Multi-CAST

Arta annotation notes

Kimoto Yukinori August 2019











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1 Notes on the GRAID annotations

This document is a revised reproduction of Kimoto (2018). It collects selected notes on the GRAID (Haig & Schnell 2014) annotation conventions in the Multi-CAST Arta corpus, corresponding to version 1908 of the annotations, published in August 2019. Unless a more recent version of this document exists, it also applies to any later versions of the annotations.

Arta is a Philippine language spoken by the Philippine Negrito people inhabiting the Quirino and Aurora provinces in Northeastern Luzon, the Philippines. The language was first reported on by Reid (1989) and is currently being documented by the author (see Kimoto 2014; 2017b; a).

1.1 Clause structure and grammatical relations

In GRAID, annotators employ symbols such as $\langle : s \rangle$, $\langle : a \rangle$, $\langle : a \rangle$, $\langle : b \rangle$, and $\langle : ob1 \rangle$ to identify arguments. However, as is widely recognized, there has been a long controversy over the nature of case marking system in Philippine languages, or more broadly, Philippine-type languages, including most Formosan languages in Taiwan and some languages in Sulawesi and Borneo.

In Arta, verbs may show voice alternation to confer absolutive/nominative on different arguments. The availability of voice alternation differs with respect to the valency that the given verbs have. First, monovalent verb stems such as taddyor 'to stand up', tati 'to die', and tubu 'to mature (of plant)' take so-called actor voice by default; therefore, the single argument is given absolutive case. The verb t < tau > taddyor in (1), for example, the infix tau > tau (the actor voice affix) is responsible for the actor voice construction. Actor voice may be constructed by different affixes such as tau > tau indicates nasal assimilation), tau > tau indicates consonant gemination), tau > tau and tau > tau.

(1) Tinumaddyor ti Sanuwa:tèng.

```
T<in><um>addyor ti Sanuwa:tèng <PST><AV>stand PSN Sanuwateng v:pred ln np.h:s_a 'Sanuwateng stood up.'
```

In the Arta GRAID annotations, the absolutive NP in this case is glossed $\langle : s_a \rangle$, indicating an 'S argument in Actor voice clause'.

Bivalent verb stems such as papati 'killing' in (2) and (3) show voice alternation between actor voice (AV) and undergoer voice (UV). The actor voice marks the actor role NP with the absolutive, whereas the undergoer voice marks the undergoer role NP in the clause as absolutive. Note that "undergoer voice" is an umbrella term covering patient voice (PV, $-\dot{e}n$), location voice (LV, -an) and conveyance voice (CV, i-), and the specific choice of affix in the undergoer voice is not fully predictable.

(2) Mampapati ti Sanuwatèng ta arta.

```
mam-papati ti Sanuwatèng ta arta
Av-killing PSN Sanuwateng OBL person
v:pred ln np.h:a_a ln np.h:p_a
'Sanuwateng will kill a person/people.'
```

1 Kimoto, Yukinori. 2018. Operationalizing Philippine-type syntax for GRAID system: Clause structure, case marking, and verb class in Arta. Asian and African Languages and Linguistics 12. 17–35. (http://hdl.handle.net/10108/91147).

verb	participant
AV (<i>maN</i> -, <i>maC</i> -, <i>ma</i> -, < <i>um</i> >	⟨:S_a⟩ (ABS)

Table 1 Voice and case marking in monovalent clauses

verb	actor	undergoer
AV (um, maC-, maN-	<:a_a⟩ (ABS)	⟨:p_a⟩ (OBL)
UV (PV -en, LV -an, CV i-)	<:a_u⟩ (GEN)	⟨:p_u⟩ (ABS)

Table 2 Voice and case marking in bivalent clauses

(3) Papatièn ni Sanuwatèng i artay.

```
papati-èn ni Sanuwatèng i arta = y killingPV GEN.DEF Sanuwateng DEF person = SPC v:pred ln np.h:a_u ln np.h:p_u = rn
```

In the actor voice, the undergoer role is marked as oblique (OBL), and in the undergoer voice, the actor role is marked as genitive (GEN), as shown in Table 2. The two arguments in the actor voice in (2) are tagged as $\langle : a_a \rangle$ and $\langle : p_a \rangle$, indicating "A argument in Actor voice clause" and "P arguments in undergoer voice in (3) are tagged as $\langle : a_u \rangle$ and $\langle : p_u \rangle$, indicating "A argument in Undergoer voice clause" and "P argument in Undergoer voice clause".

Finally, trivalent verb stems such as $at\`ed$ 'give' in (4–6) show a three-way voice alternation between actor voice and two undergoer voices (typically conveyance voice and location voice). Actor voice constructions, marked by maN- on the verb, confers the absolutive onto the agent role 'l' in (4), leaving the other two NPs as oblique. The theme role is given absolutive case via the conveyance voice prefix i- on the verb, as in (5), and the recipient role is given absolutive case via the location voice affix -an on the verb as in (6). This three-way alternation is schematically represented in Table 3.

(4) Mangatèdtèn ta arta ta agi.

```
mang-at\grave{e}d =t\grave{e}n ta arta ta agi

AV-give =1SG OBL person OBL cloth

v:pred =pro.1:a_a ln np.h:p_a ln np:g_a

'I will give cloth to a person/people.'
```

(5) Yatèdu i agi ta arta.

```
y-atèd =u i agi ta arta
CV-give =1sg.gen DEF cloth OBL person
v:pred =pro.1:a_u l np:p_u ln np.h:g_u
'I will give the cloth to a person/people.'
```

^{&#}x27;Sanuwateng will kill the person/people.'

verb	agent	theme	recipient
AV (um, maC-, maN-	⟨:a_a⟩ (ABS)	⟨:p_a⟩ (OBL)	⟨:g_a⟩ (OBL)
UV (CV <i>i-</i>) UV (LV - <i>an</i>)	⟨:a_u⟩ (GEN) ⟨:a_u⟩ (GEN)	<pre><:p_u> (ABS) <:obl_u> (OBL</pre>	<pre>⟨:g_u⟩ (OBL) ⟨:p_u⟩ (ABS)</pre>

Table 3 Voice and case marking in trivalent clauses

(6) Atdanu i arta ta agi.

The GRAID annotation system for annotating trivalent clauses assumes that agent and theme roles are indicated as A and P, and the recipient as a goal. This principle is applied to the first two voice constructions. In actor voice constructions, the three arguments are tagged as $\langle :a_-a \rangle$ for the agent, $\langle :p_-a \rangle$ for the theme, and $\langle :g_-a \rangle$ for the recipient. In the conveyance voice, The three NPs are annotated as $\langle :a_-u \rangle$, $\langle :p_-u \rangle$ and $\langle :g_-u \rangle$, representing "A argument in Undergoer voice clause", "P argument in Undergoer voice clause", and "Goal in Undergoer voice clause", respectively. However, we do not apply the above rule to location voice whereby the recipient, not the theme, receives absolutive case. In this case, the P role is reserved for the promoted recipient, rather than the demoted theme. Following this rule, we annotate the obliquely marked theme as $\langle obl_-u \rangle$ "Oblique argument in Undergoer voice clause", and the absolutively marked recipient as $\langle p_-u \rangle$ "P argument in Undergoer voice clause".

1.2 Argument realization patterns

In Arta, an argument is normally realized by either a person index or a full NP; that is, the occurrences of person indexes and full NPs are distributed almost complimentarily. For example, in (7), plural third-person referents are encoded by the person index on the predicate without an independent nominal phrase, and, in (8), by an independent nominal without an index on the predicate:

(7) Pabbi:rèndid tidi a:na:di, amma nappatidtid.

```
pab-bi:rè-n
                          =d
               =di
                                                 =di,
                                        a:na:
   PRG-search-TR =3PL.GEN =COMP PL.DEF children =3PL.GEN
## v:pred
              =pro.h:a_u =rv ln np.h:p_u =rn_pro.h:poss
    amma nap-pati
                      =d
                           =tid
   if PST.INTR-die =COMP =3PL
#ac other v:pred
                      =rv
                            =pro.h:s_a
'They are looking for their children, if they died.'
                                                        [mc_arta_t0111_0025]
```

GRAID specifier	predicate class	voice	example
<_a>\	dynamic verb dynamic verb potentive verb potentive verb nominal predicate other	actor voice undergoer voice actor voice undergoer voice —	man-lutu 'cook' i-lutu 'be cooked' maka-tim 'can drink' ma-tim 'can be drunk' buka:gan 'be a woman' atti: 'there is, exist'

Table 4 Voice tags on nominals

(8) Nappatid tidi amanay aydi: inana.

```
nappati
                =d
                        tidi
                               ama
                                         =na
                                                          =y
   PST.INTR-die =COMP PL.DEF father
                                         =3PL.GEN
                                                          =SPC
## v:pred
                =rv
                        ln
                               np.h:s_a =rn_pro.h:poss =rn
avdi: ina
             =na
and mother =3sg.gen
             =rn
     rn
'His father and mother died.'
                                                             [mc_arta_husband_0021]
```

These realizations are, in accordance with Haig & Schnell (2014), tagged as $\langle =pro \rangle$ and $\langle np \rangle$ respectively. The equal sign $\langle = \rangle$ in the first case indicates that it is an enclitic attaching to the predicate.

A careful examination reveals that another pattern is occasionally observed; this is the case in which the same role is encoded both by a person index and a full NP. In the example below, the actor role is doubly instantiated by the person index and the independent nominal phrase:

(9) Saya iggaman na a:yi: ni kanakannaki.

```
saya iggam-an =na a:yi: ni kanakannak =i

DEM.DIST hold-TR =3SG.GEN DEM.PROX GEN.DEF child =SPC

## dem_pro:other v:pred =pro_a_u dem_pro:p_u ln np.h:bpi_a_u =rn

'Then the child held this.' [mc_arta_t0110_0114]
```

This type of argument encoding appears at a relatively low frequency. If this pattern is observed, the person index is taken as the primary instantation of the argument, while the function of the independent NP is annotated as $\langle bpi_{-} \rangle$ 'bound person index' plus the function of the primary person index.

1.3 Voice tags on nominals

In Arta, almost every verb is marked. Morphological roots take various kinds of verbal (or adjectival) affixes to formulate predicates (Table 4). Depending on the possible morphosyntactic behaviours, these affixes fall into two verb classes: dynamic verbs and potentive verbs. As mentioned in Section 1.2, GRAID annotations in Arta include a cross-reference tag on their function about the relevant predicate type. Dynamic verbs, a morphologically unmarked category, are tagged as $\langle a \rangle$ (actor voice) or $\langle a \rangle$ (undergoer voice); potentive verbs, a morphologically marked category, is tagged either $\langle a \rangle$ (actor voice) or $\langle a \rangle$ (undergoer voice). Other predicate categories, which lack voice distinctions, are specified $\langle a \rangle$ or $\langle a \rangle$ as shown in Table 4.

```
(10)
     Amma mamurab tidi amamiti.
          amma mam-purab tidi
                                    ama
                                              =mi
                                                              =ti
                 Av-hunt
                             PL.DEF father
                                              =1PL.GEN
      #ac other v:pred
                             ln
                                    np.h:s_a =rn_pro.1:poss =rn
      'If our father went hunting, ...'
                                                                  [mc_arta_disubu_0006]
(11)
     Sa:biténdid, ngay ti bunbunmi.
                sa:bit-én =di
                                                           0
                                              ngay
                                                                        ti
                carry-pv =3pl.gen
                                    =POST
                                                                        OBL.DEF
                                             go
      ## 0:p_u v:pred =pro.h:a_u =other
                                             vother:pred 0.h:s_other ln
      bunbun =mi
      house =1PL.GEN
              =rn_pro.1:poss
      '(They) carry it on the shoulder, going (with it) to our house.'
                                                              [mc_arta_disubu_0060-0061]
(12)
     Awantep maka:ngay ta ayta lugar.
                           maka:ngay
                                                                   lugar
            awan =tep
                                                ta
                                                    ayta
                  =ANT
                          POT.AV-go 0
                                                                   place
                                                OBL OBL.DIST
      ##neg other =other v:pred
                                      0.h:a_ap ln dem_pro:p_ap np:g_ap
      'They could not come there yet, (to that) place.'
                                                              [mc_arta_disubu_0033-0034]
(13)
      Saya napi:piyad i pamiliami.
                                            pamilia
         saya na-pi:piya
                                =d
                                       i
                                                       =mi
         then PST.POT.PV-good =COMP DEF family
      ## other v:pred
                                       ln np.h:s_up =rn_pro.1:poss
                                =rv
      'Then our families got better.'
                                                                   [mc_arta_t0601_0046]
(14)
     Med-dès i uga:likuy.
         med-dès i
                       uga:li
                                    =ku
         ADJ-bad DEF habit
                                    =1SG.GEN
                                                    =SPC
      ## ap_other ln np:s_other =rn_pro.1:poss =rn
      'My habit was bad.'
                                                                   [mc_arta_t0601_0074]
(15)
     Siye: wam kuwartom.
         sive:,
                       wa.
                              =m.
                                        kuwarto = m
                       PLH
```

Referential expressions 1.4

DEM.PROX

'This is yours, your money.'

When an independent referential expression is headed by a lexical noun, the noun is preceded by a determiner that inflects for number, case, and definiteness. The noun may be followed by a specificity marker, which signals that the referent is a specific object known to the speaker. A

=2sg.gen money

dem_pro:s_np other =other np:pred =rn_pro.2:poss

=2sg.gen

[mc_arta_t0601_0094]

determiner is tagged as $\langle 1n \rangle$, and specificity markers are, when they appear after a noun, tagged as $\langle rn \rangle$.

(16) Atti:tep i gilangani ta ayta Danak.

```
atti: =tep i gilangan =i ta ayta Danak
exist =ANT DEF male =SPC OBL there Danak
## other:predex =other ln np.h:s_other =rn ln ln np:s
'The man was still there in Danak.' [mc_arta_udulan_0011]
```

When a specificity marker appears within a noun phrase, it occupies the slot immediately after the first lexical element. For example, when a modifier appears before a head noun, the specificity marker longer follows the noun but is encliticized to the modifier:

(17) Tidi tallip=i a buka:gan, awantid nakapanga:dal.

```
tidi tallip =i a buka:gan, awan =tid naka-panga:dal
PL.DEF two =SPC LIG woman NEG =3PL PST.POT-learn
## ln ln =ln ln np.h:dt_s other =pro.h:s_ap v:pred

'As for the two women, they were not able to go to school.' [mc_arta_t0110_0046]
```

Some optional elements may modify a head noun with the intervening connective a (LIG, ligature), as shown by the numeral quantifier in ((17)). Such elements within the nominal are also annotated as $\langle 1n \rangle$ or $\langle rn \rangle$ based on the relative position to the head noun. The examples below illustrate cases in which the adjectives, quantifiers, and/or demonstratives modify the head nouns. It is sometimes difficult to determine which element is the head of the nominal among several words because alternative ordering of elements is possible in Arta, and, in fact, in Philippine languages in general.

(18) Basta inan'anu:sanmitéddi ay ka:mani a to:luda.

```
basta in-an-'anu:s-an =mi =téddi ay ka:man =i a to:luda just/even PST-RDP-tolerate-LV =1PL.GEN =only TOP big =SPC LIG tent ## other v:pred =pro.1:a_u =other ln ln =ln ln np:p_u 'We put up with just a big tent [instead of our houses].' [mc_arta_typhoon_0008]
```

(19) Umangayde:tènti, man na ne:but attanan a meddès a uga:li.

```
um-angay = de:
                      =tèn
                                  =ti,
                                  =DEM.PROX.OBL
   INTR-go
              =COMP = 1SG
## v:pred
              =other =pro.1:s_a =dem_pro:g_a
                            ne:but
                                                     med-dès a
                                                                  uga:li
              man
                     na
                                        attanan a
    0
              as.if
                     GEN PST.POT.lose all
                                                LIG ADJ-bad LIG habit
#ac 0.1:a_up other other v:pred
                                        ln
                                                 ln ln
                                                              ln ln
'After I came here, it seems that (I) have lost every bad habit.'
                                                              [mc_arta_t0601_0055]
```

(20) Ènsi:na di:sanna i gissay a lingo aynina a me'a:du a baggat.

```
ènsi:na di:san
                   =na
                                                  lingo
                                                         aynina
                                                                       me'a:du
   so.that reach
                   =3sg.gen def one
                                                         DEM.MED LIG ADJ-plenty
                                       =SPC LIG week
## other v:pred =rn
                             ln ln
                                       =ln ln np:p_u ln
    baggat
LIG rice
ln np:a_u
'So that that large amount of rice would last for one week.'
                                                              [mc_arta_t0601_0055]
```

Note that the same constructional template [modifier a head] or [head a modifier] is employed both for adjective modifications and relative clauses; that is, both of them could be described as instances of the single constructional template "adnominal modification". For the purpose of cross-linguistic comparisons with non-Philippine-type languages, adnominal modifications exclusively by means of adjectives, quantifiers, and demostratives are treated as $\langle 1n \rangle$ or $\langle rn \rangle$, while adnominal modifications by means of verbs (or more precisely verb-headed clauses) are treated as relative clauses and annotated hence annotated as $\langle \#rc \rangle$, which are touched upon in Section 1.5.

1.5 Gap constructions

The structure of complex sentences is relatively simple, so it is unproblematic to apply the GRAID annotation rules to our data. However, the treatment of gap constructions employed for relative clauses is worth noting. Consider the following excerpt from a discourse, in which the complex nominal phrase is headed by the head noun ka:huy 'cassava' and immediately followed by a relative clause $a \ nimulamula=mi$ 'that we planted':

(21) Ayde:yi ka:huy a nimulamulami.

Although the transitive verb nimulamula 'planted' within the relative clause creates the expectation for two arguments to occur, the undergoer argument cannot appear within the embedded clause. This is not because the argument is pragmatically inferrable, but because the construction does not allow overt appearance of the argument. In standard GRAID, the zero realization caused by grammatical suppressions is not specified (by $\langle 0 \rangle$); in the Arta corpus, such cases are instead glossed as $\langle f0 \rangle$, indicating that the argument is a forced zero within a relative clause.

References

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Appendices

A Person forms, determiners, and demonstratives

The following tables show the paradigms of person forms (including enclitic forms and independent pronouns), determiners, and demonstratives (including enclitic and independent forms). Note that in the grammatical glosses in the second line of each example, the labels for "absolutive" and "singular" are omitted for the sake of simplicity.

person	topical	absolutive	genitive	oblique
1sg	tèn	=tèn	=ku	dèn
1PL	tami	=ami	=mi	dami
2sg	taw	=a, =taw	=mu	daw
2 _{PL}	tam	=am	=muyu	dam
1+2sg	tita	=ita	=ta	dita
1+2PL	titam	=itam	=tam	ditam
3sg	siya	=siya	=na	dya
3PL	tidi~tidu	=tid	=di	did

Table A.1Person forms. 1+2sg/PL forms are inclusive, 1PL is exclusive.

			ABS	GEN	OBL
indefinite definite	singular plural	common personal	i ti tidi	na ni ni didi	ta ti ni didi

Table A.2 Determines. Personal determiners are used with proper names.

		TOP	ABS	GEN/ERG	OBL
proximal	SG	si:yèy	a:yi:, =i	ni/na a:yi:/ayni, =ni	ti/ta a:yi:, =ti
	PL	satidi:	(ay)tidi a:yi:	(ay)didi a:yi:	(ay)didi a:yi:
medial	SG	sayna	a:yina, =ina	ni/na ayna, =nina	ti/ta ayna, =tina
	PL	satidi:na	(ay)tidi:na	(ay)didi:na	(ay)didi:na
distal	SG	saya	a:ya:, =ya:	ni/na a:ya:	ti/ta a:ya:, =ta
	PL	satiddya:	(ay)tiddya	(ay)didi a:ya:	(ay)didi a:ya:,

Table A.3 Demonstratives.

B List of corpus-specific GRAID symbols

The following is a list of the non-standard GRAID symbols used in the annotation of the Multi-CAST Arta corpus. Please refer to the *GRAID manual* (Haig & Schnell 2014: 54–55) for an inventory of basic GRAID symbols.

Form symbols and specifiers

⟨f	ʹ0⟩ structι	irally suppressed	l argument sl	ot of a predicate

⟨dem_pro⟩ demonstrative pronoun

⟨pn_np⟩ proper name

\dap_other\ dem_other\ demonstrative adverb

Function symbols and specifiers

⟨:bpi⟩	bound person index; combines with specifiers reflecting the function of the primary argument slot (e.g. $\langle : bpi_a_a \rangle$)
⟨_a⟩	actor voice of a dynamic verb, attaches to core argument functions
<_ap>	actor voice of a potentive verb, attaches to core argument functions
⟨_ds⟩	subject of a verb of speech, attaches to $\langle \colon \! s \rangle$ and $\langle \colon \! ds \rangle$
⟨_np⟩	nominal predicate, attaches to core argument functions
$\langle _other \rangle$	other types predicate (incl. existentials), attaches to core argument functions
⟨_stv⟩	subject of a stative verb, attaches to core argument functions
⟨_u⟩	undergoer voice of a dynamic verb, attaches to core argument functions
⟨_up⟩	undergoer voice of a potentive verb, attaches to core argument functions

Other symbols

 $\langle nc_{-} \rangle$ specifier: marks form glosses with RefIND indices in segments otherwise not considered (i.e. those marked $\langle \#nc_{+} \rangle$)

C List of abbreviated morphological glosses

1	first person	NMZ	nominalizer
1+2	first-second person	OBL	oblique case
2	second person	PL	plural
3	third person	POT	potentive verb
ABS	absolutive case	POST	posterior aspect ('already')
ADJ	adjectivizer	PROG	progressive aspect
AV	actor voice	PROX	proximal demonstrative
CAUS	causative	PSN	personal article
COMP	complementizer	PST	past tense
CV	conveyance voice	PV	patient voice
DEF	definite	RDP	reduplication
DEM	demonstrative	SG	singular
DIST	distal demonstrative	SPC	nominal specificier
GEN	genitive case	STV	stative verb
LIG	ligature (linker)	TOP	topic
LV	locative voice	UV	undergoer voice
MED	medial demonstrative		
NEG	negation	NC	not classifiable



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