nè-ŋ</i>
S1P-AUX	S1P-deprive-APPL-FV	CL10-change	CL10.LNK	S3:10-AUX-REL
<i>dí-ítùméđĩsà</i>				
S3:10-be.interesting				

‘We accepted the changes that were interesting.’

HISTORICAL INFORMATION: The verb root *amog* [àmòχ] can be posited as the regular reflex of a purported PB verb form **jamuk* ‘receive’ (Creissels ms.a: 8). The form **jamuk*, for which no tone is specified, is however an unconfirmed entry in BLR3, but is attested in zones E, M and S. In the closely related Northern Sotho, *amog* also means ‘take away, deprive of’ and also ‘take by force’. The meaning posited for **jamuk* ‘receive’ and the synchronic meaning of the Tswana root *amog* [àmòχ] ‘deprive of, take away from’ do not match. However, the Tswana applicative stem *amogel* [àmòχ-èl] (cf. also Northern Sotho) has retained the meaning posited for the proto-form, ‘receive’. Assuming that ‘receive’ was the main meaning of **jamuk* and that that the applicative stem *amogel* [àmòχ-èl] in Tswana specialized in this meaning, other synchronic

meanings attributed to *amogel* [àmùχ-èl] can easily be considered as “derived” from the more basic ‘receive’: ‘welcome’ and ‘accept’ are synonyms of ‘receive’, ‘usher’ is a special type of receiving (being shown one’s seat), ‘admit’ and ‘agree with’ are types of receiving in the speech act domain, and ‘earn’ and ‘receive a salary’ are specializations of receiving in relation to money. If we now consider the meanings of the root *amog* [àmùχ], some sort of semantic shift must be posited with respect to the meaning of the proto-form and the applicative stem ‘receive’. In receiving someone comes into possession of something given by someone; but in ‘take away, deprive of’ the one in possession of something loses the possession to someone else who takes it by force. These meanings seem to be nearly opposite. Perhaps there is some kind of relation between the meanings developed by the root *amog* [àmùχ] and the possibility that *amog* might contain the intransitive reversive suffix –og [-oχ] (< *PB -ok). This hypothesis however would not be consistent with the meaning attributed to the proto-form *jamuk which also seems to contain *-ok but means ‘receive’. Possibly, comparative evidence from zones in which reflexes of *jamuk are present could help cast a light on this issue.

Derivatives of the applicative stem *amogel* [àmùχ-èl] in Tswana include: *mo-amogedi* [mù-àmùχ-èdì] ‘person who earns, receives, accepts, welcomes, ushers’ (CL1), *bo-amogelelo* [bù-àmùχ-èl-èlò] ‘place of reception or welcome/reception’ (CL14) and *se-amogelelamadi* [sì-àmùχ-èl-àmàdí] ‘checkout (at a store)’ (CL7).

aramel [ár-ám-él] ‘sunbathe, bask in the sun, warm (oneself) up, heal oneself through inhalations, steam oneself under a blanket’¹⁴¹ <
or [ór] ‘bask, warm up <
 *jót ‘warm oneself’

SYNTACTIC VALENCE OF ROOT: The root *or* [ór] is syntactically transitive, as shown by the presence of a following object NP in (308).

Tswana (S31; Otlogetswe 2012: 451)

(308) *Fa go le serame batho ba ora molelo*

<i>fá</i>	<i>‘χó-lí</i>	<i>sí-ràmé</i>	<i>bá-t^hò</i>	<i>bá-ór-á</i>	<i>mó-lìlò</i>
when	EXPL-be	CL7-cold	CL2-person	S3:2-warm.up-FV	CL3-fire

‘When it is cold, people warm up by the fire side.’ (lit: to inhale fire)

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *aramel* [ár-ám-él] is syntactically transitive, at least in the sense of ‘sunbathe’, as shown by the presence of the object NP ‘sun’ after the verb in (309).

Tswana (S31; Creissels ms.b: 10)

(309) *Fa go le mariga batho ba rata go aramela letsatsi*

<i>fá</i>	<i>‘χó-lí</i>	<i>mà-ríχá</i>	<i>bá-t^hò</i>	<i>bá-rátá</i>
if	CL17-be	CL6-winter	CL2-person	CL2-like
	<i>χò-árám-él-à</i>	<i>lì-tsà:tsí</i>		
	INF-warm.up-APPL-FV	-CL5-sun		

‘In winter, people like to sunbathe.’ (lit: to inhale sun)

¹⁴¹ Although the English rendering ‘warm oneself up’ suggests that *aramel* [ár-ám-él] might be used in a reflexive construction, there is no evidence of this in the sources available to me. It appears from the corpus that when either *or* [ór] or *aramel* [ár-ám-él] are used in a sentence they are always followed by a noun which specifies the source of heat (e.g. sun, fire, etc.).

Brown (1895) reports *aramel* [árámél] with the meaning ‘warm oneself, smoke with medicine’. In Creissels (ms.b) and Creissels & Chebanne (2000), *or* and *aramel* are listed with the same meaning ‘warm up’.

HISTORICAL INFORMATION: The synchronic Tswana root *or* [ór] ‘warm up (oneself)’ can be posited as the reflex of PB *jót (Creissels, ms.a: 15), attested in zones A, B, C, E, F, G, H, J, K, L, M, N, P, R and S. BLR3 reports several entries related to *jót ‘warm oneself’, including a variant entry *jónt with the same meaning (D, L, M, S) and several derived entries from *jót, among which *jótíd ‘fumigate’ (J) and *jótò (CL3/4) ‘fire, fireplace’ (B, C, E, F, G, H, J, K, L, M, N, P, R, S). There is also a main entry *jótà (CL9) ‘star’.

Compared to the root *or* [ór], the applicative stem *aramel* [ár-ám-él] has /a/ instead of /o/. A plausible explanation for the vowel difference between the root *or* and the applicative stem *aramel* is that /o/ > /a/ to harmonize with the following stative/positional suffix *-am*. The synchronically non-productive stative/positional suffix *-am* (< *-am) indicates the bodily position assumed by the subject of a given verb (e.g. *rapam* [ráp-ám] ‘lie down’, *kanam* [kàn-àm] ‘lie on the back’, *obam* [òb-àm] ‘bend over, bow’, *siam* [síám] ‘become straight, erect, righteous, good’) (Cole 1975: 214). The presence of the stative/positional extension *-am* is clearly justified by meanings such as ‘bask (in the sun), sunbathe’ which imply lying down in a certain position. There are at least two possibilities concerning the developments of meanings displayed by *or* and *aramel* in Tswana and in relation to the proto-form *jót.

One possibility, suggested to me by Denis Creissels, is that the main, basic meaning of *or* [ór] and *aramel* [ár-ám-él] in Tswana is and/or was ‘absorb, inhale (steam, sun, heat, etc.)’ and that the meanings ‘sunbathe’, ‘bask in the sun’ and ‘warm

up (by the fire) developed literally from ‘absorb, inhale the (heat of) the sun or fire’. In fact, Denis Creissels suggests that possibly ‘absorb, inhale (steam, sun, heat, etc.)’ might have been the etymological meaning of the reconstructed proto-form *jót as well, even if BLR3 indicates otherwise. Under this hypothesis, the applicative stem *aramel* [ár-ám-él] in Tswana would have retained meanings closer to those of the proto-form (cf. ‘heal oneself through inhalations’, ‘steam oneself under a blanket’), assuming that *jót originally meant ‘absorb, inhale (the heat of) sun, fire, steam, etc.’. Under this scenario, the presence of the stative/positional suffix -am on *aramel* could have originally indicated something like ‘inhale warmth/sun in a lying position’. It is not clear what the original function of the applicative on *aramel* might have been, however. Also, under this scenario the root *or* [ór] would have lost the original meanings related to inhalation of heat which were taken over by the applicative stem.

A second possibility is that the main, core meaning of *or* [ór] was originally identical to *jót ‘warm up’. The positional suffix -am in the applicative stem *aramel* [ár-ám-él] could have added ‘be in a certain position’ when warming up and the applicative -el could have added a Goal as in ‘warm up lying down to/towards heat/warmth/sun’. This second possibility implies that synchronic meanings of *aramel* [ár-ám-él] such as ‘heal oneself through inhalations’ and ‘steam oneself under a blanket’ are later meaning extensions or specializations which developed around the idea of a source of heat. However, this scenario does not explain why the root *or* [ór] also came to mean ‘bask’, that is, lie exposed to warmth and light typically from the sun, if one assumes that the meaning ‘bask’ originated in the form *aramel* [ár-ám-él]. This second scenario also appears to be less explanatory in terms of

the argument structure displayed by *or* [óɾ] and *aramel* [ár-ám-él] in synchronic Tswana.

Whatever the case might be, depending on the meaning/etymology of the proto-form *jót, the Tswana applicative stem *aramel* has either retained meanings of the proto-form related to inhalation or absorption of heat or specialized in these newer meanings. I could not find derivatives of either *or* [óɾ] or *aramel* [ár-ám-él] in the sources available to me.

***balel* [bál-él] ‘choke’ <
bal [bál] ‘close, shut, begin, challenge, provoke’ (Northern Sotho) <
 *bád ‘begin (tr.)’**

SYNTACTIC VALENCE OF ROOT: The root *bal* [bál] is attested in Northern Sotho (Kriel et al. 1989) but not in Tswana (at least not in the consulted Tswana dictionaries).

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *balel* [bál-él] is syntactically transitive, as can be seen by the presence of subject and object indexes on the verb in (310).

Tswana (S31; Creissels ms.b: 14)

(310) *Se nwe maši o itlhaganetse, a tlaa go balela*

<i>sì-nwí</i>	<i>má-ŋi</i>	<i>ú-ìt^háχánê:tsì,</i>	<i>á-tláá-χò-bál-êl-à</i>
NEG-drink	CL6-milk	s2s-hurry.up.CIRC	S3:6-FUT-O2SG-close-APPL-FV

‘Don’t drink the milk too quickly, it will choke you.’

This applicative form is also present in Northern Sotho, with the meanings ‘choke, strangle, throttle’.

HISTORICAL INFORMATION: In terms of form, the Northern Sotho root *bal* [bál] could be posited as the regular reflex of PB *bád ‘begin (tr.)’ attested in zones B, M, R and S. This is a main entry in BLR3, which also has a derived entry *bádík ‘begin (tr.)’ attested in zones A, D, H, K and R. In terms of meaning, the existence of ‘begin’ among other meanings of *bal* [bál] in Northern Sotho would suggest that *bal* [bál] < *bád ‘begin (tr.)’. The other meanings of Northern Sotho *bal* [bál] seem quite disparate and I do not know how they might be related to ‘begin’. Perhaps looking at reflexes of *bád in other Bantu zones where this form is attested could help one gain a better understanding of what meanings might be related to *bád. However, considering the meanings ‘close, shut’ of Northern Sotho *bal* [bál], the applicative *balel* [bál-él] appears to have specialized in a particular type of closure (usually by hand) and of a particular body part (throat). In both Tswana and Northern Sotho, there is also an applicative form *balel* [bàl-èl] ‘lath (a roof before it is thatched)’ which suggests a possible relation with *bal* [bál] meaning ‘close, shut’. However, the tones do not match. I could not find any noun that appears to be derived from or related to *balel* [bál-él] in Tswana.

bipel [bíp-él] ‘constipate’ <

bip [bíp] ‘cover, veil’ <

*bìmb ‘thatch, hide’

SYNTACTIC VALENCE OF ROOT: The root *bip* [bíp] is syntactically transitive, as can be seen by the presence of the object NP ‘the money’ in (311).

Tswana (S31; Otlogetswe 2012: 23)

(311) *Ba ne ba bipa madi a ba a utswileng ka bojang*

<i>bá-nè</i>	<i>bá-bíp-à</i>	<i>mà-dí</i>	<i>‘á</i>	<i>bá-à-útsw-íl-è-ń</i>
S3:2-AUX	S3:2-cover-FV	CL6-money	CL6.LNK	S3:2-O3:6-steal-PFT-FV-REL
<i>ká</i>	<i>bú-dzàń</i>			
with	CL14-grass			

‘They covered the money they had stolen with grass.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The pseudo-applicative appears to be syntactically intransitive, as it has only a subject index in (312).

Tswana (S31; Otlogetswe 2012: 23)

(312) *Ga ke rate di jo tse ka gore di a bipela*

<i>χà-kí-rátí</i>	<i>dì-dzó</i>	<i>tsé</i>	<i>ká</i>	<i>χúrè</i>	<i>dí-á-bíp-è:l-à</i>
NEG-S1S-like	CL8-food	CL8.DEM	with	that	S3:8-DJ-cover-APPL-FV

‘I don’t like this food because it constipates.’

As observed in previous examples, the fact that *bipel* [bìp-èl] in (312) is not followed by an applied phrase shows that this form has lost its ability to introduce an applied phrase.

HISTORICAL INFORMATION: The root *bip* [bíp] can be posited as the reflex of PB *bìmb- ‘thatch, hide’ (Creissels ms.a: 2), attested in zones E, F, G, J, L, M, N, P and S. There is an obvious problem with non-matching tones between the proto-form and the Tswana reflex. No derived entries are reported for the main entry *bìmb in BLR3, but

there is an unconfirmed entry *búmb ‘cover’ attested in zones C, D and M. If the translations offered for *bìmb in BLR3 are close to the actual etymology of this proto-form then ‘hide’ seems to be the more general meaning from which ‘thatch’ might have been derived as a specific type of hiding or covering of a roof by means of straw, reeds or palm leaves. By this same line of reasoning, *bipel* [bíp-él] appears to be another semantic narrowing derived from ‘cover, hide’ in relation to bodily functions (possibly through ‘cover’ which can be associated to ‘constrain’ or ‘restrict’).

Derivatives of the root *bip* [bìp] in Tswana include: *bo-bipo* [bù-bìpò] ‘realm of the dead’ (CL14) and *se-bipo* [sì-bìpò] ‘object that covers (lid, envelope, curtain, veil)’ (CL7). The noun *bo-bipo* reveals other metonymical extensions of the concepts ‘hide, cover’ to the realm of the dead (dead people become hidden because they can no longer be seen). Apparently there is also one derivation from *bipel* [bíp-él], *se-bipela* [sì-bípéla] ‘first piece of meat eaten as a believed preventive against indigestion’ (CL7).

***gok* [χók] ‘draw in great number (e.g. an attraction)’**
***gokel* [χók-él] ‘attach by tying or pinning, tie, connect, conjugate (a verb)’**
***kóng ‘gather up, assemble (intr.), tie’**

SYNTACTIC VALENCE OF ROOT: There are no clause-level example with the root *gok* [χók] in our corpus.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *gokel* [χók-él] has two functions. First, it functions as the productive applicative of *gok* [χók] and adds an applied phrase to the construction (e.g. ‘draw in great number *for* a purpose’). Second, *gokel* [χók-él] is a

pseudo-applicative meaning ‘tie’. In this usage, it is syntactically transitive, as shown in (313).

Tswana (S31; Creissels ms.b: 71)

(313) *Gokela ditlhako tsa gago*

<i>χók-él-á</i>	<i>dí-t^hàkú</i>	<i>‘tsá-χâ:χù</i>
draw.in.great.number-APPL-FV	CL8-shoe	CL8.GEN-2SG
‘Tie your shoes!’		

Besides the meaning ‘tie’ seen in (313), *gokel* can also mean ‘connect’ (314). In this case, too, the pseudo-applicative is syntactically transitive and has only one object NP, ‘electricity’ in (314). The prepositional phrase introduced by *mo* is optional in the construction.

Tswana (S31; Otlogetswe 2012: 124)

(314) *Re kgonne go gokela motlakase mo metseng e le lekgolo ngwaga ono*

<i>rì-q^hòñné</i>	<i>χù-χók-él-á</i>	<i>mú-tlākásí</i>
S1P-be.able.PFT	INF-draw.in.great.number-APPL-FV	CL3-electricity
<i>(mó mí-tsi-ŋ</i>	<i>ílí lì-q^hólú)</i>	<i>(ŋwàχá ‘ò:mù)</i>
LOC CL4-village-LOC	CL4.LNK CL5-hundred	CL3.year CL3.DEM
‘We were able to electrify (100 villages) (this year).’		

HISTORICAL INFORMATION: The root *gok* [χók] ‘draw in great number’ is the regular reflex of PB *kóng ‘gather up, assemble (intr.), tie’ (Creissels ms.a: 17), attested in twelve zones including zone S. This main entry has several derived entries in BLR3. These include: *kóngud ‘gather up, assemble (intr.)’ attested in zones L, M, N and P; *kóngud ‘clean up a field, harvest’ in zones J, L and M, both with the reversive transitive suffix *-ud; and *kóngan ‘assemble (intr.)’ in zones C, G, H, J, M and P with the reciprocal suffix *-an. In principle, there could be some sort of semantic relationship between the meanings of *kóng ‘gather up, assemble (intr.)’ and ‘tie’. In particular, it

could be that the meaning ‘tie’ evolved from the meanings ‘gather up, assemble (tr.)’. If the meanings ‘gather up, assemble (intr.)’ were originally used for people, then forming a group of people could be conceived of as a way of connecting entities. What is clear is that in Tswana, both the root *gok* [χók] and the pseudo-applicative stem *gokel* [χók-él] each specialized in one set of meanings posited for the proto-form, ‘gather up, assemble (intr.)’ and ‘tie’, respectively. Brown (1895) and Brown (1924) report *gokel* [χók-él] with the meanings ‘thread; pass a thong through a hole; fasten; make secure by fastening’. It appears that the more concrete meaning ‘tie’ illustrated in (313) might have been metaphorically extended to the more abstract ‘connect’ in (314) and ‘conjugate (a verb)’.

Derivatives of the root *gok* [χók] include: *bo-goka* [bù-χóká] ‘adulterous person’ (CL2a) (possibly a meaning extension based on the idea of sexually gathering/connecting with many people), *gokafal* [χók-áfál] ‘commit adultery’, *bo-gokafadi* [bù-χókáfádì] ‘adultery, fornication, promiscuity’ (CL14), *gokagan* [χókáχán] ‘be hooked together (e.g. the ends of chains or wires)’ and *gokagok* [χókáχòk] ‘invite many people, be adulterous’.

***huparel* [húpárel] ‘hold in a closed hand’ <**
***hup* [húp] ‘hold in the mouth (with the lips closed or between closed lips), drink**
a mouthful’ <
****kúmbat* ‘hold in arm, hand’ <**
****kúmb* ‘enclose, embrace’**

SYNTACTIC VALENCE OF ROOT: *hup* [húp] is syntactically transitive, as shown by the presence of the object NP ‘food’ in (315).

Tswana (S31; Otlogetswe 2012: 135)

(315) *Metsa o lese go hupa dijo*

mìtsá ¹*ú-lísé* *χù-húp-á* *dì-dzó*
swallow s2S-stop.SUBJ INF-hold.in.mouth-FV CL8-food

‘Swallow instead of keeping the food in your mouth!’ (lit. ‘Swallow and stop keeping the food in your mouth!’)

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem is also syntactically transitive as shown by the presence of an object NP after the verb in (316).

Tswana (S31; Otlogetswe 2012: 136)

(316) *Huparela madi ao batho ba se ka ba a bona*

húpár-él-á *mà-dí* *áú* *bá-t^hò* *bá-siká*
hold-APPL-FV CL6-money CL6.DEM CL2-person CL2-AUX

bá-à-bô:nà

s3:2-o3:6-see

‘Hold this money in your hand so that people cannot see it.’

HISTORICAL INFORMATION: The historical stem *hupar* [húp-ár] in *huparel* [húp-ár-él] can be posited as the reflex of PB *kúmbat ‘hold in arm, hand’ (Creissels ms.a: 19, 2007: 8), present in ten zones including zone S (recall from §6.3, Table 15, that *k/_u > h in Tswana). This reconstructed form in BLR3 and its Tswana reflex both contain the so-called contactive extension *-at (> -ar in Tswana). In Tswana, -ar is among the non-productive verb suffixes (Cole 1975: 214) and usually indicates touching or contact of some sort (cf. *sikar* [sìk-àr] ‘carry over the shoulders’, *tshwar* [ts^{hw}-ar] ‘grasp, catch, seize’, *tlhomar* [t^hòm-àr] ‘cling or hang tenaciously’. The entry *kúmbat ‘hold in arm, hand’ is a derived entry in BLR3. Along with *kúmbat, there is another derived entry *kúmb ‘enclose, embrace’ present in zones C, F and H. According to BLR3, both *kúmbat and *kúmb are derived from the main entry *kúmb ‘bend’ with reflexes in

zones B, C, D, J, H, K and L.¹⁴² The proto-form *kúmb ‘enclose, embrace’ has *hup* [húp] as a reflex in Tswana meaning ‘hold in the mouth (with the lips closed or between closed lips)’. Assuming that the translations for the proto-form *kúmb ‘enclose, embrace’ are at least close to the actual etymology of this word, it appears that its reflex in Tswana, i.e. the root *hup* [húp], has developed a narrower meaning, that is, enclosure within the oral cavity only. Interestingly, the pseudo-applicative *huparel* [húp-ár-él] ‘hold in arm, hand’ has also specialized in a type of surrounding or embracing, with arms or hands only. The presence of the contactive extension in *huparel* can easily be explained by the fact that holding something necessarily implies contact with a surface (whereas in principle ‘enclose’ does not, i.e. a fence around a field). The presence of an applicative suffix after the contactive extension can be explained by positing that before becoming lexicalized, the applicative initially added the Location (i.e. a closed hand) of the holding ‘hold something in a closed hand’. In support of this analysis, Brown (1895) reports *huparel* [húparél] with the meaning ‘clasp, close one’s hand on something, hold fast to old customs’.¹⁴³

Derivatives of the root *hup* [húp] include the noun *khupelo* [k^húpéló] ‘asphyxia’ (CL9) and the verb *hupolog* [húp-ól-ólχ] ‘catch one’s breath’.

¹⁴² I am unaware of what kind of ‘bending’ is implied in this reconstruction.

¹⁴³ Possibly the meaning ‘hold fast to old customs’ reported in Brown (1895) is obtained by metaphorical extension of the more concrete meaning ‘clasp, close one’s hand on something’.

hupel [húp-él] ‘breathe with difficulty, be smothered, suffocate’ <
hup [húp] ‘hold in the mouth with the lips closed/between closed lips, drink a
mouthful’ <
*kúmb ‘enclose, embrace’

SYNTACTIC VALENCE OF ROOT: *hup* [húp] is a transitive verb root, as illustrated above in (315).

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The pseudo-applicative is instead syntactically intransitive, as it can take only a subject index, i.e. *ú-* in (317).

Tswana (S31; Otlogetswe 2012: 136)

(317) *Motho yo o a hupela, katogang fa go ene a tsenwe ke phefo*

<i>mò-t^hù</i>	<i>jó</i>	<i>ú-à-húp-ê:l-à,</i>	<i>kàtúchá-ḡ</i>
CL1-person	CL1.DEM	S3:1-DJ-hold.in.mouth-APPL-FV	move.way-IMP.2P
<i>fá</i>	<i>χύ-ènέ</i>	<i>‘á-tsen^wè</i>	<i>kí</i> <i>‘p^hɛfḡ</i>
LOC	LOC-CL1.PRO	S3:1-enter.PASS.SUBJ	by CL9.air

‘This person is suffocating, move away from him/her so that he/she gets air.’

HISTORICAL INFORMATION: The origins and possible semantic shifts of the root *hup* [húp] have been discussed along with the pseudo-applicative *huparel* [húpárel] immediately above. It has been argued that both *hup* and *huparel* represent instances of meaning narrowing or specialization with respect to the proto-form *kúmb ‘enclose, embrace’. With respect to the semantic relationship between the root *hup* [húp] ‘hold in the mouth with the lips closed/between closed lips, drink a mouthful’ and *hupel* [húp-él] ‘breathe with difficulty, suffocate’, two scenarios are possible. In the first, the meaning of *hupel* [húp-él] is the result of hyperbole, that is ‘hold air in the mouth for a very long time, excessively’ > ‘breathe with difficulty, suffocate’. This would be in line with the function of the applicative described in §5.5 as conveying completeness or intensity. In

the second scenario, the meaning of *hupel* [húp-él] developed as a metonymy, i.e. from profiling the result of lip closure in the event of ‘holding something between closed lips’. Given that metonymy appears to be a very common mechanism of change in this corpus, the second scenario is perhaps more likely.

***ngwael* [ŋwà-èl] ‘scrub a skin with a stone to soften it’ <
ngway [ŋwàj] ‘scratch (e.g. an itch)’¹⁴⁴**

SYNTACTIC VALENCE OF ROOT: The root *ngway* [ŋwàj] is syntactically transitive. This is shown in (318), where the root appears with the reflexive morpheme *ì-*. In Tswana, only transitive verb roots can combine with the reflexive.

Tswana (S31; Creissels & Chebanne 2000: 135)

(318) *Katse e ingwaya fa morago ga tsebe*

<i>kátsí</i>	<i>í-ì-ŋwáj-à</i>	<i>fá</i>	<i>mòráχù</i>	<i>χá-tsè:bé</i>
CL9.cat	S3:9-REFL-scratch-FV	LOC	behind	CL17.GEN-CL9.ear

‘The cats scratches himself behind the ear.’

However, this root (and presumably many others) can also appear in an external possession construction with two object NPs as in (319).

Tswana (S31; Creissels ms.b: 177)

(319) *Ditshoswane di tle di ngwae kgaga mmele*

<i>dì-ts^hswání</i>	<i>dí-tlè</i>	<i>dì-ŋwà-í</i>	<i>†q^háχá</i>	<i>m-mìlì</i>
CL10-ant	S3:10-AUX	S3:10-scratch-FV	CL10.pangolin	CL3-body

‘The ants usually scratch the body of the pangolin.’

¹⁴⁴ The form *ngway-a* is in free alternation with *ngwa-a*. The intervocalic loss of a palatal glide is a common phenomenon in Tswana (Denis Creissels, p.c.).

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: the pseudo-applicative remains syntactically transitive, seen by the fact that it takes a subject index and is followed by an object NP in (320). The prepositional phrase introduced by *ka* is optional.

Tswana (S31; Creissels ms.b: 176)

(320) *Ke ngwaela kobo ka tshilwana gore e tlhapologe sentle*

kì-ŋwà-èl-à *kòbò* (*ká* *ts^hìl^wáná*) *χórí*

s1s-scratch-APPL-FV CL9.blanket with CL9.stone that

í-t^hápòlòχé *sí-ń:ttè*

CL9-get.soft.SUBJ CL7-good

‘I am scratching the blanket (with a small round stone) to soften it.’

HISTORICAL INFORMATION: There is no reconstructed proto-form in BLR3 to which the root *ngway* [ŋwàj] can be linked. Nevertheless, the pseudo-applicative stem *ngwael* [ŋwà-èl] has clearly undergone semantic narrowing with respect to the meaning of the root, i.e. it means ‘scratch with a particular object to obtain a particular result’ (soften a skin). The noun *le-ngwaelo* [lì-ŋwàèlò] ‘instrument used to scratch’ is derived from *ngwael* [ŋwà-èl].

***nnyel* [ɲɲ-èl] ‘defecate’ <**
***ny* [ɲ] ‘ooze out, exude, secrete, yield (e.g. metal from molten ore)’ <**
****nè* ‘defecate’**

SYNTACTIC VALENCE OF ROOT: The root *ny* [ɲ] is syntactically transitive, as shown in (321), where *ny* [ɲ] is followed by the NP ‘ashes’.

Tswana (S31; Creissels ms.b: 185)

(321) *Molelo o e neng e rile go robalwa wa gotsiwa o ne o timile wa ba wa nya molora*
mù-lìlò ó ìnèṅ ìrìlé χó-ròbàlwà wà-χótsíwá
 CL3-fire CL3.LNK when INF-go.to.sleep S3:3-light.PASS
ú-nè ú-tímílé wà-bá wá-ɲ-à mù-lò:rà
 S3:3-AUX S3:3-get.extinguished S3:3-AUX S3:3-ooze-FV CL3-ashes
 ‘The fire we lit when we went to sleep got extinguished and left ashes.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: the pseudo-applicative *nnyel* [ɲɲ-èl]

‘defecate’ can be used both transitively and intransitively. In (322), the transitive use is illustrated, where the object NP of the verb, *kota* ‘log’, is made the subject of a passive construction.

Tswana (S31; Creissels ms.b: 180)

(322) *Fa batho ba gakgamala gore kota e e tswa kae, banna ba ba raya ba re e nnyetswe ke*
kgomo
fá bá-t^hù bá-χàq^hámálá χúrì kòtá é í-tswà
 if CL2-person S3:2-wonder that CL9.log CL9.DEM S3:9-come.from
káí bà-ríná bá-bà-rájà bá-rí í-ɲɲ-éts-w-ì
 where CL2-man S3:2-O3:2-tell that S3:9-ooze-APPL.PFT-PASS-FV
kí q^hò:mó
 by CL9.cow
 ‘When people wonder where this log comes from, these men tell them that it has been defecated by a cow.’

HISTORICAL INFORMATION: The root *ny* [ɲ] is the regular reflex of PB *nè ‘defecate’ (Creissels ms.a: 7), attested in fourteen zones including zone S. BLR3 reports the noun *nèò (CL9) ‘anus, female genitals’ (E, F, G, J, L, M, N and S) as derived from the main entry *nè ‘defecate’. In Tswana, the root *ny* [ɲ] underwent semantic broadening with respect to the meaning of its proto-form: the process of secreting is not restricted to specific bodily functions but instead can apply to a variety of domains (cf. ashes of a fire, metal from molten ore). The pseudo-applicative *nyel* [ɲɲ-èl], on the other hand, has “specialized” in the meaning of the proto-form. It should be noted that the applicative *nyel* [ɲ-ɲ-èl] has two initial nasal consonants, while the protoform *nè only one. The first nasal in *nyel* [ɲ-ɲ-èl] is a syllabic nasal, and as a rule, the syllabic nasals of Tswana are reflexes of NV (nasal + vowel) syllables. Consequently, *nyel* [ɲ-ɲ-èl] could be a reflex of the reduplicated form of the root *nè (Denis Creissels, p.c.).

Derivatives of the root *ny* [ɲ] include: *se-nya* [sì-ɲà] ‘bladder’, *nyo* [ɲ-ɲò] ‘vagina’ *mo-nyo* [mò-ɲò] ‘dew’.

phuthel [p^hùt^h-èl] ‘wrap (e.g. a parcel)’ <
phuth [p^hùt^h] ‘gather things together, gather (cattle), collect, fold up’ <
 *pút ‘bend (tr.), fold, wrap up’

SYNTACTIC VALENCE OF ROOT: *puth* [p^hùt] is a syntactically transitive verb root, as shown by the presence of an object NP in (323).

Tswana (S31; Creissels ms.b: 209)

(323) *Nonyane e phutha didirisiwa tse e tlaa agang sentlhaga ka tsone*

<i>nòṅnání</i>	<i>‘í-p^hùt^h-á</i>	<i>dí-dirísìwá</i>	<i>tsé</i>	<i>‘í-tláà-áχà-ḡ</i>
CL9.bird	S3:9-gather-FV	CL8-material	CL8.LNK	S3:9-FUT-build-REL
<i>sí-ḡt^hàχá</i>	<i>ká</i>	<i>tsòṅé</i>		
CL7-nest	with	CL8.PRO		

‘The bird gathers the materials with which he will build his nest.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *phuthel* [p^hùt-èl] has two functions. First, it can be the regular applicative of the root *phuth* and license, for instance, a Beneficiary argument, as in ‘gather sthg for someone’. Second, *phuthel* is a pseudo-applicative meaning ‘wrap’. This verb form is syntactically transitive, like the root *phuth*. The prepositional phrase introduced by *ka* is optional in (324).

Tswana (S31; Internet)

(324) *Mosadi o ne a phuthela madi ka mosese*

<i>mò-sádí</i>	<i>ó-nè</i>	<i>à-p^hùt^h-èl-à</i>	<i>mà-dí</i>
CL1-woman	S3:1-AUX	S3:1-gather-APPL-FV	CL6-money
<i>(ká</i>	<i>mò-sîsì)</i>		
with	CL3-cloth		

‘The woman wrapped the money (in/with the cloth).’

The optionality of the prepositional phrase in (324) is confirmed by examples such as (325).

Tswana (S31; Creissels & Chebanne 2000: 107)

(325) *Mpho o phuthetse toto e*

<i>m̩p^hɔ</i>	<i>ú-p^hùt^h-éts-í</i>	<i>sí-p^hùt^hélò:</i>	<i>é</i>
CL1.Mpho	S3:1-gather-APPL.PFT-FV	CL7-package	CL7.DEM

‘Mpho has wrapped the package.’

HISTORICAL INFORMATION: Not without complications, the Tswana root *phuth* [p^hùt^h] could be said to be related to the BLR3 reconstructed form *pút ‘bend (tr.), fold, wrap up’ (Creissels ms.a: 21), attested in zones A, B, H and R. There are major problems in affirming that *phuth* [p^hùt^h] is the reflex of *pút: the tone does not match; *p should have /f/ (or /h/) and *t should have /r/ as reflexes in Tswana. However, recall that in many instances, Tswana has strong reflexes, i.e. in this case /p^h/ and /t^h/ for PB consonants not preceded by a nasal (i.e. *p and *t) instead of the expected weak reflexes. Despite these problems with form, Snyman et al. (1990) report the meaning ‘fold up’ for *phuth* in Tswana and in the closely related Northern Sotho, the root *phuth* means ‘fold, bring together’ and the applicative *phuthel* means ‘wrap in/for’. These meaning correspondances suggest that there might in fact be a relation between *pút and Northern Sotho and Tswana *phuth/phuthel*. This proto-form has several derived forms in BLR3 including: *pút ‘turn one’s back’ (C, E, K, L, M and S), *pútik ‘bend (tr.), fold, wrap up’ and *pútuk ‘change one’s mind, contradict’ (L, M).¹⁴⁵ With respect to semantic shift, it seems that the Tswana *phuthel* has specialized in one of the meanings

¹⁴⁵ Notice that *pútuk is another instance which confirms the metaphorical extension of physical action verbs such as ‘bend, fold, wrap up’ to speech act/mental state verbs ‘change one’s mind, contradict’ (cf. the case of *akg/akgel* in §6.6.2.4). Further, the derived entry *pútuk ‘change one’s mind, contradict’ shows that other verbal suffixes besides the applicative, such as the reversible intransitive *-uk, can be used for concrete to abstract metaphorical extensions of meaning.

of the proto-form, ‘wrap up’, probably because of the Goal function of the applicative, possibly through a stage ‘fold, gather into something’ > wrap up.¹⁴⁶ On the other hand, the root *phuth* has developed the meanings ‘gather up, collect’ presumably from the meanings ‘bend (tr.), fold’ of *pút. This semantic shift could be seen as the result of metonymy or profiling of a possible stage of the action of folding. For instance, objects placed together in a folded cloth are gathered or grouped together.

Derivatives from *phuthel* [p^hùt^h-èl] in Tswana include *mo-phuthelo* [mò-p^hùt^hèlò] ‘envelope’ (CL3) and *se-phuthelo* [sì-p^hùt^hèlò] ‘package’ (CL7) (cf. (325). Derivations from the root *phuth* [p^hùt^h] include *di-phuthego* [dì-p^hùt^hèχò](CL8/10) ‘collection, reunion, meeting, congregation, church’, *mo-phuthi* [mò-p^hùt^hì] ‘collectionist’ (CL1), *phutho* [p^hùt^hò] ‘collection, picking up’ (CL9), *mo-phutho* [mò-p^hùt^hò] ‘package’ (CL3), *phutholog* [p^hùt^h-òl-òχ] ‘spread, unfold, relax’, *phuthulol* [p^hùt^h-òl-òl] ‘spread out, unwrap, interpret’, *phuthololo* [p^hùt^hòlòlò] ‘definition, translation’ (CL9) and *mo-phutholodi* [mò-p^hùt^hòlòdì] ‘translator’ (CL1). Note that the meaning ‘interpret’ and related meanings ‘definition, translation, translator’ are metaphorical extensions of ‘unwrap’ from a physical action domain to a mental state/speech act domain.

¹⁴⁶ Brown (1895) reports the verb form *iphuthel* with the meaning ‘gather to or for’.

ritel [rìt-èl] ‘smooth out (an earth floor with a flat stone)’ <
rit [rìt] ‘mash, puree (e.g. food), move around/forward on the buttocks, skid (a
 wheel when braked)’ <
 **tind* ‘rub soil with manure’

SYNTACTIC VALENCE OF ROOT: There are no clause-level examples of the root *rit* [rìt] in our corpus. However, data found in Otlogetswe (2012: 500), where this root is used intransitively (e.g. in an A-labile construction), suggests that the root might be syntactically transitive.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *ritel* [rìt-èl] is syntactically transitive. In (326), it takes an object NP (‘floor’) and the instrumental phrase introduced by *ka* is not obligatory.

Tswana (S31; own elicitation, phonetic transcription and glossing by Denis Creissels)

(326) *Mosadi mogolo o ritela lelapa ka boloko*

<i>mò-sádí</i>	<i>mò-χóló</i>	<i>ú-rítél-à</i>	<i>lì-làpá</i>
CL1-woman	CL1-old	s3:1-smoothen-FV	CL5-floor

(*ká bú-lǎkǎ*)

with CL14-cow.dung

‘The old lady is polishing the floor (with cow dung).’

Brown (1895) and Brown (1924) report the root *rit* [rìt] meaning ‘stir up well boiled meat with a pronged stick’ and the applicative stem *ritel* [rìt-èl] as meaning ‘smoothen (e.g. a floor).

HISTORICAL INFORMATION: The root *rit* [rìt] can be posited as the regular reflex of PB *tind ‘rub soil with manure’. This entry is not confirmed in BLR3 and is attested only in zone S (no tone is indicated for this reconstructed form). The root *rit* is present also in Northern Sotho with the meaning ‘churn’ and the applicative *ritel* with the meanings ‘iron, smoothen’. Assuming that *tind is a valid reconstruction in BLR3, one could argue that in Tswana the applicative stem *ritel* [rìt-èl] has retained a meaning very close to that of the proto-form oriented towards the result of the action of rubbing (> smoothening) while the root *rit* [rìt] has specialized in the “smoothening” of food. Possibly, the meanings ‘move around/forward on the buttocks, skid (a wheel when braked)’ of the Tswana root *rit* [rìt] are extensions of the action of rubbing: moving on the buttocks implies friction with the ground, and so does skidding a wheel. These meanings seem to be consistent with the ‘rub’ meaning attributed to the proto-form *tind. The newest Tswana dictionary available (Otlogetswe 2012) lists ‘emphasize someone’s words’ as an additional meaning for *ritel* [rìt-èl] besides the meaning ‘polish’. This meaning is a metaphorical extension of a physical action into the speech acts domain.¹⁴⁷

Derivatives of *ritel* [rìt-èl] which confirm an original meaning ‘rub’ are: *mo-ritelo* [mù-rìtèlò] ‘ritual of cleansing of a woman who has fallen pregnant while breastfeeding’ (CL3) and *mo-ritelatshwene* [mù-rìtèlàtshwèni] ‘plant used to purify a woman who became pregnant while breastfeeding’ (CL3), where possibly ‘rub/polish’ > ‘clean/purify’.

¹⁴⁷ Doris Payne (p.c.) observes that something very similar happens in Maa (Maasai, Nilotic) with the root *sp* ‘clean/strip absolutely clean’, which can also mean ‘tell the truth, emphasizing something as true’.

romel [róm-él] ‘send something’ <
rom [róm] ‘send someone to do something’ <
 *tóm ‘send’

SYNTACTIC VALENCE OF ROOT: The root has the following argument structure: the person being sent is expressed as a direct object and the action that should be performed by the sent person is expressed as an infinitive complement clause, as shown in (327). I do not know, at the moment, whether the infinitive complement is optional.

Tswana (S31; Creissels ms.b: 229)

(327) *Pela ya roma tshipo go ya go e tseela mogatla*

<i>pílá</i>	<i>jà-róm-á</i>	<i>ts^hipó</i>	<i>χó-jà</i>	<i>χù-í-tséélá</i>
CL9.hyraX	S3:9-send-FV	CL9.springhare	INF-go	INF-O3:9-take.APPL
<i>mú-χà:tlá</i>				
CL3-tail				

‘The hyrax sent the springhare to fetch the tail for him.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *romel* [róm-él] has two functions. First, it is the regular applicative of the root *rom* [róm] and as such it licenses an obligatorily present applied phrase with the semantic role of Goal, i.e. ‘to the village’ in (328).

Tswana (S31; Creissels ms.b: 230)

(328) *Kgosi e ne ya romela batho kwa motseng o go ya go batla mosadi gone*

<i>q^hósí</i>	<i>í-nè</i>	<i>jà-róm-él-á</i>	<i>bá-t^hù</i>	<i>kwá</i>	<i>mú-tsì-ḡ</i>
CL9.chief	S3:9-AUX	S3:9-send-APPL-FV	CL2-person	LOC	CL3-village-LOC
<i>ó</i>	<i>χó-jà</i>	<i>χù-bàtá</i>	<i>mù-sádí</i>	<i>χḡné</i>	
CL3.DEM	INF-go	INF-look.for	CL3-woman	there	

‘The chief sent people to this village to look for a wife there.’

Second, *romel* [róm-él] is a pseudo-applicative meaning ‘send something’. When used in this sense, this verb form is syntactically transitive.

Tswana (S31; Creissels ms.b: 230)

(329) *Re tlaa romela koloï ka bofefo*

rì-tlàà-róm-él-á ^h*kólóí* ^h*ká* *bú-fè:fú*
S1P-FUT-send-APPL-FV CL9.car INSTR CL14-speed

‘We will send a car quickly.’

To specify the location where something is sent, such as ‘to their families’ in (330), another applicative derivation needs to be added to *romel*.

Tswana (S31; Creissels ms.b: 230)

(330) *Banna ba ba berekang kwa meepong ba romelela ba malwapa a bone madi*

bà-rínà *bá* ^h*bá-bérékà-ŋ* ^h*mó* *mí-èpò-ŋ* *bá-róm-él-él-à*
CL2-man CL2.LNK S3:2-work-REL LOC CL4-mine-LOC S3:2-send-APPL-APPL-FV
bá *má-lwàpá* *á-bòné* *mà:dí*
CL2.GEN CL6-house CL6.GEN-CL2.PRO CL6-money

‘Men who work in the mines send money to their families.’

HISTORICAL INFORMATION: The root *rom* [róm] reconstructs to PB *tóm ‘send’ (Creissels ms.a: 16, 1999a: 312), present in all Bantu zones. BLR3 lists several entries which are derived from *tóm ‘send’ including *tómíð ‘summon’ (zone J) and tómík ‘work’ (zones L, M). In fact, *tóm is a very old Niger-Congo root with reflexes even in western Africa. For example, in Mòdré (Gur) *tum* means ‘send someone to do something’. Comparative evidence points to the fact that ‘send someone’ was possibly the original meaning of the proto-form (Creissels, p.c.). If we assume this hypothesis to be correct, the synchronic Tswana root *rom* [róm] has preserved the meaning of the proto-form, while the pseudo-applicative stem has specialized in ‘send something’.

The noun *se-romamowa* [sì-rómámòwá] ‘radio’ (CL7) and the verb form *romeg* [róm-éχ] ‘worthy of being sent, reliable to be sent’ are derivatives of *rom* [róm].

rwalel [rwál-él] ‘gather wood for fire’ <
rwal [rwál] ‘carry on the head, wear, put on (shoes, hat, gloves)’ <
 *túad- ‘carry on the head, carry, bring, carry away, be chief, include’

SYNTACTIC VALENCE OF BASE FORM: The root *rwal* [rwál] is syntactically transitive, as seen by the object NP in (331).

Tswana (S31; Creissels ms.b: 235)

(331) *Kamela e kgona go rwala morwalo o o bokete*

<i>kàmélá</i>	<i>‘í-q^hśná</i>	<i>χù-rwál-á</i>	<i>mù-rwálò</i>	<i>ó</i>
CL9.camel	S3:9-be.able	INF-carry-FV	CL3-charge	CL3.LNK

‘ú-bú-kítì
 S3:1-CL14-heaviness

‘The camel can carry a heavy charge.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative form *rwalel* [rwál-él] has two functions. First, it is the regular applicative of the root *rwal* [rwál] and as such it usually adds a Beneficiary argument, i.e. ‘for me’ in (332).

Tswana (S31; Creissels ms.b: 236)

(332) *Ke tlaa hira tereketara gore e nthwalele maotwana a me*

<i>kì-tlàà-hírá</i>	<i>tìríkítàrá</i>	<i>χúrí</i>	<i>í-ñ-t^hwál-él-é</i>	<i>má-òtwánà</i>
S1S-FUT-rent	CL9.tractor	that	S3:9-O1S-carry-APPL-SUBJ	CL6-post

â-mì
 CL6.GEN-1S

‘I will rent a tractor to carry my posts for me.’¹⁴⁸

Second, *rwalel* [rwál-él] is a pseudo-applicative meaning ‘gather wood’. In this usage, the verb form is intransitive, as the equivalent of ‘wood’ is not expressed as a NP, cf. (333), but it is simply subsumed within the meaning of the verb (similar to an antipassive construction).

¹⁴⁸ Note that the 1SG object index [ñ-] causes “strengthening” of the stem (ŋ-r^wál-él > n-t^{hw}ál-él).

Tswana (S31; Creissels ms.b: 236)

(333) *Basetsana ba ne ba tlhola ba rwalela motshegare otlhe*

<i>bà-sítsánà</i>	<i>bá-nè</i>	<i>bà-tʰǎ̀lǎ̀</i>	<i>bá-rwàl-él-á</i>
CL2-girl	S3:2-AUX	S3:2-spend	S3:2-carry-APPL-FV
<i>mù-tsʰíχàrí</i>	<i>ʰô:tʰè</i>		
CL3-day	CL3-whole		

‘The girls spent the whole day gathering wood.’

HISTORICAL INFORMATION: The root *rwal* [rwál] is the regular reflex of PB *túad ‘carry on the head, carry, bring, carry away, be chief, include’ (Creissels ms.a: 18), attested in thirteen zones including zone S. According to BLR3, the entry *túad is derived from *túè (CL3/4) ‘head’ attested in all Bantu zones. The entry *túè has numerous additional derived entries, many of which have a quite wide distribution. These include: *túík ‘put on the head, give to carry’ (A, E, F, G, H, J, K, L, M, N, R), *túúd ‘put down a load, remain’ (B, C, E, F, G, H, J, K, L, M, N, P, R, S), *túuduk ‘come or go down’ (B, H, L, R, S), *túad ‘marry’ (E, M), *túúdi ‘be quiet, rest’ (D, F, J, L, M), túók ‘come from’ (B, C, D, H, J, K), túadi ‘help to carry’ (J), *túúdani (CL1) ‘neighbor’ (J), túá (CL1/2) ‘chief’ (G, M, N), túade (CL1) ‘chief’ (F, J), *túadi (CL1/CL14) ‘hero, courage’ (J), *túado (CL3) ‘load’ (J, R and S although the latter is not included in the BLR3 database, but see *rwab* in (331). Several metonymical processes can be observed in these derived entries. The form *túúdi ‘be quiet, rest’ is probably from the idea of a head laying down when resting, túá (cl1/2) ‘chief’ and *túadi (cl1/cl14) ‘hero’ are based on part to whole relationship, and *túado (cl3) ‘load’ is the result of carrying. The root *rwal* [rwál] in Tswana preserved one of the meanings of the proto-form (‘carry’) and probably developed by extension the meanings ‘wear, put on’ (‘wear’ is having or carrying something on oneself). The pseudo-applicative *rwalel* [rwál-él] ‘gather firewood’, on the other hand, has acquired a

quite specialized meaning, i.e. ‘gathering and carrying firewood’. It is worth noticing that wood-gathering is an extremely culturally salient activity for Tswana women, along with fetching water. Traditionally, in the early afternoon hours, women with small babies on their backs, accompanied by younger girls, usually leave their huts and go work in the fields. After this task, they usually go to fetch water and gather wood in preparation for the evening meal (Lestrade 1937: 124).

Derivatives of the root *rwal* [rwál] include *mo-rwadi* [mù-rwádí] ‘person who carries’ (CL1), *mo-rwaledi* [mù-rwálédí] ‘transporter’ (CL1), *mo-rwalo* [mù-rwáló] ‘manner of carrying or wearing, burden, load, freight’ (CL3), *se-rwalo* [sì-rwáló] ‘crown, head-gear’ (CL7), *rwaleg* [rwál-éχ] ‘be portable, be wearable’ and the reflexive form *i.thwal* [it^hwál] ‘be pregnant’. Derivatives of *rwalel* [rwál-él] include *mo-rwalela* [mù-rwálèlá] ‘flood’ (CL3) and *rwaleleseg* [rwálél-ésèχ] ‘be in flood’.

***tlhomel* [t^hòm-èl] ‘carry sthg on the shoulders fixed at the end of a stick’ <
***tlhom* [t^hòm] ‘put down (in an upright position), plant, fix, erect, install,
 establish (business), race, appoint in a post’ <
 *còm ‘pierce, insert, poke in’****

SYNTACTIC VALENCE OF ROOT: The *tlhom* [t^hòm] is syntactically transitive as shown by the presence of an object NP in (334).

Tswana (S31; Creissels ms.b: 294)

(334) *Bogologolo morafe o ne o tlhoma motse fa go nang le metsi a mantsi*

<i>bù-χóúúχóúú</i>	<i>mù-ráff</i>	<i>ú-nè</i>	<i>ú-t^hóm-á</i>	<i>mú-tsí</i>
CL14-ancient	CL3-tribe	S3:3-AUX	S3:3-plant-FV	CL3-village
<i>fá</i>	<i>χó-nà-ń</i>	<i>lí-mètsí</i>	<i>‘á</i>	<i>máń:tsí</i>
where	S3:17-be.with-REL	with-CL6.water	CL6.LK	CL6-abundant

‘In the old days, the tribe settled its village where there was plenty of water.’

Brown (1895) and Brown (1924) list the root only with the meanings ‘plant, fix in on end’.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *tlhomel* [tʰòm-əl] has two functions. First, it is the regular applicative of *tlhom* and licenses an obligatorily present Locative applied phrase, i.e. ‘on their headdresses’ in (335).

Tswana (S31; Creissels ms.b: 295)

(335) *Bogologolo dikgosi di ne di tlhomela diphofa tsa ntšhe mo dihutseng tsa bone tsa ntwá*
bù-χólóχóló dī-qʰósí dī-nè dī-tʰóm-él-à dī-pʰòfá
 CL14-ancient CL10-king S3:10-AUX S3:10-plant-APPL-FV CL10-feather
tsá-ñtʰé mó dīhútsé-ñ tsá-bòné
 CL10.GEN-CL1a.ostrich LOC CL10-hat-LOC CL10.GEN-CL2.PRO
 ‘In the old days, the kings put ostrich feathers on their war headdresses.’

Second, the applicative stem *tlhomel* [tʰòm-əl] has developed the meaning ‘carry sthg on the shoulders fixed at the end of a stick’. This meaning is also reported in Brown (1895) and Brown (1924). Unfortunately, no clause-level example of *tlhomel* [tʰòm-əl] with this meaning could be found in the sources available to me.

HISTORICAL INFORMATION: The root *tlhom* [tʰòm] is the regular reflex of PB *còm ‘pierce, insert, poke in’ attested in zones A, B, G, H, J, K, L, M, N, P, R and S. BLR3 lists several derived entries for *còm including *còm ‘bud’ (A, S), *còmík ‘poke in’ (B, C, G, H, J, K, L, M, N, R, S), *còmú ‘fork’ (L), *còmud ‘pull out’ (C, E, G, J, H, K, L, M, P, R, S) and *còmuk ‘come out (of thing poked in)’ (C, H, J, L, M, R, S). In Tswana, both the root *tlhom* [tʰòm] and the applicative stem *tlhomel* [tʰòm-əl] appear to have undergone meaning specializations with respect to *còm ‘pierce, insert, poke in’. The root *tlhom*

[tʰòm] has specialized in a particular type of piercing or making a whole with a sharp instrument, that of poke in something in the soil (cf. the meanings ‘put down (in an upright position)’ and plant). Other meanings appear to be metonymical and metaphorical extensions of ‘put down (in an upright position)’ and ‘plant’: ‘fix’ is the resulting of planting (‘appoint in a post’ might be a meaning specialization of ‘fix’), putting down or poking in something somewhere; ‘erect’, ‘install’ and ‘establish (a business)’ are metaphorical extensions of ‘plant’. The meaning ‘race’ might arise from the idea that in a competition people might accidentally poke at each other. The pseudo-applicative *tlhomel* [tʰòm-èl] has specialized both with respect to the meanings of the root *tlhom* [tʰòm] and of the proto-form *còm. It maintains the idea of “planting” poking or inserting in an object specifically at the end of a stick with the purpose of carrying it on one’s shoulders.

Derivatives of the root *tlhom* [tʰòm] in Tswana include *tlhomedi* [tʰòmédí] ‘butcher bird’ (CL1a) (a mag-pie like bird which has the habit of impaling captured prey on a thorn, tree fork or crevice), *tlhomagan* [tʰòmàχàn] ‘line up, queue, occur in close succession, follow one another closely’, *tlhomagano* [tʰòmàχànò] ‘alignment’ (CL9), *tlhomam* [tʰòm-àm] ‘become firm/fixed, stand firmly’, *tlhomamo* [tʰòmàmò] ‘firmness, regularity’ (CL9), *tlhomamis* [tʰòm-àm-ìs] ‘ratify, confirm, establish (a fact)’, *tlhomamiso* [tʰòmàmìsò] ‘ratification, establishment (of a fact), confirmation’ (CL9), *tlhomar* [tʰòm-àr] ‘follow incessantly in order to gain something, nag, pick on (somebody), be tenacious, not letting go of’, *tlhomes* [tʰòmès] ‘put up rafters, hold the hands in a “hands up” position during traditional dancing’, *tlhomeso* [tʰòmèsò] ‘rafter, beam’ (CL9), *le-tlhomeso* [lì-tʰòmèsò] ‘frame’ (CL5), *tlhomesolol* [tʰòmès-ùl-ùl] ‘remove the roof of a house’, *tlhomo* [tʰòmò] ‘installation’ (CL9), *se-tlhomo* [sì-tʰòmò] ‘stand, support’

(CL7), *tlhomog* [tʰòm-òχ] ‘become pulled out (something firm and long)’, *tlhomogapelo* [tʰòmòχàpìlú] ‘compassion, pity’ (CL9), *tlhomol* [tʰòm-ùl] ‘draw, pull out’ and *matlhomolapelo* [mà- tʰòmùlàpìlú] (CL6) ‘sorrows, lamentations, woes, tragedies’.

6.6.2.4 Concrete to abstract metaphor

Recall from §6.6.2 that in this group, the Tswana synchronic pseudo-applicative stem displays a more abstract meaning derived metaphorically from the more concrete meaning of the verb root and/or that of the proto-form from which the root derives. The concrete to abstract metaphor might be based on an implied Endpoint or implicit Goal.

akgel [àq^h-èl] ‘give an opinion (on something), comment on’ <
akg [àq^h] ‘swing to and fro, carry sthg swinging, wave the arms in anger’ <
 *jànk- ‘swing (of arms or feet)’

SYNTACTIC VALENCE OF ROOT: *akg* [àq^h], in the sense of ‘carry something by swinging’, is a syntactically transitive verb, which takes an object NP as shown in (336).

Tswana (S31; Otlogetswe 2012: 4)

(336) *Pule o tlile a akga bolekané jwa maši go tswa morakeng*

<i>Púlé</i>	<i>ú-tšìlé</i>	<i>‘á-áq^h-á</i>	<i>bò-lékánì</i>
P.	s3:1-come.PFT	s3:1-carry.by.swinging-FV	CL14-bucket
<i>dž^wá-má-fí</i>	<i>χú-tswà</i>	<i>mù-ràkê:-ṅ</i>	
CL14.GEN-CL6-milk	INF-come.from	CL3-cattle.post-LOC	

‘Pule came from the cattle-post swinging a bucket of milk (in his hands).’ (that is: holding a bucket of milk in the hand which swings back and forth while Pule is walking)

Brown (1895) and Brown (1924) report the root *akg* [aq^h] meaning ‘swing sthg from side to side’. The applicative form *akgel* [àq^h-è] is not reported.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *akgel* [àq^h-è] is syntactically an intransitive stem, as shown in (337), where this verb form is followed by an optional locative phrase expressing the Theme that is being commented on. This locative phrase takes the form of a headless relative clause (‘what has been said’). However, a NP could also appear in the place of the headless relative clause.

Tswana (S31; Otlogetswe 2012: 4)

(337) *Mongwe le mongwe o tlaa fiwa sebaka sa go akgela mo go se se builweng*

<i>mò-ŋwì</i>	<i>lí-mú-ŋwí</i>	<i>ú-tláà-f-íw-á</i>	<i>sí-bàkà</i>	
CL1-one	with-CL1-one	S3:1-FUT-give-PASS-FV	CL7-opportunity	
<i>sá-χú-áq^h-èl-à</i>		<i>(mó</i>	<i>‘χú-sé</i>	<i>‘sí-búílwè-ŋ)</i>
CL7.GEN-INF-swing-APPL-FV	LOC	LOC-CL7.LNK	S3:7-say.PASS.PFT-REL	

‘Everybody will have the opportunity to comment (on what has been said).’

In (337), the pseudo-applicative *akgel* appears in the infinitive form. A finite form of *akgel* has exactly the same argument structure, i.e. ‘X comments (on what has been said)’ or ‘X comments (on something)’ (Denis Creissels, p.c.).

HISTORICAL INFORMATION: The root *akg* [àq^h] ‘swing to and from, carry something by swinging’ is the regular reflex of PB *jànk ‘swing (of arms or feet)’ (Creissels ms.a: 13, 1999a: 308), attested only in zone S. BLR3 links this derived entry to the more widely attested main entry *jànk ‘catch, receive’ (C, J, L, M, N, P, S) which also also a variant entry *jàkɪd ‘take, receive’ attested in zones J and L. BLR3 also reports *jànkɪdid ‘catch, receive’ (zone J) derived from *jànk ‘catch, receive’. Possibly, *jànk ‘swing (of arms or feet)’ could be semantically derived from *jànk ‘catch, receive’ metonymically, i.e.

‘swing’ can be part of the movement one makes when attempting to catch something that has been thrown. One could also suppose that the basic meaning of the synchronic Tswana root *akg* [àq^h] equals that of the proto-form from which it is derived, ‘swing to/from’, and that meanings such as ‘carry something by swinging’ and ‘wave arms (in anger)’ are semantic extensions of ‘swing to/from’, where the movement is extended from one’s one body to an object in the first case, and from a movement to a movement related to an emotion in the second case. Semantically, there is a clear change of domain from concrete to abstract in the case of the pseudo-applicative stem *akgel* [àq^h-èl]: the physical idea of an entity moving from side to side is transposed to the more abstract idea of having changing views/opinions on a given issue. This ultimately leads to the metaphor THE MIND IS A BODY (Lakoff & Johnson 1980, Sweetser 1990, Kövecses 2002). In fact, one of the most widely attested semantic shifts based on metaphors consists of lexemes related to physical action/motion being transferred to mental states and/or speech acts (Sweetser 1990, Traugott & Dasher 2002, Campbell 2004). For instance, physical action verbs, especially involving hand movement such as ‘grasp, capture, get a hold on’ often come to mean ‘understand’; the English verb *fret* originally meant ‘eat, gnaw’, but now means ‘worry, be distressed’ (Campbell 2004: 270).

Other derivatives of *akg* [àq^h] in Tswana retain more concrete meanings related to ‘swing to and from’. These include: *akgek* [àq^h-èχ] ‘hang, rock (e.g. on a chair)’, *akgol* [àq^h-òl] ‘toss up in the air repeatedly, congratulate’ and *akgaakg* [àq^hààq^h] ‘bother a person by sending him to and from’.

fetel [fit-èl] ‘be infectious, be contagious’ <
fet [fit] ‘pass or overtake something, exceed, surpass, pass away’ <
 *pìnd ‘pass’

SYNTACTIC VALENCE OF ROOT: synchronically, the root *fet* [fit] has two semantically related meanings, each of which is conveyed by a different construction. When the verb means ‘pass’ in the sense of ‘go by’, the root *fet* [fit] is syntactically intransitive as shown in (338). Note, however, that to obtain the meaning ‘go by’ the item that is “passed by”, introduced by the comitative/instrumental prefix *lí-* in (338) (cf. ‘with the village’), cannot be omitted from the construction.

Tswana (S31; Creissels ms.b: 51)

(338) *Molelwane wa Aferika Borwa le Botswana o feta gaufi le motse*

<i>mù-lílwàní</i>	<i>‘wá-Áfíríká</i>	<i>Bò-rwá</i>	<i>lí-Bò-tswáná</i>
CL3-border	CL3.GEN-africa	CL14-south	with-CL14-tswana
<i>‘ú-fít-á</i>	<i>χàúfíʰ</i>	<i>lí-mô:tsì</i>	
s3:2-pass-FV	close	with-CL3-village	

‘The border between South Africa and Botswana passes close to the village.’

The same base verb can also mean ‘overtake’ and in this sense it requires a transitive construction, as shown by the subject and object indexes in (339), *rà-* and *bá-* respectively.

Tswana (S31; Otlogetswe 2012: 104)

(339) *Ba emeletse pele ga rona mme ra ba feta mo tseleng*

<i>bá-émélétsì</i>	<i>pílì</i>	<i>χá-ròná</i>	<i>mímí</i>	<i>rà-bá-fít-á</i>
s3:2-set.out	before	CL17.GEN-PRO.1P	but	S1P.SEQ-O3:2-pass-FV
<i>mó</i>	<i>tsìlê:-ḡ</i>			
LOC	CL9.road			

‘They set out before us but we overtook them on the road.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *fetel* [fit-èl] has two uses. In the first one, it is the regular applicative of *fet* [fit] which introduces a required locative prepositional phrase with the semantic role of Goal, i.e. ‘to his heirs’ in (340).

Tswana (S31; Creissels ms.b: 51)

(340) *Khumo ya gagwe e fetetse kwa bajabosweng ba gagwe*

k^húmò já-χάχwé í-fit-éts-ì kwá bà-dzábùswé-ṛ

CL9.wealth CL9.GEN S3:9-pass-APPL.PFT-FV LOC CL2-heir-LOC

bá-χâ:χwè

CL2.GEN-CL1.PRO

‘His wealth passed to his heirs.’

In (340) the applicative does not increase the valence of the root, since what is being introduced is an obligatorily present prepositional phrase with no object properties. Nevertheless, this is a regular, productive use of the applicative with verbs of motion (cf. §5.3.3.2).

In the second use, the applicative verb form has lexicalized and acquired the meaning ‘be contagious’. This meaning is also reported in earlier dictionaries (Brown 1895, Brown 1924). The resulting derived verb is intransitive even if an applicative is formally present (341).

Tswana (S31; Creissels ms.b: 51)

(341) *Bosula bo ntse jaaka bolwetse, bo a fetela*

bù-sùlá bú-ṛtsí dzáàká bù-lwê:tsì, bú-á-fit-ê:l-à

CL14-evilness CL14-be.PFT like CL14-illness S3:14-DJ-pass-APPL-FV

‘Evilness is like illness, it is contagious (lit: it passes to [people]).’

Recall that an applied phrase cannot be omitted after an applicative verb stem in Tswana (and in other Bantu languages) without resulting in ungrammaticality. The fact that the applicative stem *fetel* in (341) is not followed by an applied phrase (e.g. ‘to

people’) is an indicator that this form has lexicalized. Probably, another applicative derivation (i.e. *fetelel* [fit-èl-èl]) would be necessary to express ‘be contagious to’.

HISTORICAL INFORMATION: the verb root *fet* [fit] ‘pass’ is the regular reflex of the derived entry *pìnd- ‘pass’ (Creissels ms.a: 6), attested in zones N and S. Along with *pìnd ‘pass’, there are numerous other derived entries: *pìnd ‘turn, invert, change’ (E, F, J, M); *pìnd ‘put across’ (L, M, N), *pìnd (DER) ‘be dark (sky), be cloudy’ (H, J). All of these entries are derived from the main entry *pìnd ‘fold, hem, plait/braid’ which is the most widespread, present in zones A, B, E, F, G, H, K, L, N, P, R and S. Assuming that the translation ‘fold, hem, plait/braid’ is at least close to a possible etymology of the proto-form *pìnd, some derived meanings reported in BLR3 seem to have arisen out of a generalization (*pìnd ‘turn, invert, change’ seem to be more general than ‘hem, plait/braid’) with a common denominator of fold > turn > change; others are based on metonymy, such as *pìnd ‘pass’, and *pìnd ‘put across’ which could be seen as profiling only part of the process of plaiting/braiding; yet others are based on metaphor with a meaning specialization as in *pìnd ‘be dark (sky), be cloudy’ possibly also from fold > turn > change (from sun to clouds).

In terms of the meaning relationship between the Tswana root and the pseudo-applicative, it is not difficult to imagine how the concept of ‘go by’ or ‘pass’ in a physical, concrete sense was transposed metaphorically into the more abstract ‘go by, pass invisibly’ > ‘be infectious, be contagious’ on the basis of a metaphor such as DISEASES ARE MOVING ENTITIES. Derivatives of *fet* [fit] include *feteg* [fitèχ] ‘be a place where people pass by’, *fetelel* [fit-èl-èl] ‘go too far, pass on to a destination, exceed the

limit’, and the nouns *mo-feti* [mò-fitì] ‘bystander’ (CL1) and *se-fetisanako* [sì-fitìsànakò] ‘hobby’ (CL7).

***porotlel* [pòròt̩-èl] ‘talk continuously, without stopping’ /
poropotlel [pòròpòt̩-èl] ‘stutter’ <
porotl [pòròt̩] ‘leak profusely (of a liquid)’**

SYNTACTIC VALENCE OF ROOT: The root *porotl* [pòròt̩] is syntactically transitive, as shown by the presence of an Object NP after the verb in (342).

Tswana (S31; Otlogetswe 2012: 486)

(342) *O ne a porotla madi fa a sena go tlhabiwa ke motho ka thipa*

<i>ú-nè</i>	<i>à-pòròt̩-à</i>	<i>mà-dí</i>	<i>fá</i>	<i>á-siná</i>	<i>χú-t̩àbìwà</i>
S3:1-AUX	S3:1-leak-FV	CL6-blood	when	S3:1-AUX	INF-stab.PASS
<i>kí</i>	<i>mú-t̩h̩</i>	<i>ká</i>	<i>t̩h̩pá</i>		
by	CL1-person	INSTR	CL9.knife		

‘He bled much after being stabbed by someone with a knife.’

This verb root is derived from the ideophone *porr* [pòrr] ‘denoting the sound of liquid pouring out from a leak’ (Snyman et al. 1990: 133) plus the verbalizing suffix *-tl* [-t̩].

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: In his Tswana-French unpublished dictionary, Creissels (ms.b) reports the applicative stem *porotlel* [pòròt̩-èl] meaning ‘talk continuously, without stopping’. Brown (1895) and Brown (1924) also report this lexicalized applicative stem with the meaning ‘talk incessantly, talk without end’. Creissels (p.c.) suggests this form is syntactically intransitive (as Brown 1924 also suggests) but we have no clause-level examples in our corpus. However, elicitation with Tswana native speakers of South Africa has revealed the existence of another pseudo-applicative verb form, *poropotlel* [pòròpòt̩-èl] ‘stutter’. This form is also derived from the

ideophone *porr* [pòrr] with partial reduplication of the first syllable and copy vowel insertion to avoid a consonant cluster (i.e. *porr* + *po* > *poropo*). This pseudo-applicative is syntactically intransitive, as shown in (343).

Tswana (S31; own elicitation, phonetic transcription and glossing by Denis Creissels)

(343) *O bua a ntse a poropotlela*

<i>ú-bú-à</i>	<i>á-ńtsì</i>	<i>á-pórópòtł-è:l-à</i>
s3:1-speak-FV	s3:1-AUX	s3:1-leak-APPL-FV
'He speaks by stuttering.'		

HISTORICAL INFORMATION: No proto-form can be found for the root *porotl* [pòròtł]. What is interesting to observe here is that using the applicative to derive a metaphorically more abstract meaning from the more concrete meaning of a root is an active process even in the domain of de-ideophonic derivation. In this case, there is an underlying metaphor such as THE BODY IS A CONTAINER out of which flow non-stop verbal emissions. This is also an additional case where verbs indicating physical movements undergo semantic changes into speech act verbs (cf. *akg* 'swing to/from' /*akgel* 'give an opinion, comment on' in this section).

swel [sw-él] ‘be/become finished, concluded, accomplished, decided’ <
sw [sw] ‘die’ <
 *kú ‘die’

SYNTACTIC VALENCE OF ROOT: *sw* [sw] is a syntactically intransitive root, as shown by the presence of a subject index in (344).

Tswana (S31; Creissels, Tswana-French ms.b: 252)

(344) *Go ne ga tla ngwaga wa leuba, dikgomo tsa swa ka bontsi*

<i>χó-nè</i>	<i>χà-tlà</i>	<i>ŋwàχá⁺</i>	<i>wá-lí-ùbà</i>	<i>dì-q^hòmú</i>
s3:17-AUX	s3:17-come	CL3.year	CL3.GEN-CL5-drought	CL10-cow
<i>tsà-sw-á</i>	<i>‘ká</i>	<i>bú-ñtsí</i>		
S3:10-die-FV	INSTR	CL14-abundant		

‘There came a year of drought, and the cows died in great number.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *swel* [sw-él] has two uses. First, it is the regular applicative of *sw* [sw] and as such introduces an obligatorily present applied phrase expressing Location, ‘at war’ in (345).

Tswana (S31; Creissels ms.b: 253)

(345) *Monna wa gagwe o swetse mo ntweng*

<i>mù-ñnà</i>	<i>wá-χάχwé</i>	<i>ú-sw-éts-ì</i>	<i>mó</i>	<i>ñtwè:-ñ</i>
CL1-man	CL1.GEN-CL1.POSS	S3:1-die.APPL.PFT-FV	LOC	CL9.war-LOC

‘Her husband died at war.’

Second, *swel* ‘be/become finished, concluded, accomplished’ is a syntactically intransitive pseudo-applicative. The only example in our corpus is one in which the form *swel* combines with the causative suffix giving rise to a transitive verb stem with an omitted object, as in (346).

Tswana (S31; Creissels ms.b: 254)

(346) *E rìlè fa a sena go swetsa jalo, a boela gae*

<i>ìrìlè</i>	<i>fá</i>	<i>á-sìná</i>	<i>χù-sw-éts-à</i>
it.happened.that	when	S3:1-AUX	INF-die-APPL.CAUS-FV
<i>jálú</i>	<i>à-bú-él-à</i>	<i>χâì</i>	
thus	S3:1-return-APPL-FV	home	

‘When he had finished, he went back home.’

HISTORICAL INFORMATION: the root *sw* [sw] is the regular reflex of PB *kú ‘die’ (Creissels ms.a: 20, 1999a: 324), attested in all Bantu zones. Recall from Table 15 that *k followed by *u plus another vowel has /s(w)/ as a reflex in Tswana. In this case, the other vowel following *u would be the default final vowel *a (i.e. *kú-á > sw-á). Entries derived from the main entry *kú ‘die’ in BLR3 include: *kúdu ‘miss because of death’ (zone J, no tone indicated), *kúídì ‘death’ (A, C, E), *kúù (cl1/2) ‘dead person’ (A, B, G, H, J, L, M, R, S) and *kúù (cl7) ‘death’ (B, C, E, F, H, K, L, M). The semantic shift from *sw* [sw] ‘die’ to *swel* [sw-él] ‘be/become finished, concluded, accomplished’ in Tswana seems to be very similar in nature to the case of *w* [w] ‘fall’ > *wel* [w-él] ‘come to an end, be finished’ (see discussion at the end of this section). The meaning ‘die’ can metaphorically be extended to mean the end of something other than life. The meaning of ‘die’ involves reaching some Endpoint location as in ‘reach the end of life’ (cf. the underlying orientational metaphor END IS DOWN). The meaning shift between the root and the applicative stem in Tswana is clearly based on a metaphor from a more concrete source domain (end of physical life) to a more abstract domain (end of a state/action).

Derivatives of the root *sw* [sw] in Tswana include *bo-swa* [bù-swá] ‘heritage’ (CL14) and *lo-so* [lù-sú] ‘death’ (CL11). Derivatives of *swel* [sw-él] include *tshwetso*

[ts^hwétsó] ‘decision, initiative’ (CL9), derived from the causative of *swel* [sw-él], which is *swets* [sw-éts] and *swelel* [sw-èl-èl] ‘forfeit, be devoid of a right’ (see discussion in §6.6.4.4).

***tlalel* [tʰál-él] ‘make anxious, tighten the heart’ <
tlal [tʰál] ‘become full (of)’ <
 *jǐjád ‘be full’**

SYNTACTIC VALENCE OF ROOT: *tlal* [tʰál] is syntactically transitive as can be seen by the object NP after the verb in (347).

Tswana (S31; Creissels ms.b: 276)

(347) *Letamo le tletse metsi*

<i>lì-támó</i>	<i>ʰlí-tléts-í</i>	<i>mè:tsí</i>
CL5-dam	s3:5-get.filled.PFT-FV	CL6.water

‘The dam is full of water.’

In addition, the root *tlal* [tʰál] can also appear in an intransitive construction where the substance (e.g. ‘water’ in (347)) is introduced by the preposition *ka* ‘with’.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *tlalel* [tʰál-él] has two functions. First, it is the regular applicative of *tlal* [tʰál] and licenses an obligatorily present applied phrase with the semantic role of Goal, i.e. ‘to the brim’ in (348).

Tswana (S31; Creissels ms.b: 276)

(348) *Galase e tlaletse kwa molomong*

<i>χàlásí</i>	<i>ʰí-tʰál-éts-ì</i>	<i>kwá</i>	<i>mú-lòmò:ŋ</i>
CL9.glass	s3:9-get.filled.APPL.PFT-FV	LOC	CL3-mouth-LOC

‘The glass became full to the brim.’

Second, it is a pseudo-applicative meaning ‘make anxious, tighten the heart’. We have no examples of this usage, but we do have examples (Creissels ms.b, Creissels &

Chebanne 2000) of the verb form *tlalelw* [tʰál-él-w] ‘be anxious, nervous’ which has both the applicative *-el* and the passive suffix *-w*.

Tswana (S31; Creissels & Chebanne 2000: 15)

(349) *Ke tlalelwa ke maduo a thathobo*

kì-tʰál-él-w-à *kí* *mà-dúò* *á-tʰátʰò:bò*
 S1S-be.full-APPL-PASS-FV by CL6-result CL6.GEN-CL9.examination

‘I am anxious about the results of the exam.’ (Lit: I am made anxious by the results of the exam).

In its use in combination with the passive suffix *-w* in (349), *tlalel* [tʰál-él] is obviously syntactically intransitive. Cole (1975: 195) notes that in Tswana passives of applicative verb forms are often used where the English equivalent would have no passive construction. Similarly, Ziervogel (1977: 83) notes that in the closely related Northern Sotho, passive applicative verb stems are often used idiomatically. It could be that *tlalel* [tʰál-él] ‘make anxious, tighten the heart’ is often used in Tswana with the passive morpheme in the sense ‘be anxious, nervous’.

HISTORICAL INFORMATION: The root *tlal* [tʰál] is the regular reflex of PB *jǐjád ‘be full’ (Creissels ms.a: 3, 1999a: 325), attested in thirteen zones including zone S. Recall from §6.3 that often the first syllable of a reconstruction beginning with *ji has no reflex in Tswana and that *j can have several “unexpected” reflexes including /tʰ/ (see Creissels 1999a: 327). Brown (1895) and Brown (1924) report the applicative stem *tlalel* [tʰál-él] with the meanings ‘be too much for, trouble, distress’. These meanings listed in older dictionaries confirm the lexicalization of *tlalel* [tʰál-él] based on the ontological metaphor THE BODY IS A CONTAINER (Lakoff & Johnson 1980, Kövecses 2002). This metaphor has its source domain in the physical world: a container too full > heavy.

‘Heaviness’ gets transposed into feelings/states/emotions of negativity such as anxiousness. Notice that the container in this case is the heart and anxiety or heaviness of the heart is the fluid in the container by physical extension of a concrete fluid in a container, cf. (348). Metaphors based on viewing the heart (or any other body part) as a container are widely attested cross-linguistically (Kövecses 2002: 165). Within southern Bantu in particular, Taylor & Mbense (1998) argue that the heart is a typical container for anger-related feelings in Zulu. Mlangeni (2001) discusses at length how verbs indicating fullness, among others, can be used in Sotho to express anger. In particular, *tlalellana* ‘be full, to be angry’ is derived by means of the applicative *-el* and the reciprocal *-an* from *tlalla* ‘be full’ (Mlangeni 2001: 170).

Derivatives of the root *tlal* [tʰál] include *bo-tlalo* [bù-tʰáló] ‘fullness, completeness’ (CL14), *tlalalan* [tʰál-ál-án] ‘become fed up, angry’ and *tlalatlal* [tʰálátʰál] ‘be plentiful or abundant, be all over’. Derivatives of the pseudo-applicative *tlalel* [tʰál-él] in Tswana include *tlalelo* [tʰáléló] ‘distress, trouble, anxiety’ (CL9) and *tlaleletso* [tʰálélétsò] ‘supplement’.

wel [w-èl] ‘come to an end, be finished’ <

w [w] ‘fall’ <

*gò ‘fall’

SYNTACTIC VALENCE OF ROOT: *w* is syntactically an intransitive verb root which can take only a subject index. The locative phrase introduced by *mo* in (350) is not required.

Tswana (S31; Creissels ms.b: 337)

(350) *Diphofa tse di ole mo bontšheng*

<i>dì-p^hòfá</i>	<i>‘tsé</i>	<i>dí-ùl-é</i>	<i>(‘mó</i>	<i>bó-ǰtʰé-ǰ)</i>
CL10-feather	CL10.DEM	S3:10-fall.PFT-FV	LOC	CL2a-ostrich-LOC

‘The feathers fell (from the ostriches).’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *wel* [w-èl] has two functions. First, it is the regular applicative of *w* [w] and licenses an obligatorily present applied phrase with the semantic role of Goal, i.e. ‘into the well’ in (351).

Tswana (S31; Creissels ms.b: 337)

(351) *Kgomo ya sefofu e wetse mo sedibeng*

<i>q^h̀̀̀mú</i>	<i>ʼjá-sí-fófù</i>	<i>í-w-èts-í</i>	
CL9.cow	CL9.GEN-CL6-blind	S3:9-fall-APPL.PFT-FV	
<i>mó</i>	<i>sí-dìbê:-ṅ</i>		
LOC	CL7-well-LOC		

‘The blind cow has fallen into the well.’

Second, *wel* [w-èl] is a pseudo-applicative meaning ‘come to an end/be finished’.

In this usage, it is syntactically intransitive like the root *w* [w], as it can take only a subject index, i.e. *dí-* in (352).

Tswana (S31; Otlogetswe 2012: 670)

(352) *Dithuto tsa gago di wela leng?*

<i>dì-t^hútò</i>	<i>tsá-χάχù</i>	<i>dí-w-él-à</i>	<i>líṅ?</i>
CL10-study	CL10.GEN-2S.POSS	S3:10-fall-APPL-FV	when

‘When will your studies be finished?’

HISTORICAL INFORMATION: the root *w* [w] is the regular reflex of PB main entry *gù ‘fall’ (Creissels ms.a: 18), attested in all Bantu zones except zone D. BLR3 also reports a variant entry *bù ‘fall’ in zones B, C, E, H, K, and L. Falling is an accidental physical change. The physical meaning of ‘fall’ involves reaching some Endpoint location, which is metaphorically transposed to ‘reach the end of a state’. It is metaphorical in that the reaching of an endpoint is mapped onto non-physical change of state (unfinished > finished) but there is also an underlying orientational metaphor of the kind END IS DOWN (cf. *swel* [sw-èl] above). In several African languages, verbs such as ‘fall (down)’ and

‘descend’ grammaticalize into spatial terms meaning ‘down’ and ‘below’ (Heine et al. 1993, Heine & Kuteva 2002: 133). In turn, spatial expressions meaning ‘down’ or ‘below’ grammaticalize into completive markers (Bybee et al. 1994: 58).

Derivatives of *wel* [w-èl] in Tswana include: *bo-welo* [bù-wèlò] ‘end’ (CL14), *se-welo* [sì-wèlò] ‘chance, coincidence’ (CL7), and *le-welana* [lì-wèláná] ‘twin’ (CL5), in itself derived from the reciprocal *welan* [wèl-àn] ‘stumble upon each other’. Possibly, meanings such as ‘chance, coincidence’ and ‘twin’ are derived metonymically from a feature of ‘fall’, that is, the fact that this action is usually accidental.

6.6.2.5 Intensification

Another group of parsable single pseudo-applicatives includes sporadic cases where the lexicalization of one single applicative derivation can be analyzed as having had an original intensifying function. Recall from §5.5 that in Tswana, at least synchronically, two consecutive applicative derivations are needed to add the idea of intensity or excess to the action described by the verb root. The few entries in this section seem to suggest that in some earlier stages this function could also be carried out by one single applicative derivation.

lemogel [lémóχ-él] ‘be an expert in sthg’ <
lemog [lémóχ] ‘observe, perceive, know, notice, realize, become aware of,
 discover’ <
lem [lém] ‘spoil (e.g. a child), grow crooked (e.g. horns of an animal)¹⁴⁹ <
 *dém ‘be crippled’

SYNTACTIC VALENCE OF ROOT: The root *lemog* [lémóχ] is syntactically transitive, as can be seen by the presence of subject and object indexes on the verb in (353).

Tswana (S31; Creissels ms.b: 158)

(353) *O ne a lemoga fa o mo lemogile*

ú-nè	á-lèmóχ-á	fá	ú-mò-lémóχ-êl-è
s3:1-AUX	s3:1-discover-FV	that	s2s-O3:1-discover-PFT-FV

‘She became aware that you discovered her secret.’ (lit. ‘She uncovered that you uncovered her.’)

Possibly, the form *lemog* [lémóχ] originally contained the neuter reversive suffix *-og* [-óχ]. The reversive is a suffix (-ul or -ul-ul) which indicates that the action described by the root is reversed or undone, as in *tthom* [tʰòm] ‘plant’ > *tthomul* [tʰòm-ùl] ‘pull out (e.g. a thorn)’. The neuter reversive reverses the meaning of the root and it makes the stem intransitive, as in *tthom* [tʰòm] ‘plant’ > *tthomog* [tʰòm-òχ] ‘become plucked out’ (Cole 1975: 212). These two suffixes are no longer productive in Tswana according to

¹⁴⁹ There is variation in the sources I have consulted with respect to [ɛ] and [e] in *lem*, *lemog* and *lemogel*. Snyman et al. (1990) transcribe *lem* [lém] and *lemog* [lémóχ]. *Lemogel* is not present in Snyman et al. (1990). Creissels (ms. b) transcribes *lem* [lém], *lemog* [lémóχ] and *lemogel* [lémóχél]. This is because Snyman et al. (1990) follows Cole’s (1975) analysis according to which [e] and [ɛ] are two allophones of a single phoneme. On the other hand, Creissels (2005) posits /e/ and /ɛ/ as two distinct phonemes. Denis Creissels (p.c.) consider that the relationship between *lem* and *lemog/lemogel* is formally possible but semantically problematic.

Cole (1975) and therefore the verb forms on which they occur usually have no corresponding simple root from which they could have been derived.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: the applicative stem *lemogel* [lémóχ-él] can have two functions. First, it can function as the regular applicative of the root *lemog* [lémóχ] and add an applied phrase. Second, it is a pseudo-applicative meaning ‘be expert in (sthg)’. In this second usage, the applicative stem *lemogel* [lémóχ-él] is syntactically transitive, as it can be followed by an object NP (i.e. ‘guns’) in (354).

Tswana (S31; Creissels ms.b: 158)

(354) *Batsomi ba ba lemogetse tlhobolo thata*

<i>bà-tsumì</i>	<i>bá</i>	<i>⁴bá-lémóχ-éts-í</i>	<i>tʰʰbòlò</i>	<i>tʰâtà</i>
CL2-hunter	CL2.DEM	s3:2-uncover-APPL.PFT-FV	CL9.gun	much

‘These hunters are quite experts in/with guns.’

HISTORICAL INFORMATION: The following hypothesis is highly speculative. If we posit that the synchronic Tswana root *lemog* [lémóχ] could itself have been a derived stem, i.e. *lem* [lém] plus the reversive neuter suffix *-og* [oχ], then *lemog* [lémóχ] could perhaps be linked to the synchronic Tswana root *lem* [lém] ‘spoil (e.g. a child)’. In turn, Tswana *lem* [lém] ‘spoil’ could be posited as the regular reflex of the derived entry **dém* ‘be crippled’ attested in zones G, H, J and L. BLR3 also posits the derived entry **démad* ‘be lame, be injured’ (A, C, D, G, H, J, K, L, M, N, P, R, S) of which Tswana *lemal* [lémál] ‘develop a bad habit, become spoiled’ is the reflex (Creissels ms.a: 6). In BLR3, the forms **dém* and **démad* are verbal derivations from the noun **démà* (CL1/2) ‘invalid, physical disability’ (A, B, C, D, E, F, G, J, K, L, M, N, R, S). The Tswana noun *mo-lemma* [mò-lémá] ‘left hand, left side, asymmetric (horns), improper, bad’ (CL3) is the reflex of **démà* (Creissels ms.a: 6). There is an interesting semantic shift between the

meaning attributed to *démà ‘invalid, physical disability’ and the Tswana reflex *lema* [lémà] ‘left hand, left side, asymmetric (horns), improper, bad’, where the left hand or side of the body is considered as the least skilled but also evil (this is so in many cultures). Similarly, there is a parallel between *dém ‘be crippled’ derived from *déma and the Tswana root *lem* [lém] ‘spoil (e.g. a child)’ through the idea of evil and badness (spoil as a non-literal way of crippling or making someone invalid). My proposal is that at some point *lem* also meant ‘bad’ or ‘wrong’ not in a physical sense but by extension in a more abstract one as in mentally crippled, unable to understand, perceive, notice, etc. From there, the stem *lemog* [lémóχ], with the reversive intransitive suffix *-og*, originally signified the opposite: able to understand, perceive, notice, etc. The meaning ‘be expert in’ of the pseudo-applicative *lemogel* [lémóχ-él] likely arose out of an original intensifying function as in ‘observe, perceive, know, discover thoroughly’ > ‘be an expert in something’.

Other derivatives related to *mo-lema* [mò-lémá] ‘left hand, left side, asymmetric (horns), improper, bad’ and *lem* [lém] ‘spoil, grow crooked’ in Tswana include *lemolol* [lém-ól-ól] ‘make someone lose a bad habit’¹⁵⁰ and *lemoseg* [lémósέχ] ‘be manifest, recognizable’.

¹⁵⁰ For the form *lemolol* Brown (1895) and Brown (1924) report the meanings ‘turn people from former customs, restore to right ways’.

tswalel [tswàl-èl] ‘shut up, shut away, lock up’ <
tswal [tswàl] ‘close, shut’ <
 *jìgad ‘shut’

SYNTACTIC VALENCE OF ROOT: The root *tswal* [tswàl] is syntactically transitive; it can take an object NP as in (355).

Tswana (S31; Creissels ms.b: 330)

(355) *Mokgweetsi o tswala dipati tsa sefofane*

<i>mù-q^hwéétsí</i>	<i>‘ú-tswál-á</i>	<i>dí-pàtí</i>	<i>‘tsá-sí-fòfâ:nì</i>
CL1-driver	S3:1-close-FV	CL10-door	CL10.GEN-CL7-plane

‘The pilot closes the plane’s doors.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *tswalel* [tswàl-èl] has two functions. First, it is the regular applicative of the root *tswal* [tswàl] and adds an applied phrase, i.e. ‘dog’ in (356), to the argument structure of the root.

Tswana (S31; Creissels ms.b: 330)

(356) *Tswalela ntša kgoro*

<i>tswàl-él-á</i>	<i>jùtšá</i>	<i>q^hò:ró</i>
close-APPL-FV	CL9.dog	CL9.door

‘Close the door to the dog.’ (= so that the dog cannot enter)

Second, it is a pseudo-applicative meaning ‘lock up’. In this function, the applicative stem *tswalel* [tswàl-èl] is syntactically transitive like the root *tswal* [tswàl].

Tswana (S31; Creissels ms.b: 330)

(357) *Tswalela ntša*

<i>tswàl-él-á</i>	<i>jùtšá</i>
close-APPL-FV	CL9.dog

‘Lock up the dog.’

HISTORICAL INFORMATION: The root *tswal* [tswàl] is the regular reflex of PB *jìgad ‘shut’ (Creissels ms.a: 3), attested in zones E, F, J, M, N, P and S. According to BLR3, this

proto-form is in itself derived from *jìgì (cl11/10) ‘door’ attested in zones F, G, J and M. Other verb forms derived from *jìgì ‘door’ include jìgud ‘open’ in zones F, J, M, N and S. The meaning ‘lock up’ of the applicative stem *tswalel* [tswàl-èl] probably originated out of an original intensification function, as in ‘close/shut completely’ > ‘lock up’. This is supported by evidence from the closely related Northern Sotho, where *tswalel* means ‘close, shut’ (i.e. the applicative form has taken on the meaning of the proto-form and/or root) and the double applicative *tswalelel* has the intensified meaning ‘lock up’ (Kriel et al. 1997: 174). In Tswana, on the other hand, *tswalelel* [tswàl-èl-èl] adds an applied locative phrase, as in ‘lock up X in a place’.

***teteel* [títí-él] ‘contuse, bruise by hitting repeatedly, soften a fruit, traumatize’ <
tete [títí] ‘contuse, bruise by hitting repeatedly, soften a fruit, traumatize’**

SYNTACTIC VALENCE OF ROOT: The root is syntactically transitive, as shown by the presence of an object NP in (358).

Tswana (S31; own elicitation, phonetic transcription and glossing by Denis Creissels)

(358) *Ke tetea di tamati*

kí-títí-á dí-tàmâ:ti

s1s-contuse-FV CL10-tomato

‘I am softening the tomatoes.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *teteel* [títí-él] is also syntactically transitive and appears to have exactly the same meaning as the root.

Tswana (S31; own elicitation, phonetic transcription and glossing by Denis Creissels)

(359) *Ke teteela di tamati*

kí-títí-él-á dí-tàmâ:ti

s1s-contuse-APPL-FV CL10-tomato

‘I am softening the tomatoes.’

6.6.2.6 Problematic cases

kalele [kál-él] ‘be suspended, become stuck high up (e.g. in a tree), hang’ <
kal [kál] ‘glide above, stare or gaze at from above (eg. a vulture)’

SYNTACTIC VALENCE OF ROOT: The root *kal* is syntactically intransitive, as shown by the presence of the subject index *sí-* in (361) and a following optional prepositional phrase.

Tswana (S31; Otlogetswe 2012: 168)

(361) *Sefofane sa mapodisi se tlhotse se kala fa godimo ga motse motshegare otlhe*

<i>sì-fùfání</i>	¹ <i>sá-má-pòdísí</i>	<i>sí-tlòtsí</i>	<i>sí-kàl-á</i>
CL7-plane	CL7.GEN-CL6-policeman	S3:7-spend.time	S3:7-glide.above-FV

(<i>fá</i>	<i>χùdí mò</i>	<i>χá-mú-tsí</i>)	(<i>mù-ts^híχàrí</i>	¹ <i>ò:tl^hè</i>)
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LOC	top	CL17.GEN-CL3-village	CL3-middle.of.day	CL3-all
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‘The helicopter of the police remained gliding above (over the village) (during the middle of the day).’

Brown (1895) reports this root meaning ‘hover over as a hawk’, while Brown (1924) reports ‘open the eyes wide; hover with out-stretched wings, as a hawk’.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *kalele* ‘be suspended, become stuck high up (e.g. in a tree)’ is also intransitive as shown by the subject index in (362) and the absence of an object NP. The phrase introduced by the preposition *mo* can be omitted.

Tswana (S31; Otlogetswe 2012: 169)

(362) *Mogala o kalela mo kaleng ya setlhare*

<i>mù-χàlà</i>	<i>ú-kál-él-à</i>	(<i>mó</i>	<i>kálè-ŋ</i>	<i>já-sí-tl^hàrì</i>)
CL3-rope	S3:3-glide.above-APPL-FV	LOC	CL9.branch-LOC	CL9.GEN-CL7-tree

‘The rope is hanging (on a branch of the tree).’

Brown (1895) reports the applicative form *kalel* with the meaning ‘look upon, be unable to find one’s way’. In Brown (1924), this same verb form means ‘look upon, gaze earnestly at, perplex oneself as to the path’.

HISTORICAL INFORMATION: There is no proto-form reconstructed in BLR3 to which the root *kal* [kál] can be linked. This entry is problematic because it is hard to describe what meaning shift has occurred between the root and the applicative stem. There is a common idea of being suspended in height. Denis Creissels (p.c.) observes that the root *kal* could be a back formation from a borrowing. In particular, *kal* [kál] ‘glide above, stare or gaze at from above (eg. a vulture)’ could be related to *kal* [kál] ‘weigh, estimate’, a borrowing from Afrikaans *skaal* ‘scale’. The semantic relation could be based on the idea that a scale was originally a pair of suspended plates (hence the concept of height or being suspended).

6.6.3 Non-parsable double pseudo-applicatives

There is only one instance of non-parsable double applicative stem in the corpus, which appears to have specialized in a much narrower meaning compared to that of its historical root.

***selel* [sèlèl] ‘pour out meal to form a conical heap and separate the bigger granules gathering at the base, pour powder/flour/etc. to separate fine particles from thicker ones in a conical heap’ <
*kí ‘gather (fruit)’**

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *selel* [sèlèl] is syntactically transitive. This is shown by the presence of a subject and an object index on this verb form in (363).

Tswana (S31; Creissels ms.b: 242)

(363) *Fa letsopa le setlegile sentle, ke a le selela ke ntsha boupi ke tlogela makgabane*
fá lī-tsópá ʼlí-sítéléχílé sînttê kî-à-lí-sèlèl-à kí-ńtsʰá
 when CL5-clay.soil s3:5-be.ground.PFT well s1s-DJ-O3:5-pour-FV s1s-take
bú-ùpí kí-ttúχélà mà-qʰàbàni
 CL14-powder s1s-leave CL6-hard.piece
 ‘Once the clay is well ground, I pour it to take the powder and leave the hard pieces.’

HISTORICAL INFORMATION: As already discussed in §6.6.1.4 for the non-parsable single pseudo-applicative *sel* [sèl], the synchronically absent root *s* [s] in *selel* [sèlèl] could be posited as the reflex of PB *kí ‘gather (fruit)’, a variant entry of the main entry *ká ‘gather (fruit)’ attested in zones H and N only.¹⁵¹ Evidence pointing to linking both *sel* and *selel* to the proto-form *kí ‘gather (fruit)’ comes from Brown (1895) and Brown (1924) who both report the form *selel* as ‘pick up for’ or ‘pick up into’. These meanings appear to be close to that of *kí. It also appears that at the time of Brown (1895) and Brown (1924), at least in some varieties of Tswana, *selel* still had the ability of introducing an applied phrase (cf. ‘pick up *for/into*’). As discussed in §6.6.1.4, in Tswana, front vowels caused the palatalization of *k (among other consonants) so that *k > s/____V_{+front} (cf. also Table 15 in § 5.3). While *sel* ‘pick up, gather, harvest (a poor crop)’ has undergone semantic broadening with respect to the meaning of the proto-

¹⁵¹ I will propose that, for some reason, both variant forms *kí and *ká have reflexes in Tswana. *kí has *sel* [sèl] and [sèlèl] has reflexes, while *ká has *g* [χ] ‘ladle, pick or harvest (e.g. legumes), draw, collect (liquid)’ and *gelel* ‘draw, collect (liquid)’, cf. the discussion in §6.6.4.2.

form *kí ‘gather (fruit)’, the double applicative *selel* [sèlèl] has undergone semantic narrowing: the idea of ‘gathering’ is still present in the shape of a conic heap or pile into which powder, flour or similar substances are poured (or gathered).

For derivatives of *sel* [sèl] see §6.6.1.4. The noun *bo-selelwane* [bò-sèlèlwànì] ‘a multitude of tiny objects, tininess’ (CL14) is derived from *selel*.

6.6.4 Parsable double pseudo-applicatives

Parsable double pseudo-applicatives are synchronically segmentable verb stems which can be divided into a root plus two applicative morphemes. A non-applicative root for the pseudo-applicative exists and some sort of semantic relation, albeit not immediately transparent, can be identified between the two.

Recall from Chapter V that usually a double applicative derivation in Tswana has two main functions: (i) it introduces two applied phrases to the argument structure of the root (cf. §5.3); (ii) it does not introduce an applied phrase but instead adds completeness, thoroughness, repetitiveness, excess to the action described by the root (cf. §5.5). Semantic shifts displayed by double pseudo-applicatives in relation to the meaning of their roots include the following.

- a. **Lexicalization/conflation of a semantic Beneficiary argument** into the lexical meaning of the pseudo applicative stem. The synchronic double pseudo-applicative stem appears to function as a single applicative stem, introducing a Beneficiary argument to its verb root (§6.6.4.1).
- b. **Lexicalization/conflation of a semantic Purpose argument** into the lexical meaning of the pseudo applicative stem. The synchronic pseudo-applicative stem may have originally added a Purpose argument to its verb root. This semantic

shift is based on the development ALLATIVE > PURPOSE which can also be construed as a metaphorical change from a more concrete domain (physically go towards a place) to a more abstract domain (go towards a non-physical goal > reach a purpose) (cf. the English metaphor PURPOSES ARE DESTINATIONS) (§6.6.4.2).

- c. **Semantic narrowing/specialization.** This includes three cases: (i) the synchronic Tswana root and pseudo-applicative stem each have specialized in one of the meanings posited for their corresponding proto-form; (ii) the meaning of the synchronic Tswana root is identical to the meaning of the proto-form of which it is a reflex, and the Tswana double pseudo-applicative stem shows meaning specialization; and (iii) both the Tswana root and the double pseudo-applicative share a meaning which is similar or identical to that of the proto-form and the root has developed additional meanings by extension (§6.6.4.3).
- d. **Concrete to abstract metaphor.** The Tswana synchronic pseudo-applicative stem has a more abstract meaning derived metaphorically from the concrete meaning of the verb root and that of the proto-form from which the root derives (§6.6.4.4).
- e. **Loss of original intensifying function.** In this group, the meaning of the root and the double pseudo-applicative stem appear to be synchronically identical (§6.6.4.5). Since two applicative derivations in Tswana can convey completeness, repetitiveness, intensity, intentionality or excess to the meaning of the root (§5.5), entries in this group probably used to have this function historically and then lost it. The label “intensifying function” is to be understood

as a cover term for any of the meanings described in §5.5, e.g. completeness, repetitiveness, intensity, intentionality, excess, etc.

- f. **Miscellaneous.** This group includes a few entries with heterogeneous semantic shifts with respect to their root and/or proto-form, namely: (i) the double applicative stem has developed a meaning which appears to be nearly opposite to that of its root; (ii) the double pseudo-applicative stem has lexicalized out of its frequent use with the adverb ‘first’. Trithart (1983: 73) observes that applicative verb stems in Bantu languages are often used together with words such as ‘on purpose’, ‘intentionally’, ‘first’, ‘therefore’, ‘together’ and ‘in vain’ (§6.6.4.6).

Problematic cases will be discussed in §6.6.4.7.

6.6.4.1 Lexicalization/conflation of a semantic Beneficiary argument

buelel [bú-él-él] ‘speak on behalf of, defend, guarantee for someone’ <
bu [bú] ‘talk, speak, say, address, mean’ <
 *búg ‘resound, speak’

SYNTACTIC VALENCE OF ROOT: The root *bu* [bú] with the meaning ‘say’ is syntactically transitive, as shown by the presence of both a subject and an object index on this verb form in (364).

Tswana (S31; Creissels ms.b: 29)

(364) *O ne a sa itse se a se buang*

<i>ú-nè</i>	<i>á-sà-ítsì</i>	<i>sé</i>	<i>á-sì-búà:-ń</i>
S3:1-AUX	S3:1-NEG-know	CL7.LNK	S3:1-O3:7-say-REL

‘He did not know what he was saying.’

In other examples in the corpus, however, with the meanings ‘talk’ and ‘speak’, the root *bu* [bú] appears to be syntactically intransitive.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *buelel* [bú-él-él] is also syntactically transitive, as shown by the presence of a following object NP in (365).

Tswana (S31; Otlogetswe 2012: 70)

(365) *Ke tlaa buelela Neo ka a sa tsoga sentle*

<i>kì-tlàà-bú-él-él-á</i>	<i>‘néś</i>	<i>‘ká</i>	<i>á-sà-tsúχá</i>	<i>sîntlè</i>
S1S-FUT-speak-APPL-APPL-FV	CL1.Neo	since	S3:1-NEG-be.well	well

‘I will speak on behalf of Neo since he is not doing well.’

HISTORICAL INFORMATION: The root *bu* [bú] is the regular reflex of PB *búg ‘resound, speak’ attested in zones E, J and S. Entries derived from this main entry in BLR3 include *búg ‘recite one’s own praises’ (J) and *búgi ‘cause to resound’ (J). While the Tswana root *bu* [bú] has preserved one of the meanings of the proto-form and developed others which can be considered synonyms, the double applicative *buelel* [bú-él-él] appears to function as a single applicative by adding a Beneficiary to the construction and to have lexicalized in this meaning. As for the single applicative *buel* [bú-él], the only example in the corpus introduces a locative phrase.

Tswana (S31; Creissels ms.b: 30)

(366) *Batshameki ba ne ba buela mo dinakaneng*

<i>bà-ts^hámékí</i>	<i>bá-nè</i>	<i>bá-bù-él-á</i>	<i>‘mó</i>	<i>dí-nàkánê:-ŋ</i>
CL2-actor	S3:2-AUX	S3:2-speak-APPL-FV	LOC	CL10-horn-LOC

‘The actors spoke into horns (i.e. to amplify their voices).’

Without additional data, it cannot be excluded, however, that the single applicative too can be used to introduce a Beneficiary to the construction. Derivatives of *buelel* include

m-mueledi [m̩-múélédì] ‘spokesperson, lawyer, defender’, while *m-mui* [m̩-múí] ‘speaker’ is a derivative of the root *bu* [bú].

6.6.4.2 Lexicalization/conflation of a semantic Purpose argument

There are only two instances of double pseudo-applicative stems in the corpus which arguably can be analyzed as originally adding a semantic Purpose applied phrase to the applicative stem.

emelel [ém-él-él] ‘stand up, leave, be en route’ <
em [ém] ‘stand, stand up, stop, stop (talking), be motionless, wait, remain, last
 (e.g. a marriage), marry’ <
 *jímídíd ‘stand’ <
 *jím ‘stand, stop (intr.)’

SYNTACTIC VALENCE OF ROOT: The root *em* [ém] appears in syntactically intransitive constructions both with the meanings ‘stand up’ (367) and ‘stop’ (368). There is no evidence in the corpus that the root *em* [ém] can be used transitively.

Tswana (S31; Creissels & Chebanne 2000: 92)

(367) *Ngwana o ema go dumedisa mogolo*

<i>ŋw-àná</i>	<i>‘ú-ém-á</i>	<i>χú-dùmèdìsà</i>	<i>mù-χò:lù</i>
CL1-child	S3:1-stand-FV	INF-greet	CL1-adult

‘A child stands up to greet an adult.’

Tswana (S31; Creissels ms.b: 41)

(368) *Lori e eme ka bofefo*

<i>lórí</i>	<i>‘í-ém-ì</i>	<i>ká</i>	<i>bú-fè:fú</i>
CL9.lorry	S3:9-stop-PFT.FV	INSTR	CL14-speed

‘The truck stopped abruptly.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *emelel* [ém-él-él] is also syntactically intransitive, as seen in (369).

Tswana (S31; Creissels ms.b: 42)

(369) *Ke tlaa leka go emelela kgwedi e e ise e fele*

<i>kì-tlàà-lík-á</i>	<i>χù-ém-él-él-à</i>	<i>q^hwèdí</i>	<i>ʼé</i>	<i>ʼí-ísí</i>
S1S-FUT-try-FV	INF-stand-APPL-APPL-FV	CL9.month	CL9.DEM	S3:9-do.before

ʼí-fê:lì

S3:9-finish

‘I will try to leave before the end of this month.’

HISTORICAL INFORMATION: The root *em* [ém] is the regular reflex of PB *jím ‘stand, stop (intr.)’ (Creissels ms.a: 4, 1999a: 308), attested in zones F, G, J, M, N and S. Recall from §6.3 that in the environment of an initial *j followed by *I and a nasal, *I has /ε/ as a reflex in Tswana: *jím > ém. The proto-form *jím has several derived forms in BLR3 including: *jímídid ‘stand’ (F, J, M and S), *jímík ‘stand up (tr.), stop (tr.)’ (L, M), *jímök ‘rise up, start’ (B, C, J, M), *jímád ‘stand, stop (intr.)’ (A, C, D, K, L, M) and *jímang ‘stand, stop (intr.)’. The Tswana root *em* [ém] has clearly preserved the two meanings of the proto-form ‘stand’ and ‘stop (intr.)’. The meaning ‘stop’ appears to have specialized in ‘stop talking’; other meanings such as ‘be motionless’ appear to be metonymical extensions of ‘stand’: standing can imply being motionless, ‘wait’ and ‘remain’ can be seen as a possible result of being motionless for an extended period of time, ‘last’ can be seen as an extension of ‘remain’ in a certain way or level or value (i.e. “their marriage will not hold”), ‘marry’ could have developed as a specialization of ‘remain’, ‘stand’ or ‘last’ with someone. Notice that among the derived entries listed in BLR3 there is *jímídid ‘stand’ (F, J, M and S) with two applicative derivations, of which *emelel* [ém-él-él] is the reflex. However, this applicative stem in Tswana has developed

the meanings ‘leave’ and ‘be en route’. Creissels & Chebanne (2000) list only the meaning ‘leave’ for the applicative stem *emelel* [ém-él-él]. Considering that this form also means ‘stand up’, a possible explanation is that the meanings ‘leave, be en route’ originated as the result of purpose or intentionality: stand up to leave > leave. This can also be considered as a metonymy of the type cause/effect of two events in a sequence (stand up can imply leaving a place).

The root *em* [ém] has numerous derivatives in Tswana including: *ma-emo* [mà-émó] ‘place, position, status’ (CL6), *se-emo* [sì-émó] ‘state, case, condition, situation’ (CL7), *bo-emo* [bù-émó] ‘floor, level’ (CL14), *bo-emabese* [bù-émàbísí] ‘bus stop’ (CL14), *bo-emadifofane* [bù-émádífùfání] ‘airport’ (CL14), *bo-emadikepe* [bù-émádiképe] ‘port’ (CL14), *emog* [ém-óχ] ‘be absent’ and *emel* [ém-él] ‘stand for, take someone’s defense, represent, be a candidate for elections, stand (something)’. The nouns *bo-emelaterena* [bù-émélátíríná] ‘train station’ (CL14) and *bo-emelo* [bù-éméló] ‘stop, station’ (CL14) appear to be derived from the single applicative stem *emel* [ém-él].

***semelel* [sìm-èl-èl] ‘prepare for a difficult job, work earnestly for a long period’ < *sem* [sìm] ‘roll up (e.g. clothing)’**

SYNTACTIC VALENCE OF ROOT: There are no clause-level examples of the root *sem* [sìm] in the corpus.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *semelel* [sìm-èl-èl] appears to be intransitive in (370) as it takes only a subject index.

Tswana (S31; Otlogetswe 2012: 538)

(370) *Sediba se fa se senyegile re semelela bosigo jotlhe ka ke sone fela se go noswang mo go sone*

<i>sì-dìbà</i>	<i>sé</i>	<i>fá</i>	<i>‘sí-sínéχílé</i>	<i>rì-sìm-èl-èl-à</i>	
CL7-well	CL7.DEM	when	S3:7-get.spoiled.PFT	S1P-roll.up-APPL-APPL-FV	
<i>bù-síχú</i>	<i>‘džótí^hé</i>	<i>ká</i>	<i>kí</i>	<i>sòné</i>	<i>‘félá</i>
CL14-night	CL14.all	because	it.is	CL7.PRO	only
<i>‘sé</i>	<i>χú-núswà-íj</i>		<i>‘mó</i>	<i>χú-sòmé</i>	
CL7.LNK	EXPL-drink.CAUS.PASS-REL		LOC	LOC-CL7.PRO	

‘This well, when it gets spoiled, we work hard the whole night, because it is our only source of water.’

HISTORICAL INFORMATION: There is no reconstructed form in the BLR3 database which could be linked to the Tswana root *sem* [sìm]. Both Brown (1895) and Brown (1924) report the root *sem* [sìm] meaning ‘create, innovate, introduce new or prohibited customs’ in the dialects of Tswana that are spoken in what used to be the Bechuanaland Protectorate and the Transvaal region. Brown (1924) reports the collocation *sema mosese* ‘lift up the dress indecently, expose oneself’. Possibly, the current meaning of *sem* [sìm] in the varieties of Tswana considered in this study originated in such a collocation. Whatever the case might be, it appears that the double applicative *semelel* [sìm-èl-èl] could have lexicalized as a Purpose applicative: rolling up the sleeves is usually an action one performs before starting a physical job. Thus, this pseudo-applicative stem could have originally added a Purpose applied phrase to the root ‘roll up the sleeves in order to do X’. Creissels in his Tswana-French dictionary lists only ‘prepare for a difficult job’ as the meaning of *semelel* while Otlogetswe (2012) also lists ‘work earnestly for a long period’. Both meanings are compatible with an initial Purpose reading of the double applicative. Perhaps the temporal specification ‘for a long period’

in ‘work earnestly for a long period’ is related to the intensifying function that double applicatives usually have in Tswana.

6.6.4.3 Semantic narrowing/specialization

agelel [áχ-él-él] ‘build/erect a fence/wall/hedge around sthg’ <
ag [áχ] ‘build, live/settle in somewhere’ <
 *ják ‘build’

SYNTACTIC VALENCE OF ROOT: The root *ag* [áχ] is syntactically transitive, cf. the object NP ‘nest’ in (371) and the optionality of the following prepositional phrase indicating location.

Tswana (S31; Creissels ms.b: 2)

(371) *Lenong le aga sentlhaga sa lone kwa godimo ga dithaba tse ditona*

<i>lì-nòḡ</i>	<i>lí-áχ-á</i>	<i>sí-ṛṛt^hàχá</i>	<i>sá-lòné</i>	
CL5-vulture	s3:5-build-FV	CL7-nest	CL7.GEN-CL5.PRO	
<i>(kwá</i>	<i>χùdímu</i>	<i>‘χá-dí-t^hàbà</i>	<i>tsé</i>	<i>dì-tòmà)</i>
LOC	on.top	CL17.GEN-CL10-mountain	CL10.LNK	CL10-big

‘The vulture builds its nest (at the top of high mountains).’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *agelel* [áχ-él-él] is also syntactically transitive, as it is followed by a single object NP in (372). It appears that the concept of ‘fence, wall, hedge’ in the meaning of *agelel* [áχ-él-él] is subsumed in the meaning of the stem and is not expressed as a separate object NP in the clause.

Tswana (S31; Creissels ms.b: 2)

(372) *Re ageletse masimo a rona*

<i>ṛì-áχ-él-éts-í</i>	<i>mà-símù</i>	<i>á-ròná</i>
s1P-build-APPL-APPL.PFT-FV	CL6-field	CL6.LNK-1P.POSS

‘We have built a fence around our fields.’

HISTORICAL INFORMATION: The root *ag* [ák] is the regular reflex of PB *ják ‘build’ (Creissels, ms.a: 13), attested in zones C, G, E, J, K, M and S. This is a variant entry in BLR3 along with *bák ‘build’ (A, E, G, N, S) and *jimbak ‘build’ (J). BLR3 considers these three as variants (cf. “osculance” problem) of *jibak ‘build’ (J, K, L). The synchronic Tswana root *ag* [ách] has preserved the original meaning of the proto-form and possibly by metonymical extension has developed the meaning ‘live’ (once a place has been built one can live in it; cause > effect metonymy). The double applicative *agelel* [ách-él-él], on the other hand, has acquired a narrower meaning and now refers only to erecting some sort of barrier around something. This meaning of *agelel* [ách-él-él] is not reported in Brown (1895) and Brown (1924). Instead, in these two older sources, this applicative stem is given the meanings ‘build up, edify, tarry with, live with for a time as when visiting’.

Derivatives of the root *ag* [ách] ‘build, live’ in Tswana include *bo-ago* [bù-áchó] ‘dwelling place, habitation’ (CL14), *lo-ago* [lù-áchó] ‘community, society’ (CL11), *mo-ago* [mù-áchó] ‘building, construction, way of building’ (CL3), *mo-agi* [mù-áchí] ‘citizen, inhabitant, bricklayer’ (CL1), *bo-agi* [bù-áchí] ‘bricklaying, building trade, citizenship’ (CL14), *agisan* [ách-ís-án] ‘live together in peace’ (causative plus reciprocal), *mo-agisani* [mù-áchísání] ‘neighbor’ (CL1), *agel* [ách-él] ‘build for’ and *mo-agedi* [mù-áchédí] ‘person who builds for another, foreigner accepted into a community’ (CL1).

betelel [bít-él-él] ‘press down (e.g. when fighting), press a big object into a narrow space, rape’ <

bet [bít] ‘choke, strangle, drown’ <

*bínd ‘obstruct’

SYNTACTIC VALENCE OF ROOT: The root *bet* [bít] is syntactically transitive as shown by the presence of a subject and object NP on this verb form in (373).

Tswana (S31; Otlogetswe 2012: 21)

(373) *Fa o metsa nama o sa e tlhafuna e tlaa go beta*

<i>fá</i>	<i>‘ú-mítsá</i>	<i>‘námá</i>	<i>ú-sà-í-t^háfúnì</i>	<i>í-tláá-χò-bít-à</i>
if	S2S-swallow	CL9.meat	S2S-NEG-O3:9-chew	S3:9-FUT-O3:2-choke-FV

‘If you swallow meat without chewing it, it will choke you.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The only available clause-level example of the applicative stem *betelel* [bít-él-él] is (374) where this stem takes a subject, an object and what looks like an obligatory prepositional phrase introduced by *mo*. Assuming the prepositional phrase is obligatory in (374), there is still a formal mismatch in the number of applicative derivations present on the stem *betelel* [bít-él-él]: only one derivation would be necessary to introduce the applied phrase ‘on the mouth of the child’ since the root *bet* [bít] is already transitive.

Tswana (S31; Otlogetswe 2012: 21)

(374) *O ne betelela letsogo la gagwe mo leganong la ngwana (a re o mo kgwisa tata ya morula)*

<i>ú-nè</i>	<i>á-bít-él-él-à</i>	<i>lì-tsóχð</i>	<i>lá-χάχwé</i>
S3:1-AUX	S3:1-choke-APPL-APPL-FV	CL5-hand	CL5.GEN-CL1.PRO
<i>‘mó</i>	<i>lí-χànò-ḡ</i>	<i>lá-ḡw-àná</i>	
LOC	CL5-mouth-LOC	CL5.GEN-CL1-child	

‘He pressed his hand on the mouth of the child (to make him spit out the morula pit.’

The argument structure of the applicative stem *betelel* [bít-él-él] might be different when this form has the sense ‘rape’ but no clause-level examples of this use are available to me.

HISTORICAL INFORMATION: The root *bet* [bít] can be posited without formal problems as the reflex of PB *bínd ‘obstruct’, attested in zones A, M, N and S. *bínd is posited in BLR3 as a variant entry of the main entry *pìnd ‘fold, hem, plait/braid’ attested in zones A, B, E, F, G, H, K, L, N, P, R and S (for the lexicalization of the single applicative stem *fetel* [fít-èl] ‘be contagious’, from *pìnd ‘pass’ in itself derived from *pìnd ‘fold, hem, plait/braid’, see §6.6.2.4). This means that *pìnd and *bínd are believed to be related by the editors of BLR3, but they cannot be reduced to a single reconstructible proto-form. This phenomenon is known as “osculance” (cf. §6.5). In fact, *bínd ‘obstruct’ is quite similar in meaning to the derived entry *pìnd ‘put across’ (L, M, N). Assuming once again that the translation ‘obstruct’ offered in BLR3 for the proto-form *bínd is close to what might have been the actual etymology of this form, in Tswana both the root and the double pseudo-applicative seem to have undergone meaning specialization. The root *bet* [bít] ‘choke, strangle, drown’ has specialized in ways of obstructing that require a human or animate patient; some of these profile a specific area subject to the obstruction and the (in)voluntariness of the action itself (e.g. the throat in the case of ‘choke’ and ‘strangle’). As for the applicative stem, *betelel* [bít-él-él] also seems to have developed meanings which involve obstruction and blocking and an animate/human patient (cf. ‘press down (e.g. when fighting)’). We do not have enough examples to understand all uses and senses of this applicative stem but it seems, judging from the meaning translations, that ‘press a big object into a narrow space’ is more general in

meaning than ‘press down (when fighting)’ and ‘rape’. In fact, ‘rape’ might have developed as an extension of ‘press a big object into a narrow space’.

Derivatives of the root *bet* [bít] in Tswana include *betabetan* [bítábít-àn] ‘wrestle, struggle’, *betagan* [bít-ách-án] ‘become overcrowded, packed, squeezed together’ and *se-bete* [sì-bítí] ‘liver, bravery, clitoris’ (CL7).

***bopelel* [búp-él-él] ‘form a procession, form a line, stand in line’ <
bop [búp] ‘mould, form, shape (e.g. with clay), create’ <
*búmb ‘mould pottery, heap up, close (mouth/hand)’**

SYNTACTIC VALENCE OF ROOT: The root *bop* [búp] is syntactically transitive, cf. (375).

Tswana (S31; Creissels ms.b: 27)

(375) *Rakgadi o bopa dinkgo*

ràq^hádí *ú-búp-á* *dí-ḡ;q^hḡ*
CL1.aunt S3:1-mould-FV CL10-pot

‘My aunt does pottery.’ (lit: my aunt moulds pots)

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: There are no clause-level examples in the corpus of the applicative stem *bopelel* [búp-él-él] but Brown (1924) and Snyman et al. (1990) both indicate that this verb form is intransitive. If so, the meanings ‘procession, line’ in ‘form a procession, line’ could have been subsumed in the meaning of *bopelel* [búp-él-él] without the need of an object NP to express ‘procession’ or ‘line’. This would be akin to *agelel* [ách-él-él] ‘build/erect a fence/wall/hedge around something’ and *rwalel* [rwál-él] ‘gather wood for fire’ (cf. §6.6.2.3).

HISTORICAL INFORMATION: The root *bop* [búp] is the regular reflex of PB *búmb ‘mould pottery, heap up, close (mouth/hand)’ (Creissels ms.a: 16, 1999a: 330, 2007: 17),

attested in all Bantu zones except A and R. Assuming that ‘mould pottery’ is the “main” meaning of *búmb, then ‘heap up’ can be seen as a metonymical extension profiling part of the process of moulding (i.e. make a pile of clay) and ‘close’ as another metonymical extension of the actions involved in moulding (closing a hand around clay, close the mouth of a vase, etc.). BLR3 lists several entries derived from *búmb including: *búmbì (CL1/2) ‘potter’ (J, H, L), *búmbídò ‘potter’s tool, pottery (the place)’ (J, M), *búmbídò (CL7/8) ‘vat (sp.)’, *búmbídò ‘clay hearth’ (J) and *búmbua ‘fashioned object’ (L, S). The root *bop* [búp] in Tswana has preserved the main meaning of the proto-form ‘mould pottery’. The pseudo applicative stem *bopelel* [búp-él-él] ‘form a procession, form a line, stand in line’ appears to have specialized in creating or forming a particular shape, i.e. line, made of particular entities (people). The stem *bopelel* [búp-él-él] is already attested in Brown (1895) and Brown (1924) with the meanings ‘follow in line, walk in single file, walk in line, proceed in order, go in procession’.

Derivatives of the root *bop* [búp] in Tswana include: *m-mopa* [m-múpá] ‘clay’ (CL3), *m-mopedi* [m-múpédí] ‘maker of bricks’ (CL1), *m-mopi* [m-múpí] ‘potter, creator’ (CL1), *lo-bopo* [lò-búpó] ‘creation, universe, planet’ (CL11), *bopagan* [búp-ách-án] ‘stand together with/against’, *bupam* [búp-ám] ‘lose weight’, *bopeg* [búp-éχ] ‘take a shape’, *se-bopego* [sì-búpéχó] ‘nature’ (CL7), *bopolog* [búp-ól-úχ] ‘lose one’s shape’, *bopolol* [búp-ól-ól] ‘change the shape of something’, *se-bopiwa* [sì-búpìwá] ‘creature’ (CL7), *bopel* [búp-él] ‘mould, shape, create for’ and *se-bopelo* [sì-búpéló] ‘mould, uterus’ (CL7). The noun *m-mopeledi* [m-múpélédì] ‘demonstrator, protester’ (CL1) is derived from *bopelel* [búp-él-él].

gelel [χ-él-él] ‘draw, collect (liquid)’ <
g [χ] ‘ladle, pick or harvest (e.g. legumes), draw, collect (liquid)’ <
 *ká ‘gather (fruit)’

SYNTACTIC VALENCE OF ROOT: The root *g* [χ] is syntactically transitive, as seen in (376).

Tswana (S31; Creissels ms.b: 59)

(376) *Ga metsi o tlhape*

χ-á	mètsí	ʼú-tʰâpê
take-FV	CL6.water	S2S-wash.SUBJ

‘Take water to wash yourself.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem is syntactically transitive as well. The prepositional phrase introduced by *mo* is optional in (377).

Tswana (S31; Otlogetswe 2012: 120)

(377) *Dirisa emere go gelela metsi mo sedibeng*

dirísá	émèré	χù-χ-él-él-á	mètsí	(mó	sí-dibê-ŋ)
use	CL9.bucket	INF-draw-APPL-APPL-FV	CL6.water	LOC	CL7-well-LOC

‘Use a bucket to draw water (from the well).’

HISTORICAL INFORMATION: The root *g* [χ] could be posited as the reflex of PB *ká ‘gather (fruit)’ attested in zones B, D, R and S. This proto-form is classified as a main entry in BLR3 and it has a variant form *kí ‘gather (fruit)’ attested in zones H and N (cf. the discussion under *sel* in §6.6.1.4 and *selel* in §6.6.3). *k has /χ/ has a regular reflex in Tswana but it would be necessary to posit the loss of *a in *ká or the conflation of *a with the final vowel -a in the form *g-a* [χ-á]. In terms of meaning shift with respect to the proto-form *ká, it should be noted that for the root *g* [χ] Creissels (ms.b) and Otlogetswe (2012) report the meanings ‘pick, harvest, draw/collect a liquid’, Snyman et al. (1990) report ‘ladle, pick, harvest’, while Brown (1895) and Brown (1924) report

‘draw water’. Without being able to determine at this time which meaning is the most common across different dialectal varieties of Tswana, it appears that the meanings ‘pick/harvest (e.g. legumes)’ of the Tswana root *g* [χ] are nearly identical to that of the proto-form *ká ‘gather (fruit)’, while the meanings ‘ladle’ and ‘draw/collect water’ appear to be specializations of gathering, i.e. gathering something liquid with a ladle, or gathering a liquid into a container. The double applicative *gelel* [χ-él-él] on the other hand has specialized only in ‘draw, collect a liquid’. With this sense, apparently, the applicative stem and the root can be used interchangeably, cf. (376) and (377). The meaning ‘draw, collect a liquid’ of *gelel* is not reported in Brown (1895) nor in Brown (1924), who instead list *gelel* meaning ‘draw water into (something)’.

Derivatives of the root *g* [χ] include *gel* [χ-él] ‘pick, harvest, draw/collect (a liquid) for/into’, *gelol* [χ-él-ól] ‘scoop off with the hand (e.g. liquid)’. Derivatives of the double applicative include *se-gelelo* [sì-χélélól] ‘container used to draw water’ (CL7).

***latlhelel* [lát^h-él-él] ‘do a work without putting effort/interest in it, fail to do something successfully, neglect, leave/put aside, away’ <
***latlh* [lát^h] ‘cast away, throw (away), lose, let go of, renounce to, abandon’ <
 *dác ‘shoot with bow, bleed cattle, hit with bullet, throw, throw away’****

SYNTACTIC VALENCE OF ROOT: The root *latlh* is syntactically transitive in its meaning ‘throw’ and requires an applicative derivation to express the location of throwing, as in (378).

Tswana (S31; Creissels & Chebanne 2000: 152)

(378) *Bana ba latlhela mantšwe mo metsing*

<i>b-àná</i>	<i>ʼbá-látl^h-él-á</i>	<i>má-ñtswè</i>	<i>mó</i>	<i>mètsû-ŋ</i>
CL2-child	S3:2-throw-APPL-FV	CL6-stone	LOC	CL6.water-LOC

‘The children throw stones in the water.’

The following example illustrates the more abstract meaning ‘abandon’ of the root *latlh*, still transitive.

Tswana (S31; Creissels ms.b: 150)

(379) *Modimo ga o latlhe bana ba one*

<i>mò-dímó</i>	<i>χà-ú-látl^h-í</i>	<i>b-àná</i>	<i>bá-òmé</i>
CL3-God	NEG-S3:3-throw-FV	CL2-child	CL2.GEN-CL3.PRO

‘God does not abandon his children.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *latlhelel* [látl^h-él-él] appears to be syntactically intransitive, at least in the following example where this stem appears only with a subject index.

Tswana (S31; Otlogetswe 2012: 236)

(380) *Tiro e e supa gore e ne e dirwa ke motho a lathelela, ga e kgathise gothelele*

<i>tìrò</i>	<i>é</i>	<i>ʼí-súpá</i>	<i>χúrì</i>	<i>í-nè</i>	<i>í-dírwa</i>
CL9.work	CL9.DEM	S3:9-show	that	S3:9-AUX	S3:9-do.PASS
<i>kí</i>	<i>mó-t^hò</i>	<i>á-làtl^h-él-él-à</i>	<i>χà-í-q^hátlísí</i>	<i>χót^hèlè:lè</i>	
by	CL1-person	S3:1-neglect-APPL-APPL-FV	NEG-S3:9-satisfy	at.all	

‘Obviously, this work was done by someone who neglected (it), it is not satisfying.’

HISTORICAL INFORMATION: The root *latlh* [látl^h] is the regular reflex of PB *dác ‘shoot (with a bow), bleed cattle, hit with bullet, throw, throw away’ (Creissels ms.a: 13), attested in zones D, E, F, G, H, J, M, N, P and S. This main entry in BLR3 has a derived entry *dácó ‘blood’ (E, F, G, J) and a variant entry *jác ‘throw, hit with a bullet’ (D, K, L, P, R). I do not know how the proto-form *dác might have developed the polysemy

that it displays (assuming that the translations reflect at least partially the etymology of this form), or what might have been the “main” meaning of this proto-form, but as far as Tswana goes, it appears that the root *latlh* [látʰ] has preserved the meaning ‘throw away’ of the proto-form and by extension developed other similar more abstract meanings (cf. ‘let go of, abandon, renounce to’). The meanings of the pseudo-applicative *latlhelel* [látʰ-él-él] could be seen as specializations of the meaning ‘abandon’ or ‘let go of’ specifically in relation to tasks or works. It should be noted that Otlogetswe (2012) lists the meanings ‘do a work without putting effort/interest in it, fail to do something successfully, neglect’ while Creissels (ms.b) lists ‘leave aside’.

Some possible derivatives of the root *latlh* [látʰ] include *ma-latlhantshwana* [mà-látʰántshwànà] ‘period after supper’ (CL6) (probably based on the idea that after supper people let go of, abandon their labors and relax), *latlheg* [látʰ-éχ] ‘become lost’ and *mo-latlhegi* [mò-látʰ-éχí] ‘lost person’ (CL1).

***lepelel* [lèp-èl-èl] ‘dangle, hang down, be suspended, be very weak (a sick person)’ <
lep [lèp] ‘guess, conjecture’ (Northern Sotho) <
 dèmb* ‘be tired, be weakened’

SYNTACTIC VALENCE OF ROOT: The root *lep* [lèp] is found only in Northern Sotho (Kriel 1989). I do not have any clause-level examples of this root.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The pseudo-applicative *lepelel* [lèp-èl-èl] appears to be syntactically intransitive, cf. the presence of a subject index only in (381). I do not know whether the prepositional phrase introduced by *mo* is obligatory or not in

(381). Regardless, since there are two applicative derivations on this form, there is still a mismatch because assuming that the prepositional phrase headed by *mo* is in fact introduced by one of two applicatives, the other applicative present on the form *lepelel* [lèp-èl-èl] would not introduce anything.

Tswana (S31; Otlogetswe 2012: 259)

(381) *Go fitlhetswe monna a lepelela mo setlhareng a ikaleditse*

<i>χú-fít^hétswí</i>	<i>mò-íná</i>	<i>á-lép-él-él-à</i>
EXPL-find.PASS.PFT	CL1-man	S3:1-dangle-APPL-APPL-FV
<i>mó sí-t^hàrî-î</i>	<i>á-ì-kálédîtsè</i>	
LOC	CL7-tree-LOC	S3:1-REFL-hang.PFT

‘A man who had hanged himself was found dangling from a tree.’

HISTORICAL INFORMATION: The synchronically absent root in *lepelel*, i.e. *lep* [lèp] can be posited as the regular reflex of *dèmb ‘be tired, be weakened’, a root attested, according to BLR3, in zones B, C, E, F, J, L, M and S. In BLR3, this entry has no derived entries. There is, however, a separate main entry, *démb ‘be hung up, swing, hover, float’ attested in zones C and H with the derived entries *démbríd ‘be hung up, swing, hover, float’ attested in zones J, L and S, *dédemb ‘swing, hang, float’ in zones J, L, M, N and P and *démbé (cl3) ‘trunk of elephant’ in zones L and M. Because *lepelel* [lèp-èl-èl] appears to have preserved the meaning ‘be weak’ identical to one of those posited for *dèmb, and because *dèmb ‘be tired, be weakened’ and *lepelel* [lèp-èl-èl] formally match both segmentally and suprasegmentally, I suggest a link between these two forms rather than between *lepelel* [lèp-èl-èl] and *démbríd ‘be hung up, swing, hover, float’. This reconstructed form also contains two applicative derivations and is at least partially similar in meaning (cf. ‘be hung up’) to *lepelel* [lèp-èl-èl], but the tone of *démbríd does not match that of Tswana *lepelel* [lèp-èl-èl]. While in Tswana the root *lep* [lèp] is synchronically absent, Kriel (1989) lists the root *lep* [lèp] in Northern Sotho as meaning

‘guess, conjecture’. Kriel (1989) and Kriel et al. (1997) also list *lepelel* [lèpèlèl] meaning ‘hang down, be worn out, be sulky, droop, overlap’. Assuming that it is possible that *lep* [lèp] is a reflex of *dèmb ‘be tired, be weakened’ and that perhaps the same root existed in earlier stages of Tswana (although such a root is not attested in Brown 1895 nor Brown 1924), then this would be a case where a double applicative has preserved both in Tswana and in Northern Sotho at least part of the meaning of the proto-form *dèmb, e.g. ‘be weakened’ and metaphorically extended it to ‘hang down, dangle’ possibly through a metaphor such as SICK IS DOWN. Unlike other cases presented in this section, however, it is not clear at all that this is a case of concrete to abstract metaphor. The target domain of *lepelel* [lèp-èl-èl] ‘dangle, hang down, be suspended, be very weak (a sick person)’ appear to be quite concrete, while the source domain of the proto-form *dèmb ‘be tired, be weakened’ could in principle refer both to physical or mental states. The root *lep* [lèp] ‘guess, conjecture’ present in Northern Sotho could have arisen via a concrete to abstract metaphor from ‘be weak’ (e.g. guessing is being uncertain, have weak evidence about something). It is worth mentioning that in Tswana there is also a root *lep* [lìp] ‘watch, observe’. Brown (1895) and Brown (1924) add to these the meanings ‘take notice of, watch carefully, tie in an intricate and difficult knot’ and, in relation to witchcraft, ‘hunt after the spirit of people’. The vowel quality of *lep* [lìp], however, makes it impossible to posit it as the root of *lepelel* [lèpèlèl].

The noun *ma-lepelepe* [mà-lèpélépé] ‘tatters, fringes’ (CL6) might perhaps be related to *lepelel* through the idea that tatters and fringes usually hang down loosely when attached to a piece of clothing.

reelel [ré-él-él] ‘name after someone’ <
ray [ráj] *ray* [ráj] ‘tell, say to, refer to, mean’ <
 *tá ‘call, name’

SYNTACTIC VALENCE OF ROOT: *ray* [ráj] is syntactically ditransitive. For examples of the argument structure of this root see §6.6.2.2.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: *reelel* [ré-él-él] in (382) is also syntactically ditransitive, as it takes two following object NPs, *dinaledi* ‘stars’ and *maina a diganka le medimo ya bone* ‘names of their heroes and gods’. Note that within this second object NP, the prefix *le* [lí-] functions as a coordinator between two NPs, i.e. ‘heroes’ and ‘gods’.

Tswana (S31; Creissels ms.b: 222)

(382) *Bagerika ba ne ba reelela dinaledi maina a diganka le medimo ya bone*

<i>bà-χìr̀ká</i>	<i>bá-nè</i>	<i>bá-rè-él-él-à</i>	<i>dì-nálédí</i>
CL2-Greek	S3:2-AUX	S3:2-tell-APPL-APPL-FV	CL10-star
<i>mà-ínà</i>	<i>á-dí-χáǰkà</i>	<i>lí-mì-dímò</i>	<i>já-b̀:né</i>
CL6-name	CL6.GEN-CL8-hero	with-CL4-god	CL4.GEN-CL2.PRO

‘The Greeks named the stars after their heroes and gods.’

HISTORICAL INFORMATION: As already discussed in §6.6.2.2, the root *ray* [ráj] (where [j] is epenthetic) is the regular reflex of PB *tá ‘call, name’ attested in zones B, C, H, P and S. In BLR3, the main entry *tá ‘call, name’ has also the derived entry *táid ‘name, quote’ in zone L. The meaning of the double applicative stem *reelel* [ré-él-él] ‘name after someone’ could be analyzed as a case of meaning specialization of ‘name’. Brown (1895) and Brown (1924) report *reelel* with the meaning ‘misrepresent or distort words or acts,

name after'. There might be more plausible, alternative hypotheses for the development of the meaning 'name after' but I cannot think of any at the present time.

The noun *ma-reelelo* [mà-réélélò] 'the fact of being named after someone' (CL6) is a derivative of the double applicative stem *reelel*.

***rokelel* [rúk-él-él] 'fix or close by sewing' <**
***rok* [rúk] 'assemble skins, sew' <**
***tóng 'put through, thread on a string, plait, sew, tie up, build, close (in)'**

SYNTACTIC VALENCE OF ROOT: The root *rok* [rúk] is syntactically transitive. It is followed by an object NP and the presence of the prepositional phrase introduced by *ka* is optional in (383).

Tswana (S31; Creissels ms.b: 228)

(383) *Ke roka dikobo ka matlalo a bophokoje le botshipa*

<i>kì-rúk-á</i>	<i>dí-kùbò</i>	<i>(ká</i>	<i>má-tlálò</i>	<i>á-bo-p^húkójé</i>
s1s-sew-FV	CL10-blanket	with	CL6-skin	CL6.GEN-CL2-jackal
<i>lí-bò-ts^hipà)</i>				
and-CL2-genet				

'I sew/assemble the blankets together (with jackal and genet skins).'

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *rokelel* [rúk-él-él] is transitive; the locative phrase introduced by *mo* is optional in (384).

Tswana (S31; Creissels, Tswana-French, ms.b: 228)

(384) *Ke rokeletse konopo mo hempeng*

<i>kì-rúk-él-éts-í</i>	<i>^hkúnúpó</i>	<i>(^hmó</i>	<i>hém̀pè:-̀̀)</i>
s1s-sew-APPL-APPL.PFT-FV	CL9.button	LOC	CL9.shirt-LOC

'I sewed a button (on my shirt).' (I fixed a button on my shirt by sewing)

HISTORICAL INFORMATION: The root *rok* [rók] is the regular reflex of PB *tóng ‘put through, thread on a string, plait, sew, tie up, build, close (in)’ with reflexes in all Bantu zones. This main entry has several derived entries in BLR3, including: *tongodud ‘lead’ (L, M), *tónguduk ‘walk in single file’ (L, M), *túngo (cl3) ‘twig used for skewering fish (to dry)’ (L, M). *tóng also has a variant entry *tòng with the same meaning attested in zones C, J, H, L and *tòngí ‘corner of a basket’ (L, M). While the synchronic Tswana root *rok* [rók] has specialized in the meaning ‘sew’ and ‘assemble skins’, the double applicative seems to have specialized in a very similar but apparently not identical meaning ‘fix or close something by sewing it’. Both Creissels (ms.b) and Otlogetswe report this meaning for *rokelel*.

Derivatives of the root *rok* [rók] include *mo-roki* [mù-rókí] ‘tailor, dressmaker’ (CL1), *mo-roko* [mù-rókó] ‘seam, sting’ (CL3), *se-rokolo* [sì-rókólú] ‘carissa bispinosa (sp.)’ (CL7) (a plant also known as “forest num-num” or “Y-thorned carissa” for its thorns) and *mo-roko* [mù-rókú] ‘bran of cereals’ (CL3) (pointy like a needle or thorn).

thathel [t^hát^h-él-él] ‘coil, wind, twine (a string around something)’ <
thath [t^hát^h] ‘wind into a ball (around a stick)’ <
 *tát ‘tangle’

SYNTACTIC VALENCE OF ROOT: The root *that* [t^hát^h] is syntactically transitive. The prepositional phrase introduced by *mo* is optional in (385).

Tswana (S31; Creissels ms.b: 264)

(385) *Mosadi o thatha tlhale mo toloking*

<i>mù-sádí</i>	†ú-t ^h át ^h -á	†t ^h álí	(†mó	tólókî-ŋ)
CL1-woman	S3:1-wind-FV	CL9.thread	LOC	CL9.spool-LOC
‘The woman is winding the thread (on the spool).’				

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: the applicative stem *thathelel* [t^hát^h-él-él]

also appears to be syntactically transitive. The prepositional phrase introduced by *mo* is optional in (386).

Tswana (S31; Otlogetswe 2012: 586)

(386) *O ka thathelela mogala mo dinakeng tsa kgomo o bo o o swaetsa*

<i>ù-ká-t^hát^h-él-él-à</i>	<i>mù-χàlà</i>	<i>(mó</i>	<i>dì-nàkè-ḡ</i>	<i>tsá-q^hò mú)</i>
S2S-POT-wind-APPL-APPL-FV	CL3-rope	LOC	CL10-horn-LOC	CL10.GEN-cow
<i>ù-bó</i>	<i>ú-ù-swáê:tsà</i>			
S2S-AUX	S2S-O3:3-tighten			

‘You should wind the rope (on the horns of the cow) and tighten it.’

Brown (1924) reports this applicative stem meaning ‘twine about, make a spiral’.

HISTORICAL INFORMATION: the root *thath* [t^hát^h] can be posited as the reflex of *tát ‘tangle’ attested in zones G, L, R and S. As discussed elsewhere in this chapter, there is again the common problem of a “strong” reflex in Tswana (cf. /t^h/) for a PB consonant not followed by a nasal (cf. *t). Given that this problem is extremely common and that tone, vowel quality and meaning all seem compatible, I posit *thath* [t^hát^h] as a reflex of *tát ‘tangle’, which in BLR3 is listed as derived from *tát ‘tie up’ attested in zones D and H. Other entries derived from *tát ‘tie up’ in BLR3 are *tátud ‘untie’ (D, H, R and S) and *tátud ‘disentangle, tear’ (G). Assuming once again that the translation ‘tangle’ offered in BLR3 is at least close to the real etymology of the proto-form *tát, both the Tswana root *thath* [t^hát^h] and the double applicative stem *thathelel* [t^hát^h-él-él] have undergone semantic specialization with respect to the meaning of the proto-form. The meanings of the Tswana root and double applicative stem are extremely similar, but judging from the available translation in dictionaries and from the examples, while the root implies twisting or coiling of a string to form a ball (presumably to its entirety), the double

applicative does not imply that the string will be coiled in its entirety. Obviously, additional data would help confirm this hypothesis.

Derivatives of the root *thath* [t^hát^h] in Tswana include *se-thathela* [sì-t^hát^héìà] ‘winder’ (CL7), *thatholog* [t^hát^h-ól-úχ] ‘come undone, untied’, *thatholol* [t^hát^h-ól-ól] ‘undo, untie’ and *thathamolog* [t^hát^h-ám-ól-ùχ] ‘go wrong (e.g. a watch)’. Even though the single applicative *thathel* [t^hát^h-éì] is not reported in any of the dictionaries I have consulted, presumably this form exists as the regular applicative of *thath* [t^hát^h] in Tswana. More data is necessary however to confirm this statement.

thebelel [t^hìb-èì-èì] ‘stock a fire’ <
theb [t^hìb] ‘pile up earth, ram’ <
*tééb ‘gather (firewood)’

SYNTACTIC VALENCE OF ROOT: As observed in §6.6.2.2, the root *theb* [t^hìb] is only found in one of the dictionaries that I have consulted (Kgasa & Tsonope 1995). There are no clause-level examples of this root in the corpus.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: I could not find any clause-level examples of the applicative stem *thebelel* [t^hìb-èì-èì] in the sources available to me. Both Snyman et al. (1990) and Creissels (ms.b), however, report the collocation *go thebelela molelo* where *go thebelela* means ‘to stock’ (infinitive form) and *molelo* means ‘fire’. This suggests that probably the applicative stem is transitive.

HISTORICAL INFORMATION: It has been argued in §6.6.2.2 that the root *theb* [t^hìb] could be posited as the reflex of PB *tééb ‘gather (firewood)’, present in zones C, M, N, and S,

despite the problems with the Tswana reflex of *tééb (i.e. the tone does not match and *t > r and not t^h). In BLR3, the proto-form *tééb is listed as derived from *tí ‘tree, stick’ attested in fourteen zones including zone S. In §6.6.2.2, I have also argued that semantic evidence for positing *tééb ‘gather (firewood)’ as the proto-form of the Tswana root *theb* [t^hib] ‘pile up earth, ram’ comes precisely from the existence of the double applicative stem *thebelel* [t^hib-èl-èl] ‘stock a fire’ which arguably has preserved a meaning very close to that of the proto-form *tééb ‘gather (firewood)’ and the noun from which this form is derived, *tí ‘tree, stick’. Speculating further, ‘stock a fire’ means amass supplies of wood with a purpose, so that maybe the double applicative stem *thebelel* [t^hib-èl-èl] originally added a Purpose applied phrase (i.e. gather firewood to keep the fire going).

***thibeel* [t^hib-él-él] ‘obstruct, prevent from passing (by blocking the way)’ <
***thib* [t^hib] ‘ward off (e.g. a blow), obstruct, cork, stop, block’ <
tib ‘stop up, shut’***

SYNTACTIC VALENCE OF ROOT: The root *thib* [t^hib] is syntactically transitive because it can be followed by an object NP.

Tswana (S31; Creissels ms.b: 266)

(387) *Mo tseleng ba ne ba fitlhela thaba e tona e thibile tsela*

<i>mó</i>	<i>tsilé-ŋ</i>	<i>bá-nè</i>	<i>bà-fit^hèlà</i>	<i>t^hàbà</i>	<i>é</i>
LOC	CL9.road-LOC	S3:2-AUX	S3:2-find	CL9.hill	CL9.LNK
<i>‘tóná</i>	<i>‘í-t^hib-íl-é</i>	<i>‘tsîlà</i>			
CL9.big	S3:9-obstruct-PFT-FV	CL9.road			

‘On the road, they found a big hill that blocked the path.’

However, the same root can also have the meaning ‘be cloudy’ and appear in an intransitive construction.

Tswana (S31; Creissels ms.b: 266)

(388) *Maru a thibile, pula e tlaa na*

<i>mà-rù</i>	<i>á-t^híb-êl-è,</i>	<i>púlá</i>	<i>í-tláâ-nà</i>
CL6-cloud	S3:6-obstruct-PFT-FV	CL9.rain	S3:9-FUT-rain

‘The sky is cloudy, it is going to rain.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: There are no clause-level examples of the applicative stem *thibelel* [t^híb-él-él] ‘obstruct, prevent from passing (by blocking the way)’ in the corpus.

HISTORICAL INFORMATION: The root *thib* [t^híb] can be posited as the reflex of PB *tib (no tone specified in BLR3) ‘stop up, shut’ attested in zones A, B, F, G, J, N and S. As in many other instances, the Tswana reflex appears to have a strong reflex (i.e. /t^h/) instead of the expected /r/ for *t. The proto-form *tib is a variant entry of the main entry *díb ‘shut, shut eyes’ (cf. the Tswana reflex *dib* [díb] and the applicative stem *dibel* [díb-él] in §6.6.2.2). Although we have no available examples of *thibelel* [t^híb-él-él], both the applicative stem and the root *thib* [t^híb] seem to have, judging by the translations, almost identical meanings (cf. ‘obstruct’, ‘prevent from passing (by blocking the way)’ and ‘stop’) between themselves. They also both have preserved only one of the meanings of the proto-form, ‘stop up’. In fact, the single applicative *thibel* [t^híb-él] ‘stop (by obstructing the way), prevent (e.g. a disease)’ also appears to show meanings identical to those of the root and the double applicative. The single applicative *thibel* [t^híb-él] is also syntactically transitive just like the root in (387).

Tswana (S31; Creissels ms.b: 173)

(389) *Dingaka di itse go nesa pula le go e thibela*

<i>dì-ṅàkà</i>	<i>dí-itsí</i>	<i>χú-nìsà</i>	<i>púlá</i>
CL10-medicine.man	S3:10-know	INF-rain.CAUS	CL9.rain

lí-χù-í-t^híb-él-à
and-INF-o3:9-block-APPL-FV

‘Fetiché makers know how to make rain come and how to stop it.’

In (389), the applicative form *thibel* [t^híb-él] appears as an infinitive form. The subject of this infinitive form is *dinaka* ‘fetiché makers’ and the object is *pula* ‘rain’ indexed on the verb by the object index of class 9 *í-*. Although *thibel* [t^híb-él] is reported in Tswana dictionaries as meaning ‘stop (by obstructing the way)’, there is no actual NP expressing ‘the way’ in (389). Other examples in the corpus confirm the syntactic transitivity of the stem *thibel* [t^híb-él]. The meaning ‘prevent (e.g. a disease)’ reported by Snyman et al. (1990: 168) would clearly represent a concrete to abstract metaphor but I have no examples of such a use in the data available to me at the present time.

With the limited amount of data available on this entry, it seems that both the root *thib* [t^híb], the single applicative stem *thibel* [t^híb-él] and the double applicative stem *thibelel* [t^híb-él-él] have preserved meanings which are close synonyms or identical (cf. ‘stop’, ‘obstruct’) to ‘stop up’ posited in BLR3 for the verb root**tib*.

Further, the root has also developed more specialized ways of stopping such as ‘cork’ and perhaps ‘ward off (a blow)’. It is worth noticing that the root *thib* [t^híb] has also developed the metaphorical meaning ‘be cloudy’ said of a sky (cf. (388)), literally an “obstructed” sky.

Derivatives of the root *thib* [t^híb] in Tswana include: *thibedi* [t^híbédí] ‘device fastened onto the nose of a calf to prevent it from sucking’ (CL9), *mo-thibo* [mò-t^híbó]

‘manner of obstructing, corking, stopping’ (CL3), *se-thibo* [sì-t^híbɔ́] ‘cork, stopper, lid’ (CL7), *thibolog* [t^híb-úl-úχ] ‘become uncorked’ and *thibolol* [t^híb-úl-úl] ‘uncork, unblock (a passage)’.

***twelel* [tsw-èl-èl] ‘continue, last’ <**
***tsw* [tsw] ‘come out, come from, become, come out (of a class), depend on, go out**
to cultivate’ <
****dù* ‘come/go out, ooze, bleed’**

SYNTACTIC VALENCE OF ROOT: The root *tsw* [tsw] is syntactically intransitive. The prepositional phrase introduced by *ko* in (390) is optional.

Tswana (S31; Creissels 2013: 28)

(390) *Re tswa ko sekoleng*
rì-tsw-à (*kó* *sì-kólé-ŋ*)
 s1P-come.from-FV LOC CL7-school-LOC
 ‘We come from school.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *twelel* [tsw-èl-èl] is also syntactically intransitive. The NP marked by *lí* is optional in (391).

Tswana (S31; Creissels ms.b: 331)

(391) *Mmutla le khudu di ne tsa twelela le mosepele mmogo*
m̂-mútłá ¹*lí-k^húdú* *dí-nè* *tsà-tsw-èl-èl-à*
 CL3-hare and-CL9.turtle s3:10-AUX s3:10-come.from-APPL-APPL-FV
 (*lí-mò-sípílí* *m̂m̂:χḁ*)
 with-CL3-travel together
 ‘The hare and the turtle continued (with their travel together).’

This applicative form can also function as an auxiliary (e.g. something akin to English *keep* in *keep talking*) and combine with a main lexical verb in its infinitive form introduced by the instrumental preposition *ka* as in (392).

Tswana (S31; Creissels ms.b: 331)

(392) *Monna o ne wa tswelela ka go bua*

<i>mò-ńná</i>	<i>ú-nè</i>	<i>wà-tsw-èl-èl-à</i>
CL1-man	S3:1-AUX	S3:1.SEQ-come.from-APPL-APPL-FV

<i>ká</i>	<i>χù-bû:à</i>
with	INF-speak

‘The man continued to talk.’ (lit: ‘The man continued with speaking’)

HISTORICAL INFORMATION: The root *tsw* [tsw] is the regular reflex of PB *dù ‘come/go out, ooze, bleed’ (Creissels ms.a: 20, 1999a: 324, 2007: 14), attested in zones A, C, D, E, F, J, K, L, M, N, R and S. Recall from Table 15 in §6.3 that in Tswana *d followed by *u plus another vowel (e.g. the default final vowel -a) has /ts(w)/ as a reflex in Tswana (i.e. *dù-a > tsw-à) . The main entry *dù ‘come/go out, ooze, bleed’ in BLR3 has several derived entries, including: *dùidi ‘leak, drip’ (G, R, S), *dùó (cl3) ‘streaming rain water’ (J), *dùom ‘draw (water)’ (J) and *dùomidid ‘water’ (J). The Tswana root *tsw* [tsw] appears to have specialized in one of the meanings of the proto-form, i.e. ‘come out’, and it has also developed several other meanings. It is not clear whether the “meanings” ‘come/go out’ of the proto-form *dù are to be understood only in relation to liquids. Assuming that they are, then in Tswana the root *tsw* [tsw] has undergone semantic broadening as it can be used both to indicate the coming out of liquids (e.g. blood from a nose) but also the coming out/from of animate/human beings, as in (390). Other meanings of the root *tsw* [tsw] appear to be specializations of the more general meaning ‘come out/from’, cf. ‘come out (of a class)’, ‘go out to cultivate’. Others appear

to be abstract meanings derived from ‘come out’, cf. ‘become’ (the result of coming out in a figurative sense), and ‘depend on’ (relationship to a source out of which something comes). As for the double applicative stem *tswel* [tsw-èl-èl] in Tswana, a possible explanation is that the meanings ‘continue, last’ developed metonymically by profiling one of the features which are usually involved in the event of a liquid oozing or blood bleeding: in both cases the flow of liquid out of a container is usually constant until it stops.

Derivatives of the root *tsw* [tsw] include: *mo-tswakwa* [mù-tswàkwá] ‘foreigner’ (CL1), *mo-tswedi* [mù-tswèdì] ‘fountain, source’ (CL3), *le-tswela* [lì-tsw-èl-á] ‘shoot, sprout, bud’ (CL5). Derivatives of *tswel* are *tswelediso* [tswèlèdisò] ‘pursuit’ (CL9) (from the causative of *tswel* which is *tsweledis* [tswèlè-dìs]) and *tswelelopele* [tswèlèlòpìlì] ‘advancement, progress’ (CL9). There is also a verb form *tswen* [tswìn] ‘ooze’ which might be related to the root *tsw* [tsw].

6.6.4.4 Concrete to abstract metaphor

In the cases discussed below, the pseudo-applicative stem expresses an abstract meaning obtained metaphorically from the more concrete meaning of the root.

***abelel* [àb-èl-èl] ‘guess, doubt about something’ <
ab [àb] ‘distribute, divide among or between, allot, allocate, donate’ <
 gàb* ‘divide, give away, make a present’

SYNTACTIC VALENCE OF ROOT: The root *ab* [àb] is syntactically transitive. It is followed by an object NP in (393) but the participant who receives the cows need not be expressed.

Tswana (S31; Otlogetswe 2012: 1)

(393) *Rre o aba dikgomo tsa boswa*

<i>rré</i>	<i>ʼú-áb-á</i>	<i>dí-q^hòmú</i>	<i>tsá-bù:swá</i>
father.POSS.1S	S3:1-divide-FV	CL10-cow	CL10.GEN-CL14-inheritance

‘My father distributes the cows of his inheritance.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The pseudo-applicative stem *abelel* [àb-èl-èl]

appears to be intransitive as it takes only a subject index in (394) and stands in a main clause followed by a dependent clause introduced by *ka*.

Tswana (S31; Otlogetswe 2012: 1)

(394) *O ne a abelela ka a sa tlhomamisa sentle gore ba boa leng*

<i>ú-nè</i>	<i>à-àb-èl-èl-à</i>	<i>ká</i>	<i>ʼá-sá-tl^hòmámís-í</i>	<i>sínttè</i>
3SG-AUX	S3S-divide-APPL-APPL-FV	since	S3S-NEG-confirm-FV	well
<i>sínttè</i>	<i>χùrì</i>	<i>bá-bú-à</i>	<i>lí:ŋ</i>	
well	that	S3:2-return-FV	when	

‘He guessed since he could not confirm well when they are coming back.’

HISTORICAL INFORMATION: The root *ab* [àb] is the regular reflex of PB *gàb ‘divide, give away, make a present’ (Creissels ms.a: 10, 2007: 17), attested in all Bantu zones except D and P. BLR3 lists numerous entries derived from *gàb. These include: *gàb ‘command an army’ (E, J, M), *gàbɪd ‘give away’ (B, E, G, J, M, S), *gàbì (CL1) ‘distributor’ (J, S), *gàbù (CL5/6) ‘gift’ (no zones indicated), *gàbù (CL5) ‘generosity’ (no zones indicated). The meaning of the double applicative stem *abelel* [àb-èl-èl] ‘guess, doubt about something’ derived from *ab* [àb] ‘distribute, divide among or between, allot, allocate, donate’ appears to be another instance where a root expressing a physical action is the source domain for an abstract metaphorical extension into the domain of mental or speech act activities. Speculatively, ‘guessing’ involves dividing one’s own intuition about something into several possibilities and then choosing the one that is most likely

to be the right one without having the full certainty. In principle then, the idea of distributing, dividing or allocating materials or concrete objects is transposed metaphorically to distributing, dividing or allocating one's estimates or intuitions about something. This mechanism of change is akin to what has been proposed for *akgel* [àq^h-èl] 'give an opinion on something, comment on' derived from *akg* [àq^h] 'swing to and from, carry sthg swinging, wave the arms in anger' (cf. §6.6.2.4).

Derivatives of the root *ab* [àb] in Tswana include *se-abe* [sì-àbé] 'part, portion' (CL7), *mo-abadwi* [mù-àbèdwì] 'beneficiary' (CL1), *mo-abi* [mù-àbì] 'donor, giver' (CL1), *abel* [àb-èl] 'distribute to/for', and *abalan* [àbàl-àn] 'distribute among each other'.

***beelèl* [bé-él-él] 'reserve, present sthg as a token of intended marriage, betroth, make a down payment' <**
***bay* [báj] 'put, place down/on/away, lay (an egg)' <**
***bá 'dwell, be, become'**

SYNTACTIC VALENCE OF ROOT: The root *bay* [báj] takes an object (i.e. 'letter') and an obligatorily present location introduced by the preposition *mo* in (395). Creissels (ms.b) also reports an equivalent construction to (395), in which the location appears as an object NP immediately after the verb and the object 'the letter' follows (i.e. *ke beile tafole lokwalo*).

Tswana (S31; Creissels ms.b: 16)

(395) *Ke beile lokwalo mo tafoleng*

<i>kì-bé-íl-é</i>	<i>lù-kwáló</i>	<i>‘mó</i>	<i>táfùlî-ŋ</i>
s1s-put-PFT-FV	CL11-letter	LOC	CL9.table-LOC
'I put a letter on the table.'			

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The pseudo-applicative *beelet* [bé-él-él] is syntactically transitive, as it can be followed by an object NP in (396). The prepositional phrase introduced by *ka* is optional.

Tswana (S31; Creissels ms.b: 16)

(396) *Re dumalanye gore ke beeletse baesekele ka P 50*

<i>rì-dùmáláŋ-í</i>	<i>χúrì</i>	<i>kì-bé-él-éts-í</i>	<i>báìsíklí</i>
S1P-agree.PFT-FV	that	S1S-reserve-APPL-APPL.PFT-FV	CL9.bicycle
(<i>ⁱká P50</i>)			
INSTR 50P			

‘We agreed that I reserved the bike (by giving 50 P).’

HISTORICAL INFORMATION: the root *bay* [báj] is the regular reflex of PB *bá ‘dwell, be, become’ attested in zones A, B, C, G, H, J, M, N, P and S.¹⁵² This main entry has several derived entries reported in BLR3, including: *bíuk ‘put away, put, bury, lay eggs’ (D, E, F, G, J, K, M, N, P, R, S), *béék ‘put, put away’ (C, E, F, G, S), *bíuk ‘stand up, wake up’ (J), *bíiko (CL14) ‘depositing, stock’, *bíúk ‘get up’ (J, R) and *búok ‘wake up, rise up, go away, fly away’ (E, F, G, H, J, K, L, M, N, P). It appears that some derived entries are most likely semantically derived from the meaning ‘dwell’ of the root *bá: *bíuk and *béék ‘put, put away’ meanings could have been derived from ‘dwell’ in the sense of ‘settle’ something in a place. Possibly, other meanings such as ‘bury’ and ‘lay eggs’ are specializations of ‘put’ or ‘put away’: ‘bury’ is put under the earth and ‘lay eggs’ is putting down eggs. The same reasoning holds true for the synchronic Tswana root *bay* [báj] ‘put, place down/on/away, lay (an egg)’. The double pseudo-applicative *beelet* [bé-

¹⁵² Recall that *y* [j] in roots such as *bay* and *ray* [ráj] ‘tell’ (cf. §6.6.2.2) is epenthetic and appears to avoid a sequence of two vowels, i.e. the *a* of the root and the final vowel *a* in a form such as *bay-a*.

él-él], on the other hand, has developed meanings which are mostly more abstract than those of the root *bay*. The meaning ‘reserve’, reported in Creissels (ms.b), can be easily explained as an abstract extension of ‘put’, ‘place down’ or ‘put away’ in the sense of retaining for future use. The meanings ‘present something as a token of intended marriage, betroth, make a lay-by’ are reported by Snyman et al. (1990: 8). The meanings ‘present something as a token of intended marriage, betroth’ might be understood as specializations of the more general meaning ‘reserve’: they both describe the action of arranging for a future marriage. The meaning ‘make a down payment’ also appears to be a specialization of ‘put’ or ‘place down’ in the sense of making a deposit to secure an article for later purchase. This too is an abstract metaphor.

Derivatives of the root *bay* [báj] in Tswana include *se-beel* [sì-béèl] ‘evil charm used to prevent rain or bring about misfortune’ (CL7), *bo-beelo* [bù-bééló] ‘warehouse, deposit, cellar, garage, shelf, reservoir’ (CL14) and *beel* [bé-él] ‘put down or place down for or at’. Derivatives of *beel* [bé-él-él] include *se-beelela* [sì-béélléla] ‘pledge, deposit, support’ (CL7) and *le-beelela* [lì-béélléla] ‘tree (growing in an area reserved for the cutting of firewood or branches) (CL5) and *ma-beelela* [mà-béélléla] ‘area near home reserved for the cutting of firewood or branches’ (CL6).

boelex [bú-él-él] ‘repeat, retake (a class), revise (a lesson), leave and return (on the same day)’ <

bo [bú] ‘return, come back, go back’ <

*búj ‘come or go back, come’

SYNTACTIC VALENCE OF ROOT: The root *bo* [bú] ‘return, come back, go back’ is syntactically intransitive. To indicate the place where one might return or go back to, an applicative derivation is necessary.

Tswana (S31; Creissels ms.b: 21)

(397) *Ba tlaa boa ka nako mang?*

<i>bá-tláà-bú-à</i>	<i>ká</i>	<i>‘nákó</i>	<i>‘mâ:ŋ?</i>
S3:2-FUT-return-FV	INSTR	CL9.time	which

‘When will they return?’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *boelex* [bú-él-él] is syntactically transitive, as shown by the presence of an object NP after the stem in (398). The mismatch here is that since the root *bo* [bú] is intransitive, two applicative derivations in *boelex* [bú-él-él] should make the root ditransitive and not transitive.

Tswana (S31; Otlogetswe 2012: 28)

(398) *Ngwana yo o tlaa tshwanelwa ke go boelexa mophato wa boraro*

<i>ŋw-àná</i>	<i>‘jó</i>	<i>‘ú-tláà-tshwánélwà</i>	<i>kí</i>	<i>χù-bú-él-él-à</i>
CL1-child	CL1.DEM	S3:1-FUT-be.obliged	by	INF-return-APPL-APPL-FV

<i>mù-p^hátò</i>	<i>wá-bù-rârù</i>
CL3-grade	CL3.GEN-CL14-three

‘This child will be obliged to repeat the third grade.’

HISTORICAL INFORMATION: The root *bo* [bú] is the regular reflex of PB *búj ‘come/go back, come’ attested in zones E, G, M, P and S. This main entry has no derived entries in BLR3. The applicative stem *boelex* [bú-él-él] seems to have acquired a more abstract metaphorical meaning derived from the concrete source domain of the root *bo* [bú]. The

root implies a physical movement from a point in space back to an original point. On the other hand, the pseudo-applicative stem implies going back on thinking (cf. revise a lesson), on learning (cf. retake a class), that is, mentally oriented activities rather than physical ones. The stem *boelel* [bú-él-él] has also preserved a more literal meaning ‘leave and return (on the same day), closer to that of the Tswana root and the proto-form. This meaning probably originates in the fact that in Tswana two applicative extensions are often used to convey completeness/thoroughness of an action or process (cf. §5.5). In fact, Brown (1895) and Brown (1924) report only the meaning ‘return quickly, as from a good distance in one day’ for the applicative stem *boelel* [bú-él-él]. This seems to indicate that the development of metaphorically abstract meanings is relatively recent.

Derivatives of the root *bo* [bú] in Tswana include *se-boana* [sì-búánà] ‘threshing-floor’ (CL7), *se-boaboane* [sì-búàbúàní] ‘backwards and forwards movement’ (CL7) and *boel* [bú-él] ‘return, come back to (a place)’.

***dupelel* [dùp-èl-èl] ‘smell out, have a feeling/intuition, suspect, divine water with a stick’ <**
***dup* [dùp] ‘smell at, sense, foresee, look for’ <**
***dùmb ‘smell (intr.)’**

SYNTACTIC VALENCE OF ROOT: The root *dup* [dùp] with the meaning ‘smell at’ is syntactically intransitive and requires the object of smelling to be introduced by the preposition *kwa*, as in (399).

Tswana (S31; Creissels ms.b: 40)

(399) *Kgaga fa e dupile kwa ditshoswane di leng teng, e tlaa epa golo foo go ntsha ditshoswane*

<i>q^háχá</i>	<i>fá</i>	<i>í-dùp-íl-é</i>	<i>kwá</i>	<i>dí-ts^hòswání</i>	<i>dí-lì-ń</i>
CL9.pangolin	if	S3:9-smell-PFT-FV	at	CL10-ant	S3:10-be-REL
<i>téń</i>	<i>í-tláá-ép-à</i>	<i>χù-lò</i>	<i>fóú</i>	<i>χó-nts^h-à</i>	<i>dì-ts^hòswânì</i>
inside	S3:9-FUT-dig-FV	CL17-place	DEM	INF-take.out-FV	CL10-ant

‘When the pangolin smells ants somewhere, it digs there to take them out.’

However, the same root can also be used with the meaning ‘look for’. In (400), *dup* [dùp] is followed by a headless relative clause in object function (i.e. where they can find/see water there) introduced by the locative linker *mo* (historically from PB locative class 18). Denis Creissels (p.c.) indicates that the noun *golo* [χùlò] ‘place’ could be added before the locative linker *mo* without any change in the meaning of the construction (e.g. *golo mo ba ka bonang metsi gone*).

Tswana (S31; Creissels ms.b: 40)

(400) *Baepi ba didiba ba ya go dupa mo ba ka bonang metsi gone*

<i>bà-èpì</i>	<i>bá-díbà</i>	<i>bà-jà</i>	<i>χù-dùp-à</i>
CL2-digger	CL2.GEN-CL8-well	S3:2-go	INF-look.for-FV
<i>mó</i>	<i>bá-kà-bónà-ń</i>	<i>mètsí</i>	<i>χòné</i>
LOC.LNK	S3:2-POT-see-REL	CL6.water	there

‘The well diggers go look for a spot where they can find water.’

Additionally to the meanings listed here, Brown (1895) and Brown (1924) report the root *dup* meaning ‘scent (e.g. game when scenting people or a dog scenting its master); put mouth to a sick person and draw out the sickness, divine by using water’.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The pseudo-applicative stem is syntactically transitive, as it can take a complement clause (introduced by *gore*) as its object in (401).

Tswana (S31; Creissels ms.b: 40)

(401) *Ba dupelela gore ke ba reketse sengwe*

<i>bá-dúp-él-él-à</i>	<i>χùrì</i>	<i>kì-bá-rék-éts-í</i>	<i>sî-ŋwì</i>
S3:2-smell.at-APPL-APPL-FV	that	S1S-O3:2-buy-APPL.PFT-FV	CL7-one

‘They suspect that I have bought something for them.’

The applicative stem *dupelel* [dùp-èl-èl] can have a relatively more concrete meaning ‘smell out’, as shown in (402). This example is probably not the best to illustrate the argument structure of *dupelel* [dùp-èl-èl] because the relevant verb form in (402) appears inside of a prepositional phrase introduced by *ka* and it is in the infinitive form. However, this is the only example available in the corpus.

Tswana (S31; Creissels ms.b: 40)

(402) *Kgaga ga e na ditsebe tse di bonalang, e utlwa ka go dupelela*

<i>q^háchá</i>	<i>χà-í-ná</i>	<i>dí-tsèbé</i>	<i>‘tsé</i>	<i>‘dí-bónálà-íj</i>
CL9.pangolin	NEG-S3:9-have	CL10-ear	CL10.LNK	S3:10-be.visible-REL

<i>í-útlwà</i>	<i>ká</i>	<i>χó-dùp-èl-èl-à</i>
S3:9-perceive	INSTR	INF-smell.out-APPL-APPL-FV

‘The pangolin does not have visible ears, he feels through smelling.’

It should be noted that Creissels & Chebanne (2000) report the single applicative *dupel* [dup-èl] as meaning ‘guess’. Snyman et al. (1990) report the double applicative *dupelel* with the meanings ‘scent, smell out, divine water with a stick’. Brown (1895) and Brown (1924) report *dupelel* meaning ‘follow a scent, as a dog’. There might be dialectal variation in the usage and meanings of *dupel* and *dupelel*.

HISTORICAL INFORMATION: The root *dup* [dùp] is the regular reflex of PB *dùmb ‘smell (intr.)’, attested in zones C, D, H, M and S. BLR3 also lists the derived noun *dùmbá (CL5/7/9/11) ‘smell’ (A, C, D, E, G, H, J, K, L, N, P, R and S). BLR3 also suggests that *dùmb ‘smell (intr.)’ might be linked to Proto-Upper-Cross *dùm ‘feel’. It seems that both the root *dup* [dùp] and the applicative stem *dupelel* [dùp-èl-èl] have preserved the original meaning of the proto-form related to ‘smell’ but also both have developed more abstract meanings. The metaphorical extension of verbs such as ‘smell at’ to meanings such as ‘suspect, have a feeling/intuition, guess, sense, investigate’ is attested in several other languages such as English, Spanish and Basque (Ibarretxe-Antuñano 1997). Ibarretxe-Antuñano (1997) suggests that a sensory verb like ‘smell’ in the sense of perceiving odors can be metaphorically extended to more abstract, mental processes such as ‘suspect’ or ‘guess’ by selecting or profiling certain properties of the physical action of smelling. These include the fact that smelling implies detection of odors and that it can be either a voluntary or involuntary process. Similarly, ‘suspect’ also implies detection (of an uncertain fact) and arguably it is an involuntary process.

Derivatives of the root *dup* [dùp] in Tswana include *bo-dupa* [bù-dùpà] ‘bad smell’ (CL14) and *se-dupe* [sì-dúpé] ‘diviner, clairvoyant, fetish-maker’ (CL7). There is also *me-dupe* [mì-dùpì] ‘light rain which lasts’ (CL4) but I do not know if this is also derived from *dup* [dùp] and what the semantic relation between the two could be.

***otlelele* [ɔ̱tɩ-èl-èl]** ‘repeat what has been said by emphasizing important points’ <
***otl* [ɔ̱tɩ]** ‘ruminant (e.g. cows)’

SYNTACTIC VALENCE OF ROOT: There are no clause level example in the corpus with the root *otl*.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: There are no clause level example in the corpus with the applicative stem *otlelele*.

HISTORICAL INFORMATION: There is no reconstructed form in BLR3 which could be linked to the Tswana root *otl* [ɔ̱tɩ] ‘ruminant’. The applicative stem is reported with the meaning ‘repeat what has been said by emphasizing important points’ in Creissels (ms.b). More data is needed for this entry, but for the time being it seems clear that the meaning of the applicative stem has developed metaphorically from the more concrete meaning of the root. This is another case in which physical action verbs such as ‘ruminant’ develop meanings related to the speech act domain. It seems reasonable to suppose that the repetition contained in the action of chewing cud is profiled into repeating words. This shift in meaning seems to be particularly similar to cases such as English *fret* ‘worry, be distressed’ which originally meant ‘eat, gnaw’ (cf. German *fressen* ‘eat, devour, consume’) (Campbell 2004: 270). In addition, in English (and other Indo-European languages) *ruminant* can also mean metaphorically ‘think deeply about something’.

***swelel* [sw-él-él] ‘forfeit, be devoid of a right’ <
sw [sw] ‘die’ <
*kú ‘die’**

SYNTACTIC VALENCE OF ROOT: The root *sw* [sw] is syntactically intransitive, cf. (344) in §6.6.2.4.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: I could not obtain any clause-level example of the argument structure of *swelel* [sw-él-él] in the materials available to me.

HISTORICAL INFORMATION: For historical information concerning the root *sw* [sw] see *swel* [sw-él] in §6.6.2.4. Although there is little information on the double applicative stem *swelel* [sw-él-él], Creissels (ms.b) reports the meaning ‘be devoid of a right’ and Snyman et al. (1990) report ‘forfeit’. These two renderings can be considered as synonyms. A possible explanation for the lexicalization of *swelel* [sw-él-él] is that it developed metaphorically out of the concept of death as loss not in a concrete but in an abstract sense (cf. the loss of a right vs. the physical loss of a dead body). Subsequently, the concept of loss might have specialized in the loss of a right or a privilege.

***tshwarelel* [ts^{hw}ár-él-él] ‘replace someone, hold/act for/on behalf of, act as a regent’ <
tshwar [ts^{hw}ár] ‘catch, seize, take hold, arrest, catch (in the act)’ <
*kúat ‘seize, grasp’**

SYNTACTIC VALENCE OF ROOT: The root *tshwar* [ts^{hw}ár] is syntactically transitive, as shown by the presence of a subject and object index in (403).

Tswana (S31; Creissels ms.b: 272)

(403) *Mosimane a leka go sia, mme rraagwe a mo tshwara*

mù-símàní à-líká χù-síá ìmí ìrà-àχwé
CL1-boy S3:1-try INF-run.away but CL1.father-POSS.CL1
á-mù-ts^hwâr-à
S3:1-03:1-catch-FV

‘The boy tried to run away, but his father caught him.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative form *tshwarelel* [ts^hwár-él-él] is syntactically ditransitive. In (404), the only example available to me at this time, this applicative stem combines with the passive suffix *-w*. It appears that in an active construction, the argument structure of *tshwarelel* [ts^hwár-él-él] would be ‘X replaces Y (with the function) Z’, where Z is expressed as a bare NP, cf. *bogosi* ‘chief’ below. The form *tshwarelel* [ts^hwár-él-él] should be considered a frozen applicative, because it has two applicative derivations but introduces only one applied phrase to the transitive verb root *tshwar* [ts^hwár].

Tswana (S31; Creissels ms.b: 323)

(404) *O ne a tshwanetse go tshwarelelwa bogosi go tsamaya a fatlhoge*

ú-nè á-ts^hwánétsí χù-ts^hwár-él-él-w-à bù-χósí
S3:1-AUX S3:1-need.PFT INF-catch-APPL-APPL-PASS-FV CL14-chief
χú-tsàmàjà á-fát^hù:χé
INF-go S3:1-grow.up.SUBJ

‘He needed to be temporarily replaced in the chief function while growing up.’

HISTORICAL INFORMATION: The root *tshwar* [ts^hwár] can be posited as the reflex of PB *kúat ‘seize’ (Creissels ms.a: 13, 2007: 14), attested in zones J and S. As noted by Creissels (2007: 14), there is an expected reflex in this reconstruction: in Tswana /ts^h/ is the reflex of *k preceded by a nasal consonant and followed by *u plus another vowel (in this case *a). However, the proto-form is not reconstructed with a nasal preceding

*t. This inconsistency is in line with other cases where PB consonants not preceded by a nasal give strong reflexes in Tswana instead of the expected weak reflex (i.e. *t > /t^h/ instead of /r/; /t^h/ in Tswana is the reflex of *nt). In BLR3, the proto-form *kúat ‘seize’ is a variant entry of the main entry *kúat ‘seize, grasp’ attested in zones B, C, D, E, H, J, K, L, M, N, P and R. Derived entries of *kúat ‘seize, grasp’ in BLR3 include: *kúík ‘fix a handle’ (H, J, L, M, S), *kúúd ‘pull out, take out of handle, redeem’ (B E F G H J K L M P R S), *kúúk ‘come out of handle, move house’ E J L M S, *kúúka ‘deserted village’ (J), *kúatídidi ‘pawn’ (J), *kúatido (CL7) ‘implement, utensil’ (K, L), *kúate (CL9) ‘pawn’ (J) and *kúati ‘help’ (F, J, L). It seems that the double applicative has developed a more abstract meaning compared to that of the root. The action of ‘hold’ or ‘take hold’ is not construed in the physical sense of grasping someone’s body. Rather, it is metaphorically understood in the sense of ‘holding someone’s position’, where a position/charge is construed metaphorically as a body or entity one can grasp or catch. Note that the regular single applicative *tshwarel* [ts^hwár-él] ‘catch, seize, grasp, for/to’ is used in combination with the concrete meanings of the root.

Derivatives of the root *tshwar* [ts^hwár] in Tswana include *mo-tshwari* [mù-ts^hwárí] ‘bestman, bridesmaid, goalkeeper, person who catches/arrests’ (CL1), *tshwaro* [ts^hwáró] ‘catching, arrest, detention, treatment, power, grace, mercy’ (CL9), *bo-tshwaro* [bù-ts^hwáró] / *bo-tshwarwa* [bù-ts^hwárwá] ‘captivity’ (CL14), *ma-tshwaro* [mà-ts^hwáró] ‘door handle, door bell’ (CL6), *se-tshwaro* [sì-ts^hwáró] ‘prisoner, captive’ (CL7), *tshwarel* [ts^hwár-él] ‘catch, seize, grasp, for/to’ *tshwareg* [ts^hwár-éχ] ‘become caught, occupied, engaged, become prevented from fulfilling an obligation because of other commitments, become hypnotized’, *tshwaragan* [ts^hwár-áχ-án] ‘hold or join each other, unite’, *tshwaragano* [ts^hwáráχánò] ‘tie, alliance, union’ (CL9), *mo-tshwarateu* [mù-ts^hwáràtéú]

‘leader of a team of oxen’ (CL1) and *tshwaratshwar* [ts^hwáráts^hwár] ‘touch here and there, be mischievous, practice sorcery’. Derivatives of the double applicative include: *mo-tshwarelela* [mò-ts^hwár-él-él-à] ‘person who temporarily occupies someone’s position’ (CL1), *bo-tshwareledi* [bò-ts^hwárélédì] ‘regency, locum-tenency’ (CL14) and *mo-tshwareledi* [mò-ts^hwárélédì] ‘regent, locum-tenens, temporary substitute, person who holds or acts for or on behalf of’ (CL1).

6.6.4.5 Loss of original intensifying function

Double pseudo-applicative stems in this group display meanings which are identical to those of their roots. Possibly, these double applicative stems originally had an intensifying function (cf. §5.5). Due to high frequency of usage, they started to compete with their respective roots and perhaps lost the original intensifying function. Several entries in this group might also be classified as cases where the double applicative stem has specialized in one of the meanings of its corresponding root (cf. *kanelel* [kàn-èl-èl] ‘seal’ and *lekelel* [lík-él-él] ‘try out, test’).

kanelel [kàn-èl-èl] ‘seal’ <
kan [kàn] ‘seal, cement, ratify, sanction’

SYNTACTIC VALENCE OF ROOT: The root *kan* [kàn] is syntactically transitive, as can be followed by an object NP in (405).

Tswana (S31; Creissels ms.b: 111)

(405) *Monna yo o itse go kana dipitsa*

<i>mò-ńnà</i>	<i>jó</i>	<i>‘ú-ítsí</i>	<i>χú-kàn-à</i>	<i>dì-pìtsá</i>
CL1-man	CL1.DEM	S3:1-know	INF-seal-FV	CL10-pot
‘This man can seal (broken) pots.’				

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The only available example in the corpus of the applicative stem *kanelel* [kàn-èl-èl] is in a passive construction, cf. (406), which suggests that this applicative stem is also transitive.

Tswana (S31; Creissels ms.b: 111)

(406) *Letlole le le kaneletswe*

<i>lì-tlòlí</i>	<i>ʼlé</i>	<i>ʼlí-kán-èl-è:ts-w-ì</i>
CL5-box	CL5.DEM	S3:5-seal-APPL-APPL.PFT-PASS-FV
‘This box was sealed.’		

HISTORICAL INFORMATION: There is no reconstructed form in BLR3 which can be linked to the Tswana root *kan* [kàn]. The available data on *kan* and *kanelel* is not sufficient to make conclusive statements but tentatively, judging from the translations, both the root *kan* and the pseudo-applicative *kanelel* can be used to refer to the action of closing a container to prevent a substance from escaping (e.g. pots, boxes). Snyman et al. (1990) report for the root *kan* also the meanings ‘ratify, sanction, cement’, which could be said to be extensions of ‘seal’.¹⁵³ However, we do not have any examples of these usages. Creissels (ms.b) is the only source available to me that reports the double applicative stem *kanelel* [kàn-èl-èl] with the meaning ‘seal’. A plausible hypothesis is that originally the double applicative stem had an intensifying function (e.g. ‘seal an object completely/thoroughly’) and then, due to high frequency in usage, lost it and started competing with the root.

Derivatives of the root *kan* include *se-kano* [sì-kànò] ‘seal’ (CL7) and *kano* [kànò] ‘sealing (e.g. of a leak)’ (CL9).

¹⁵³ Otlogetswe (2012: 172) reports the single applicative *kanel* [kàn-èl] meaning ‘authenticate’. This meaning appears to be similar to the meanings ‘ratify, sanction’ listed by Snyman et al. (1990) for the root *kan* [kàn].

lekelel [lík-él-él] ‘try out, test’ <
lek [lík] ‘try (to do sthg), try out, test, attempt, dare, risk, afflict supernaturally’
 <
 **díng* ‘search for, desire, watch for’

SYNTACTIC VALENCE OF ROOT: The root *lek* [lík] can take only a subject index in (407) and (408). This root is followed either by a complement clause introduced by *gore* in (407) or by an infinitive verb form in (408).

Tswana (S31; Creissels ms.b: 154)

(407) *Ke tlaa leka thata gore ke ye go mmona kwa sepatela*

<i>kì-tlàà-lík-à</i>	<i>t^hátá</i>	<i>χúrí</i>	<i>kí-jé</i>	<i>χú-m-mónà</i>	<i>kwá</i>	<i>sì-pátè:lá</i>
S1S-FUT-try-FV	much	that	S1S-go.SUBJ	INF-O3:1-see	LOC	CL7-hospital

‘I will try to go see him at the hospital.’

Tswana (S31; Creissels ms.b: 154)

(408) *Re lekile go mo thusa mme re paletswe*

<i>Rì-lík-ílé</i>	<i>χú-m-^húsá</i>	<i>mí</i>	<i>rì-pálê:swì</i>
S1P-try-PFT	INF-O3:1-help	but	S1P-fail.PFT

‘We have tried to help him but we have failed.’

However, there are also instances in the corpus where the root *lek* [lík] is used transitively in expressions such as ‘I will try my best’. In Brown (1895) *lek* [lík] is listed as meaning ‘try, attempt, test, tempt’.

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The double applicative stem *lekelel* [lík-él-él] is syntactically transitive, as it can be followed by an object NP in (409).

Tswana (S31; Creissels & Chebanne 2000: 110)

O ne a batla gore ke lekelele koloi ya gagwe

(409) *ú-nè* *à-bàtlà* *χùrì* *kí-lík-él-él-é* *kólôì*
s3:1-AUX s3:1-want that s1s-try-APPL-APPL-SUBJ CL9.car
já-χâ:χwè
CL9.GEN-POSS.CL1
'He/she wanted me to test/try his/her car.'

In Brown (1895) *lekelel* [lík-él-él] is listed as meaning 'try the depth, sound water'.

HISTORICAL INFORMATION: The root *lek* [lík] can be posited without formal problems as the reflex of *dǐng 'desire, search for, watch for' attested in zones B, C, H, J, N and S. In BLR3 *dǐng has several derived entries including a variant entry *dǐng 'desire' (A, B, C, L), *dǐngud 'inspect, examine' (J, M, P, S) and *dǐngid 'look at' (C, J, L, S). Given the translations offered in BLR3 for the proto-form *dǐng 'desire, search for, watch for' it is not clear how the meanings of the root *lek* [lík] and the applicative stem *lekelel* [lík-él-él] might have developed, except perhaps that 'try, attempt, dare, risk' can be seen as the result of desiring to obtain something. Leaving this question aside, it appears that in Tswana the root *lek* [lík] and the applicative stem *lekelel* [lík-él-él] have at least partially the same meanings (cf. 'try out, test'), although the root *lek* [lík] is wider in the range of meanings it can encompass. Perhaps the double applicative originally added some semantic nuance to the root (completeness, thoroughness, repetition, iterativity, etc.), cf. §5.5).

Derivatives of the root *lek* [lík] in Tswana include *mo-leko* [mò-líkó] 'tribulation, supernatural affliction' (CL3), *mo-lekwa* [mò-lík^{wá}] 'person who is tested/tempted, probationer, intern' (CL1) and *lekan* [lík-án] 'test one another'.

letlelele [lètɬ-əl-əl] ‘allow’ <
letl [lètɬ] ‘allow’ <
 *dèk ‘let, let go, cease, allow’

SYNTACTIC VALENCE OF ROOT: The root *letl* [lètɬ] is syntactically transitive, as shown by the presence of a subject and an object index in (410).

Tswana (S31; Creissels ms.b: 159)

(410) *Mosimane o ne a kopa rraagwe gore a mo letle a nne nae*

<i>mù-símàní</i>	<i>ú-nè</i>	<i>á-kúpá</i>	<i>rrá-àχwé</i>	<i>χúrí</i>
CL1-boy	S3:1-AUX	S3:1-ask	CL1.father-POSS.CL1	that
<i>á-mú-lètɬè</i>	<i>‘á-ńné</i>	<i>nà:é</i>		
S3:1-O3:1-allow.SUBJ	S3:1-stay.SUBJ	with-CL1.PRO		

‘The boy asked his father to allow him to stay with him.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The double applicative stem *letlelele* [lètɬ-əl-əl] is also syntactically transitive. It can take a subject and an object index, just like the root *letl* [lètɬ].

Tswana (S31; Creissels, Tswana-French, ms.b: 160)

(411) *Mosimane wa bobedi o ne a kopa rraagwe gore a mo letlelele le ene a ye go ipatlela mosadi yo*

<i>mù-símàní</i>	<i>‘wá-bú-bèdí</i>	<i>ú-nè</i>	<i>á-kúpá</i>	
CL1-boy	CL1.GEN-CL14-two	S3:1-AUX	S3:1-ask	
<i>rrá-àχwé</i>	<i>χúrí</i>	<i>á-mú-lètɬ-él-él-è</i>	<i>lí-èné</i>	
CL1.father-POSS.CL1	that	S3:1-O3:1-allow-APPL-APPL-FV	also-CL1.PRO	
<i>‘á-jé</i>	<i>χù-í-pátɬ-él-à</i>	<i>mù-sádi:</i>	<i>jó</i>	
S3:1-go.SUBJ	INF-REFL-look.for	CL1-woman	CL1.DEM	

‘The second boy asked his father to authorize him too to ask that woman for marriage.’

HISTORICAL INFORMATION: Creissels (ms.a: 8) posits the Tswana root *letl* [lètʰ] as a possible reflex of *dèk ‘let, let go, cease, allow’ attested, according to BLR3, in zones C, D, E, F, G, J, L, M, N, P and S. The Tswana reflex *letl* [lètʰ] is partially problematic. Besides the matching semantics, in terms of form, the tone matches, *d > l and *e > e but the problem is in *k which should have /χ/ as a reflex and not /tʰ/ (in the absence of conditioning environments /tʰ/ in Tswana is the reflex of *nj). Derived entries from *dèk in BLR3 include *dèkɪd ‘fire a bullet, give’ (J), *dèkan ‘part company’ (J, L), *dèkani ‘separate, divide’ (D, J, L, M) and *dèki ‘let’ (J, K). It seems that synchronically, the root and the double applicative stem in Tswana can be used interchangeably. In fact, Snyman et al. (1990), Creissels (Tswana-French, ms.b) and Otlogetswe (2012) indicate that *letlelel* equals or is a synonym of *letl*. It is unclear what might have been the original function of the double applicative. Nevertheless, it is possible that in some earlier stages, or at least in some varieties of Tswana, *letlelel* [lètʰ-èl-èl] perhaps had an intensifying function and meant something like ‘let go completely’ or ‘cease completely’ or added intentionality to the meaning of the root, as in ‘let intentionally’ > ‘allow’.

Derivatives of *letl* in Tswana include: *letlan* [lètʰ-àn] ‘reconcile’, *mo-letlanyi* [mò-lètʰ-àni] ‘mediator’ (CL1) and *mo-letlo* [mò-lètʰ-ò] ‘celebration, feast, reception’ (CL3). Brown (1895) and Brown (1924) report *letl* meaning ‘love or honor one above another, favor, honor, reconcile, make peace’ and Brown (1924) reports *letlelel* [lètʰ-èl-èl] meaning ‘allow, make lawful’. Now, the synchronic presence of a noun such as *mo-letlo* [mò-lètʰ-ò] seems to be supporting the possibility that in fact the root *letl* had a different meaning, perhaps one or all of those proposed by Brown (1895) and Brown (1924), that is ‘celebration, feast, reception’ seem more likely to be derived from ‘reconcile, honor, make peace’ than from ‘allow’.

omelel [óm-él-él] ‘become dry, become hardened (fig.)’ <
om [óm] ‘become dry’ <
 *jóm ‘be dry’

SYNTACTIC VALENCE OF ROOT: The root *om* [óm] is syntactically intransitive, as shown by the presence of only a subject index on the verb (412). A causative derivation is necessary to add an object NP after this root.

Tswana (S31; Creissels & Chebanne 2000: 264)

- (412) *Morago ga go tlhapa mo nokeng o oma mo letsatsing*
 mòràχù χά-χó-t^hàpà mó nùké-ḡ ó-óm-á
 after CL17.GEN-INF-bathe LOC river-LOC S3:1-become.dry-FV
 mó lí-tsàtsî-ḡ
 LOC CL5-sun-LOC
 ‘After a bath in the river, she gets dry in the sun.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The double applicative stem *omelel* [óm-él-él] is also syntactically intransitive (cf. the subject index á-) and it also requires a causative derivation, just like the root *om* [óm] to add an object NP.

Tswana (S31; Creissels ms.b: 191)

- (413) *Matlhare a omelela mariga mme a tlhotlhorege otlhe mo setlhareng*
 mà-t^hàrì á-óm-él-él-à mà-ríχά ìnmí à-t^hút^húréχì
 CL6-leaf S3:6-become.dry-APPL-APPL-FV CL6-winter and S3:6-fall
 ót^hé ‘mó sí-t^hàrí-ḡ
 CL6.all LOC CL7-tree-LOC
 ‘The leaves become dry in the winter and all fall from trees.’

In addition, *omelel* [óm-él-él] has also developed the more abstract meaning ‘become hardened’ as in ‘a hardened thief’ in (414).

Tswana (S31; Creissels ms.b: 191)

(414) *Le nna ke lemoga fa mosimane yo e se legodu le le omeletseng*

<i>lí-ñná</i>	<i>kì-lémúχà</i>	<i>fá</i>	<i>mù-símàní</i>	<i>ʼjó</i>	<i>ʼí-sí</i>
and-1S.PRO	s1s-observe	that	CL1-boy	CL1.DEM	S3:9-be.NEG
<i>lí-χòdù</i>	<i>lé</i>	<i>ʼlí-óm-él-éts-ì-ń</i>			
CL5-thief	CL5.LNK	S3:5-become.dry-APPL-APPL.PFT-FV-REL			

‘I can see too that this boy is not a hardened thief.’

HISTORICAL INFORMATION: The root *om* [óm] can be posited as the reflex of PB *jóm ‘be dry’ (Creissels ms.a: 16, 1999a: 308), attested in all Bantu zones except zone R. Recall from §6.3 that in the environment of an initial *j followed by *u and a nasal, *u has ɔ as a reflex in Tswana (*jóm > óm). BLR3 also lists a variant form *jóm ‘be dry’, attested in zones E and S. In BLR3, the main entry *jóm ‘be dry’ has several derived entries, including: *jómì (CL14) ‘life’ (G, L, M, P, S), *jómì (CL1/2) ‘living person’ (G, L, M), *jómá ‘thirst’ (D, J), *jómagad ‘be very dry’ (E, J), and jómò (adjective) ‘dry’ (B, F, J, K, L, N, P). Given the meaning of the verb, it is likely that originally *omelel* [óm-él-él] was used with an intensifying function, as in ‘become completely dry’ and due to high usage lost its intensifying function and now competes with the root *om* [óm]. In support of this hypothesis, Cole (1975: 203) reports the double applicative *omelel* [óm-él-él] meaning ‘become completely dried out’, still indicating an intensifying function.

The noun *komiso* [kómísó] ‘drying’ (CL9) is derived from the root *om* [óm].¹⁵⁴ The noun *komelelo* [kómélélò] ‘dryness, hardening, scab’ (CL9) is derived from the applicative stem *omelel* [óm-él-él].

¹⁵⁴ There is also the noun *si-oma* [sì-ómá] ‘drooping horn’ (pointing downwards) which, on purely formal grounds, could be related to the root *om* [óm] ‘become dry’. However, it is unclear what the semantic relation between the two would be.

6.6.4.6 Miscellaneous

This section includes cases where: (i) the double applicative stem has developed a meaning which appears to be nearly opposite to that of its root; (ii) a lexicalization which appears to have developed out of the use of the double applicative with the adverb ‘first’ (cf. Trithart 1983: 73).

***ganelel* [χán-él-él] ‘stick to (dirt to a garment), be inclined to, tend to, persist in’**

<

***gan* [χán] ‘disobey, refuse, decline (e.g. an offer), reject, object’ <**

***káán ‘deny, refuse’**

SYNTACTIC VALENCE OF ROOT: The root *gan* [χán] is used intransitively in (415) but other examples in the corpus show this same verb followed by preposition *ka* introducing an obligatorily present oblique argument (416).

Tswana (S31; Creissels ms.b: 64)

(415) *O ne a leka go robala, boroko jwa gana*

<i>ú-nè</i>	<i>á-líká</i>	<i>χú-ròbà:là</i>	<i>bù-ròkò</i>	<i>dzwà-χân-à</i>
S3:1-AUX	S3:1-try	INF-sleep	CL14-sleep	S3:14.SEQ-refuse-FV

‘He tried to sleep but his sleep refused (to come).’

Tswana (S31; Creissels ms.b: 64)

(416) *Leeba le ne la gana ka ngwana wa lone*

<i>lì-ìbà</i>	<i>lí-nè</i>	<i>là-χán-à</i>	<i>ká</i>	<i>ηw-àná</i>	<i>wá-lòné</i>
CL5-pigeon	S3:5-AUX	S3:5-refuse-FV	INSTR	CL1-child	CL1.GEN-CL5.PRO

‘The pigeon refused (to give) his cub.’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *ganelel* [χán-él-él]

takes only a subject index and is followed by a prepositional phrase in (417). It is likely that this prepositional phrase is obligatory. However, I was not able to confirm this with

a native speaker. Whatever the case might be, *ganelel* [χán-él-él] would still qualify as a frozen applicative form because its root is intransitive but the applicative *ganelel* has two applicative suffixes but adds only applied phrase to the intransitive verb root *gan* [χán].

Tswana (S31; Otlogetswe 2012: 116)

(417) *Mosadi o ganelela mo ntlong*

<i>mò-sádí</i>	ʼú-χán-él-él-à	<i>mó</i>	<i>ṅ-tlò:-ṅ</i>
CL1-woman	S3:1-refuse-APPL-APPL-FV	LOC	CL9-house-LOC

‘The woman stays at home.’ (lit: the woman sticks to home)

HISTORICAL INFORMATION: The root *gan* [χán] appears to be the regular reflex of *káán ‘deny, refuse’ (Creissels ms.a: 8), attested in zones E, F, G, L, M, N, P and S. This main entry has also a derived entry in BLR3: *kááni ‘contradict’ (zones C, E, G, M, N, S). The Tswana root appears to have basically preserved the meaning of the proto-form and developed synonymic meanings (cf. ‘decline an offer, reject, object’). On the other hand, the double applicative stem *ganelel* [χán-él-él] appears to have developed meanings which are almost the opposite of those of the root *gan* [χán]. In particular, ‘be inclined to, tend to’ seem to be almost antonyms of ‘refuse’ and ‘decline’. The meanings ‘stick to’ and ‘persist’ look like intensifications of ‘tend to’ and ‘be inclined to’. A possible explanation for the opposite meanings displayed by the double applicative stem is that this occurred by analogy with motion verbs (cf. §5.3.3.2). In Tswana, as in many other Bantu languages, motion verb roots which lexically sub-categorize for a Source (e.g. ‘run away from’) can combine with the applicative and the resulting stem is followed by an applied phrase indicating Goal or Destination instead of Source (e.g. ‘run away towards’). As for derivatives, while Creissels (ms.) reports *ganel* [χán-él] as the regular applicative of *gan*, Snyman et al. (1990) report for *ganel* [χán-él] the meanings ‘deny an

accusation, dispute'. The root *gan* [χán] has, among others, the following derivatives: *ganan* [χán-án] 'refuse, reject one another, be insubordinate or stubborn', *bo-ganana* [bù-χánàná] 'delinquency, disobedience', *mo-ganani* [mù-χánání] 'rebel', *mo-ganetsi* [mù-χánétsí] 'adversary' and *le-ganetsi* [lì-χánétsí] 'opposite, reverse'. The double applicative *ganelel* [χán-él-él] is not reported by Brown (1895) nor Brown (1924).

There is another pair in the corpus which appears to behave similarly to the pair *gan* [χán]/*ganelel* [χán-él-él]. This is the root *sutlh* [sùtlh] 'escape, creep out' and the double applicative stem *sutlhelel* [sùt^h-èl-èl] 'break through, creep into, permeate'. The root and the pseudo-applicative are reported with these meanings both in Creissels (Tswana-French ms) and Snyman et al. (1990). Unfortunately, we do not have examples of either. The root cannot be posited as the reflex of any PB form reconstructed in BLR3.

etelel [èt-èl-èl] 'lead, precede, preside' <
et [èt] 'take a journey, go on a visit, travel' <
 *gènd 'walk, travel, go, go away'

SYNTACTIC VALENCE OF ROOT: the root *et* is syntactically transitive, but can probably also be used intransitively, as is true of most transitive roots in Tswana.

Tswana (S31; Creissels & Chebanne 2000: 311)

(418) *O etile lefatshe lotlhe*

<i>ú-èt-íl-é</i>	<i>lì-fáts^hí</i>	<i>ʋl-ô:t^hè</i>
s3:1-travel-PFT-FV	cl.7-world	cl.7-all

'He has traveled around the world'. (lit: He traveled the whole world)

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The pseudo-applicative stem *etelel* [èt-èl-èl] appears in an intransitive passive construction in (419), but the presence of passive

derivation on this verb form suggests that it can appear in a transitive active construction (i.e. The chief/leader was leading the village).

Tswana (S31; Creissels ms.b: 44)

(419) *Motse o ne o eteleletswe ke kgosi*

<i>mù-tšì</i>	<i>ú-nè</i>	<i>ú-èt-él-éts-w-ì</i>	<i>kí</i>	<i>ʼqʰò:sì</i>
CL3-village	S3:3-AUX	S3:3-travel-APPL-APPL.PFT-PASS-FV	by	CL9.chief

‘The village was being led by a chief/leader.’

HISTORICAL INFORMATION: The root *et* [èt] is the regular reflex of *gènd ‘walk, travel, go, go away’ (Creissels ms.a: 6, 1999a: 309) attested in zones A, B, C, E, F, G, J, K, L, M, N, R and S. This main entry has also a variant entry *jènd attested in zones A, C, D, F, G, H, M, N and P and several derived entries including: *jèndò (CL3/4) ‘leg’ (L, M, N, P), *jèndò (CL3/4, CL11/10) ‘journey’ (H, J, P), *gèndidid ‘visit’ (J), *gèndà (CL1/2) ‘traveller, stranger’ (C, F, H, J, L, M), *gèndakan ‘move about everywhere’ (L), *gèndi (CL1) ‘walker, traveller’ (C, J, M) and *gèndi ‘make go’ (J, L, M, S). The Tswana root *et* has specialized in one of the meanings of the proto-form ‘travel’. Creissels (ms.b) reports that both *et* and *etelel* are often used with the adverb *pele* ‘first, before’. Brown (1895) and Brown (1924) report the collocation *etelel pele* ‘go before one, precede a person’. It appears that the meaning of *etelel* might simply have developed out of a collocation. This hypothesis is supported by the fact that applicative verb forms are often used with words such as ‘first’ (and ‘on purpose’, ‘intentionally’, ‘therefore’, ‘together’, ‘in vain’) in Bantu languages (cf. Trithart 1983: 73 and §5.2).

Derivatives of *etelel* are *bo-eteledipele* [bù-ètélédípíli] ‘direction, presidency’ (CL14) and *mo-eteledipele* [mù-ètélédípíli] ‘chief, director, president, predecessor’ (CL1). Derivatives of the root *et* are *mo-eti* [mù-ètì] ‘traveller, visitor’ (CL1) and *lo-eto* [lù-ètò] ‘travel, excursion’ (CL11).

6.6.4.7 Problematic cases

dumelel [dùmèlèl] ‘allow, admit, permit, authorize’ <
 *dùmɪd (not confirmed) ‘assent’

SYNTACTIC VALENCE OF PSEUDO-APPLICATIVE: The applicative stem *dumelel* [dùmèlèl] is syntactically transitive, as can be seen in the presence of a subject index and a following object NP on this verb form in (420).

Tswana (S31; Creissels ms.b: 39)

(420) *A nka dumelela mosadi gore o nthoge ke sa mo nyala?*

à	ḡ-ká-dúm-èl-èl-à	mò-sádí	χórí
Q	S1S-POT-accept-APPL-APPL-FV	CL1-woman	that
ú-ḡ-tʰúχè	kí-sá-mò-ḡâ:là		
S3:1-O1S-insult.SUBJ	S1S-NEG-O3:1-marry		

‘Can I allow a woman who is not my wife to insult me?’

HISTORICAL INFORMATION: The applicative stem *dumelel* [dùmèlèl] could be related to *dùmɪd ‘assent’ (Creissels ms.a: 19) which already contains an applicative suffix and is present in zones K, M, R and S. Recall from §6.6.1.5 that there is also a single applicative stem *dumel* [dùmèl] ‘accept, admit, believe, agree, receive greetings’. There is at least affinity between the meanings ‘accept, admit’ of *dumel* and the meaning ‘allow’ of *dumelel* (for instance, ‘allow’ might mean ‘consider something as acceptable’). As has been already discussed for *dumel* [dùmèl], it is not clear what the root from which *dumel* [dùmèl] and *dumelel* [dùmèlèl] might derive. There appears to be a formally plausible root for these two applicative stems in Tswana, *dum* [dùm] ‘moan, roar’, from *dùm ‘roar, rumble’, but the semantic connection between *dum* [dùm] and *dumel/dumelel* appears to be untenable. BLR3 does posit a form *dùm ‘assent’ (N, S) (not

confirmed by the editors of BLR3) which is however not present in Tswana or Northern Sotho.

CHAPTER VII

HISTORICAL ORIGIN(S) AND FUNCTION(S) OF THE BANTU *-id APPLICATIVE SUFFIX

7.1 Chapter overview

In this chapter I attempt to show how lexicalization patterns observed in Chapter VI might contribute to the debate on the historical origin(s) of the Bantu *-id applicative suffix. In §7.2, I present the two proposals on the reconstruction of the form and function of an applicative extension in Proto-Niger-Congo (Voeltz 1977 and Trithart 1983) and Hyman's (2007, 2014) view on applicative extension(s) in some higher node of Proto-Niger-Congo, if not Proto-Niger-Congo itself. This information is relevant background for the following subsections and emphasizes the difficulties and limitations fleshed out by Hyman (2007, 2014) in reconstructing verbal extensions in Proto-Niger-Congo. In §7.3, for the sake of completeness, I discuss the two current hypotheses on the diachronic origins of the Bantu *-id applicative suffix, either from a serial verb construction or from an adposition. In §7.4, I present two opposing views on the original function of the Bantu *-id applicative suffix. Both sides of the debate assume that this suffix had the function of introducing an argument. However, one side argues that the added argument was originally a Beneficiary, while the other side argues that the added argument was originally a Location or Goal. Finally, in §7.5, I present the contributions of this study to the debate illustrated in §7.4.

7.2 Hypotheses on the applicative extension *de in (Proto-)Niger Congo

This section presents past and current states of knowledge about the reconstruction of an applicative verb extension in Proto-Niger Congo or some higher node in the Niger-Congo phylum. (For a working hypothesis of a Niger-Congo tree see Figure 2 and Figure 3 in Chapter I). Contributions from authors reviewed in this section come from different eras. As a result, the reader should be aware that not only has the Niger-Congo tree undergone modifications in terms of what belongs within the family and in what subbranches (cf. the discussion in §1.3), but also in terms of naming of branches.

Recall that, as discussed in Chapter I, Greenberg (1963) combined Westermann's (1927) "West Sudanic" and Bantu into a phylum called Niger-Congo (Williamson & Blench 2000: 15). Within Niger-Congo, Greenberg (1963) modified Westermann's (1927) subgrouping in the following ways: (i) Westermann's "Benue-Cross" was renamed "Benue-Congo"; Adamawa Eastern (later renamed Adamawa-Ubangi) was added to the phylum; Kordofanian (previously a small separate phylum) was combined as a subphylum co-ordinate with Niger-Congo as a whole and the phylum was renamed "Niger-Kordofanian" or "Congo-Kordofanian" (Williamson & Blench 2000). Post-Greenbergian scholars (cf. Bendor-Samuel 1989 and papers therein) later renamed Greenberg's (1963) "Niger-Kordofanian" as "Niger-Congo" and proposed (ongoing) modifications to its internal structure.

Voeltz (1977) is the first attempt to reconstruct verbal extensions for Niger-Congo. At the time of his writing, Niger-Congo and Kordofanian were considered sister branches of a higher node, called "Niger-Kordofanian". Voeltz's work (1977) seeks to demonstrate three main points: (i) the probable existence of verb extensions in Niger-

Congo; the decline of verbal extensions in nearly all Niger-Congo languages; and (iii) the possible innovation of a number of extensions in Bantu, specifically in the eastern branch.

In his search for cognates of verb extensions he considers the following subgroups: Benue-Congo (several Bantu, Bantoid, Plateau and Cross-River languages). Kwa (Grebo), Gur (Dagara and Dagbani), Ijo and Igbo (both of which appear to have no subgroup affiliation when Voeltz is writing), Adamawa Eastern (Zande and Yakoma)¹⁵⁵, West Atlantic (based on reconstructions by Doneux 1975) and Kordofanian (several languages, see Voeltz 1977: 49 for a list). Evidence and/or available data on verb extensions in Mande or Jukonoid was insufficient at the time of Voeltz's writing.

Voeltz (1977) cautiously claims that comparative evidence suggests that some verb extensions must have been present at some stage of Proto-Niger-Kordofanian. For some of these, he reconstructs the phonological shape. In positing reconstructions, Voeltz considers first the similarity in form between putative cognates and only secondly similarity in meaning. This means that he allows putative cognacy among extensions whose meanings might be divergent and even hard to relate, but whose forms are similar.

Among several others, Voeltz (1977) reconstructs a Niger-Kordofanian applied affix *de (see Table 32). For Voeltz "applied" is a cover term for a variety of semantic relationships often named "benefactive", "directive", "prepositional", etc. He conjectures that the applied extension had minimally a benefactive *and* a directive

¹⁵⁵ Voeltz (1977) notes that the affiliation of Adamawa-Eastern to Niger-Congo is highly doubtful and that Adamawa-Eastern appears to be a step child of Niger-Congo; he considers Niger-Congo to be West Africa plus Bantu.

reading in the proto-language. Syntactically, Voeltz argues that the original function was that of adding an argument to a non-applied verb.

Table 32: Reflexes of Proto-Niger-Kordofanian applied extension *de according to Voeltz (1977: 59)^a

(Proto-)Bantu	*-id	‘directive’ (Guthrie 1967-1971)
Mbui (Bantoid)	-l	‘frequentative’
Bamoun (Bantoid)	-ər	?
Nkom (Bantoid)	-lV	‘directive, reversive’
Tikar (Bantoid)	-l	‘causative’
Mambila-Wute (Mambiloid)	-l	?
Duka (Kainji)	-ε	‘benefactive’
Tafi (Kwa)	-le	?
Grebo (Kru)	-di	‘instrumental’
Igbo (West Benue-Congo)	-rV	‘benefactive’
Urhobo (Edoid)	-re	?
Dagara (Gur)	-l	‘causative’
Ndunga (Ubangi)	-la	‘stative’
Ma (Ubangi)	-le	‘stative’
Dongo (Ubangi)	-ni	?
Mba (Ubangi)	-le	‘stative’
Ngbaka (Ubangi)	-di	?
Tula (Waja-Kam, close to Gur)	-ε	?
Banda (Ubangi)	-ndε	?
West Atlantic	*-ed	‘applied/directive’
Fula (Atlantic)	-ir	‘instrumental/locative’
Temne (Atlantic)	-ər	‘directional’
Bulom (Atlantic)	-il	?
Koalib (Atlantic)	-aɖi	‘applied’
Heiban (Kordofanian)	-odi	‘applied’
Masakin (Kordofanian)	-inε	‘dative’
Otoro (Kordofanian)	-aɖa	‘applied’

^a Voeltz (1977) does not specify subgrouping for each language. The subgroups indicated in parentheses in Table 32 reflect current (e.g. 2017) state of knowledge about the genetic affiliation of the individual languages. A question mark means that I was not able to retrieve a

meaning for a given suffix in Voeltz (1977). For Otoro, Voeltz (1977: 59) lists *-ine* but this is probably a typo, because in his table of Kordofanian extensions (Voeltz 1977: 49), the Otoro applied suffix is listed as *-aḏa*. As Voeltz (1977) uses them, the term “dative” indicates beneficiaries (‘do an action for someone’) and the term “applied” indicates a prepositional meaning (‘from’, ‘off of’, ‘to’, etc.).

Something must be noted about the term “directive” of the (Proto-)Bantu extension **-id* in Table 32. Voeltz (1977: 7) says that Guthrie (1967-71) proposes a “starred” extension **-id* ‘directive’ for PB X (that is, for a stage of the proto-language before the split into East and West), Comparative Series (CS) #2188. However, there appears to be a labelling contradiction in the first two volumes of Guthrie’s Comparative Series (1967-71). In the first volume (1967: 53, 89) and in the general index in the second volume (1971: 170), Guthrie refers to **-id* (CS #2188) as ‘applicative’. However, in the second volume (1971 :144), under “Index A” and further “starred extensions”, **-id* (CS #2188) is labelled as ‘directive’. Further, Guthrie does not attribute his “starred extensions” to any genealogical level, as they appear in a section named “The starred forms of Common Bantu” (Gérard Philippson, p.c.).

Trithart (1983: 83 and ff.) criticizes Voeltz’s approach to determining cognacy among verb extensions in Niger-Kordofanian. Since Voeltz (1977) chooses form over meaning in establishing possible cognates, Trithart (1983: 83) argues that his reconstructions may “include forms which should be excluded, specifically those whose phonological shape is suggestive but which have inappropriate meanings, and may exclude forms which should be included, those whose phonological shape has changed but whose meaning still corresponds”.

Trithart (1983) also attempts, like Voeltz (1977), to establish Niger-Kordofanian cognates of the Bantu applicative **-id*. Trithart (1983: 75) argues that “the earliest

determinable form of the Niger-Kordofanian applied marker is that of a verbal affix; its earliest determinable meaning is benefactive.” Trithart does acknowledge, however, that not finding a function other than benefactive listed in the sources for a given branch *suggests* that functions other than benefactive are absent for a given affix, but obviously there is no guarantee that this is in fact the case.

Her criteria for the identification of cognates of PB *-id in branches of Niger-Kordofanian differ from those of Voeltz (1977). First, Trithart (1983) gathers what she calls “obvious” cognates based on known reconstructions (i.e. West Atlantic extensions reconstructed by Doneux 1975 and Kordofanian extensions as presented by Stevenson 1955-56). These obvious cognates are identified based on similarity of form *and* function. Second, Trithart (1983) establishes a phonological test for cognacy. The phonological test “was a comparison in phonological form between (a) the presumed reflex of the applied affix and (b) some other verb suffix known to have a comparable phonological shape in parts of Niger-Kordofanian” (Trithart 1983: 90-91). For this purpose, Trithart uses two suffixes: a causative suffix which reconstructs to Proto-Niger-Kordofanian and still surfaces as [-l] in some lexicalized verb forms in Bantu languages of Cameroon; and a perfective suffix which has *-ide as a reflex in PB, and should be reconstructed, according to Trithart, at least up through West Atlantic. No actual reconstructions of the phonological shape of the causative, perfective and “applied” morphemes in Proto-Niger-Kordofanian or some lower node are indicated by Trithart (1983). For several reasons, including available materials, Trithart (1983) gathers cognates only from Kordofanian, West Atlantic and three languages within “Benue-Kwa” (Benue-Congo plus Kwa), namely Grebo, Igbo, and Duka. The reflexes of a putative Niger-Kordofanian applied affix according to Trithart (1983) are in Table 33.

Table 33: Reflexes of Proto-Niger-Kordofanian applied affix according to Trithart (1983:

88)^a

(Proto-)Bantu	*-ɪd	'benefactive' (Meeussen 1967)
Duka (Kainji)	-ɛ	'benefactive'
Igbo (West Benue-Congo)	-Vr	'benefactive'
Grebo (Kru)	-e, -è, -ɛ, -è	'benefactive'
Ja (Atlantic)	-ed	'benefactive'
Foni (Atlantic)	-ɛr	'more subject agency (?)'
Ndut (Atlantic)	-ěn	'benefactive'
Fula (Atlantic)	-an	'benefactive'
Wolof (Atlantic)	-iil	'benefactive'
Manjaku (Atlantic)	-iir	'benefactive'
Katla (Kordofanian)	-ḍo	?
Katcha (Kordofanian)	-ada, -aḍa	'benefactive'
Krongo (Kordofanian)	-(a)gə, -(a)ga	'benefactive, comparative'
Talodi (Kordofanian)	-ǒnok	'benefactive'
Masakin (Kordofanian)	-ine	'benefactive'
Tumale (Kordofanian)	-ani, -ini	'benefactive, goal'
Otoro (Kordofanian)	-(i)jo	'benefactive'
Heiban (Kordofanian)	-(i)jo	'benefactive'
Koalib (Kordofanian)	-(i)ce	'benefactive'

^a The question mark in Table 33 means that the suffix is listed in Trithart (1983) but no gloss/meaning is provided. Also, it should be noted that both Trithart (1983) and Voeltz (1977) use Kordofanian data from Stevenson (1955-1956). However, while Trithart (1983: 88) calls the Katcha suffix *-ada/ -aḍa* 'benefactive', Voeltz (1977) calls the same suffix 'applied'. Stevenson (1955-1956) is a publication of Stevenson's dissertation (1951). Stevenson (1951: 132) calls the Katcha suffixes *-ada/ -aḍa* and the Krongo suffixes *-(a)gə/ -(a)ga* 'dative' and translates them with the English preposition *for*.

As can be observed in Table 33, Trithart (1983) lists only benefactive functions for affixes which she posits as cognates of PB *-id in Niger-Kordofanian.¹⁵⁶ Trithart states that within Benue-Kwa, outside of Bantu, applied suffixes are not frequent: in her view, this is because verbal extensions are replaced by the relatively more recent phenomenon of verb serialization (cf. also Voeltz 1977).

As we will see in §7.4, unlike Trithart (1983), other authors propose an original locative/directional function of *-id in PB. As observed above, Guthrie (1967-71) posited a ‘directive’ function along with ‘applicative’ for *-id in his starred forms, and Voeltz (1977: 60) proposed that the “applied extension” in Niger-Kordofanian had minimally a benefactive *and* a directive function (e.g. ‘directive’ as in *move towards/to*).

Trithart (1983) argues that this proposed original locative/directional function of *-id in PB cannot be reconstructed for cognate forms of *-id across Niger-Kordofanian. Instead, Trithart (1983: 100) finds, outside of Bantu, several directional suffixes which she believes are not cognate with Bantu applicative *-id, but could be cognate among themselves. These directional suffixes show up in languages (e.g. Ibgo, Duka, Mambila and perhaps Diola-Fogny) which have a formally distinct suffix to express benefactive meanings. This suffix expressing benefactive meanings is cognate, according to Trithart, with the Bantu applicative suffix *-id. Additionally, directional suffixes occupy different positions with respect to the applicative in the agglutinative verb stem.

¹⁵⁶ At the time of Trithart’s writing, Kordofanian and Mande were considered the earliest offshoots of Niger-Kordofanian, followed by West Atlantic, and later by Adamawa-Eastern and Gur. The lowest down branch is Benue-Kwa of which Bantu is a member.

More recently, Hyman (2007, 2014) fleshes out several problems involved in the task of reconstructing verb extensions in the Niger-Congo phylum. First, he states that it is difficult to safely establish that verbal extensions across different sub-branches of Niger-Congo are unmistakably cognate because, since they are grammatical morphemes, they are short and “more subject to erosion, fusion and reanalysis” (Hyman 2007: 151). As an example of the latter, there is evidence that valence-related extensions become aspect-related extensions (pluractional, attenuative, intensive etc.), a path which is also widely attested outside of Africa (Hyman 2014: 117). Second, some verb extensions might be innovations in some languages or borrowings from other languages (see Hyman 2014: 113 for examples). Hyman (2014: 113) observes that, in his experience, “extensions with fixed tone indicate more recent developments, while those which have been around for a while tend to merge tonal contrasts and receive their tone from inflectional features (tense, aspect, mood, polarity).” Based on Hyman’s observation, Bantu verb extensions appear to have been around for a while, since they are underlyingly toneless and receive tone from TAM values of the verb stem with which they combine.

The difficulty in establishing cognacy among verbal extensions has both a phonetic and semantic side. Phonetically, Hyman (2007) states that: (a) the same proto sound can have multiple reflexes in a given language (e.g. *d > [l], [r], [n], [t], Ø); and (b) the same synchronic realization of a sound in a given language can be the reflex of different proto-sounds ([l] < *t, *d, *d, or *n). On the semantic side, it is challenging to establish semantic correspondances and a single meaning for a given verb extension, because extensions can change or overlap in their functions. These difficulties are illustrated in the reflexes proposed by Voeltz (1977) (cf. Table 32) for the putative

Niger-Kordofanian applicative extension *de. On the phonetic side, Hyman (2014) argues that apparently the only requirement Voeltz had for claiming cognacy among extensions in different sub-branches of Niger-Kordofanian was the presence of some sort of coronal consonant (e.g. -r, -l, -n, -d). However, coronal consonants “tend to predominate in most verb extensions in Niger-Congo and, in fact, well beyond. [...] Extension consonants are almost all coronal in Greenberg’s Atlantic branch, whose unity as a sub-branch of N(iger) C(ongo) has, however, not been demonstrated.” (Hyman 2014: 107). It is perhaps a question of faith, therefore, whether one believes that Temne and Fula (Atlantic) -r is in fact related to PB *-d in *-ɪd, given that Bantu and Atlantic are rather distant branches within Niger-Congo. On the semantic side, there is an obvious problem with the many functions of allegedly the reflexes of the same extension, as illustrated in the meanings listed in Table 32. In my opinion, a similar reasoning applies to the reflexes of an original applied affix posited by Trithart (1983) in Table 33. Phonetically, most of her cognates also have coronal consonants. Semantically, as Trithart (1893) herself says, the fact that a given extension is labelled as ‘benefactive’ in the source does not necessarily ensure that ‘benefactive’ is the only meaning of that extension. Further, it appears that the “meanings” or “glosses” for putative cognate suffixes listed in original sources are at times re-interpreted and/or re-glossed by authors using those sources, so that it is not always clear what is meant exactly by “benefactive”, “dative” or “applied”.

Despite these challenges, Hyman (2014) states that there are unmistakable verb extension cognates between Bantu and other Niger-Congo subgroups such as Gur. Therefore one can confidently reconstruct verb extensions to some early stage of Niger-Congo if not to Proto-Niger-Congo itself. According to Hyman (2014), this earlier stage

would include minimally Benue-Congo, Kwa and Gur-Adamawa. Most scholars believe that the synchronically richer systems of verb extensions (e.g. in Bantoid, Gur, Atlantic, Central Nigerian, Kordofanian) represent the original situation of the proto-language, if not retentions from Proto-Niger-Congo.¹⁵⁷

As for the development of verb extensions in Niger-Congo languages, Hyman (2007: 155) states that two possible sources are usually recognized: (i) serial verbs (V + V + NP > V-ext + NP) (cf. Givón 2015c discussed in the next section); and (ii) prepositions (V + Prep-NP > V-ext + NP) (cf. also Voeltz 1977: 22) through a strategy called “verbal attraction” (see Hyman 2007: 156 for details). Each of these two diachronic origins pairs up with a preferred reconstructed word order for Niger-Congo: while the serial verb hypothesis is most compatible with a SOV order, the preposition hypothesis follows from a SVO order. These two hypotheses in relation to the Bantu applicative suffix *-*id* will be discussed in the next section.

¹⁵⁷ Hyman (2014: 120) observes that Atlantic languages have extensions which appear to be Niger-Congo, but might instead be independent developments. As for Kordofanian, Hyman (2014: 120) believes that extensions in this sub-branch might not look like obvious cognate of those found in other sub-branches, but might turn out to be in fact cognate.

7.3 Hypotheses on the source of the Bantu *-id applicative suffix

One of the most well known hypotheses about the diachronic origin of Bantu verb extensions is that of Givón (2015b), who argues that verb extensions in Bantu were originally finite main verbs. Givón argues this independently, but Voeltz (1977: 14) notes that Endemann (1876) also suggests that in Sotho “verb extensions are wholly verbs whose independent use has, for the most part, disappeared” (Endemann 1876: 61 cited by Voeltz 1977).

Givón’s argument applies to what he calls “core-Bantu”, that is, the Bantu languages of east and southern Africa south of the Congo river and excluding the Grassfield Bantu languages of West Africa. Givón observes that in comparison to the modal-aspectual suffixes (e.g. the so-called “final vowel” and other suffixes such as *-il* which Givón calls “Perfective/Modified Base”), verbal extensions (cf. Table 3 in §3.4) are phonologically larger, semantically more coherent and placed nearer the verb stem. However, the modal aspectual suffixes occur after the verb extensions as in:

VERB STEM-EXTENSIONS-MODAL-ASPECTUAL SUFFIXES. This causes a conflict in the criteria for time depth in grammaticalization: the larger phonological size and semantic coherence would lead one to assume that the verbal extensions are younger, but the more external position of the modal-aspectual suffixes would suggest that the modal-aspectual suffixes are younger. To solve this apparent conflict, Givón argues that:

a) during the grammaticalization of both modal-aspectual suffixes and verbal extensions, the syntax of Proto-core-Bantu had an OV, COMPL-V word order,¹⁵⁸

¹⁵⁸ In fact, Givón argues that the original word order of Niger-Congo was OV and then drifted to VO. For details and opposing views, see Givón (2015c) and Voeltz (1977: 17 and ff.), among others.

b) the verbal extensions have a verbal origin, that is, they were originally finite main verbs or “auxiliaries” following their non-finite verbal complements;

c) modal-aspectual suffixes were already suffixes on the verbal extensions when the verbal extensions were still finite main auxiliary verbs. In this scenario, the modal-aspectual suffixes “were dragged along into the verbal paradigm when those auxiliaries themselves became cliticized –all during a period of OV, COMP-V syntax.” (Givón 2015b: 128). Givón supports this hypothesis by appealing to analogous developments of some tense-aspect suffixes in Romance languages.

Givón argues that this direction of change (from verbs to suffixes) is solid from a semantic point of view. For instance, verbal etymologies for causative suffixes are “a near universal”, and verbal etymologies for benefactive and de-transitivizing suffixes are very widespread in other language families.¹⁵⁹ In terms of form, most Bantu verbal extensions have a VC shape. Bantu verb stems usually have the shape CVC. The loss of intra-vocalic consonants (especially voiced) is a widespread phenomenon in Bantu. Givón argues that this loss supports a predictable simplification in compound verbal stems: CVC – CVC > CVC-VC.¹⁶⁰

As observed by Trithart (1983: 78), Givón does not provide possible verbs that could have been sources for the grammaticalization of Bantu verbal extensions.

Endemann (1876: 61, cited by Trithart 1983) proposes that the Bantu applicative suffix

¹⁵⁹ Voeltz (1980) proposes that the PB perfect suffix *-ide originates in the verb *cìd ‘finish’. Hyman et al. (1980) suggest that the Bantu causative suffix *-ic-i (segmentation may vary) originates in the verb *rti ‘do, make’.

¹⁶⁰ Spike Gildea (p.c.) observes a possible problem with the consonant simplification schema proposed by Givón (2015b), namely the fact that almost universally, in the presence of a consonant cluster, it is the first consonant that is usually lost, and not the second.

*-id might derive from the verb *gèd ‘flow, stream’. Other etymologies might have been proposed in Kähler-Meyer (1966) but I was unable to obtain access to this source. No etymology is proposed, as far as I can tell, in Van Eeden (1956).

Besides the verbal origin proposed by Givón (2015b), Voeltz (1977: 22) considers it entirely possible, or as valid as the verbal origin proposed by Givón, that Niger-Congo verb extensions (including those in Bantu) have their origin in adpositions that got attached to the verb. For instance, the Bantu associative/reciprocal suffix *-an* is often thought to have originated in the preposition *na* ‘with’ (Hyman 2007). The possibility that the Bantu applicative suffix *-id originated in the incorporation of a preposition is also suggested by Creissels (2013).

7.4 Hypotheses on the original function(s) of the Bantu *-id applicative suffix

In general, most scholars agree that the *-id applicative suffix in PB (and possibly further back in Niger-Congo) had a valence-increasing function in that it added an argument to the argument structure of a verb root. Authors differ, however, in what was the semantic role originally associated with the additional syntactic argument added by the applicative. Some (Trithart 1983) believe that it was a Beneficiary. Others believe that it was more likely a Location or a Goal (Endemann 1876, Kähler-Meyer 1966, van Eeden 1956,¹⁶¹ Schadeberg 2003a, Cann & Mabugu 2007, De Kind & Bostoen 2012). As observed in §7.2, Voeltz (1977) argues that both locative/directive and benefactive meanings were associated with the applicative in Niger-Kordofanian.

¹⁶¹ To be exact, Van Eeden (1956: 667) says that the Purpose and Goal/Direction functions of the applicative in Bantu grammars appear to be “special” or “distinctive”.

Trithart (1983: 155) claims that the indirective function of the *-id applicative suffix appears throughout Bantu and should be reconstructed for PB. By “indirective” she means animate (usually human) NPs with the semantic roles of Benefactive, Malefactive, Recipient, Ethical Dative and (certain instances of) Possessor. After reviewing all other functions that she finds for the applicative suffix *-id, she concludes (Trithart 1983: 198-199):

[...] The earliest function of the applied affix was that of a marker for benefactive NPs. Throughout Niger-Kordofanian, up to proto-Bantu, this is the only function consistently exemplified. In proto-Bantu, the affix began to spread to a variety of additional semantic relations: indirective, motive, locative and time. The indirective use was a semantic generalization of the benefactive function to additional (ethical) datives: malefactives and recipients. [...] Purpose NPs probably sprang directly from the original benefactive use. The goal locative function was a secondary semantic extension from the earlier spread of the benefactive affix to recipient NPs. A variety of other locatives followed. From locatives the applied spread to time adverbs. Of these proto-Bantu uses, the locative and time functions, especially time, were incompletely established at the time of the break-up of the proto-language.

Trithart (1983) follows Heine’s (1972) internal genetic classification of Bantu and model of Bantu expansion, the so-called “east out of the west model” (see Figure 5 in §1.3). Before the break up of the proto-language, Trithart (1983) posits the following steps of development for the function of the applicative suffix *-id:

- (1) benefactive > recipient
- (2) recipient > locative
- (3) locative > (adverbs of) time

Trithart (1983) does not provide any specific piece of evidence for this proposed directionality of change, except perhaps plausibility.

After the second wave of Bantu migration, that is, from the lower Congo region eastwards (cf. Figure 5), in several groups of languages in all Bantu zones except zone A (i.e. Heine's 1972 group 11), the uses of the applicative suffix with locative expressions broaden, and the applicative develops discourse functions (cf. §5.4 and subsections therein). At this point, Trithart posits a fourth step of development:

(4) (adverbs of) time > (adverbs of) manner

In a third wave of migration (presumably from proto-East Bantu southwards, eastwards and northwards), in groups of languages in zones D, E, F, G, K, L, M, N, P and S (i.e. Heine's 1972 subgroup 11.9), the applicative suffix continues to expand its semantic, syntactic and discourse functions and, from being used with manner adverbs, it spreads to Instruments:

(5) (adverbs of) manner > instrument

Unlike Trithart (1983), Schadeberg (2003a: 74) argues that the original function of the applicative "was to tie the non-patient complement closer to the verb. The first of such non-patient complements may well have been locative ones, from which the other roles of the dative object have evolved". In support of Schadeberg's proposal, Cann & Mabugu (2007: 4) argue that in Shona, Goal is the underlying meaning of the applicative from which other semantic roles are derived. Similarly, De Kind & Bostoen (2012) argue that certain functions of the applicative in Luba-Kasai can be accounted for only if one posits that the original meaning of the applicative was Goal.

Hyman (2007) observes that while in what he calls "Central Bantu" languages (i.e. central, eastern and southern Bantu excluding northwestern Bantu), the *-id suffix

covers many functions (Locative, Allative, Benefactive, Instrumental, etc.), in Atlantic languages such as Temne and Fula different functions are covered by more than one suffix (e.g. in Temne the suffix *-r* is used for Allative, Locative and Recipient meanings, *-a* for Benefactive, Circumstance and Manner and *-a/-nɛ* for Instrument). According to Hyman (2007), there are two possible logical scenarios for the development of the polysemy of the Bantu **-id* applicative suffix:

1) **-id* originally had only one meaning. Then, it acquired additional meanings/functions through the semantic pathway proposed by Trithart (1983) or the one proposed by Endresen (1994, cited by Hyman 2007) in the Atlantic language Fula.¹⁶² This scenario presupposes relatively few applicative-like extensions in Proto-Niger-Congo, perhaps only the applicative suffix reconstructed for PB.

2) Different suffixes/extensions developed originally for several functions (Instrumental, Locative, Benefactive, etc.) and then they were replaced by the applicative **-id* through one of the semantic pathways described in a). This scenario presupposes a wider inventory of applicative-like extensions in Proto-Niger-Congo, similar to what is observed in Atlantic languages where applicatives are formally different for semantically different functions (Benefactive, Instrumental, etc.).

Hyman (2007: 158) has a preference for the latter scenario, where “Bantu has merged a richer system of applicative-like extensions, but until Atlantic is understood better, the possibility always remains open that some of the extension properties found in that group are actual innovations.” A good internal phylogeny of Bantu languages,

¹⁶² Endresen (1994) proposes that in Fula, the synchronic benefactive suffix *-an* and causative *-in* have a common etymology **-Vn* and developed through the following semantic pathway: allative > recipient > benefactive (> causative).

unfortunately lacking at the present time, could motivate arguments for a certain direction of change in the scenarios posited by Hyman (2007) (Spike Gildea, p.c.).

Finally, it should be noted that some scholars of other branches of Niger-Congo suggest that the original function of the applicative in Niger-Congo might not have been that of a valence-increasing device at all. According to Boyd (2010), the claim that Proto-Niger-Congo had an applicative verb extension with a valence-adding function is grounded in phenomena observed in Bantu. Boyd (2010: 346) argues that based on evidence from Adamawa-Ubangi, the applicative's "primary function was not the addition of a syntactic argument but rather exclusively semantic: it allowed nuancing of the base verb with the sense 'specialization of the process for a particular circumstance or purpose'". Boyd cites several examples from Zande (Ubangi) where the root *pas* 'cook' has a derived applicative *pas-ad* for which different authors report different meanings including: 'make a decoction', 'heat up, cook twice' and 'cook in an incomplete way to prevent corruption'. A perhaps similar situation is present in some Efik (Cross-River) examples in Voeltz (1977: 27) involving the suffix /-V̄/ which Voeltz (1977) labels "applied ?" (cf. *yét* 'wash (things)' > *yére* 'wash (body parts)').

7.5 Contributions of this study to the debate(s)

My goal in this section is to provide some degree of evidence, based on the functions of applicative constructions discussed in Chapter V and on evidence from lexicalization patterns in Tswana pseudo-applicatives in Chapter VI, in favor of an original Goal or Location-oriented function of *-id and against an original Beneficiary function. My argumentation assumes, for the time being, that the applicative in PB was

in fact a morphosyntactic device used to introduce a participant to the argument structure of its root.

My arguments in favor of an original Goal/Location function of *-id and against an original Beneficiary function (cf. Trithart 1983) are the following.

First, in the literature on grammaticalization pathways (Heine et al. 1993, Heine & Kuteva 2002, Givón 2015d, *inter alia*), there are no attested paths of change, to my knowledge, which go from Benefactive to Allative (spatial Goal) or from Dative (human Goal) to Allative, but there are a lot of attested changes which go from Allative to Benefactive. The extension of an Allative (e.g. spatial Goal) marker to a Dative (e.g. human Goal) to a Benefactive is also an instance of a major diachronic trend relevant to language evolution whereby concrete words > abstract words (Givón 2015e: 714) (e.g. go to a place > do something for the benefit of someone).

According to Heine et al. (1993: 12), Allative markers (case marker or adposition) usually give rise to Purpose and Reason markers in Bodic languages (Western Tibeto-Burman), Rama (Chibchan) and To'aba'ita (Austronesian) and eventually to infinitive markers (e.g. German, English, Indo-European). Heine & Kuteva (2002: 37) add COMPLEMENTIZER at the end of the chain of grammaticalization ALLATIVE > PURPOSE/REASON > INFINITIVE, with attested cases in Indo-European (Latin, French) and Maori.¹⁶³ In addition, Heine & Kuteva 2002 report the following grammaticalizations of allative: ALLATIVE > DATIVE (including BENEFACTIVES) (Tamil, Lezgian, Indo-European languages); ALLATIVE > PURPOSE (Imonda, Albanian, Lezgian, Basque); ALLATIVE > TEMPORAL (German, Albanian, Lezgian). The development of

¹⁶³ Perhaps this would explain why the applicative in Bantu appears on subordinate clauses such as 'when' and 'why' clauses (cf. Trithart 1983).

Allative into a Benefactive is also reported by Givón (2015d) who proposes that “ethical dative” markers arose (apparently) independently in several languages (Biblical and Modern Hebrew, Aramaic and other Semitic languages, Spanish, Polish and perhaps Akkadian, among others) through a grammaticalization chain such as: Allative > Dative > Benefactive > (Reflexive-Benefactive > Ethical Dative).

Heine & Kuteva (2002: 54) also report instances, however, of Benefactive markers developing into Dative markers. For instance in Ewe (Volta-Niger, Niger-Congo), the verb ‘give’ developed into a Benefactive marker and further into a Dative marker (e.g. *He said it to me*). Further, Benefactive markers can also develop into Purpose markers (Bulgarian, English, Yaqui, Easter Island, Yaqui). Heine & Kuteva (2002: 54) observe that in this case, grammaticalization appears to be achieved by context expansion, where Benefactive adpositions are extended from human to inanimate complements. However, they argue that more diachronic data is needed to substantiate this claim of directionality. Heine & Kuteva (2002) do not report any cases where a Benefactive marker (case or adposition) develops into an Allative marker for spatial Goals. Also, assuming that Givón’s hypothesis about the diachronic source of verbal extensions in Bantu is right (although there is no way to prove it), then perhaps *-id would have developed from a verb such as ‘give’ into a verb extension introducing benefactive NPs. However, PB *jínk ‘give’ does not look phonetically like a good candidate for such a pathway.

Second, when looking at the function of Type A applicative constructions, i.e. those which introduce an applied phrase with different semantic roles, it is evident that the amount of variation and idiosyncrasy in whether a verb root in a given language requires the applicative to combine with a phrase expressing Location is huge. Within

the same language, this is usually lexically specified on a root by root basis. The “type” of location also makes a difference: some roots in some languages do not require the applicative to combine with General Locations, while others do require the applicative to add some more “Specific” Location. In addition, virtually all the pragmatic functions of Type B applicative constructions have to do with Locative phrases (focus, expression of habituality, widening the scope of a locative phrase). When looking at Beneficiary applied phrases on the other hand, the situation appears to be quite uniform, and certainly not messy. The amount of diversification, idiosyncrasy and accretion of complexity found in the Locative function across Bantu languages might suggest that this function is older than Benefactive (and Instrument) and thus had more time to develop complexity and idiosyncratic behavior.¹⁶⁴ According to this line of reasoning, the instrumental function of the *-id applicative suffix appears to be an innovation limited to some branches or areas (cf. also Trithart 1983) which shows virtually no idiosyncracies.

Third, as observed in §5.4.2, it is uncertain how widespread the narrow focus function of the applicative suffix is in Bantu languages. As argued by Creissels (2004), knowing how extensive the use of the applicative as a focalizing device is within Bantu languages is crucial to determine whether this use is an innovation or a relic of a usage already present in the proto-language. Creissels (2004) suggests that the latter is more probable under the hypothesis that syntactic structures are the result of the fossilization of discursive devices. If the focalizing function turns out to be widespread in Bantu languages, then this would also constitute evidence in favor of an original Locative or

¹⁶⁴ This second argument has been suggested to me by Gérard Philippon and Denis Creissels.

Goal function of the *-id applicative suffix. As argued by De Kind & Bostoen (2012), positing an underlying Goal meaning for the applicative and considering that Goals are usually Locative in nature explains the extension of the applicative effect of introducing applied phrases in immediately postverbal focus position to focalizing locative phrases which usually do not occur in this focus position. Thus, under this scenario, if the applicative originally introduced a Goal or Locative applied phrase, then the focus function on locative phrases (and perhaps other pragmatic functions discussed in §5.4) would have been present already at the PB stage, instead of developing out of the use of the applicative with locative expressions as proposed by Trithart (1983). Obviously, this argument could become much stronger if based on a reliable internal phylogeny of Bantu languages. If the use of the applicative function as a focalizing device is found across different sub-branches once a reliable phylogeny has been established, then one could argue based on economy (i.e. positing fewer changes is more plausible) that this focalizing function must have been already present in the proto-language.

Fourth, if the applicative originally added a Benefactive NP to a given root as argued by Trithart (1983), there should be at least some evidence of lexicalizations which occurred via an original Benefactive meaning. However, this does not appear to be the case in the data presented in this study. As shown in §6.6, out of 78 cases of lexicalized applicative stems, only one applicative stem, with two applicative derivations, has developed a meaning attributable to an original Beneficiary function. On the other hand, in support of an original Location/Goal function of the applicative, there appears to be some evidence in the Tswana data of lexicalizations that imply either an original Goal or Purpose applied phrase (29.1% of entries, see Table 31). In particular, some applicative stems which probably originally added a Goal or Purpose

argument to their roots are reconstructed with an applicative suffix already at PB stage and have reflexes in several Bantu zones. This indicates that probably these lexicalizations are old and they are not found only in Tswana. This line of argumentation assumes that lexicalizations are somewhat “old” material. It also assumes that lexicalizations originate in the fossilization of Type A applicative constructions, e.g. those which simply introduce an applied phrase. This, in turn, somewhat implies that Type A applicative constructions were the original form and function pairing present in the proto-language from which other construction types might have developed. Spike Gildea (p.c.), however, observes that Type A applicative constructions are productive and polysemous and that polysemy is the antithesis of lexicalization.

With respect to other semantic shifts observed in the case study of pseudo-applicatives in Tswana, over 40% of lexicalized applicative stems are in the group of semantic narrowing/specialization. Following these two groups, there are several cases where pseudo-applicative stems appear to have developed an abstract meaning derived metaphorically from the more concrete meaning of their synchronic or historical roots (18%). It is unclear how semantic specialization and concrete to abstract metaphor cases fit in with the syntactic function of the applicative introducing applied phrases. Certainly, semantic specialization cases fit well with what has been observed by Boyd (2010) for the applicative in Ubangian languages, namely, that the applicative seems to be used to add specialize the process/action described by the root for a particular circumstance or purpose.

The data presented in this study, however, is not sufficient to substantiate Boyd’s claims, assuming of course that in fact Ubangian languages should be included in the

Niger-Congo phylum (cf. Dimmendaal 2011). For example, it is not known whether and to what extent lexicalizations with other verbal extensions in Bantu languages could also result in semantic specialization or metaphorical abstraction. Thus, it is impossible at the present time to be sure that semantic specialization of metaphorical abstraction are semantic shifts “typical” or exclusive of lexicalized stems containing a reflex of the Bantu applicative suffix *-id. Further, it is unknown whether lexicalizations based on semantic specialization might be older or younger than, for instance, lexicalizations involving an original Goal/Purpose added argument. Comparative studies of applicative lexicalizations in other Bantu languages are needed to determine whether the results found in Tswana hold true for other languages as well and to what extent the same types of semantic shifts are also found in other zones.

CHAPTER VIII

CONCLUSIONS

This work has attempted to show that the applicative suffix *-id in Bantu languages is highly polyfunctional and that it does not always function as a clear-cut valence-increasing device, as has also been recently argued by Jerro (2016a). In Chapter II, I have argued that, from a typological perspective, there is uncertainty as to what should be the primary, defining criteria to include a given construction in the category “applicative” and why. As happens with other linguistic categories across language families, some features of applicative morphemes in certain languages become well-known and are later assumed to be “canonical” or “prototypical”. Perhaps the possible valence-increasing function of the applicative in Bantu has become one of its defining characteristics, but it is certainly not its only function. In fact, considering all the functions described in Chapter V, one wonders why the valence-increasing function should be the defining one, except for the fact that this is a function that has been observed in other languages which have some kind of structure comparable to the Bantu applicative suffix *-id.

Complementarily to the work of Jerro (2016a), Chapter III has discussed some of the difficulties in claiming that the applicative in Bantu is a valence-increasing verbal derivation, which adds a new (object) “argument” to the argument structure of its verb root. These difficulties stem from the fact that distinguishing syntactic (object) arguments from adjuncts in Bantu can be a daunting task. Two major issues hinder this

distinction: the theoretical validity of a syntactic notion of “object” identified by syntactic diagnostics, and the syntactic nature of phrases with locative semantics, due to variation in their historical developments.

In Chapter IV, I have proposed a distinction between Bantu applicative construction types which does not assume that the “canonical” function of the applicative suffix is that of increasing the syntactic valence of its root. Rather, the distinction among the four construction types discussed in Chapter IV was based on the following parameters: (i) whether the applicative introduces an obligatorily present applied phrase with or without a concomitant increase in the syntactic valence of the root; (ii) whether the applicative performs semantic/pragmatic functions besides introducing an obligatorily present applied phrase; (iii) whether the applicative stem present in the construction is subject to lexicalization; and (iv) whether the construction is productive across verb classes.

In Chapter V, I have discussed functions of Type A, Type B and Type C applicative constructions. In Type A applicative constructions, the applicative suffix introduces an obligatorily present applied phrase with different semantic roles. The semantic roles assigned to the applied phrase are heavily dependent on the lexical meaning of the root and on context. Location-related semantic roles show the greatest complexity and idiosyncracies on a root by root basis in individual Bantu languages. In Type B applicative constructions, the applicative suffix introduces an obligatorily present applied phrase (usually a Location) and semantically or pragmatically modifies it by: (i) extending the scope of the locative applied phrase to the entire clause, (ii) placing the locative applied phrase under some kind of narrow focus; or (iii) conveying habituality to the action described by the verb stem *at* a certain location. In Type C

applicative constructions, the applicative suffix does not introduce an applied phrase; instead, it adds repetitiveness, completeness, thoroughness, excess, intensity or intentionality, among others, to the action described by the verb root. In this construction type, applicative stems often undergo lexicalization.

Chapter VI has been dedicated to pseudo-applicative constructions, that is, constructions in which the applicative present on a verb stem has lost its ability to introduce an applied phrase and does not perform any of the functions typical of Type B and Type C applicative constructions. The results of the case study of nearly 80 pseudo-applicative stems in Tswana has revealed that the applicative participates in semantic shifts such as specialization/narrowing and concrete to abstract metaphorical extensions. The results also provided some evidence of lexicalizations of pseudo-applicative stems in which the applicative originally added a Goal or Purpose applied phrase to its root. The latter results have been adduced as supporting evidence, in Chapter VII, of an original Goal function of the *-id applicative suffix in PB.

Arguments related to an original function of a suffix as old and as segmentally reduced as PB *-id are of course only tentative. I do not claim in any way to have “solved” the puzzle of the function(s) and origin(s) of this morpheme in PB or Niger-Congo. Nevertheless, I have argued in Chapter VII that, as several Bantu scholars have suggested, if in fact the PB applicative suffix *-id added a semantic/syntactic argument to its verb root or “tied” (cf. Schadeberg 2003a) a complement closer to its root, then probably it was originally used to add a Goal or Locative, and not Beneficiary, argument. An original Goal or Location-related function is supported by: (i) the lack of attested grammaticalization paths in which Benefactives markers develop into (Spatial) Goals markers; (ii) the fact that the obligatory use of the applicative to introduce

Location-related semantic roles in Bantu languages shows a high degree of variation, complexity and diversification on a root-by-root level; (iii) the fact that all pragmatic or discourse-related functions target, synchronically, mostly locative phrases and that perhaps an original focalizing function of *-id could have been present already at PB stage (cf. Creissels 2004); (iv) the virtually almost complete absence in the case study of Tswana pseudo-applicative stems of lexicalization paths based on an original Beneficiary applied phrase.

As observed in Chapter IV, future research on the construction types proposed in this work should investigate whether a unified semantic concept links the functions of these different construction types together. Future research should also address what kind of evolutionary pathways might exist between the primarily syntactic function of introducing an applied phrase, the information structure function of placing a clause constituent under narrow focus, and the semantic/aspectual function of nuancing the meaning of a given verb root, among others. Another important step in future research would be to determine which construction(s) were the “original” ones from which others evolved. Gaining a better understanding of the relationship that might exist synchronically and diachronically among these applicative construction types could ultimately lead to developing a more sound theoretical (conceptual) definition of “applicative” in Bantu.

APPENDIX A

LIST OF ABBREVIATIONS

In this work, I have attempted to make glosses and abbreviations uniform across all Bantu and non-Bantu examples. This task, however, could not be completely achieved. The reader should be aware that in the list of abbreviations below, the abbreviations 1SG, 3SG, SBJ and OBJ are valid for non-Bantu examples only. Bantu examples have different abbreviations for the categories of singular, plural, subject and object due to the presence of noun class systems and subject and object indexes. I have indicated this difference in the list below with “non-Bantu examples only” and “Bantu examples only” next to the relevant gloss. Lastly, in the following list of abbreviations, “x” always stands for a number.

1SG	first person singular (NON-BANTU ONLY)
3SG	third person singular (NON-BANTU ONLY)
-a	default final vowel for verbs
ABS	absolutive
ACC	accusative
ADV	adversative
AOR	aorist
APPL	applicative (affix)
APPL~CAUS	applicative-like causative (affix)
ASP	aspectual affix
AUX	auxiliary
BEN	benefactive (affix)
CAUS	causative (affix)
CJ	conjoint verb form
CLX	noun prefix of class x
COM	comitative

COMPL	completive
CONN	connective
D2	distal deixis
DAT	dative
DEF	definite
DEM	demonstrative
DET	determiner
DIM	diminutive
DJ	disjoint verb form
DYN	dynamic indicative
ERG	ergative
EXPL	expletive
F	feminine
FOC	focus
FUT	future tense
FV	final vowel/finite verb affix
GEN	genitive
IMP	imperative
INCMPL	incompletive
INF	infinitive
INST	instrumental affix
INSTR	instrumental preposition
IPF	imperfective
IPST	immediate past tense
LC	locative clitic
LNK	linker
(-)LOC(-)	locative affix
LOC	locative preposition
M	masculine
MANN	manner (affix)
N	non-human
NAR	narrative (case)
NEG	negation (affix)
NOM	nominative
o (followed by 1 or 2)	object index of 1st or 2nd person (BANTU ONLY)

O3:X	3rd person object index of class x (BANTU ONLY)
OBJ	object (NON-BANTU ONLY)
OBL	oblique
P (preceded by 1 or 2 indicating person)	plural (BANTU ONLY)
PASS	passive (affix)
PERF	perfective
PFT	perfect
POSS	possessive
POT	potential
PP	pronominal prefix
PREP	preposition
PRO	personal pronoun
PROG	progressive
PRS	present tense
PRV	pre-radical vowel
PST	past tense
PST3	past tense 3
PV	preverb
Q	question marker
RDR	redirective applicative (affix)
REC	reciprocal (affix)
REFL	reflexive (affix)
REL	suffix typical of relative verb forms
RLT	relational applicative (affix)
s (followed by 1 or 2)	subject index of 1st or 2nd person (BANTU ONLY)
s (preceded by 1 or 2 indicating person)	singular (BANTU ONLY)
s3:X	3rd person subject index of class x (BANTU ONLY)
SEQ	sequential
SBJ	subject (NON BANTU ONLY)
SUBJ	subjunctive
TR	transitive (affix)
TNS	tense
TRR	transitivizer

APPENDIX B

TSWANA SINGLE PSEUDO-APPLICATIVE STEMS

Appendix B lists all Tswana single pseudo-applicative stems (parsable and non-parsable) found in the corpus. For each single pseudo-applicative stem, I include: a corresponding synchronic Tswana verb root (if present); a PB ver root/stem obtained from BLR3 to which the synchronic Tswana single pseudo-applicative stem and root can be linked by means of (mostly) regular sound change; and Bantu zones in which the PB root/stem has reflexes according to BLR3. In Appendix B, only PB roots/stems immediately relevant for the Tswana root/stems are listed. For other derivatives of PB roots/stems listed in BLR3 but not included in this Appendix, see the discussion of each Tswana pseudo-applicative stem in Chapter VI.

KEY: **M** = main entry; **DER** = derived entry; **VAR** = variant entry; **NC** = entry not confirmed in BLR3; **NS** = root present in Northern Sotho but not in Tswana; **(s)** = zone S not listed in BLR3; **-** = no proto-form can be found in BLR3 or no root extant in Tswana.

TSWANA PSEUDO-APPL STEM (ONE APPLICATIVE SUFFIX)	TSWANA VERB ROOT	PROTO-BANTU VERB ROOT/STEM (ALL FORMS TAKEN FROM BLR3)	ATTESTED REFLEXES IN BANTU ZONES (FROM BLR3)
<i>akgel</i> [àq ^h -èl] ‘give an opinion (on sthg), comment on’	<i>akg</i> [àq ^h] ‘swing to and from, carry sthg swinging, wave the arms in anger’	*jànk (DER) ‘swing (arms, feet)’	S
		*jànk (M) ‘catch, receive’	C, J, L, M, N, P, S
<i>amogel</i> [àmùχ-èl] ‘accept, welcome, usher, admit, agree with, earn, receive, receive a salary’	<i>amog</i> [àmùχ] ‘deprive of, take away from’	*jamok (NC) ‘receive’	E, M, S
<i>aramel</i> [ár-ám-él] ‘sunbathe, bask in the sun, warm oneself up, heal oneself through inhalations, steam oneself under a blanket’	<i>or</i> [ór] ‘bask, warm up’	*jót (M) ‘warm oneself’	A, B, C, E, F, G, H, J, K, L, M, N, P, R, S
<i>babael</i> [bàbà-èl] ‘walk stealthily, tread or step lightly/gingerly (owing to sore feet)’	<i>baba</i> [bàbà] ‘walk softly on account of tender or sore feet, walk stealthily’	*bàb (NC) ‘walk heavily’	C, H, L, (S)

<i>balel</i> [bál-él] ‘choke’	<i>bal</i> [bál] ‘close, shut, begin, challenge, provoke’ (NS)	* bád (M) ‘begin (tr.)’	B, M, R, S
<i>bipel</i> [bíp-él] ‘constipate’	<i>bip</i> [bíp] ‘cover, veil’	* bìmb (M) ‘thatch, hide’	E, F, G, J, L, M, N, P, S
<i>bolel</i> [ból-él] ‘say, announce’	<i>bol</i> [ból] ‘divulge, make known, inform (without authority to do so)’	* bóúd (M) ‘tell’	F, H, J, L, S
		* bóúɪd (DER) ‘inform’	J, (S)
<i>dibel</i> [dìb-èl] ‘protect (from injury or damage), defend, fend off, revere’	<i>dib</i> [dìb] ‘protect (from injury, damage)’	* dìb (DER) ‘stop up, prevent’	J, S
		* dìb (M) ‘shut, shut eyes’	A, B, C, G, H, J, L, M, N, P
<i>dumel</i> [dùmèl] ‘accept, admit’	–	* dùmɪd (NC) ‘assent’	K, M, R, S
		* dùm (NC) ‘assent’	N, S
<i>elel</i> [èl-èl] ‘flow’	–	* gèd (M) ‘flow’	C, E, J, S
<i>feel</i> [féél] ‘sweep’	–	* píagɪd (M) ‘sweep’	E, M, N, P, S
<i>femel</i> [fìm-èl] ‘protect, defend’	<i>fem</i> [fìm] ‘ward off, avert (e.g. a blow)’	–	–

<i>fetel</i> [fit-èl] ‘be infectious, be contagious’	<i>fet</i> [fit] ‘pass or overtake something, exceed, surpass, pass away’	* <i>pìnd</i> (DER) ‘pass’	N, S
		* <i>pìnd</i> (M) ‘fold, hem, plait’	A, B, E, F, G, H, K, L, N, P, R, S
<i>gatsel</i> [χátsél] ‘freeze, solidify (e.g. meat soup or fat)’	–	* <i>kác</i> (M) ‘dry up (intr.), coagulate, be hard’	A, B, H, L, R, S
<i>gokel</i> [χók-él] ‘attach by tying or pinning, tie, connect, conjugate (a verb)’	<i>gok</i> [χók] ‘draw in great numbers (e.g. an attraction)’	* <i>kóng</i> (M) ‘gather up, assemble (intr.), tie up’	B, E, G, H, J, K, L, M, N, P, R, S
<i>gwel</i> [χwél] ‘mate, copulate (of sheep, goats, cattle)’	–	* <i>kóid</i> (DER) ‘marry, copulate’	B, D, G, H, L, P, R, S
		* <i>kó</i> (M) ‘give bridewealth’	F, J
<i>huparel</i> [húpárel] ‘hold in a closed hand’	<i>hup</i> [húp] ‘hold in the mouth (with the lips closed or between closed lips), drink a mouthful’	* <i>kúmbat</i> (DER) ‘hold in arm, hand’	E, F, G, J, L, M, N, P, R, S
		* <i>kúmb</i> (DER) ‘enclose, embrace’	C, F, H
		* <i>kúmb</i> (M) ‘bend’	B, C, D, J, H, K, L

<i>hupel</i> [húp-él] ‘breathe with difficulty, suffocate’	<i>hup</i> [húp] ‘hold in the mouth (with the lips closed or between closed lips), drink a mouthful’	* kúmb (DER) ‘enclose, embrace’	C, F, H
		* kúmb (M) ‘bend’	B, C, D, J, H, K, L
<i>ilel</i> [ìl-èl] ‘show reverence by abstaining from certain practices, consider as sacred’	<i>il</i> [ìl] ‘abstain from, abhor, hate, dislike, treat with aversion’	* gìd (M) ‘abstain from, avoid, refuse, be taboo, be punished’	A, C, E, F, G, H, J, K, L, M, N, R, S
<i>kalel</i> [kál-él] ‘be suspended, become stuck high up (i.e. in a tree)’	<i>kal</i> [kál] ‘glide above, stare at or gaze from above’	–	–
<i>kekel</i> [kèk-èl] ‘spread unobtrusively over a large area’	<i>kek</i> [kèk] ‘spread unobtrusively over a large area’	–	–
<i>kgobel</i> [q ^h ób-él] ‘pile up, stack’	<i>kgob</i> [q ^h ób] ‘collect, gather’ (NS)	–	–
<i>lalel</i> [lál-él] ‘sup, have dinner’	<i>lal</i> [lál] ‘lie down, stay overnight, spend the night’	* dáádɪd (DER) ‘have supper, look after, brood’	J, L, M, S
		* dáád (M) ‘lie down, sleep, spend the night, be fallow (i.e. a field)’	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S

<i>lemogel</i> [lémóχ-él] ‘be expert in sthg’	<i>lemog</i> [lémóχ] ‘observe, perceive, know, notice, realize, become aware of, discover’	* dém ‘be crippled’	G, H, J, L, (S)
<i>nnyel</i> [ɲɲèl] ‘defecate’	<i>ny</i> [ɲ] ‘ooze out, exude, secrete, yield (e.g. metal from molten ore)’	* nè (M) ‘defecate’	A, B, C, F, G, H, J, K, L, M, N, P, R, S
<i>ngwael</i> [ɲwà-èl] ‘scrub a skin with a stone to soften it’	<i>ngway</i> [ɲ ^w àj] ‘scratch (e.g. an itch)’	–	–
<i>opel</i> [ópél] ‘sing’	–	* jímb (M) ‘sing, dance’	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S
		* jímbid (DER) ‘sing’	A, C, H, (S)
<i>porotlel</i> [pòròtɛ-èl] ‘talk continuously, without stopping’	<i>porotl</i> [pòròtɛ] ‘leak profusely (of a liquid)’	–	–
<i>phuthel</i> [p ^h ùt ^h -el] ‘wrap (e.g. a parcel)’	<i>phuth</i> [p ^h ùt ^h] ‘gather things together, gather (cattle), collect, fold up’	* pút (M) ‘bend (tr.), fold, wrap up’	A, B, H, R, (S)
		* pút (DER) ‘turn one’s back’	C, E, K, L, M, S

<i>rael</i> [rá-él] ‘tempt’	<i>ray</i> [ráj] ‘tell, say to, refer to, mean’	* tá (M) ‘call, name’	B, C, H, P, S
		* táɪd (DER) ‘name, quote’	L
<i>rapel</i> [ràpèl] ‘pray, entreat, beseech’	–	* támb (M) ‘call’	D, G, H, M, S
		* támb (DER) ‘offer, offer sacrifice’	F, H, J, S
<i>relel</i> [rèlèl] ‘slip, escape, float’	–	* tèdɪd (M) ‘slip’	A, B, F, G, J, M, N, S
<i>ritel</i> [rìt-èl] ‘smooth out (an earth floor with a flat stone)’	<i>rit</i> [rìt] ‘mash, puree (e.g. food), move around/forward on the buttocks, skid (a wheel when braked)’	* tind (NC) ‘rub soil with manure’	S
<i>romel</i> [róm-él] ‘send sthg’	<i>rom</i> [róm] ‘send someone to do sthg’	* tóm (M) ‘send’	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S
		* tómɪd (DER) ‘summon’	J

<i>rwalel</i> [rwál-él] ‘gather wood for fire’	<i>rwal</i> [r ^w ál] ‘carry on the head, wear, put on (e.g. shoes, hat, gloves)’	* túad (DER) ‘carry on the head, carry, bring, carry away, be chief, include’	B, C, E, F, G, H, J, K, L, M, N, R, S
		* tóè (M) ‘head’	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S
<i>sel</i> [sèl] ‘pick up, gather, harvest (a poor crop)’	–	* kí (VAR) ‘gather (fruit)’	H, N, (S)
		* ká (M) ‘gather (fruit)’	B, D, R, S
<i>supel</i> [sùp-èl] ‘testify, witness (in favor of somebody)’	<i>sup</i> [sùp] ‘show, point, prove, indicate, designate’	–	–
<i>swel</i> [sw-él] ‘be/become finished, concluded, accomplished, decided’	<i>sw</i> [s ^w] ‘die’	* kú (M) ‘die’	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S
<i>teteel</i> [títí-él] ‘contuse, bruise by hitting repeatedly, soften a fruit, traumatize’	<i>tete</i> [títí] ‘contuse, bruise by hitting repeatedly, soften a fruit, traumatize’	–	–

<i>thel</i> [t ^h ɛ́l] ‘pour, flow, have diarrhea, transmit a contagious disease’	–	* jítud (DER) ‘pour’	B, E, G, H, K, L, M, R, S
		* jít (M) ‘pour’	B, C, E, F, M, N, S
<i>thebel</i> [t ^h ɪ̀b-ɛ́l] ‘earth up, bank up, pile up’	<i>theb</i> [t ^h ɪ̀b] ‘pile up earth, ram’	* tééb (DER) ‘gather (firewood)’	C, M, N, S
		* tí (M) ‘tree, stick’	A, B, C, D, E, F, G, H, J, K, L, M, R, S
<i>thulamel</i> [t ^h úlám-ɛ́l] ‘fall asleep’	<i>thulam</i> [t ^h úlám] ‘slant, slope, become upside down’	* túdam (M) ‘be upside down, be inclined’	C, D, H, J, L, M, S
<i>tlalel</i> [tɬál-ɛ́l] ‘make anxious, tighten the heart’	<i>tlal</i> [tɬál] ‘become full (of)’	* jíjád (M) ‘be full’	A, B, C, D, E, G, H, K, L, N, P, R, S
<i>tlhomel</i> [tɬ ^h òm-ɛ́l] ‘carry sthg on the shoulders fixed at the end of a stick’	<i>tlhom</i> [tɬ ^h òm] ‘put down (in an upright position), plant, fix, erect, install, establish (business), race, appoint in a post’	* còm (M) ‘pierce, insert, poke in’	A, B, G, H, J, K, L, M, N, P, R, S
<i>tlwael</i> [tɬwáɛ́l] ‘become used to, accustomed’	–	* jóg (M) ‘be accustomed’	G, H, S

<i>tswalel</i> [tswàl-èl] ‘lock up’	<i>tswal</i> [ts ^w àl] ‘close, shut’	*jìgad (DER) ‘shut’	E, F, J, M, N, P, S
		*jìgì (M) ‘door’	F, G, J, M
<i>wel</i> [w-èl] ‘come to an end, be finished’	<i>w</i> [w] ‘fall’	*gù (M) ‘fall’	A, B, C, E, F, G, J, K, L, M, N, P, R, S

APPENDIX C

TSWANA DOUBLE PSEUDO-APPLICATIVE STEMS

Appendix C lists all Tswana double pseudo-applicative stems (parsable and non-parsable) found in the corpus. For each double pseudo-applicative stem, I include: a corresponding synchronic Tswana verb root (if present); a PB ver root/stem obtained from BLR3 to which the synchronic Tswana double pseudo-applicative stem and root can be linked by means of (mostly) regular sound change; and Bantu zones in which the PB root/stem has reflexes according to BLR3. In Appendix C, only PB roots/stems immediately relevant for the Tswana root/stems are listed. For other derivatives of PB roots/stems listed in BLR3 but not included in this Appendix, see the discussion of each Tswana pseudo-applicative stem in Chapter VI.

KEY: **M** = main entry; **DER** = derived entry; **VAR** = variant entry; **NC** = entry not confirmed in BLR3; **NS** = root present in Northern Sotho but not in Tswana; **(s)** = zone S not listed in BLR3; **-** = no proto-form can be found in BLR3 or no root extant in Tswana.

TSWANA PSEUDO-APPL STEM (TWO APPLICATIVE SUFFIXES)	TSWANA VERB ROOT	PROTO-BANTU VERB ROOT/STEM (ALL FORMS TAKEN FROM BLR3)	ATTESTED REFLEXES IN BANTU ZONES (FROM BLR3)
<i>abelel</i> [àb-él-él] ‘guess, doubt about something’	<i>ab</i> [àb] ‘distribute, divide among or between, allot, allocate, donate’	* <i>gàb</i> (M) ‘divide, give away, make a present’	A, B, C, E, F, G, H, J, K, L, M, N, R, S
<i>agelel</i> [áχ-él-él] ‘build/erect a fence/wall/hedge around something’	<i>ag</i> [áχ] ‘build, live/settle in somewhere’	* <i>jàk</i> (VAR) ‘build’	C, G, E, J, K, M, S
		* <i>jàbak</i> (M) ‘build’	J, K, L
<i>belel</i> [bé-él-él] ‘reserve, present sthg as a token of intended marriage, betroth, make a down payment’	<i>bay</i> [báy] ‘put, place down/on/away, lay (an egg)’	* <i>bá</i> (M) ‘dwell, be, become’	A, B, C, G, H, J, M, N, P, S
<i>betelel</i> [bít-él-él] ‘press down (e.g. when fighting), press a big object into a narrow space, rape’	<i>bet</i> [bít] ‘choke, strangle, drown’	* <i>bínd</i> (VAR) ‘obstruct’	A, M, N, S
		* <i>pínd</i> (M) ‘fold, hem, plait/braid’	A, B, E, F, G, H, K, L, N, P, R, S

<i>boelex</i> [bú-él-él] ‘repeat, retake (a class), revise (a lesson), leave and return (on the same day)’	<i>bo</i> [bú] ‘return, come back, go back’	* búj (M) ‘come/go back, come’	E, G, M, P, S
<i>bopelex</i> [búp-él-él] ‘form a procession, form a line, stand in line’	<i>bop</i> [búp] ‘mould, form, shape (e.g. with clay), create’	* búmb (M) ‘mould pottery, heap up, close (mouth/hand)’	B, C, D, E, F, G, H, J, K, L, M, N, P, S
<i>buelex</i> [bú-él-él] ‘speak on behalf of, defend, guarantee for someone’	<i>bu</i> [bú] ‘talk, speak, say, address, mean’	* búg (M) ‘resound, speak’	E, J, S
<i>dumelex</i> [dùm-èl-èl] ‘allow, admit, permit, authorize’	–	* dùmɪd (NC) ‘assent’	K, M, R, S
		* dùm (NC) ‘assent’	N, S
<i>dupelix</i> [dùp-èl-èl] ‘smell out, have a feeling/intuition, suspect, divine water with a stick’	<i>dup</i> [dùp] ‘smell at, sense, foresee, look for’	* dùmb (M) ‘smell (intr.)’	C, D, H, M, S

<i>emelel</i> [ém-él-él] ‘stand up, leave, be en route’	<i>em</i> [ém] ‘stand, stand up, stop, stop (talking), be motionless, wait, remain, last (e.g. a marriage), marry’	* <i>jímíɖɪd</i> (DER) ‘stand’	F, J, M, S
		* <i>jím</i> (M) ‘stand, stop (intr.)’	F, G, J, M, N, S
<i>etelel</i> [èt-èl-èl] ‘lead, precede, preside’	<i>et</i> [èt] ‘take a journey, go on a visit, travel’	* <i>gènd</i> (M) ‘walk, travel, go, go away’	A, B, C, E, F, G, J, K, L, M, N, R, S
		* <i>gèndɪɖɪd</i> (DER) ‘visit’	J
<i>ganelel</i> [χán-él-él] ‘stick to (dirt to a garment), be inclined to, tend to, persist in’	<i>gan</i> [χán] ‘disobey, refuse, decline (e.g. an offer), reject, object’	* <i>káán</i> (M) ‘deny, refuse’	E, F, G, L, M, N, P, S
<i>gelel</i> [χ-él-él] ‘draw, collect (liquid)’	<i>g</i> [χ] ‘ladle, pick or harvest (e.g. legumes), draw, collect (liquid)’	* <i>ká</i> (M) ‘gather (fruit)’	B, D, R, S
<i>kanelel</i> [kàn-èl-èl] ‘seal’	<i>kan</i> [kàn] ‘seal, cement, ratify, sanction’	–	–

latlhelel [látʰ-él-él] ‘do a work without putting effort/interest in it, fail to do something successfully, neglect, leave/put aside, away’	latlh [látʰ] ‘cast away, throw (away), lose, let go of, renounce to, abandon’	* dác (M) ‘shoot with bow, bleed cattle, hit with bullet, throw, throw away’	D, E, F, G, H, J, M, N, P, S
lekelel [lík-él-él] ‘try out, test’	lek [lík] ‘try (to do sthg), try out, test, attempt, dare, risk, afflict supernaturally’	* díng (M) ‘search for, desire, watch for’	B, C, H, J, N, S
lepelel [lèp-él-él] ‘dangle, hang down, be suspended, be very weak (a sick person)’	lep [lèp] ‘guess, conjecture’ (NS)	* dèmb (M) ‘be tired, be weakened’	B, C, E, F, J, L, M, S
		* démb (M) ‘be hung up, swing, hover, float’	C, H
		* démbɪdɪd (DER) ‘be hung up, swing, hover, float’	J, L, S
letlelel [lètɬ-èl-él] ‘allow’	letl [lètɬ] ‘allow, permit’	* dèk (M) ‘let, let go, cease, allow’	C, D, E, F, G, J, L, M, N, P, S
omelel [óm-él-él] ‘become dry, become hardened (fig.)’	om [óm] ‘become dry’	* jóm (M) ‘be dry’	A, B, C, D, E, F, G, H, J, K, L, M, N, P, S

otlelel [ɔ̃tɪ-əl-əl] ‘repeat what has been said by emphasizing important points’	otl [ɔ̃tɪ] ‘ruminate (e.g. cows)’	–	–
reelel [rɛ-əl-əl] ‘name after someone’	ray [ráj] ‘tell, say to, refer to, mean’	* tá (M) ‘call, name’	B, C, H, P, S
rokelel [rók-əl-əl] ‘fix or close by sewing’	rok [rók] ‘assemble skins, sew’	* tóng (M) ‘put through, thread on a string, plait, sew, tie up, build, close (in)’	A, B, C, E, F, G, H, J, K, L, M, N, P, R, S
selel [sɛl-əl] ‘pour out meal to form a conical heap and separate the bigger granules gathering at the base, pour powder/flour/etc. to separate fine particles from thicker ones in a conical heap’	–	* kí (VAR) ‘gather (fruit)’	H, N, (S)
		* ká (M) ‘gather (fruit)’	B, D, R, S
semelel [sɪm-əl-əl] ‘prepare for a difficult job, work earnestly for a long period’	sem [sɪm] ‘roll up (e.g. clothing)’	–	–
suthelel [sùtʰ-əl-əl] ‘break through, creep into, permeate’	sutlh [sùtʰ] ‘escape, creep out’	–	–

<i>swelel</i> [sw-él-él] ‘forfeit, be devoid of a right’	<i>sw</i> [sw] ‘die’	* <i>kú</i> (M) ‘die’	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S
<i>thathel</i> [t ^h át ^h -él-él] ‘coil, wind, twine (a string around something)’	<i>thath</i> [t ^h át ^h] ‘wind into a ball (around a stick)’	* <i>tát</i> (DER) ‘tangle’	G, L, R, S
		* <i>tát</i> (M) ‘tie up’	D, H
<i>thebelel</i> [t ^h ìb-èl-èl] ‘stock a fire’	<i>theb</i> [t ^h ìb] ‘pile up earth, ram’	* <i>tééb</i> (DER) ‘gather (firewood)’	C, M, N, S
		* <i>tí</i> (M) ‘tree, stick’	A, B, C, D, E, F, G, H, J, K, L, M, R, S
<i>thibelel</i> [t ^h ìb-él-él] ‘obstruct, prevent from passing (by blocking the way)’	<i>thib</i> [t ^h ìb] ‘ward off (e.g. a blow), obstruct, cork, stop, block’	* <i>tib</i> (DER) ‘stop up, shut’	A, B, F, G, J, N, S
		* <i>díb</i> (M) ‘shut, shut eyes’	A, B, C, G, H, J, L, M, N, P
<i>tshwarelel</i> [ts ^h wár-él-él] ‘replace someone, hold, act for/on behalf of, act as a regent’	<i>tshwar</i> [ts ^h wár] ‘catch, seize, take hold, arrest, catch (in the act)’	* <i>kúat</i> (DER) ‘seize’	J, S
		* <i>kúat</i> (M) ‘seize, grasp’	B, C, D, E, H, J, K, L, M, N, P, R
<i>tswel</i> [ts ^w -èl-èl] ‘continue, last’	<i>tsw</i> [ts ^w] ‘come out, come from, become, come out (of a class), depend on, go out to cultivate’	* <i>dù</i> (M) ‘come/go out, ooze, bleed’	A, C, D, E, F, J, K, L, M, N, R, S

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