

Time marking beyond tense and aspect - a Bantu view

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1 Introduction: verb grams and gram types

- + overall conceptualization of verb forms largely follows the work by Dahl (1985, 2019, and Wälchli 2016); Bybee, Perkins and Pagliuca (1994) and others
- a) gram = language specific verb form with a certain meaning~use (range)
- b) gram type = cluster of grams in grammatical space defined by meaning~use
- > the traditional linguistic notions of tense, aspect, modality could at best be "macro-categories" in the sense that they are composed of gram types that potentially form a coherent grammatical domain in multidimensional grammatical space
- > unclear conceptualization and definition of these notions as well as related ones like "temporal meaning", "aspectual construction" etc.
- > here: semantic features with a circumscribed set of values ~ "comparative concept"
- a) tense = "temporal state-of-affairs (SoA) deixis" as locating SoA with respect to a reference time point that is utterance time > present, past, future
- b) aspect = "temporal SoA profile" as characterizing SoA with respect to its internal structure - most basic (?crude) distinction > imperfective vs. perfective

2 Bantu verb systems

2.1 Verb morphology

- + considerable diversity of verb systems across the Bantu family but only its majority profile is commonly known, as found in "canonical" Bantu in the family's larger eastern and southern portion (zones C-S) > restrict myself to this Bantu type
- + this profile is extremely "verb-centered" in the sense that a multiplicity of grammatical information is encoded in single verb-based word forms that are morphologically potentially complex > verb template of basic finite verb words

-4	-3	-2	-1	0	1	2	3
preinitial	initial	postinitial*	preradical*	radical	prefinal*	final	postfinal
TAM†	subject	TAM	object	root	TAM	TAM	participant
negation		negation			valence		negation†
clause type‡		clause type‡					clause type‡

Note: **bold** = obligatory, * = possibly more than one, † = presumably late innovation

Figure 1: Template of morphologically complex Bantu verbs

- + existence of complex verb forms composed of more than one form of above type (including non-finite forms)

- (1) *u-be u-thanda*
2SG-be:PST 2SG.FS-love
you were loving (Doke 1992: 169) Zulu (S40)
- (2) *ndi-ri ku-tora*
1SG-COP INF-take
I am taking (Fortune 1955: 271) Shona (S10)

- + Bantu languages can possess a multiplicity of verb grams (often called 'tenses' or 'tiroirs' in language-specific descriptions) that can be functionally highly specific and subtle

2.2 Aspect + information structure = relevance?

- + so-called "predicate-centered focus (PCF)" is one functional domain recurrently expressed by verb grams (Güldemann 1996, Van der Wal and H. 2017) > Figure 2 and (3)a.-c.

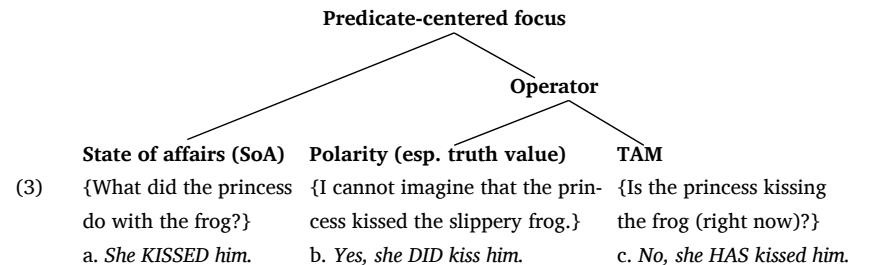


Figure 2: Basic subclassification of predicate-centered focus

- (4)a. *ngi-dla isi-nkwa*
1SG-eat:PRS 7-bread
I am eating bread
- b. *ngi-ya-si-dla isi-nkwa*
1SG-PCF-7.OBJ-eat:PRS 7-bread
I do eat bread (Doke 1992: 337) Zulu (S40)

- + Güldemann (2003): present (imperfective) PCF grammaticalizes into present progressive (PRS.PROG) multiple times independently irrespective of the particular gram form
- > hypothesis that PROG is more than just a kind of aspect (as per Comrie 1976) but rather a combination of IPFV and an equally strong information structural (IS) component

a) preposed verb focus doubling

- (5)a. *ndyèká-tá:ngà*
1SG:FUT-read
je vais lire
- b. *kù-tá:ngà ndyèká-tá:ngà* SoA focus
INF-read 1SG:FUT-read
je vais LIRE
- c. *minu in-sala*
I 1SG:PRS-work
moi, je travaille
- d. *minu ku-sala in-sala* PROG
I INF-work 1SG:PRS-work
moi, je suis en train de travailler (Hadermann 1996: 161) Kongo (H10)
- (6)a. *ta-ri ku-zyimba ndi-zyimba, ku-nenga ndi-nenga* SoA focus
NEG-be INF-sing 1SG-sing INF-dance 1SG-dance
I am not SINGING, I am DANCING
- b. *eci-shamu ku-temiwa ci-temiwa* PROG
7-tree INF-chop:PASS 7-chop:PASS
the tree is being chopped (Gunnink 2016) Fwe (K402)

b) postinitial prefix -ra-

- (7)a. **aba-gabo ba-kora*
2-man 2-work:PRS
c'est l'habitude des hommes de travailler.
- b. *aba-gabo ba-ra-kóra* PCF
2-man 2-PCF-work:PRS
c'est l'habitude des hommes de travailler.
- c. *aba-gabo ba-kora mu mirimá*
2-man 2-work:PRS LOC fields
c'est l'habitude des hommes de travailler dans les champs.
- d. *aba-gabo ba-ra-kóra mu mirimá* PROG
2-man 2-PROG-work:PRS LOC fields
les hommes sont maintenant en train de travailler dans les champs.
(Overdulve 1975: 94-5) Nyarwanda (JD61)

- + PROG is not semantically isolated but has been associated with other gram types, notably PERF; moreover, both PROG and PERF are involved in so-called "phasal polarity", which includes persistent (PRST) and iative (IAM) (cf., e.g., Van Baar 1997)
- > exclude PROG, PRST, PERF, IAM etc. from plain narrow aspect to form a set of more complex gram types sharing sensitivity to IS ~ "relevance = temporal SoA salience" as characterizing SoA relevance as a central piece of information at speech time

(8)	Aspect	IPFV	PFV
	Relevance	PROG	PERF

- + cross-linguistic evidence for parallel formal and functional behavior of PROG and PERF
- strong trend to periphrasis: Dahl (1985: 91, 128)
 - same morpho-syntactic material within individual languages
- > involves also features that relate to assumed IS-sensitivity
- focus morphology and syntax
 - incompatibility with contexts of non-PCF (term, meta-linguistic negation, ...)
 - hic-et-nunc orientation > preference for PRS tense, certain text genre)
 - development towards taxis and subordination (see §2.3 below)
- + hypothesis about IS import of PROG and PERF can be tested on corpora
- > it predicts that even in languages without above properties the relevance grams occur more often in contexts without (possible) term focus (= focus on such constituents as arguments (> transitive), obliques, adverbs etc.), or inversely in PCF contexts

2.3 Taxis

2.3.1 Introduction

- + important area of time marking (often labeled as "relative tense"): temporal relation between the communicated SoA and another SoA that is encoded or implied in the respective discourse context and which serves as the reference time point
- > term "taxis" (< Jakobson 1971) conveys conceptual separation from "tense":

Taxis is a category which defines the "action" denoted by the predicate in terms of its relations with another "action", named or implied in the given utterance, that is, the chronological relations between them (simultaneity, precedence, sequence), and also the oppositions of the secondary "action" to the principal one ... (Maslov 1988: 64)

- taxis can operate between independent or between syntactically interdependent clauses
- taxis differs from tense in reference time but is parallel in terms of possible values:

(9)	Tense	PRS	PST	FUT
	"Taxis"	SIM/COI	ANT	POST/SEQ

- + Bantu languages recurrently encode the variant of taxis that is tied to the domain of clause linkage whereby the dependent taxis clause is a language specific verb gram (defined by segmental and/or suprasegmental properties) that does not require additional syndetic clause marking like conjunctions etc.

2.3.2 Suprasegmental and segmental taxis in Shona (S10)

- + traditional classification of verb grams by Fortune (1955, following Doke 1935) according to the most basic distinction of so-called "moods", which roughly refers to clause types
- > three moods are primarily distinguished by **suprasegmental** tonal patterns that crosscut almost entire verb system: "indicative", "relative" (= "direct" with restricted subject indexing), "participial" (with free subject indexing, including "indirect" relatives)
- suprasegmental marking exclusive encoding device in affirmative forms

(10)	"indicative"	<i>átengesa</i>	'(s)he (has) sold'	<i>ndaténgesa</i>	'I (have) sold'
	"relative"	<i>aténgesa</i>	'(s)he who (has) sold'	<i>ndaténgesa</i>	'I who (have) sold'
	"participial"	<i>áténgesá</i>	'[X that] (s)he (has) sold'	<i>ndáténgesá</i>	'[X that] I (have) sold'
			or '(s)he having sold'		or 'I having sold'

- + "participial mood" in its adverbial (instead of adnominal) use combines the indication of the dependent status of the clause with the marking of taxis time oriented towards a following (11) or a preceding main clause (12)-(14)

(11) *a-va ma-ngwanani vaka-muka*
 6.FS:ANT-become 6-morning 2:REM.PST-get.up
 in the morning [lit. it having become morning] they (class 2) got up (Dale 1972: 73)

(12) *garwe raka-ona mu-komana a-gwira mu-rwizi*
 5.crocodile 5:REM.PST-see 1-boy 1.FS:ANT-fall LOC-river
 The crocodile saw the boy having fallen into the river (f.n.)

(13) *ndaka-uya mu-Jerumani ma-kore ma-viri aka-pfiura*
 1SG:REM.PST-come LOC-Germany 6-year 6-two 6.FS:STAT-pass
 I came to Germany two years ago (lit. two years having passed) (f.n.)

(14) *ha-ndi-fe ndaka-ita izi*
 NEG-1SG-die:PRS 1SG.FS:STAT-do 8.DEM
 I never do this [lit. I don't die having done these (things)] (Fortune 1955: 358)

- + adverbial "participials" display unique shift in time orientation vis-à-vis other "moods"
- > exclusion of certain grams in adverbial (but not relative) "participial" due to semantic incompatibility: present, past habitual, potential (PST and FUT in taxis paradigm only with verbs of stative meaning)
- > meaning change from tense to taxis involving identical segmental form

Clause type	Main	Direct relative	Id. relative	Adverbial
Philology term	"Indicative"	"Relative"	"Participial"	
My term	Independent	D. Restricted S/A	D. Free S/A	
Form	Meaning			
SBJ-STEM	Present of defective verbs <i>ri</i> 'be (at)', <i>na</i> 'be with'			Simultaneous
SBJ-STEM-e	Present stative of small set of inchoative verbs			Simultaneous stative
SBJ- <i>ri ku</i> -STEM-a	Present progressive			Simultaneous progressive
SBJ-a-STEM-a	Present stative ¹ / recent past/perfect			Simultaneous stative ¹ /anterior
SBJ- <i>aka</i> -STEM-a	Present stative ¹ / remote past			Simultaneous stative ¹
SBJ- <i>cha</i> -STEM-a	Persistent ² / future			Persistent ² /posterior
SBJ-o-STEM-a	"Exclusive" ³	?	?	Coincidence/sequential

Notes: **Bold** = central meaning, 1 with inchoative verbs, 2 marginal in Zezuru and Standard Shona, 3 deontic modality and temporal notion 'now', Id. = indirect, D. = dependent

Table 1: Affirmative verb forms affected semantically and syntactically by prosodic "mood" marking in Shona (after Güldemann 1997a, b)

- (15)a. *ndo-pinda here*
 1SG:"EXCLUSIVE"-enter PQ
 Am I now to enter? (Fortune 1955: 276)
- b. *zuva ro-tsvuka aka-svik-a pa-rukova*
 5.sun 5.FS:COI-become.red 1:REM.PST-arrive LOC-river
 At sunset - as the sun turned red - he reached a river. (Dale 1972: 61)
- c. *aka-simuka o-dzokera ku-musha*
 1:REM.PST-rise 1.FS:SEQ-return LOC-home
 He rose up and [right away] returned to his village. (Dale 1972: 89)

- > same SoA expressed by different segmental verb forms depending on "mood" distinction:

- (16)a. *yaka-ona tu-handa tu-na tu-ri-po pa-nze*
 9:REM.PST-see 12-puppy 12-four 12.FS-be-16LOC 16-outside
 He saw four small puppies (being) outside. (f.n.) = taxis of "participial"
- b. *yaka-ona tu-handa tu-na twaka-nge tu-ri pa-nze*
 9:REM.PST-see 12-puppy 12-four 12.RS:REM.PST-be 12.FS-be 16-outside
 He saw (the) four small puppies that were outside. (f.n.) = tense of "direct relative"

+ two taxis grams with unique form = without a segmental counterpart in other "moods"
 > segmental shape encodes status as and type of dependent clause in a dedicated manner

a) SBJ-*chi*-STEM-*a*: general simultaneity (often represented as semantic counterpart PRS)

(17) *ndaka-uya nezuro m-vura i-ci-naya kwazo*
 1SG:REM.PST-come yesterday 9-rain 9-SIM-rain much
 I came yesterday, the rain falling hard (Fortune 1955: 295)

b) SBJ-*ka*-STEM-*a*: sequentiality when postposed (18) and conditional protasis when preposed (19) (called by Fortune (1955: 315) misleadingly "past subjunctive")

(18) *taka-famba masakati ti-ka-ci-şika husiku*
 1PL:REM.PST-walk day 1PL-SEQ-then-arrive night
 we travelled by day and arrived at night (Fortune 1955: 314)

(19) *u-ka-uya kwa-ndi-ri ...*
 2SG-COND-come LOC:GEN-1SG.FS-be
 If you come to me ... (Fortune 1955: 316)

2.3.3 Segmental taxis in Swahili (G40)

+ non-tonal language without suprasegmentally induced taxis paradigms but with cognate forms of the two segmentally dedicated taxis grams of Shona

a) SBJ-*ki*-STEM-*a*: sequentiality when postposed (20) and conditional protasis when preposed (21)

(20) *ni-li-m-kuta a-ki-vuta sigara*
 1SG-PST-1-meet 1-SIM-smoke cigar
 I found him smoking a cigar. (personal knowledge)

(21) *a-ki-ja u-m-salimie*
 1-COND-come 2SG-1OBJ-greet.SUBJ
 If he comes, greet him! (personal knowledge)

b) SBJ-*ka*-STEM-*a*: sequentiality

(22) *ni-li-kwenda mji-ni jana ni-ka-nunua ile pikipiki*
 1SG-PST-go town-LOC yesterday 1SG-SEQ-buy that motorbike
 Yesterday, I went to town and bought that motorbike. (personal knowledge)

2.3.4 From imperfective to taxis grams

+ the segmentally dedicated taxis grams of Shona and Swahili recur in other languages in terms of both form and function and have a similar IPFV origin (Güldemann 1998)

a) *-*ki*- earlier PRST marker as a phasal-polarity counterpart of PROG > (23), (24), (25)b.
 > grammaticalized in dependent clauses to SIM taxis and related functions > (17), (20), (21), (25)c.

(23) *ni-shi-ji ku-mona*
 1SG-PRST-COP INF-see
 I am still looking (Yukawa 1987: 147) Nkoya (L62)

(24)a. *ndi-ci-ri ku-tora*
 1SG-PRST-COP INF-take
 I am still taking
 b. *ndi-ci-gere*
 1SG-PRST-sit:STAT
 I am still seated (Fortune 1955: 259) Shona (S10)

(25)a. *ndi-gere*
 1SG-sit:STAT
 I am seated
 b. °*ndi-chi-gere*
 1SG-PRST-sit:STAT
 I am still seated (constructed, cf. (22)b.)
 c. *ndi-chi-gere*
 1SG-SIM-sit:STAT
 I being seated (Borland 1970: 139) dialectal Shona (S10)

b) *-*ang*- can be reconstructed as a pluractional marker developing inter alia to PROG or general IPFV (Sebasoni 1967) > (26)a.

> grammaticalized in dependent clauses to SIM taxis and related COND > (26)b.

(26)a. *ín-tánd-ang*
 1SG-burn-PRS.HAB
 je brûle d'habitude
 b. *in-tánd-ang*
 1SG-burn-COND
 si je brûle (Kamba Muzenga 1980: 147, 150) Kete (L21)

- + grams of different form (*ki, *(n)ka, *ang) with an imperfective meaning component but not being simple aspectual grams grammaticalize to SIM taxis by being "absorbed" by the clause context that inherently encodes imperfective **background**
- > additional functional adjustment according to position within clause linkage
- > (truncated) semantic map: marked IPFV > SIM > (preposed) COND
- > involves in particular grams in assumed "relevance" domain

(27)	Aspect	IPFV	PFV
	Relevance	PRST	PERF
	Taxis	SIM	ANT

3 Summary

- + PROG, PERF and related phasal polarity grams have a strong component of aspectuality but this should not be viewed to be their core meaning/function
- > additional component of IS-sensitivity suggests a different treatment as "relevance" grams
- + "relevance" grams are prone to develop into taxis grams steered by their aspectual component - apparently preferred to plain aspectual grams
- + taxis grams interact intimately with morpho-syntactic environment up to the possible loss of original aspectual feature that steered them into taxis domain: IPFV > COND
- > verb grams are constructions whose semantic-functional import depends on morpho-syntactic and discourse context rather just morphological makeup

Abbreviations

ANT Anterior, COI Coincidence, COND Conditional, COP Copula(tive), DEM Demonstrative, FS Free subject, FUT Future, GEN Genitive, HAB Habitual, IAM Iamitive, INF Infinitive, IPFV Imperfective, LOC Locative, NEG Negation, OBJ Object, PASS Passive, PCF Predicate-centered focus, PERF Perfect, PFV Perfective, PL Plural, POSSR Possessor, PQ Polar question, PROG Progressive, PRS Present, PRST Persistent, PST Past, REM Remote, RS Restricted subject, SBJ Subject, SEQ Sequential, SG Singular, SIM Simultaneous, SoA State of affairs, STAT Stative, TAM tense-aspect-modality; Arabic number without SG/PL = noun class

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