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Abstract

This chapter describes important advances that have been made in studies of Bantu lexical semantics, and presents a broad overview of the ‘state-of-the-art’ of research in Bantu lexical semantics, while also pointing out areas where further research is called for. The bulk of the chapter is dedicated to describing key issues in major word classes, including nouns, verbs, adjectives, adverbs and adverbials, locatives and spatial terms, and ideophones. Also briefly discussed are derivational strategies and their semantic effects, and studies in historical lexical semantics and their cross-disciplinary significance.

Some key terms:

Lexical semantics, historical lexical semantics, derivation, lexical aspect, corpus linguistics

28.1 Introduction¹

Semantics in general, and lexical semantics in particular, have been relatively neglected fields in studies of Bantu linguistics. This state of affairs is likely due not only to research traditions, but also to the complex agglutinative nature of words themselves in many Bantu languages, and the topics in phonetics, phonology, morphology, and even syntax and information structure that a researcher must master before attempting to analyse the meanings of words and sentences. Despite these challenges, many important advances have been made in studies of Bantu lexical semantics, with implications that are relevant not only for linguistic theory but also for practical concerns such as language development and the creation of written and electronic resources (Bosch, Pretorius & Jones 2007; Kiangi 2005).

My goal in this chapter is to present a broad overview of the ‘state-of-the-art’ of research in Bantu lexical semantics, while also pointing out areas where further research is called for. Sustained research in Bantu lexical semantics is likely to be fruitful, given both the current renewal of attention to the semantics of less-studied languages and the development of more sophisticated methodologies for doing so (see e.g. the recent edited volume by Bochnak & Matthewson (2015)), along with the increasing availability of extensive corpora for some Bantu languages.

The chapter is organized as follows: In section 28.2, which forms the bulk of the chapter, I focus on major word classes in Bantu and semantic topics related to them. In section 28.3, I briefly discuss the interplay between lexical semantics and derivational morphology. Derivational morphemes and mechanisms are frequently (hyper)polysemous/polyfunctional, and their interactions with lexical items can illuminate underlying semantic structures. The chapter closes in section 28.4 with an overview of studies in Bantu historical lexical semantics, and their cross-disciplinary contributions.

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28.2 Word classes

Before delving into particular word classes and their issues, a few words should be said about the problematic nature of organizing words into classes based on syntactic or semantic behaviour (or both). Indeed, even the notion of a ‘word’ is highly disputed (Haspelmath 2011). An illustrative example of difficulties in determining word classes can be seen in the case of Bantu adjectives.

Most Bantu languages have a small, closed class of adjectives, often with fewer than 30 items (Segerer 2008); as in many other world languages, ‘adjectival notions’ (Dixon 1982) are frequently expressed using the (open) classes of nouns and verbs. Word meanings, then, are not a sufficient criterion for determining lexical class. In addition, adjectives frequently have agreement morphology that is no different from noun-class prefixes, leading some to classify them as a special sub-type of noun (e.g. Heny 1972). However, other languages have morphologically differentiated adjectives and nouns; the syntactic distribution of nouns and adjectives is generally also different (Givón 1972). In many languages, numbers, demonstratives, and interrogatives have the same agreement morphology as adjectives, while in others (e.g. Zulu (S42, South Africa) – see Gauton 1994, who also discusses an additional subcategory of ‘relative’ adjectives) these categories are further differentiated from adjectives. Focusing entirely on syntax and morphology, however, leads to a loss of valuable information. For example, how are common adjectival notions expressed? What generalizations can be made about which kinds of adjectival concepts are expressed using which word classes?

Furthermore, many of the most interesting, and least explored, semantic domains in Bantu – including colour terms, expressions of emotions and physical sensations, and modal expressions – do not map neatly into particular word classes. For example, colours are expressed variously as (at least) verbs (*okutoka* ‘to become white’, Ndonga, R22, Namibia), adjectives (*mhlophe* ‘white’, isiNdebele, S407, South Africa), or ideophones (*mbu!* ‘white’, Tumbuka, N21, Malawi (Samarin 1971:162)).

Despite these difficulties and others, and with acknowledgement of the non-triviality of organizing items into lexical classes, the remainder of this section will be organised around lexical categories, both for practical purposes and because different categories raise different issues for linguistic theory.

28.2.1 Nouns

If Bantu languages are famous for one characteristic, it is probably their elaborate noun class systems and the pervasive agreement patterns that they trigger. Since noun classes are discussed extensively in Rugemalira (chapter 11, this volume), I will confine myself here to a few words about the semantics of nominal classification and agreement marking. While the categorization of nouns into classes has received much attention, semantic aspects of noun-class agreement are frequently ignored or downplayed in the Bantu descriptive tradition (Van de Velde 2006; Grinevald & Seifart 2004). As a result, agreement systems have an unwarranted reputation for being straightforward or semantically uninteresting, though current research trends seem poised to rectify this situation.

One of the most studied questions regarding noun classes is whether and how they can be classified semantically. Many attempts at a semantic classification have been made, both for individual languages and as historical reconstructions. Certain semantic patterns are readily apparent; for example, class 3 frequently contains the names of plants and trees (e.g. Kwanyama (R21, Namibia and Angola) class 3 *omuve* ‘bird-plum tree’, with the fruit from that tree being class 9 *ombe* ‘bird plum’), and members of class 11 can frequently be described as long, thin, and flexible (e.g. Totela *olunyaméno* ‘worm lizards’, *olusûnga* ‘belt’, *olongola* ‘backbone’, and *olumoma* ‘termites’).

Over the years, numerous approaches have been taken in attempts to define the basic semantics of what Katamba (2003:114) terms the ‘ragbag’ collection of items in each noun class. Some categorisations are based on physical properties (like shape and texture), while others assume a more culturally mediated classification (focusing on cultural aspects such as mythology, ritual, social structure and religious beliefs). Most recent attempts employ some version (at varying levels of complexity) of prototype theory, with semantic networks or radial categories. See Katamba (2003),

Palmer & Woodman (2000), Dingemanse (2006), and the references therein for examples and discussion of various approaches.

Others reject such approaches, pointing to the impossibility of predicting noun-class membership based on meaning, and argue against the possibility of reconstructing the semantics of noun classes for particular languages or in Proto-Bantu (Di Garbo 2014:76; see Van de Velde 2006:192–195 for a summary of arguments for this view). In response, Dingemanse (2006) points out that noun classes have developed over time, and continue to gain members through borrowings and coinages. Borrowings into a particular class may be semantically motivated, e.g. Tswana *mo-fine* from Dutch *wijn* ‘wine’, borrowed into class 3 to join other nouns describing ‘psychoactive substances’ such as marijuana and tobacco (Grinevald & Seifart 2004:253). They may also be based on morphophonological features, such as class 9 *in-kéyàlà* ‘address’ in Totela (K41, Zambia), based on English ‘in care of’, or Lozi (K21, Zambia) class 7 *si-tima* ‘train’ from English ‘steamer’. (The latter is rendered more opaque in the Totela borrowing from Lozi, class 7 *èchi-timà*.) Other borrowings can wind up in so-called ‘default’ classes, without specific phonological or semantic motivations. With these and other processes continually changing the contents of noun classes, and thereby their ‘conceptual links and abstractions’ (Dingemanse 2006:18), Dingemanse argues that we should not expect noun class membership to be ‘coherent’ – that is, not all cognitive prototypes and semantic links will be synchronically active – but that it is nonetheless probable that noun class membership is ‘motivated’, especially when viewed from an evolutionary perspective. Indeed, noun-class morphology and agreement patterns are evident to some degree across Niger-Congo, so that a perfectly coherent system of noun classification is unlikely even in early Bantu (see Dingemanse 2006:17 and references therein).

There is nonetheless some evidence for the cognitive reality of noun-class prototypes. For example, Selvik (1996; 2001) carried out a series of psycholinguistic experiments in which she asked 78 speakers of Tswana (S431, Botswana and South Africa) to choose translations for nonce words, and also to choose, amongst nonce words varying only in their class prefixes, the words that best fit particular definitions. Selvik’s results appear to at least partly confirm the cognitive reality of semantic associations in the classes she studied: asked to choose the most likely meaning for a nonce form (or vice-versa), speakers ‘experienced *no intuitive feeling that any of the choices were better than others*’ (Selvik 2001:180, emphasis in original) but nonetheless showed statistically significant trends in many form–meaning pairings. Demuth (2000) discusses further evidence for semantic associations with noun classes, based on child language acquisition and the classification of loanwords. Psycholinguistic experiments building on Selvik’s methodology would be enlightening.

Of course, not every Bantu language exhibits an active system of noun-class agreement. For example, Nzadi (B865, DRC), probably as a result of morphological simplification and semantic bleaching, still retains remnants of noun-class prefixes, but – except for a connective /é/ that appears (with a few exceptions) following all but historically class 1 and 9 nouns in possessive constructions – now has a minimal agreement system based on singular/plural, and human/non-human contrasts (Hyman, Crane & Tukumu 2011; Hyman 2012).

	Singular		Plural	
	Human	Non-human	Human	Non-human
3rd-person pronouns	ndé	nǒ	bǒ	mǒ
demonstratives	ná-pè ‘this’		bá-pè	má-pè
some adjectives	ò-nân ‘big’		à-nân ‘big’	
other adjectives	ò-bé ‘bad’			

Table 28.1, adapted from Hyman (2012:99): Agreement in Nzadi (B865, DRC)

In fact, the Nzadi system is not so deviant as it may seem: many Bantu languages privilege, to one degree or another, semantic over syntactic agreement. In Swahili (G41–43), for example, humans and animate beings take class 1/2 agreement patterns regardless of their morphological class.

- (1) Vi-boko wa-kubwa wa-meanguka
8-hippo 2-big SM2-have.fallen
'The big hippos have fallen' (Swahili, Van de Velde 2006:191)

Similarly, in Totela and many other languages, human referents in other classes take agreement morphology from class 1/2.

- (2) Ama-kúwa ba-la-wamb-a
6-white.person SM2-DJ-speak-FV
'The white people are talking' (Totela, K41, Zambia; NB: singular is cl. 1 *omukúwa*)

In many languages, some agreement targets agree with syntactic gender, while other agreement in the same phrase is semantically based, as in the Swahili example in (3).

- (3) N-dugu y-angu a-me-anguk-a
9-brother 9-my SM1-ANT-fall-FV
'my brother has fallen' (Swahili, Van de Velde 2006:195)

These mismatched agreement patterns follow an 'Agreement Hierarchy' cline proposed by Corbett (1979) and shown in (4), which is taken from Van de Velde (2006:196). Items further to the right in the hierarchy are more likely to take semantic agreement.

- (4) attributive < predicate < relative pronoun < personal pronoun

Noun-class agreement 'resolution' is another area in which semantics seems to trump morphology. In cases where two nouns from different classes are conjoined and speakers have to choose an agreement pattern, choices are typically based on factors such as (non-)humanness or (in)animacy. See Rugemalira (chapter 11, this volume) and Van de Velde (2006:200–203) for extensive discussion with numerous examples of agreement resolution strategies.

Van de Velde focuses in particular on a remarkable, and understudied, area of noun-class assignment and agreement, namely the Bantu-wide phenomenon of classes '1a' and '2a'. These classes typically contain 'proper names, kinship terms, borrowings from European languages, names of animals (in all probability originally personified), and the interrogative pronoun meaning 'who?' (Van de Velde 2006:205; citing Doke 1927). Based on data from Eton (A71, Cameroon) and other languages, Van de Velde (2006:184) argues that these nouns should be considered as 'outside the gender system', i.e. as being 'genderless'; they take class 1/2 agreement because that agreement pattern is available to nouns in class 1/2, (depending on the language) to nouns referring to humans or other animate entities, or (again, possibly depending on the language) nouns with unambiguous reference (Van de Velde 2006:213). Van de Velde offers a great deal of evidence for the different status of classes 1a and 2a. The use of classes 1a and 2a for nouns with unambiguous reference can be seen in Totela, where, as in other languages (see Van de Velde 2006:212), the class 17 locative prefix – which is also used for agent adjuncts in passive constructions – is *ku-* for all classes except 1a, where it requires a connective and surfaces as *kwa-* (5). Locative prefixes supplant the augment or initial prefix vowel.

- (5) a. kwa-Théla ‘by Thera’ (class 1a: proper name)
 b. ku-mpóngo ‘by the goat’ (class 9/10 *impóngo* ‘goat’)
 c. kwa-nsáà ‘by the duiker’ (class 1a *nsáà* ‘duiker’)
 d. ka-mulúti ‘by the teacher’ (class 1 *omulúti* ‘teacher’)
 e. kwa-múkazi wángu ‘by my wife’ (class 1 *omúkazi* ‘woman’ in class 1a because of non-ambiguous reference)

28.2.2 Verbs and actionality

Most work on the lexical semantics of verbs in Bantu has focused on their lexical aspectual structure. Perhaps the most striking feature of lexical aspect in Bantu is the presence of a large class of verbs that have a present stative reading when used with an anterior (aka perfect) or perfective aspectual marker. I will refer to these verbs as change-of-state (COS) verbs. (6) shows a typical COS verb in isiNdebele (S407, South Africa).

- (6) Ngi-kwat-ile
 SM1SG-get.angry-PFV
 ‘I am angry’

Even when an anterior form has grammaticalized to express a more general past, losing (at least in part) its anterior (perfect) semantics, present stative uses frequently remain. This phenomenon can be seen in the Kwanyama (R21, Namibia and Angola) examples in (7), taken from Zimmermann & Hasheela (1998). In general, the subject marker + *a* forms indicate general (non-distant) past.

- (7) a. **O-nda** **hal-a** eenghaku edi
 IV-SM1SG.PST **want-FV** 10.shoe 10.DEM
 ‘**I want** these shoes’
- b. Nande tatekulu **o-kwa kulup-a,** o-ha dulu oku-long-a nawa
 although grandfather IV-SM1.PST **grow.old-FV** IV-SM1.HAB can INF-work-FV well
 ‘Although my grandfather **is old**, he can work well’
- c. Oshitoo **o-sha yad-a** ndo
 7.clay.vessel IV-SM7.PST **become.full-FV** IDEO
 ‘The vessel/pot **is full** to the brim’
- d. **O-nda handuk-a** molwaashi o-kwa hanyen-a=nge
 IV-SM1SG.PST **become.angry-FV** because IV-1.SM1.PST scold-FV=OM1SG
 ‘**I’m angry** because he scolded me’

Although such verbs are typically translated with ‘inchoative’ meanings (e.g. ‘be(come) X’), states asserted in these constructions do not necessarily entail processes leading to the states, as seen in (8).

- (8) a. Ilitjhe **i-qin-ile**
 5.stone SM5-become.firm-PFV
 ‘The rock **is hard**’ (< *-qina* ‘be/become strong/firm’) (isiNdebele, S407, South Africa)
- b. Umntwana u-beleth-iw-e **a-hlubule**
 1.child SM1-give.birth-PASS-PFV SM1.PTCP-undress.PFV
 ‘The child was born **naked**’ (< *-hlobula* ‘undress’) (isiNdebele, S407, South Africa)

Other roots, in contrast, do seem to entail change, as shown in Jerro (2017a), who cites contrasts in Kinyarwanda (JD61, Rwanda) such as the one in (9).

- (9) a. Icy-umba cya Nkusi gi-hora **gi-sukuy-e**
7-room 7.CON Nkusi SM1-always SM7-clean-PFV
'Nkusi's room has always been **clean**'
- b. #Iki gi-kombe gi-hora **gi-shwanyuts-e**
7.DEM 7-cup SM7-always SM7-shatter-PFV
Intended: 'This cup has always been shattered'

Jerro furthermore points out that in Kinyarwanda, like in many Bantu languages, there are no consistent morphological differences between roots that entail change and those that do not, and that simple statives, result statives, and inchoatives are not derivationally marked. These distinctions may be conveyed contextually, or (for example) through tense/aspect marking (10).

- (10) Icy-uma ki-ra-**tyay-e** / Icy-uma cy-a-**tyay-e** / icy-uma gi-**tyay-e**
7-knife SM7-NONPST-sharp-PFV / 7-knife SM7-PST-sharp-PFV / 7-knife SM7-sharp-PFV
'The knife **is sharp**' / 'The knife **sharpened**' / 'the **sharpened** knife'
(SIMPLE STATE) (INCHOATIVE) (RESULT STATE)
(Kinyarwanda, JD61, Rwanda; Jerro 2017a)

In Fwe, COS verbs occur with present meaning in both recent past forms and with the stative *-ite* marker. With past forms, they express a current state brought about by a recent state change; with the stative, in contrast, no reference is made to a previous state change.

- (11) a. Ca-nyóng-âm-i
SM7.REC-bend-IMP.INTR-REC
'It is bent (has become bent)'
- b. Ci-nyong-âm-ite
SM7-bend-IMP.INTR-STAT
'It is bent' (Fwe, K402, Namibia) (Gunnink ms.)

The reference, or lack of reference, to a state change, sometimes leads to idiomatic differences, as in *abânçe banabû:ki* 'the children are awake (have woken up) (recent past)' vs. *abânçe babû:kîte* 'the children are healthy (stative)' (Gunnink ms., Fwe, K402, Zambia). The situation in Totela (K41(1), Zambia & Namibia) is similar (see e.g. Crane 2013). The extension of stative morphology to non-(change-of-)state verbs shows how the interaction of lexical aspect with tense/aspect morphology can drive grammaticalization.

- (12) a. Ndi-fon-ete
SM1SG-telephone(v.)-STAT
'I'm on the phone' (Totela, K411, Namibia) (given as reason for interruption in elicitation session)
- b. Sunu awá ndi-nâ-li, ndá-bon-á omuntu **na-ít-ite**
today 16.DEM SM1SG-PST-eat SM1SG.CMPL-see-FV 1.person SIT.SM1-pass-STAT
'Today while I was eating, I saw a person **passing by**'

Crane (2012; 2013) argues that in Totela, the (resultative) stative marker *-ite*, while still largely restricted to use with COS verbs, is undergoing semantic extension to depict any relevant state, not merely those states related to past state changes (see also Botne 2010; Bybee, Perkins & Pagliuca 1994:69). COS verbs seem to be a bridge to this semantic extension.

COS verbs have proved difficult to categorize in a traditional Vendlerian framework (see Persohn 2017a for an explicit discussion of some of Vendler’s failures in Bantu). Botne (1983; following Freed 1979) introduced a different framework for Bantu COS verbs (which he terms ‘inchoative’ verbs). This framework has been adopted in much subsequent work (Botne & Kershner 2000; Seidel 2008; Lusekelo 2016; see Botne 2003 for an even more elaborated phasal structure). In Botne’s framework, COS verbs are divided into subgroups under the umbrella of Vendlerian achievements: in addition to a punctual ‘nucleus’, or point of change, they may have lexically encoded lead-up (‘onset’) phases and/or result state (‘coda’) phases. Some later work (Botne 2008; Persohn 2017b) also proposes groups of accomplishment-like COS verbs, in which a temporally extended nucleus precedes a coda state. It remains an open question whether COS verbs are merely a special subtype of achievement (and possibly accomplishment) verbs, or whether they should be treated as a group (or groups) in their own right. That is, the prevalence of COS verbs may mean that the Vendlerian framework of lexical aspect is inappropriate for modelling not only the categories of actionality but also their hierarchical structure in many Bantu languages.

What is clear is that the class of COS verbs is internally diverse. For example, in isiNdebele (S407, South Africa), verbs encoding a state change behave differently in the present tense depending on whether the lexical aspectual structure encodes an extended onset phase.

- | | | | | | | | | | |
|-----------------|-------------|----------|---------------------------|--------------------------|------------|------------|----------|--------------------|--|
| (13) a. Ikomo | i-ya-non-a | 9.cow | SM9-PRES.DJ-become.fat-FV | ‘The cow is getting fat’ | b. Ikomo | i-non-ile | 9.cow | SM9-become.fat-PFV | ‘The cow is fat’ |
| (14) a. U-Sipho | u-ya-thul-a | 1A-Sipho | SM1-PRES.DJ-keep.quiet-FV | ‘Sipho keeps quiet’ | b. U-Sipho | u-thul-ile | 1A-Sipho | SM1-keep.quiet-PFV | ‘Sipho is quiet’
(stage or individual-level interpretation) |
| (15) a. U-Sipho | u-ya-lamb-a | 1A-Sipho | SM1-PRES.DJ-get.hungry-FV | ‘Sipho is poor’ | b. U-Sipho | u-lamb-ile | 1A-Sipho | SM1-get.hungry-PFV | ‘Sipho is hungry’ |

In (13a), the straightforward interpretation is that a process leading to the cow’s eventual fatness is already underway. Other verbs also lack a lexically encoded onset phase and instead receive habitual interpretations, as in (14a). Similarly, in (15a), the default interpretation is not of the process of becoming hungry (some speakers allow this reading, while others reject it outright), but rather of an idiomatic characteristic imputed to the utterance’s subject: Sipho regularly gets hungry > Sipho lacks resources > Sipho is poor. All of the verbs in (13)–(15) have present stative readings when combined with the perfective *-ile* ending, as shown in the respective (b) examples.

Crane & Fleisch (2016; in prep) show that the nature of onset and coda phases is also grammatically significant. The persistive is only pragmatically felicitous in combination with perfective *-ile* if the verb has a targetable result state, but the result coda phase must be reversible. Thus, not only the encoding of a result state, but also its (im)permanence, are grammatically relevant.

- | | | | | |
|------------------|---------------|----------|--------------------|--|
| (16) a. #U-Sipho | u-sa-khohlele | 1A-Sipho | SM1-PERS-cough.PFV | Intended: ‘#Sipho still has coughed’ (NO RESULT STATE) |
|------------------|---------------|----------|--------------------|--|

Morphologically, Bantu adjectives are frequently analysed as a special subset of nouns (see section 28.2). In many languages, adjectives and nouns have identical morphology (though potentially different syntactic distribution), with adjectives simply being ‘freer’ in that they can take any nominal class prefixes. In numerous other languages, however, adjectival morphology is subtly different from that of nouns. For example, in Totela (K42), adjective prefixes are the same as noun class prefixes, except in class 10 (noun prefix *iN-*; adjective prefix (*e*)*zi-*) and class 16 (locative prefix *a-*; adjective prefix *pa-*).

Adjectives typically form a small, closed class of words. BLR3 (Bastin et al. 2002) reconstructs 16 adjective roots: *-bíci ‘unripe; uncooked; fresh’, *-dito ‘heavy’, *-ngí ‘other’, *-gima ‘whole, healthy’, *-néne ‘big’, *-tádi ‘long’, *-jijá ‘good’, *-jínjí ‘many, much’, *-jípí ‘short’, *-dai ‘long’, *-bù ‘bad’, *-nío ‘small, few’, *-gooda ‘red’, *-tòó ‘little, small, long’, *-gádi ‘wide, open’, and *-kèè ‘little, small’. Numerals (especially numbers one to five) and quantifiers also behave morphologically as adjectives in many languages.

At the extreme low end of the spectrum for the size of the adjective class are, for example, Bafia (A53) with exactly three adjective roots, -fín ‘black/dark’, -púp ‘white/light’, and -baŋ ‘red/bright’ (Guarisma 1997; cited in Segerer 2008:9), and some B20 and B30 languages which have only two adjectives, or do not even appear to have a proper class of adjectives (Segerer 2008:6; citing Jacquot 1983). Interestingly, some other zone B languages (e.g. Mpongwe, B11a) appear to have an open adjectival class (Segerer 2008:6).

Several interesting semantic issues arise regarding the closed adjective class. First, sets of adjectives are not always ‘symmetric’; instead, one member of an adjective ‘opposite’ pair is frequently missing. In his study of 72 African languages (including 30 Bantu languages), Segerer (2008:9) finds that all languages with an adjective ‘wide’ also have an adjective meaning ‘narrow’; however, several languages exist with an adjective for ‘narrow’ but no corresponding adjective with the meaning ‘wide’. Second, although the set of adjectives is often small, and a certain number of items recur across many languages (and can be reconstructed for Proto-Bantu), so-called ‘Single Notions’ – that is, properties expressed by adjectives in only one or a few languages – appear to be fairly common (Segerer 2008:7–8). This fact suggests that ‘closed’ adjectival classes, like other word classes, are susceptible to change.

With the closed class of ‘true’ adjectives typically being relatively small, Bantu languages have different strategies for expressing property concepts (defined in Dixon 1982 as words expressing notions of dimension, age, value, color, physical properties, speed, or human propensities). Of interest for further study would be continued characterization of the semantic properties of adjectival notions and the word classes used to express them (see e.g. Jenks, Koontz-Garboden & Makasso forthcoming; Gauton 1994). For example, characteristics can be attributed to persons and objects through the use of alternative noun-class morphology (see section 28.3.1), as verbs (see section 28.2.2), and using nominal forms, as in Basaá (A43).

Basaá, like many other Bantu languages, has a small, closed class of ‘true’ adjectives, with around seven members (Hyman, Jenks & Makasso 2013). These occur in the typical Bantu construction HEAD NOUN + AGREEING ADJECTIVE, as in (18). Other adjectival notions are expressed with forms that are syntactically nominal and occur in the construction ADJECTIVAL NOUN-OF-NOUN, as in (19). Basaá adjectival nouns are associated with an inherent gender, have singular and plural forms, and trigger agreement on pre-nominal connectives. A very small subset of Basaá adjectival nouns, including *n-lám* ‘beautiful’ and *m-bé* ‘ugly’ can also occur in the prototypical adjectival constructions shown in (18). Hyman, Jenks & Makasso (2013) argue that adjectival nouns (which they call ‘nominal adjectives’) are ‘syntactic predicates’ that move to their position as the head of a noun phrase via predicate inversion. Jenks, Koontz-Garboden & Makasso (forthcoming) propose that Basaá adjectival nouns like those in (19) accomplish lexically what more cross-linguistically common ‘substance’-denoting ‘property-concept nouns’ do syntactically. ‘Substances’ describe properties, rather than individuals, and property-concept nouns are used with possessive morphosyntax, indicating that an

relevant location. The *ku-* prefix, in contrast, has no such entailment, but rather implicates that the spatial regions of the reference location and ground do not overlap (i.e. that the reference location and ground are spatially distant), and ‘presupposes that the [figure] and the [point of view] are not in the same region’ (Barlew 2013:125).

The locative classes are not only used literally to describe spatial relationships, but also commonly gain metaphorical uses, as detailed for a number of languages in a forthcoming special volume of *Africana Linguistica*. For example, Kwanyama (R21, Namibia and Angola) locative enclitics =*pó*, =*kó*, and =*mó* (corresponding to the class 16–18 locative prefixes but occurring postverbally) are used with great frequency, with both spatial (21) and extended functions, described in Halme-Berneking (2017). Among other functions, class 16 =*pó* adds a ‘sense of completion’ or strengthens this sense in verbs that lexically entail completion. Class 18 =*mó* has a partitive function, compare *okulya=pó* ‘to eat up’ and *okulya=mo* ‘to eat some’. Class 17 =*ko* can have ‘substitutive use’, as in (22). Examples are taken from Halme-Berneking (2017).

- (21) okufikama ‘to stand’ okufikama=ko ‘to take off from’
 okulunduluka ‘to change’ okulunduluka=pó ‘to move away’
 okutembuka ‘to move’ okutembuka=mo ‘to move out’
- (22) Na-(nd)i-ku-télék-él-é=ko?
 HORT-SM1SG-OM2SG-cook-APPL-OPT=LOC17
 ‘Shall I cook for you?’ (as in: shall I take over your cooking to help you out?)

Persohn & Devos (2017) note that partitive marking is the most common non-locative use of post-final locatives, with meanings extended to function as markers of politeness, or as markers of negation or the reinforcement of negation. They also list additional non-locative functions of post-final locatives, including as ‘comparative markers’, as ‘markers of concern’, as ‘markers of manner’, and as ‘instrumentals’, among other functions.

Locative morphology can also be used with temporal and aspectual functions, as with the class 16 locative prefix in Kwanyama (R21, Namibia and Angola), which conveys immediate future (23), and the class 17 post-final locative in Wanga (JE32a, Kenya), which gives an existential perfect reading in perfect/anterior constructions (24).

- (23) O-tu-li po-ku-ka-telek-a
 IV-SM1PL-be 16-15(INF)-DIST-cook-FV
 ‘We’re about to go cook’
- (24) nd-axa-ly-á-xo í-m-boongo
 SM1SG-PRF-eat-FV-PART<LOC17 AUG-9-antelope
 ‘I have eaten antelope [at some time]’ (Botne 2010:35; cited in Persohn & Devos 2017).

Other languages have lost or collapsed the locative classes. For example, Nzadi (B865) has a single locative preposition *kó* ‘at, to’, expressing ‘both locative goals and dative recipients’ (Hyman, Crane & Tukumu 2011:47).³ Nguni languages such as Zulu (S42, South Africa) and isiNdebele (S407, South Africa) have, except in some largely frozen contexts, lost the three-way distinction. Instead, there is a single locative class marked with *e-...-ini*, as in (25), taken partly from Taylor (2007:109).

³ This form is also used to describe being in or at a location, as in *mi é ye kó ndzó* ‘I am in the house’ (Hyman, Crane & Tukumu 2011:145).

- (25) a. indlu ‘house’ (cl. 9)
b. e-ndl-ini ‘in / to / at / into / out of the house’ (locative)

Taylor argues that, unlike in many Bantu languages, isiZulu locatives are not nominal expressions, but are both syntactically and semantically ‘a special category of place-denoting expressions, distinct from both nominals and prepositional phrases’ (Taylor 2007:122).

Other means of marking locative relationships have grammaticalized in Nguni languages, such as the prefix *nga-*. Generally an instrumental prefix (Poulos & Msimang 1998:397), when used in locative expressions, *nga-* in isiNdebele denotes specifically ‘inside space’, rather than a general location (Fleisch 2005:141). In isiZulu, in contrast, locative *nga-* ‘appears to convey the idea of a general area (e.g. a vicinity), rather than a specific position’ (Poulos & Msimang 1998:398).

Fleisch (2005) shows that other locative expressions in isiNdebele have undergone complex meaning changes. Fleisch focuses on four forms with minimal differences in their morphosyntax: *phezu kwa-*, *ngaphezu kwa-*, *phezulu*, and *ngaphezulu*, all grammaticalized from class 16 *pha-* plus *izulu* ‘sky (cl. 5)’ and referring to some notion of UPPER SPACE. Fleisch shows that these forms have distinct yet overlapping semantics, rather than dividing UPPER SPACE (and its metaphorical extensions) into neatly defined regions and functions. The complexity – and the descriptive accuracy – of Fleisch’s results illustrate both the challenges and the advantages of basing analyses on corpus data in addition to traditional elicitation.

Many Bantu languages have complex systems of demonstratives, which have not only spatial but also temporal, textual, and other uses. See Nicolle (chapter 30, this volume) and Rugemalira (chapter 11, this volume) for further discussion.

Another aspect of spatial semantics that is unquestionably of interest, and, to my knowledge, quite underexplored in Bantu, is the phenomenon of fictive motion. Like many languages, Bantu languages can use language of motion to describe non-moving objects and phenomena, as seen in the following examples from isiNdebele (Peter Mabena, p.c.).

- (26) Indlela i-khamb-a e-qadi komlambo.
9.road SM9-go-FV LOC-side 17.CON.3.river
‘The road runs along the river’

- (27) Isi-tha si-kghona uku-si-bon-a uku-suk-a lapha si-khona
7-enemy SM7-can INF-SM1PL-see-FV INF-depart-FV DEM SM7-(be.located).there
‘The enemy can see us from where they’re positioned’⁴

Further research can shed light on how fictive motion (or fictive ‘change of location’) expressions in Bantu pattern with respect to other verb-framed languages (see e.g. Bohnemeyer 2010:133).

28.2.7 Ideophones

Ideophones, defined as ‘marked words depictive of sensory imagery’ (Dingemanse 2012:54), are extremely common across Bantu and seem to run the gamut of sensory meanings. The 2006 isiNdebele/English dictionary (IsiNdebele Dictionary Unit 2006) lists at least 121 ideophones, including, for example, *gqi* ‘of a closing door/something falling’, *gubhu* ‘of sudden waking up, changing one’s mind quickly’, *ntse* ‘of quietness’, *nghwayi* ‘of a sudden quietness’, and *qwatjhi* ‘of expressing that the food is tasteless or has no salt’. Ideophones are a crucial part of discourse; as Childs put it, ‘ideophones are quintessentially social, the mark of local identity and solidarity’ (Childs 2001:70).

⁴ Fictive motion in isiNdebele was investigated with help from Jürgen Bohnemeyer’s Fictive Motion Questionnaire (Bohnmeyer 2003).

Ideophones stand out to researchers and language learners because of their many special phonological, morphological, derivational, and semantic features. Déchaine (2015:330) calls Shona (S10, Zimbabwe) ideophones ‘the engine that feeds the rest of the grammar’. However, detailed semantic studies of ideophones have been few, despite enthusiastic calls for such studies by William Samarin in the 1960s and 1970s (e.g. Samarin 1971). Dingemans (2012:660) further notes that many attempts to group ideophones into semantic categories may be biased by researchers’ own cultural norms. The semantics, and especially the discourse uses, of ideophones in Bantu still need much exploration, both within particular languages and from a cross-linguistic perspective; researchers should take them ‘as seriously as nouns and verbs’ (Samarin 1971:162). See Nicolle (2013:220–224) and van Otterloo (2011:107–124) for examples of descriptive grammars that deal with the semantic domains and textual uses of ideophones.

28.3 Derivation

This section deals primarily with the semantic effects of morphological derivations taking place within word classes (i.e. noun–noun and verb–verb). See Schadeberg (2003) for an overview of all kinds of derivation in Bantu.

28.3.1 Nominal derivation

Shifts in noun-class morphology frequently function to add descriptive or evaluative information (see Di Garbo 2014 for extensive discussion), as in the following Herero (R30, Namibia) examples, taken from Kavari & Marten (2009:5).

- (28) a. o-ka-mbíhí ‘cat’ (cl. 13)
b. e-mbíhí ‘(big) ugly cat’ (cl. 5)
c. o-tji-mbíhí ‘big (ugly) cat’ (cl. 7)
d. o-ru-mbíhí ‘long, thin cat’ (cl. 11)

As noted by Bostoen & Bastin (2016:18; see also Bastin 1985), noun-class shift is a key factor in lexical semantic change. Bostoen & Bastin (citing Grégoire 1976) note, for example, the case of Proto-Bantu **-bánjá*, reconstructed by Grégoire as ‘land prepared for building, uncovered or uncleared land’. Derived meanings include class 11 ‘site of the house’ and class 9 ‘(main) village’; the latter meaning led to further new meanings including ‘courtyard’, ‘cemetery or village of the dead’, class 1 ‘clan’, and class 5 or 7 ‘debt’ and ‘object placed in pawn or on deposit’.

Suffixes are also used, at least to a minor degree, in noun–noun derivation. For example, in Southern Bantu languages, suffixes derived from **-yana* ‘child’ are frequently used as diminutives, and in some (mostly S) languages, there is a feminine suffix derived from **-kadi* ‘wife, woman, female’. See Güldemann (1999) for more examples and discussion.

28.3.2 Verbal derivation

A huge amount of literature has dealt with the syntax and semantics of verbal extensions in Bantu (e.g. Dubinsky & Simango 1996; Marten & Mous 2017; and chapters 17–19 in this volume). In this section, I will mention only a few recent works that touch on the relationship between the semantics of base verbs and the extensions they take.

Verbal derivative extensions, particularly the more ‘productive’ markers such as the applicative and the causative, are frequently poly- or hyper-functional, and have different syntactic and semantic effects based on the semantic class of the base verb. This fact is exploited by Sibanda (2016), who argues that the applicative verbal extension can be an important tool in solving the problem of ‘granularity’ inherent in developing classification systems. Sibanda shows that the kinds of arguments introduced by the applicative vary according to semantic class, and proposes that five main classes – action processes, verbs of emotion (both mono- and divalent), verbs of cognition, utterance verbs

(both mono- and divalent), and (static) position verbs (both mono- and divalent) – emerge in Ndebele (S44, Zimbabwe) when this test is applied. For example, verbs of cognition can add a beneficiary argument with the applicative (29a), while verbs of emotion cannot (29b,c).

- (29) a. U-Themba w-a-khumbul-el-a u-baba isi-khwama
1A-Themba SM1A-TNS-remember-APPL-FV 1A-father 7-bag
‘Themba remembered the bag for father’
- b. U-mama w-a-jabul-el-a aba-ntwana
1A-mther SM1A-TNS-happy-APPL-FV 2-child
‘Mother was happy for the children’
- c. U-Themba w-a-thand-el-a in-tombi ubu-hle
1A-Themba SM1A-TNS-love-APPL-FV 9-young.woman 14-beauty
‘Themba fell in love with the young woman for (because of her) beauty’
(Sibanda 2016)

In a similar vein, Jerro (2016a; 2016b) shows that the locative uses of the applicative in Kinyarwanda (JD61) have different meanings according to the semantic class of the base verb, as in Table 2.⁵

Role of the applied object	Verb type	Example
GOAL	manner of motion	<i>kw-iruka</i> ‘to run’
PATH	change of location	<i>kw-injira</i> ‘to enter’
SOURCE	traversal	<i>kw-ambuka</i> ‘to cross’
LOCATIVE	no location encoded by verb	<i>ku-vuga</i> ‘to talk’

Table 2: Verb type – locative applicative interactions in Kinyarwanda (Jerro 2016a:299)

The addition of derivative extensions can also be a factor in semantic change. Jerro (2016b:62) gives the Kinyarwanda examples *gu-seka* ‘to laugh’ vs. applicative *gu-sek-er-a* ‘to be fond of’, and *kw-egura* ‘to resign’ vs. applicative *kw-gur-ir-a* ‘to bequeath or donate something to someone’. Such non-transparent relationships between base forms and forms with extensions are common throughout Bantu.

The non-transparency of many derived forms, along with factors such as the questionable productivity of many verbal extensions, begs for greater attention to verbal extensions as they are used in real discourse. Descriptions of derivative morphology often make reference to the degree of productivity of particular morphemes or mechanisms; this work could be augmented by greater use of the tools of computational and corpus linguistics in investigating the actual distribution and productivity of derivative morphology, along with forms that are conventionalized or ‘frozen’. An example of a dictionary that takes a corpus-based approach, and thereby adds enlightening information on the use of verbal extensions, is the Swahili–Finnish–Swahili dictionary (Abdulla et al. 2002), which lists words based on their frequency in a 25-million-word corpus of Swahili⁶: the 10,000 most frequent words were included in the dictionary, checked against a list of the 1000 most common words in Finnish to mitigate possible skewing in the corpus (Lotta Aunio, p.c.). Derived

⁵ See Jerro (to appear) for a discussion of the relationship between verb type and the availability of causative and instrumental uses for the Kinyarwanda causative *-ish-*.

⁶ Instructions on how to access the Helsinki Corpus of Swahili 2.0 Annotated Version can be found at <https://www.kielipankki.fi/support/access>.

verbal forms included in the dictionary are therefore known to be in actual use, and the semantic relationship between base and derived forms can be straightforwardly gleaned from dictionary entries. See Wójtowicz (2016) for a discussion of some further benefits of the corpus-based approach taken by this dictionary; see de Schryver & Prinsloo (2000) for further general discussion of the advantages of corpus-based dictionaries.

28.4 Historical lexical semantics

One of the oldest traditions in Bantu linguistics is that of lexical reconstruction, beginning with the work of the German philologist Carl Meinhof (e.g. Meinhof 1899; see Nurse 1997; Bostoen & Bastin 2016 for a detailed history of Bantu lexical reconstruction and its many pioneers). Much of this work focused primarily on phonological reconstruction, leaving semantic issues relatively untouched. This is not entirely surprising, as semantic change is less predictable and therefore, in general, less straightforward to reconstruct than are changes in sound systems. As Bostoen & Bastin put it, ‘the human mind is more complex than the human articulatory system’ (2016:17).

Despite being relatively unpredictable, semantic change is not ‘haphazard’ (Bostoen & Bastin 2016:17), and study of historical lexical semantics has produced many results that are significant for our understanding of cultural history. Some recently explored topics include food preparation methods (Ricquier 2013; 2014) and the interactions of humans with local flora and fauna (Koni Muluwa 2014). Earlier studies of historical lexical semantics were undertaken primarily by historians using the Words-And-Things approach, or linguistic paleontology, but in recent years, more linguists have been getting involved and employing historical-comparative methods. Methods of historical linguistics, applied rigorously in collaboration with other disciplines, including archaeology, geology, archaeobotany, and ethnography, will continue to shape our understanding of African history: an excellent example is Bostoen et al. (2015), which takes a multidisciplinary approach to studying prehistorical climate change and its impact on the Bantu expansion.

As pointed out by Fleisch (2008), historical lexical semantics is also an area in which historical linguists, cultural historians, and cognitive semanticists have much to offer each other in both theory and method. One recent example of this kind of interdisciplinary approach, incorporating the more traditional fields as well as innovative methods of studying conceptual history (which frequently must be different from methods for studying conceptual history in, e.g., Europe), is the collection of papers in Fleisch & Stephens (2016), which aim to explore ‘items that defy clear lexicographic characterization’ (Stephens & Fleisch 2016:8), including, for example, the concepts of ‘wealth’ and ‘poverty’, expressions of different categories of ‘work’, and practices and understandings of male circumcision; see also Stephens (2015) on the history of African motherhood.

Continued attention to the details of lexical semantics from both synchronic and historical perspectives is key in unlocking the ‘genius’ of Bantu languages; I hope that this brief overview has helped to draw attention to some of the important work in this field, while also pointing out areas where further studies are needed.

List of glosses used in addition to standard Leipzig glosses

Morpheme glosses are taken directly from cited sources whenever possible, with substitution of Leipzig conventions where such substitutions could be transparently made; glosses specific to authors’ analyses were unchanged and are among the glosses listed here.

CMPL	completive
CON	connective
IDEO	ideophone
IMP	impositive (used with examples from Gunnink ms.)

IV	initial vowel (used with Kwanyama initial vowels on inflected verbal forms)
NP	nominal prefix (e.g. on adjectival agreement targets) (convention from Van de Velde et al.)
PER	persistive aspect ('still')
SIT	situative aspect
STAT	stative aspect
TNS	tense (from Sibanda 2016)

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