Constructed nonverbal aspect in Marori

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Aspect has traditionally been considered wholly a property of verbs, but it can also be encoded using a constructive strategy with non-verbal exponents. This constructed aspect, which has not previously been explored in detail, is illustrated in (1) from Marori (a Papuan language in West Papua, Indonesia). In this example, the past (PST) suffix -(*w)on* appears with an adjective as part of a larger predicate argument-structure with the verb in the present tense. This complex temporal configuration is similar to the English sentence with present perfect in (2) (i.e. the past event of John's living terminated at a point in the past, viewed from the utterance time). The PST suffix *-(w)on* can also appear with a noun, a possessive or a verb as part of a nominal structure, exemplified in (3), but not on non-stative verbs. Example (1b) provides evidence that aspect in Marori can be constructed rather than solely marked on the verb; it includes both the non-verbal tense marker -(*w)on* on the adjective and the present stative auxiliary *tere*. Any analysis of such a phenomenon must address the interplay of TAM constraints in non-verbal and verbal domains across different syntactic levels, including both clausal and sub-clausal units (such as nominals).

(1). a. *Emde usindu kara-nde/*kara tere.*
3NSG all sick-PL BE.3PL.PRES
'They are all sick.'

b. *Emde usindu kara-won/*kara tere.*
3NSG all sick-PST BE.3PL.PRES
'They are all no longer sick.'

(2). *John has lived in Bali*.

(3). a. *kwi-wen paar*
tree-PST skin
'detached bark/skin of a tree'

b. *nasi-wen bobo*
rice-PST plate
'a plate previously used for rice'

c. *nam-on nuron*
1.POSS-PST wife
'my former wife'

d. *puraw-on nggi*
bake-PST sago
'baked sago'

a'. *kwi-fa paar*
tree-PRES skin
'bark/skin still attached to its tree'

b'. *nasi mbe bobo*
rice PROG plate
'a plate special for rice'

c'. *nam nuron*
1SG.POSS wife
'my (current) wife'

d'. *paraw mbe nggi*
bake PROG sago
'sago for baking'

A successful analysis should also address the meaning that involves the temporal anchoring of past. The past meaning can be associated with the property of the lexical item itself (e.g. 'sick'-*won* = past illness as in (1b), or relational properties constructed by the syntax, e.g. -*won* marks a past locative relation in (3a), a past purposive relation in (3b), and a past possessive relation in (3c).

The morphosyntactic analysis of tense-aspect in Marori must also address the constructional constraint in which the presence of the non-verbal TNS exponent (-*won*) outside the verb controls the selection of auxiliary verb. The constructed aspect involving PST-*won* in (1b), for example, requires a stative auxiliary *tere*. A non-constructed simple (near) past requires a different (i.e. dynamic) auxiliary, namely *nggorab,* as seen in (4).

(4). *Emnde usindu fis kara nggo-ra-b / * tere*
3PL all yesterday sick AUX-PL-NrPST.PL BE.3PL.PRES
'They were all sick yesterday.'

The analysis proceeds as follows. First of all, following Reichenbachian two-dimensional theory of tense (Reichenbach 1947; Kamp and Reyle 1993), I define TNS as a grammatical category (i.e. with morphosyntactic constraints) determining the relation between the location time of a state/event (E) and the temporal reference (R), which may or may not coincide with the utterance/speech time (S). There are two important temporal precedence relations that need to be kept separate: the precedence between E and R (i.e. TENSE) and between R and S (called Temporal Perspective (TP) by Kamp and Reyle 1993). Aspect is defined as a grammatical category signifying a complex internal temporal structure whose parts are characterised by the properties of TP/TNS in combination with other aspectual properties such as stativity/duration, inception, culmination/termination and result. Thus, as noted earlier, the English sentence in (2) shows a past durative event of John's *living* (E) terminated at some point in the past (R) (i.e. a past TENSE: E<R) but viewed from the utterance time (S) (i.e. R<S). The same temporal relation holds for Marori example (1b) (i.e. the past durative event of being sick (E) terminated at a temporal point in the past (R), viewed from the present utterance time (S)). In short, given the definitions of tense and aspect here, -(*w)on* is part of the non-verbal inflectional system (a paradigm involving -*won* vs. -*fa* or -∅ affixes) marking TNS in the lower structural unit (NP, AP, etc.). This system then contributes to aspect at the clausal level.

Sadler & Nordlinger (2001) and Nordlinger & Sadler (2004) discuss nominal tense in a typological context,

distinguishing between Independent Nominal TAM and Propositional Nominal TAM. Independent nominal TAM has TAM information locally relevant to the nominal itself, independent from the clausal/propositional TAM. The Marori data presents a slightly different TAM type: (a) it is not strictly nominal TAM, since the same marker is used with other non-verbal categories such as adjectives and (b) it is both local and propositional—a category not explicitly mentioned in Nordlinger and Sadler's typology (2004). Recall that the PST *–won* is part of, and also constrains the clausal aspect; see example (4).

There is debate about whether there is any such thing as nominal tense as discussed by Nordlinger & Sadler (2004). Tonhauser (2008), after examining the full range of the semantics the nominal temporal marker in GuaranÃ (which is included in Nordligner and Sadler's typology), disagrees with Norlinger and Sadler's analysis (or label) of the GuaranÃ markers as nominal TNS markers, because these markers do not tally their properties with verbal tense. The present study of non-verbal tense-aspect in Marori contributes to this debate, providing further empirical evidence for non-verbal tense-aspect, in line with Nordlinger and Sadler's stance. The Marori data also reveals a complex interplay between tense and aspectual properties of the predicate involved, with distinct temporal anchors relevant for both sub-clausal and clausal units, thus adding another mixed type, not noted by Nordlinger & Sadler, to the typology.

The proposed analysis in LFG is to allow the feature TNS to appear in a non-verbal domain (e.g. adjective or nominal) and its associated local f-str. Then, we make use of an inside-out constraint to capture the clausal constraint seen in (1b), where the presence of [TNS = PST] and durative aspect (i.e. [ASPECT = STATIVE]) in a lower unit or inner layer requires the presence of the same aspect (namely, [ASPECT = STATIVE]) but different tense, namely [TENSE = PRESENT] in the outer clausal layer of the f-str. (It should be noted that durative and stative eventualities are treated and marked in the same way in Marori.) The inside-out constraint is imposed by *–won*, whose partial lexical entry is shown in (5). The notation (PREDLINK ↑) ASP) =c (↑ASP), for example, says that its corresponding f-str must be part of the value of PREDLINK attribute in a larger f-str, which itself also contains ASP, and this ASP must have the same value (namely STATIVE). Sentence (1b) can be analysed as having the f-str shown in (6), intended to mean 'they are in a state (now) of having been ill'. The closed-function of PREDLINK analysis (Butt et al 1999; Dalrymple et al 2004; Attia 2008) is adopted here because the non-verbal stative predicate in Marori obligatorily requires a copula, e.g. *tere* as in (1b).

(5). *-(w)on* suff (↑ TNS) = PAST
(↑ ASP) = STATIVE
((PREDLINK ↑) ASP) =c (↑ASP))
((PREDLINK ↑) TNS) =c PRES))

(6).

PRED	'be<SUBJ, PREDLINK>'	
TNS	PRES	
ASP	STATIVE	
SUBJ	PRED	'pro'
	PERS	3
	NUM	nsg
PREDLINK	PRED	'ill'
	ASP	STATIVE
	TNS	PAST

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