

23

Tense and Aspect: Discussion and Conclusions

John Hewson

23.1 Introduction

Because much original work was done on questions of Tense and Aspect in the last fifty years, it is important to start with a brief discussion on current terminology in Tense-Aspect studies.

Linguists have in recent years used the generic terms *Completive* and *Incompletive* (see Comrie 1976:18-21 and 44-48 for discussion of *completion*) to cover a range of different sub-categories, both Lexical (L) and Grammatical (G), as in (1).

(1)	Completive	Incompletive
a.	L. Achievements (give, tell, put)	L. Activities (walk, say, think)
b.	G. Perfective (spoken, gone)	G. Imperfective (speaking, going)
c.	G. Nonprogressive (I spoke, I went)	G. Progressive (I was speaking, I was going)

1. The lexical terms in (1a) are those used by Vendler (1967:97-121), and much discussed since, along with such terms as *Achievements* and *States*. The interplay between lexical aspect (sometimes called *Aktionsart*) and grammatical aspect is an important part of TA studies, and acknowledged by all the principal writers in the field..

2. The English Perfectives and Imperfectives in (1b) are non-finite forms (participles), as used in the Auctioneer's "Going..., Going..., Gone! The finite forms (1c), in contrast to the non-finite forms in (1b), are Progressive and "Nonprogressive".

3. The term *Nonprogressive* is used by Comrie (1976:25), but has been criticized by others, e.g. Bybee et al. 1994:138, who note that "Nonprogressive is not defined", and prefer to use the term *Perfective* instead.

4. There are, however, major differences in patterns of usage and distribution between Perfective and "Nonprogressive", just as there are between Imperfective and Progressive: a "Nonprogressive" is demonstrably not a Perfective. In the present study two different terms have been used to replace *Nonprogressive*: (i) *Factative*, from Welmers (1973:345-7) is used by Nurse

and Rose, and (ii) *Performative* used in Hewson & Bubenik (1997:12-20) for the “Nonprogressive” forms in Indo-European, is used by Hewson. The terminology for the Nonprogressive/ Factative/ Performative aspect will be discussed briefly in what follows (23.5)

5. Hewson & Bubenik (1997) also used the term *Retrospective* instead of *Perfect* to avoid the well-known confusions between the terms *Perfect* and *Perfective*. In this they followed Comrie (1976:64: “The perfect is retrospective...”) in noting the correspondence between Prospective (looking forward to the event) and Retrospective (looking back to the event). The term is consequently used by Hewson, for clarification, alongside the common term *Perfect*. The term *Anterior*, another alternative for *Perfect*, was not used because of its ambiguities: a Past tense may also be described, as well as the Perfect, as anterior to the present.

6. Apart from these minor differences of terminology, the following terms are not used in any significantly different way by the three authors of this work: Imperfective, Perfective, Progressive, Prospective, Habitual, Iterative, Situative. In what follows, therefore, an attempt has been made to create diagrams of the Tense/ Aspect systems of each of the 23 languages reported on, following the pattern already established by Ian Maddieson for phonology (1984). Such typological diagrams were originally created to demonstrate the different TA systems of the twelve Indo-European families in Hewson and Bubenik 1997, and were used in the final chapter (1997:351-364) for comparative purposes.

7. Maddieson’s diagrams of vowel systems took advantage of the well-known fact that vowel systems have coherent patterns, resembling the coherent patterns of the natural world, such as the crystalline patterns of snow flakes, or of rock structures. Similar balanced and coherent patterns are found in Tense and Aspect systems, as well as in other grammatical paradigms, such as case systems, and pronoun systems. Paradigmatic statements, for the most part, trace the outlines of such systems, which are based on meaningful contrasts that show great regularity, even if the morphology that marks them is sometimes irregular: the irregular plurals *mice*, *geese*, *children* have the same plural meaning as the regular plurals *cats*, *dogs*, and *horses*.

23.2. Defining Tense and Aspect

Tense and Aspect contrast with each other in terms of Container and Contained.

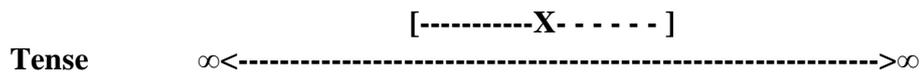
23.21 **Aspect** is a representation of **Event Time**, the time that is contained in the Event. Aspectual forms will be illustrated by the use of square brackets to represent the initial and final moments of the event. Aspectual forms can then be represented using a scheme of five cardinal positions (Hewson & Bubenik 1997:14), of the subject, as in (2),

(2) **A[B-----C-----D]E**

where A = Prospective (before the event), B = Inceptive and Situative (in initial position), C = Imperfective and Progressive (intermediate position), D = Perfective (in final position), and E = Retrospective/ Perfect (after the event).

23.22. **Tense** is a representation of **Universe Time**, the time that contains the Event. Since it is axiomatic that containing time necessarily exceeds the time contained, it will be illustrated by a continuous line running between an infinity in the past and an infinity in the future, as in (3), where an aspectual form with subject **X** in position **C** (Imperfective/ Progressive) becomes a tensed form contained by a single tense representing the whole of Universe Time.

(3)



The aspect that is represented in (3) as contained within the square brackets is Incomplete, the generic term for both Imperfective and Progressive: the solid line represents the *accompli* (what has been completed) and the dotted line represents *inaccompli* (what is still to be completed). Further details must be added to the diagram (see below) in order to distinguish the Imperfective from the Progressive. The tense which contains the event in (3) is a Vast Present, represented as stretching from an infinity in the past to an infinity in the future, without any tense contrasts. Tense contrasts would divide the line into two or three or four, as in (6), (7) below, where the examples are from Indo-European, and (8) with an example from Bantu.

23.3 Descending versus Ascending Time

The quasi-universal distinction between Descending and Ascending Time is based on the fact that time is movement, the apprehension of which requires either a figure to move against a background (Ascending Time), or a background to move against a figure (Descending Time). Time that operates in the Working Memory (an entity accessible to measurement) is the empirical experience of time, since the Working Memory automatically records (an analog operation) the perceptions of the individual, and each new memory moves further into the past (leftwards in the diagrams) as further memory is accumulated, an experience reflected in the *Going, Going, Gone* of the auctioneer, as in (4)

There are three stages to the closure of a sale, the last one normally punctuated by a blow of the auctioneer's gavel: (4a) represents the beginning, (4b) the middle, and (4c) the end, as these are recorded by the Working Memory (which operates in Descending Time), while the earlier phases (marked by **x**) drift deeper into the past. This purely passive (objective, subconscious) apprehension of recorded experience is entirely automatic (an analogue operation), whereas the active (subjective, conscious) attention of the observer follows the sequence of events, the three consecutive phases that constitute closure (a digital operation), as in (4d), which may then lead to the conclusion "It *went* (i.e. was sold) for thirty dollars".

- | | | | |
|-----|----|---|----------------------|
| (4) | a. | [< X -----] | going (IPFV) |
| | b. | [< x ----- X -----] | going (IPFV) |
| | c. | [< x ----- x ----- X] | gone (PFV) |
| | d. | [Phase1 -----> Phase2 -----> Phase3] | it went (PFM) |

The major difference between Perfective aspect on the one hand and Performative/ Factative aspect on the other is that statives, which are phasally complete from the very first moment (they are monophasal), have a quite different usage and distribution from that of active verbs (which are metaphasal¹). In English, for example, it frequently occurs that the Progressive can *not* be used for statives in sentences where other languages are required to use the Imperfective², as in (5).

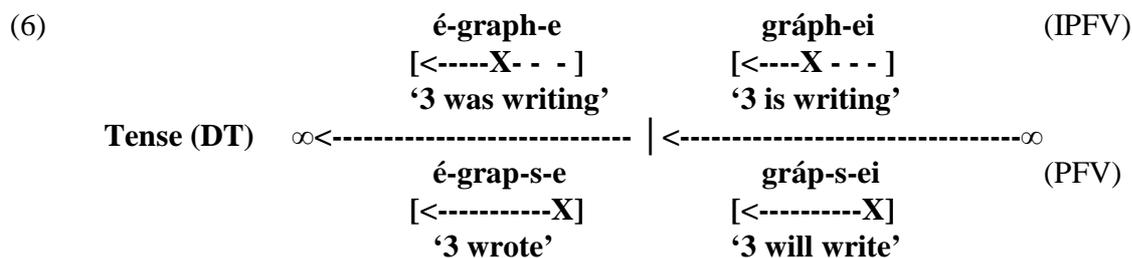
- | | | | |
|-----|-------------|----------------------------|-------------------------------------|
| (5) | a. English. | I knew what he wanted. | *I was knowing what he was wanting. |
| | b. French. | Je savais ce qu'il voulait | *J'ai su ce qu'il a voulu. |
| | c. Russian | Ya znaval shto on khotel | *Ya znal shto on zakhotel |

In short, a Perfective represents an event as temporally complete, whereas a Performative represents an event as phasally complete, even if it is temporally incomplete: *The sun **shines** on the earth 24 hours a day, as it **turns** on its axis.*

23.4 Differing tense typologies

The majority of languages in the IE phylum have a binary tense system, Past versus Non-Past, but with two distinctively different types: Type A with both tenses in D(escending) T(ime) (e.g. Greek, Slavic, Armenian), and Type B (e.g. Germanic, Hittite, Farsi) with both tenses in A(scending) T(ime). There are also Type C systems (Celtic, Italic, and Baltic) that combine both DT and AT, but they are all ternary systems with Past, Present and Future (Hewson & Bubenik 1997:353ff) and represent a minority in the IE groupings. An example of Type A is in (6), and of Type B in (7).

In the Greek example of Type A, the arrows all point to the left, showing two tenses in Descending Time, with Imperfective aspects above the line, and Perfective aspects below. (Note that a Perfective in a Non-Past tense typically has a future reference, exactly as it does, for example, in Eastern and Western Slavic).

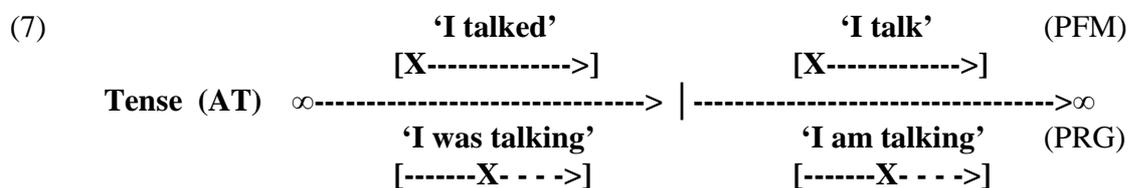


¹The *monophasal* vs. *metaphasal* terminology is from Hirtle 2007:88.

² The Imperfective aspect of the Present Participle becomes observable in a minimal pair: Knowing what he wanted (I knew/ *was knowing what he wanted so) I opened the door.

The morphological marking is as follows: (i) the prefix *é-* marks the Past tense; the Non-Past is unmarked; (ii) the suffix *-s* marks the Perfective aspect; the Imperfective is unmarked. The symmetry and the markedness patterns are typical of TA systems. The least marked form is the base form of the paradigm; markers are added to it to indicate layers of processing: the Past (representing Memorial Time) is the product (memory) of the Present, and the Perfective is the completion of what was once Imperfective. As noted by Jakobson apropos of the Slavic languages ([1957] 1984:49), “...futurity is the most usual meaning of the perfective present” (i.e of the Perfective Non-Past). In Non-Past tenses it is normal to distinguish the Present from the Future by aspectual means.

The tense system of English is also binary, but in AscendingTime, the mirror image of the Greek system. Consequently the Completive form (the Performative) is unmarked, and the Incompletive (the Progressive) marked, as in (5). The base form of the paradigm is **talk**.



The TA systems of Niger-Congo languages are typologically different from Indo-European in several important ways: (i) they normally have forms in both Ascending and Descending Time; (ii) the non-Bantu languages often have only a single tense, a Vast Present where the present is represented by an Incompletive form, and the past by a Completive form (since what is complete in the Vast Present is necessarily in Memorial Time); and (iii) the Bantu languages often have a multiplicity of tenses, far more than has been reported elsewhere in the languages of the world.

It may be assumed that languages that have only a single tense (the Vast Present) and no tense contrasts, are tenseless, but there are indications that such a conclusion is unwarranted. It would be difficult for a language to develop tense *contrasts*, for example, if there were no representation of tense to start with. Furthermore, if aspectual contrasts (such as Perfective vs. Imperfective) are used to distinguish events that are past from those that are ongoing in the present, both of these forms necessarily have some kind of tense reference or function; they make deictic reference to the here-and-now of the speaker-hearer. It appears to be a linguistic universal that finite forms, with subjects, always have some kind of tense, even if it be only the single Vast Present, where incompletive forms represent the ongoing here-and-now and completive forms represent the past because it is axiomatic that whatever is complete in the here-and-now has already taken place.

When tense contrasts are multiple, it is often more convenient to represent them as part of the line, as in (5), showing the four contrastive tenses of Bukusu (Chapter Four). The arrows point to the right, indicating Ascending Time, representing Completive events; the aspect is not Perfective, however, but Performative or Factative, which is frequently unmarked, being the basic form of representations in Ascending Time. The initial element is the 1pl Subject marker, the tense marker precedes the root **-kul** ‘buy’ and the final vowel represents the indicative, so

that **xw-a-kul-á** means ‘we bought’. The corresponding Bukusu marked form is the Progressive.

(8)

xw-a-kul-á	xw-ááxa-kul-a	xu-la-kul-a	xu-li-kúl-a
∞----->	----->	----->	----->∞
Far Past	Near Past	Near Future	Far Future

The chart of Bukusu forms in Chapter 4 shows four past tenses while only two are shown above in (8). Different results stem from the use of different criteria for discriminatory and analytic purposes. The chart in Chapter 4 emphasizes function and lists each form for its functional value, so that forms with the suffix **-ile** are included in the same column with those that have only **-a**. The analysis in (8) is based on form, which necessarily excludes P₂ **xu-kúl-ile** and P₃ **xw-aa-kúl-ile**, which carry the Perfective suffix **-ile** which is not found on P₁ and P₄, which are marked for tense but not for aspect. The problem is an old one of a clash of a traditional terminology with a terminology based on a different linguistic categorization; it will be discussed further apropos of Ruhaya in 23.62. It is a perennial problem: Comrie notes (1976:78), apropos of Arabic: “Here the terms Perfective and Imperfective will be used, although the meanings of the terms are different from those used in Slavonic linguistics and elsewhere in this book”; it is demonstrably obvious, in fact, that the “Perfectives” of Arabic and other Semitic languages are in fact Performatives. There are no real Perfectives in Arabic, in Comrie’s normal use of the term, but those working in the field of Semitic may nevertheless be reluctant to change a terminology they have always used, just to accommodate what is used elsewhere.

23.5. Differences of terminology

We have already looked at the three different possible terms for the aspect that represents the phasally complete event: Nonprogressive, Factative, Performative. The first of these has to confront the fact that all Germanic languages have two tenses in Ascending Time, but only two (English and Icelandic) have Progressives (Hewson & Bubenik 1997:210-11). *Nonprogressive*, consequently would not be suitable for the two simple tenses of Dutch and German, since these languages do not have a grammaticalized Progressive. Welmers’ term *Factative* also has its problems: (1) it is easily confused with *Factitive*, which is in the dictionary, whereas *Factative* is not; and (2) Welmers explains his term as a name for a form which “expresses the most obvious fact about the verb in question, which in the case of active verbs is that the action was observed or took place, but for stative verbs is that the situation obtains at the present” (1973:346-7). Comrie, however, writing at about the same time (1976:113), comments on the use of the Russian *Imperfective* in “what has been called the constative general factual, or simple denotative meaning of the Imperfective. Here the speaker is simply interested in expressing the bare fact that such an event did take place, without any further implications”. The English Progressive is also used to express obvious fact (*he’s reading the paper*), so that *Factative* is ambiguous, and could be used of a variety of forms.

The term Performative was chosen for use in Hewson & Bubenik 1997 for two reasons: (1) this form of the verb often represents an actual performance, as pointed out originally by Austin (1962): *I promise* is a promise; *I am promising* is not; *I resign* is a resignation; *I am resigning* is not. Genuine Perfectives can *not* be used here; speakers of Slavic languages are constrained to

use Imperfectives in the Performative function (V. Bubenik, p.c.).

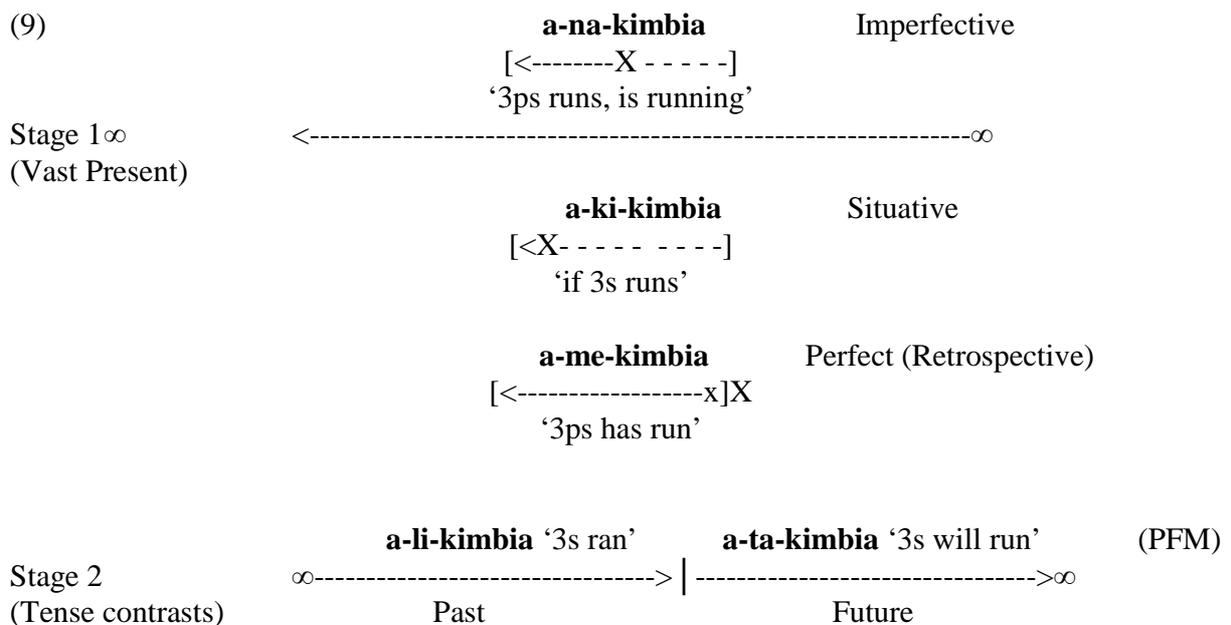
There are dozens of verbs in English (I insist, I apologize, I give up, I thank you) where the use of the simple form of the verb is a performance of the event itself. It is also used for giving instructions on performance, as in stage directions: *She takes off her hat and lays it on the table.* It is used as well to accompany performance as in a cookery demonstration: *I take a couple of eggs, and put them in a bowl,* or to describe a performance: *He shoots, he scores!* Finally, since a Performative represents a complete performance of all phases of an event, it is used to represent states, which are monophasal: as soon as they have begun, all phases of the event are then complete; the continuation of the event in time is irrelevant to Performative aspect. A Perfective on the other hand is a representation of an event that is *temporally* complete. The two must not be confused.

23.6 The schematic diagrams

The use of diagrams to portray the grammatical meaning that a given verbal form brings to a phrase or a sentence provides a remarkable economy of statement. The basic conventions are presented in (2) and (3) above.

23.61 The Swahili TA system

These diagrams were first used for Niger-Congo languages in the sketch of the Swahili system (Hewson and Nurse 2001) that was product of an ongoing seminar with Swahili speakers. In order to make sense of certain constraints in the Swahili system (aspectual forms for Future and Past are always compounds, single aspectual forms are always Present Tense) it became clear that there was a two-stage system of tense: a Vast Present representing the whole of Universe Time, binarily divided, at a secondary stage, into Past and Future as in (9).



The Past and Future tenses of Swahili are hyponyms of the Vast Present, in the same way that *dog* and *cat* are hyponyms of *animal*: Past and Future are derived from the Vast Present. In Indo-European languages that have separate Past, Present, and Future tenses, the Present separates the Past and Future by occupying the space between them, as in the system of Modern French, where, unlike Swahili, the Present Perfect is formed as a compound, in exactly the same way as the Past and Future Perfects. In Swahili the Present Perfect is a single word; the Past and Future Perfect are compounds, as in (10). The Swahili auxiliary is **-kuwa** ‘be’.

(10)	Swahili	French	English
	amekimbia	il a couru	‘he has run’
	alikuwa amekimbia	il avait couru	‘he had run’
	atakuwa amekimbia	il aura couru	‘he will have run’

Which may then be arranged be arranged vertically, as in (11).

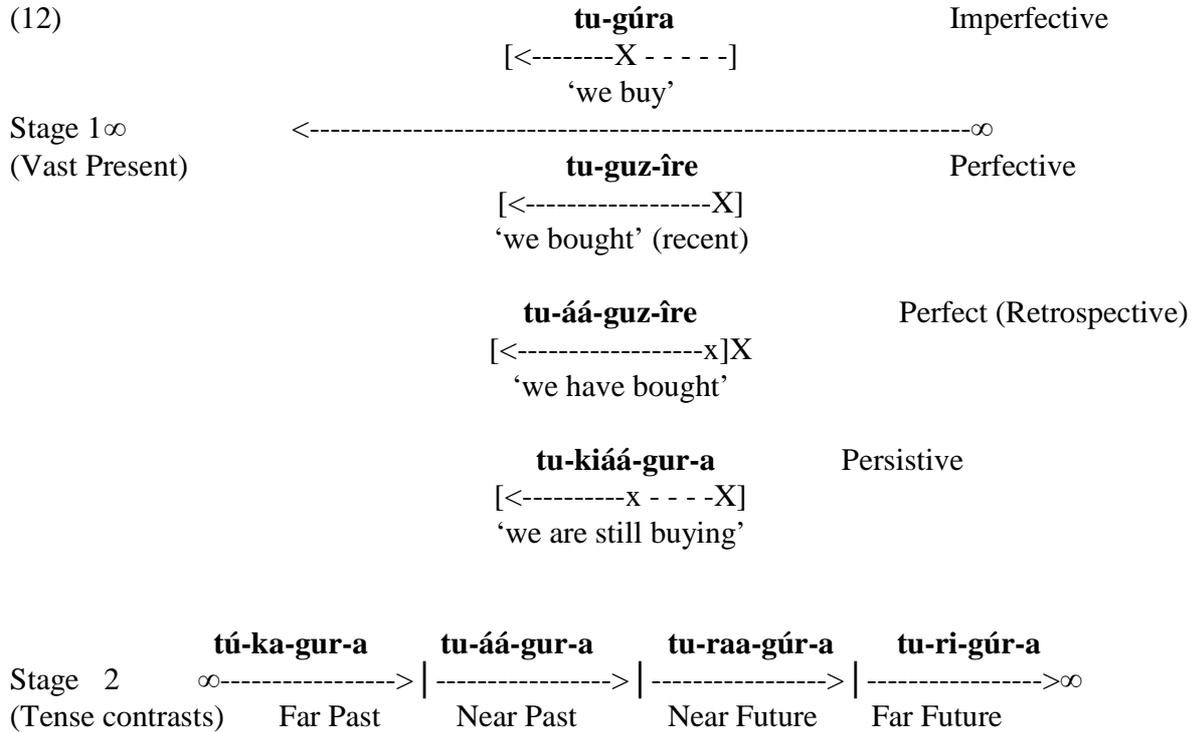
(11)		Past	Pres	Future
	a. French	Simple	3s courait	3s court
		Compound	3s avait couru	3s a couru
			3s aura couru	
	b. Swahili VPres	-----	a-me-kimbia	-----
	Past and Future	a-li-kuwa	a-me-kimbia	a-ta-kuwa
				a-me-kimbia

It was the skewing of the paradigm in Swahili that led to the discovery that there is a two-staged tense system in Swahili, a Vast Present at one level, which is divided between Past and Future at a second level (Hewson & Nurse 2001), which accounts for the constraints found in the usage of the Swahili system.

23.62 The Ruhaya TA system

The seminar worked for another considerable period of time with Henry Muzale, a native speaker of Ruhaya, and it became clear that Ruhaya also has a Vast Present, from which are derived, at a secondary level, a secondary set of four tense contrasts, a Near Past and Future, and a Far Past and Future, as in (12). The verb root is **-gura** ‘buy’, and the SM **tu-** ‘we’.

The fruit of months of discussions was presented in a paper in *African Linguistics* (Hewson, Nurse & Mugale 2000) with the diagram shown in (12), which presents **tu-guz-îre**, a form marked only with a suffix that is commonly used elsewhere in Bantu as a marker of Perfective aspect, as a form of the Vast Present, the forms of which include other forms having no marker in the pre-stem position that might be considered a tense marker (the **áá** of **tu-áá-guz-îre** changes the Perfective into a Retrospective; it probably has an adverbial meaning akin to ‘already’, and occurs also on the Persistent). The contrastive tenses, by contrast, are all marked for tense in the pre-stem position.



In the early work on Ruhaya, as reported by Comrie (1985:29ff, 46, 87, 90, 94, 95ff), using the then unpublished work of Ernest Byarushengo, the form **tu-guz-îre** is presented in the following hierarchy of past tense:

- (13) P₁ **tu-áá-gur-a** hodiernal, used only for ‘today’
P₂ **tu-guz-îre** hesternal, used only for ‘yesterday’
P₃ **tú-ka-gur-a** far past, used only for ‘beyond yesterday’

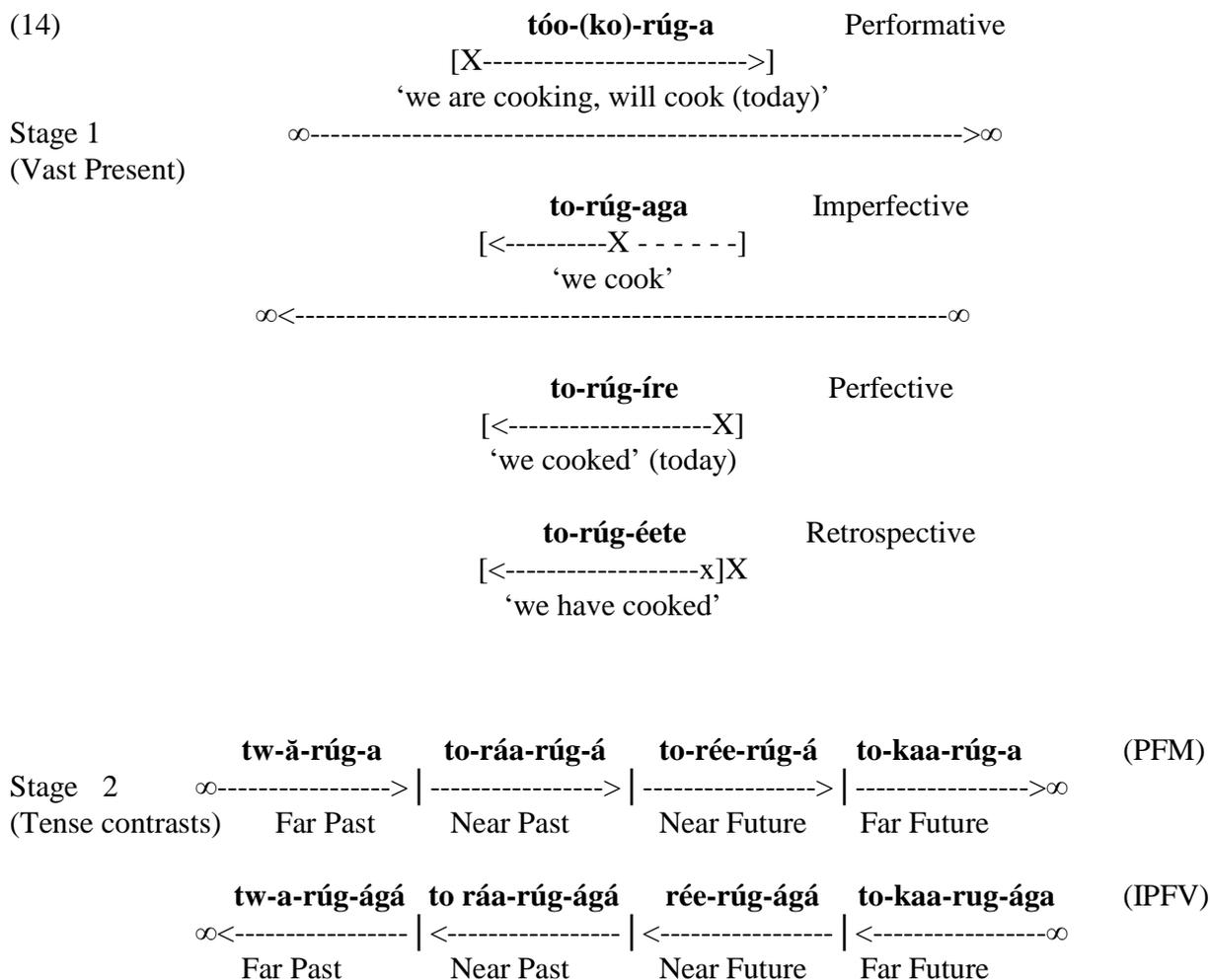
Before the recognition of the existence of the Vast Present as a separate systemic entity, this analysis is perfectly appropriate. But once recognizes that **tu-guz-îre** is simply the Perfective form of **tu-gur-a**, and that neither form is marked for tense, then arguments advanced by Comrie call for a different analysis: “...the failure to distinguish between meaning and implicature is one of the main problems in working out an adequate characterization of tenses” (1978:28), and “...a grammatical category in discourse should not be confused with the meaning of that category; instead, the discourse functions should ultimately be accounted for in terms of the interaction of meaning and context” (1978:29).

In short, P₂ is a discourse function of the Perfective form of the Vast Present, and not a part of the set of contrastive tenses, all of which are marked for tense, and none of which are marked for aspect. The normal and natural meaning of a Perfective Vast Present is ‘recent past’. It was noted by Pānini, for example, that the meaning of the aorist (adyatana, i.e. Perfective) in early Sanskrit was ‘recent past’ (Bubenik 1997:63). With the development of a set of tense contrasts, the

Perfective Vast Present can become somewhat redundant; it has disappeared from Standard Swahili in historical times, but was still in use in 19th century missionary grammars.

23.63 The Kikuyu TA system

The Kikuyu TA system is similar to that of Ruhaya, except that it has eight contrastive tenses instead of 4: it has four Performatives (Near and Far Past, Near and Far Future), and four corresponding Imperfectives. The plethora of tense forms is so rich, in fact, that two of the tense forms (Near and Far Past Performatives), being largely redundant because there are also Perfective and Retrospective Pasts, are used in aspectual function as ‘Short Progressive’ (Near Past) and ‘Short Perfect’ (Far Past). This system, described in Hewson & Nurse 2005, along with an explanation of its somewhat unusual skewing, is presented in (14). The root is **-rug** ‘cook’.



It is the Near Past Performative, **to-ráa-rúg-á**, which represents the last moments of the past before the future (the past that is the experiential time of the working memory) is used functionally as a “short progressive” (= right now), and the Far Past Performative, **tw-ǎ-rúg-a**

which represents the last moments of the past before the working memory, is used as a “short perfect” (= ‘just happened’). This skewing of paradigmatic forms in discourse usage is made possible by the existence of Perfective pasts (corresponding to the Imperfectives) which are used in Kikuyu for the normal representation of complete events in the Past.

26.7 The TA systems of West African Niger-Congo.

The schematic diagrams of Tense-Aspect systems of the 21 languages examined and analysed in Chapters 2-22 are in Appendix A. The Chart List, with summaries of aspectual usage, is appended here. (TC = tense contrasts). Since a major purpose of putting this information on a website is to enable corrections and clarifications, comments will be most welcome.

		PFM	PRG	IPFV	PFV	RTR	PRP	SIT	TC
2	Aghem	X		X					X
3	Bambara	X	X		X		X		
4	Bukusu	X		X	X	X			X
5	Bijago	X		X			X	X	
6	Degema	X		X		X	X		
7	Dogon	X		X		X	X		
8	Doyayo	X		X					X
9	Ejagham	X	X	X		X	X	X	
10	Ewe	X	X	X			X		
11	Fula		X	X	X		X		
12	Godie	X	X	X		X	X		
13	Ijo	X	X	X		X	X		
14	Jukun	X	X			X	X	X	
15	Kabiye	X		X			X		
16	Kisi	X	X	X		X	X		
17	Makaa	X	X	X		X			X
18	Obolo	X	X	X		X	X	X	
19	Otoro	X	X	X		X	X		
20	Supyire	X	X	X		X	X		
21	Yoruba	X	X			X	X		
22	Zande	X	X						X

Notes

1. Fula is the only one of the 21 languages that has no Performative
2. Bambara and Bukusu have both Perfective and Performative. In Bambara the Intransitives have a Perfective, and the Transitives a Performative.
3. Five languages have tense contrasts as well as aspectual contrasts.
4. Nine languages have all of the following: PFM, PRG, IPFV, RTR, PRP
5. Thirteen out of 21 have both PFM and PRG.
6. Sixteen have PFM and IPFV, the predominant pattern for the basic Complete versus Incomplete contrast, a pattern also found in the Afro-Asiatic languages of North Africa and the Middle East (V.Bubenik, p.c.).

REFERENCES

- Austin, J.L. 1962. *How to do things with words*. Cambridge, Mass.: Harvard University Press.
- Bubenik, Vit. 1997. "The Verbal System of Vedic and Classical Sanskrit", in Hewson & Bubenik 1997:46-66.
- Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge Univ. Press.
- Bybee, Joan, Revere Perkins, & William Pagliuca. 1994. *The Evolution of Grammar. Tense, Aspect, and Modality in the Languages of the World*. Chicago: University of Chicago Press.
- Hewson, John & Vit Bubenik. 1997. *Tense and Aspect in Indo-European Languages: Theory, Typology, Diachrony*. Amsterdam & Philadelphia: John Benjamins.
- Hewson, John, Derek Nurse, and Henry Muzale. 2000. "Chronogenetic Staging of Tense in Ruhaya". *Studies in African Linguistics* 29:33-56.
- Hewson, John & Derek Nurse. 2001. "Chronogenetic Staging in the Swahili Verbal System." *General Linguistics* 38:75-108.
- Hewson, John, & Derek Nurse. 2005. "The relationship of tense and aspect in the Kikuyu verb". *Studies in African Linguistics, with Special Focus on Bantu and Mande*. (Festschrift for Yvonne Bastin and Claire Grégoire). Ed. by Jacky Maniacky & Koen Bostoen, 281-311. Brussels: Royal Museum for Central Africa.
- Hirtle, Walter H. 2007. *Lessons on the English Verb*. Montreal & Kingston: McGill-Queen's University Press.
- Jakobson, Roman. 1984. "Structure of the Russian Verb". *Russian and Slavic Grammar: Studies 1931-1981*. Ed. Linda R. Waugh and M. Halle, 1-14. Berlin: Mouton.
- Jespersen, Otto. 1924. *The Philosophy of Language*. London: Allen & Unwin.
- Kurylowicz, Jerzy. 1973. "Verbal aspect in Semitic". *Orientalia* 42:114-120.
- Vendler, Zeno. 1967. *Linguistics in Philosophy*. Ithaca, NY: Cornell University Press.
- Welmers, William E. 1973. *African language structures*. Berkeley; University of California Press.