BOUNDARY GLOTTALS AND A'INGAE INFORMATION STRUCTURE: A MORPHOLOGICAL ARGUMENT FOR A DISCOURSE FEATURE HIERARCHY

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ABSTRACT   I describe and analyze patterns of syntactically conditioned allomorphy observed in A'ingae (or Cofán, an endangered Amazonian isolate, ISO 639-3: con). Three information structural morphemes—the new topic -(ʔ)ta NEW, contrastive topic -(ʔ)ja CNTR, and exclusive focus -(ʔ)yi EXCL—are realized as non-preglottalized (-ta, -ja, -yi) when attaching to most categories, such DPs, CPs, or adverbs, but as preglottalized (-ʔta, -ʔja, -ʔyi) when attaching to TPs. I propose that the glottal stop (-ʔ) is a spell-out of T° conditioned by linear adjacency to a higher-order *discourse* feature [δ] (Bossi and Diercks, 2019; Mikkelsen, 2015) that dominates all the maximal information structural features. By documenting an overt realization of a vocabulary item conditioned by [δ], I provide novel morphological evidence for a hierarchical arrangement of discourse features (Bossi and Diercks, 2019; Mikkelsen, 2015), and of Ā-feature geometry more broadly (e. g. Aravind, 2018; Baclawski, 2019; Baier, 2018).

1   INTRODUCTION

This paper describes and analyzes patterns of allomorphy observed in the information structure (IS) domain of A'ingae (or Cofán, an endangered Amazonian isolate, ISO 639-3: con). A'ingae has four IS markers: the new topic -(ʔ)ta NEW,[1] contrastive topic -(ʔ)ja CNTR, exclusive focus -(ʔ)yi EXCL, and additive focus -ʔkhe ADD. The first three of these markers show a regular alternation between plain (i. e. non-preglottalized; -ta NEW, -ja CNTR, -yi EXCL) and preglottalized (-ʔta NEW, -ʔja CNTR, -ʔyi EXCL) forms, conditioned by the syntactic category of the base of attachment. When IS morphemes are attached to phrases of most syntactic categories, including—for example—noun phrases (1a), overtly subordinated clauses (1b),[2] and adverbs (1c), they are realized as plain. However, when they are attached to infinitive verbs (2a), finite verbs (2b), or non-verbal predicates (2c) in subordinate clauses, they are realized as preglottalized.[3] The key pattern is illustrated below with the new topic -(ʔ)ta NEW (realized as -(ʔ)nda NEW after nasal vowels; 1b, 2a). The information structural markers are underlined throughout the paper.

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1 The following glossing abbreviations have been used: 1 = first person, 2 = second person, 3 = third person, ACC = accusative, ACC2 = accusative 2, ADD = additive focus, ADJ = adjectivizer, ADN = adnominal, ADV = adverbializer, AIMP = attenuated imperative, ANA = anaphora, ANIM = animate, APPR = apprehensional, ASSR = assertive, ATTR = attributive, AUX = auxiliary, CAUS = causative, CNTR = contrastive topic, DAT = dative, DCS = deceased, DEM = demonstrative, DIST = distal, DRN = diurnal, DS = different subject, EN = event nominalizer, EXCL = exclusive focus, FOC = focus, FRST = frustrative, HORT = hortative, IDSB = indefinite of substance, IDSL = indefinite of selection, IF = conditional, IMP = imperative, IN = individual nominalizer, INF = infinitive, INGR = ingressive, INS = instrumental, IPFV = imperfective, IRR = irrealis, ITER = iterative, LOC = locative, N = nominalizer, NEG = negative, NEW = new topic, PASS = passive, PERM = permissive, PL = plural, PLA = pluractional, PLC = place, PLS = plural subject, PROH = prohibitive, PROX = proximal, PURP = purposive, RCPR = reciprocal, RPRT = reportative, SG = singular, SML = similative, SN = subject nominalizer, SS = same subject, STA = spatial/temporal anaphora, TENT = tentative, THUS = manner demonstrative, TOP = topic, VDM = verbal diminutive, WH = content interrogative, YNQ = polar interrogative.

2 A'ingae shows iterative progressive nasal spreading (as well as non-iterative regressive nasalization) (Bennett et al., 2024; Dąbkowski, 2024b; Sanker and AnderBois, t.a.). Consequently, -(ʔ)ta NEW, -(ʔ)ja CNTR, and -(ʔ)yi EXCL surface as -(ʔ)nda NEW, -(ʔ)jan CNTR, and -(ʔ)ñi EXCL after nasal vowels. The oral-nasal alternation is orthogonal to the plain-glottal alternation under scrutiny.

3 Many functional morphemes, including the four IS markers under investigation, can attach to constituents of various categories, including noun phrases—in which case they appear at their very right edge, regardless of phrase-internal word order—as well as verb phrases and adverbs—in which case they always appear on the head of the phrase, i. e. the verb or adverb itself. Correspondingly, I represent them as either clitics or affixes. This distinction does not, in itself, have any morphophonological correlates (Dąbkowski, 2021b, 2023b), nor does it correlate directly with the plain-glottal alternation of interest.

(1) Nᴇᴡ ᴛᴏᴘɪᴄ *-ᴛᴀ* (*-ɴᴅᴀ*) ʀᴇᴀʟɪᴢᴇᴅ ᴀs ᴘʟᴀɪɴ

    a. ᴀᴛᴛᴀᴄʜᴇᴅ ᴛᴏ ᴀ ɴᴏᴜɴ ᴘʜʀᴀsᴇ

    yáya=ta   *=tsû tsámpi=ni   já*
    dad=ɴᴇᴡ =3   forest=ʟᴏᴄ go

    "Dad went hunting."   (2024-06-10(1)_mll)

    b. ᴀᴛᴛᴀᴄʜᴇᴅ ᴛᴏ ᴀɴ ᴏᴠᴇʀᴛʟʏ sᴜʙᴏʀᴅɪɴᴀᴛᴇᴅ ᴠᴇʀʙ

    kháʔna-saʔne-nda =ngi íyûʔû
    steal-ᴀᴘᴘʀ-ɴᴇᴡ   =1   scold

    "I advised (them) not to steal."   (2024-05-31(1)_sia)

    c. ᴀᴛᴛᴀᴄʜᴇᴅ ᴛᴏ ᴀɴ ᴀᴅᴠᴇʀʙ

    táyue-ta   *=tsû án*
    already-ɴᴇᴡ =3   eat

    "S/he already ate."   (2024-06-10(1)_mll)

(2) Nᴇᴡ ᴛᴏᴘɪᴄ *-ʔᴛᴀ* (*-ʔɴᴅᴀ*) ʀᴇᴀʟɪᴢᴇᴅ ᴀs ᴘʀᴇɢʟᴏᴛᴛᴀʟɪᴢᴇᴅ

    a. ᴀᴛᴛᴀᴄʜᴇᴅ ᴛᴏ ᴀɴ ɪɴꜰɪɴɪᴛɪᴠᴇ ᴠᴇʀʙ

    án-ñe-ʔnda =ngi séʔpi
    eat-ɪɴꜰ-ɴᴇᴡ =1   forbid

    "I forbade eating."   (2024-05-31(1)_sia)

    b. ᴀᴛᴛᴀᴄʜᴇᴅ ᴛᴏ ᴀ ꜰɪɴɪᴛᴇ ᴠᴇʀʙ

    sése   *jí-ʔta*   *=tsû án-ña*
    papagayo come-ɴᴇᴡ =3   eat-ɪʀʀ

    "If the papagayo comes, it will eat."   (2024-06-10(1)_mll)

    c. ᴀᴛᴛᴀᴄʜᴇᴅ ᴛᴏ ᴀ ɴᴏᴍɪɴᴀʟ ᴘʀᴇᴅɪᴄᴀᴛᴇ

    ña yáya-ʔta =tsû afé-ya   fae regálo=ve ñá=nga
    1sɢ dad-ɴᴇᴡ =3   give-ɪʀʀ one gift=ᴀᴄᴄ2 1=ᴅᴀᴛ

    "If it's my dad, he'll give me a gift."   (2024-06-10(1)_mll)

The four markers under discussion (*-(ʔ)ta* ɴᴇᴡ, *-(ʔ)ja* ᴄɴᴛʀ, *-(ʔ)yi* ᴇxᴄʟ, *-ʔkhe* ᴀᴅᴅ) form a natural class—they all encode information structural meanings, attach to the same range of constituents, and always appear at the very end of a phrase, occupying the same morphosyntactic position. (For more on the similarities among the IS markers, see Section 3.) As such, the observed systematic alternation between the plain (*-ta* ɴᴇᴡ, *-ja* ᴄɴᴛʀ, *-yi* ᴇxᴄʟ) and preglottalized (*-ʔta* ɴᴇᴡ, *-ʔja* ᴄɴᴛʀ, *-ʔyi* ᴇxᴄʟ) forms should not be understood as three independent instances of allomorphy, but rather attributed to an underlying morphosyntactic property shared by all the IS markers.

Concretely, I propose that the glottal stop (*-ʔ*) is a realization of a T-head conditioned by linear adjacency to IS morphology. The conditioning environment is formalized as a higher-order *discourse* feature [δ] (Bossi and Diercks, 2019; Mikkelsen, 2015), which dominates all the more specific information structural features, including e. g. topic [ᴛᴏᴘ], focus [ꜰᴏᴄ], and their subtypes, such as new topic [ɴᴇᴡ], contrastive topic [ᴄɴᴛʀ], exclusive focus [ᴇxᴄʟ], and additive focus [ᴀᴅᴅ]. (Notwithstanding, I represent the glottal stop as part of the following IS morpheme in line with general glossing conventions adopted in the literature on A'ingae).

In the previous literature, the notion of *discourse differentiation* (Mikkelsen, 2015), formalized by Bossi and Diercks (2019) as a superordinate discourse feature [δ], has been motivated by word-order facts in Kipsigis (Nilo-Saharan, Kenya; Bossi and Diercks, 2019) and Danish (North Germanic, Denmark; Mikkelsen, 2015). The current case study focuses on patterns of allomorphy in the domain of A'ingae information structure markers. By showing that all the A'ingae IS morphemes pattern alike in triggering an allomorphy of the T-head, the current paper provides novel morphological evidence for a hierarchical arrangement of discourse features (with [δ] inherited by the maximal topic and focus features), and of Ā-feature geometry more broadly (e. g. Aravind, 2018; Baclawski, 2019; Baier, 2018).

The rest of the paper is structured as follows. Section 2 provides background on the language, summarizes some relevant aspects of its grammar, and lists previous descriptive and theoretical literature. Section 3 describes the patterns of ʔ-realization observed among the A'ingae discourse markers, and motivates certain analytical choices made along the the way. Section 4 formalizes an analysis of the plain-preglottalized allomorphy couched in Distributed Morphology (DM) (e. g. Embick, 2010, 2015; Embick and Noyer, 2007; Halle and Marantz, 1993, 1994). Section 5 discusses the findings and concludes.

2 LANGUAGE BACKGROUND

A'ingae (or Cofán ISO 639-3: con) is an endangered Amazonian language spoken by ca. 1,500 in the northeast Ecuadorian province of Sucumbíos and the southern Colombian department of Putumayo. The language remains classified as an isolate (AnderBois, Emlen, et al., 2019), despite some previous (mostly geography-driven) claims to the contrary (e. g. in Rivet, 1924, 1952; Ruhlen, 1987). Ever since the Spanish colonial invasion—and prominently in recent decades—the Cofán have experienced mounting economic, ecological, and political pressures, disrupting language transmission, and putting their cultural and linguistic heritage at risk. Despite the challenges, the Cofán are proud of their heritage, and welcome projects aimed at documenting their language and bolstering its status (Dąbkowski, 2021a).

A'ingae syllable structure can be schematized as (C)V(V)(ʔ)—onsets are optional, nuclei are maximally diphthongal, and glottal stops are the only licit coda. The present article uses the practical orthography with two deviations: glottal stops are represented with the International Phonetic Alphabet (IPA) symbol (ʔ), not apostrophe (´), and stress is marked with the acute accent (´). For more on the A'ingae orthography, see Dąbkowski (2024b), Fischer and Hengeveld (2023), and Repetti-Ludlow et al. (2019).

A'ingae is a highly agglutinating, exclusively suffixing, and encliticizing language. The vast majority of the language's functional morphemes are -CV or -ʔCV monosyllables (the preglottalization, if present, is parsed as the coda of the preceding syllable); most of the language's glottal stop tokens come from preglottalized suffixes. Plain and preglottalized morphemes constitute many minimal pairs, e. g. the flat classifier -*je* vs. imperfective -*ʔje* IPFV, the accusative =*ma* ACC vs. frustrative -*ʔma* FRST, the dative =*nga* DAT vs. distal -*ʔnga* DIST, the same subject -*pa* SS vs. nominalizer -*ʔpa* N, the irrealis -*ya* IRR vs. assertive -*ʔya* ASSR, or the infinitive -*ye* vs. deceased honorific =*ʔye* DCS. The new topic -(ʔ)*ta* NEW, contrastive topic -(ʔ)*ja* CNTR, and exclusive focus -(ʔ)*yi* EXCL are unusual in that their preglottalization is subject to allomorphic conditioning.

The data presented in this paper comes from published materials written originally in A'ingae and fieldwork elicitation conducted by the author. Elicitation tasks included translation and grammaticality judgments. All the data drawn from previous publications are cited as such.[4] All the fieldwork data has been deposited in the California Language Archive (CLA) as Dąbkowski (2020) and cited with a YYYY-MM-DD(N)_ccc identifier.[5]

Previous descriptive work on the language includes Fischer and Hengeveld (2023) and Hengeveld and Fischer (in prep.) and chapters in Dąbkowski's (in prep.) dissertation. Aspects of the language's phonetics and phonology (including diachronic perspectives and interactions with morphosyntax) have been analyzed by Dąbkowski (2021b, 2023a,b, 2024a, t.a.[b], 2024b), Repetti-Ludlow et al. (2019), Repetti-Ludlow (2021), and Sanker and AnderBois (t.a.). Various topics in the language's morphology, syntax, semantics, pragmatics, and their interfaces have been discussed by AnderBois, Altshuler, and Silva (2023), Dąbkowski and AnderBois (2024, t.a.), Fischer (2007), Fischer and van Lier (2011), Hengeveld and Fischer (2018), Kalpande (2024), Morvillo and AnderBois (2022), and Zheng and AnderBois (2023).

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4 Since glottalization is not reliably represented in written A'ingae (and stress is often not represented at all), I supplied this information by reeliciting the relevant data. At times, my consultants improved on the word choice or corrected some of the grammatical forms. In all such cases, the reported data reflect the choices and judgments of my consultants, not the original medium.

5 YYYY stands for the year, MM — the month, DD — the day, N — the number of the consecutive elicitation session conducted on a given day, and ccc — the three-letter consultant name abbreviation. File names of the CLA-deposited materials often also contain keywords, briefly summarizing the contents of the session.

3 DESCRIPTION

A'ingae has four morphemes dedicated to encoding discourse-related information, such as topichood and focus. The topic of a sentence is the entity that the sentence is intuitively "about." This is to say, the topic is an entity that the rest of the sentence comments on (Krifka, 2008). A'ingae distinguishes two types of overtly marked topics. The new topic -(ʔ)ta NEW indicates that the topic was not previously present in the discourse (3a). The contrastive topic -(ʔ)ja CNTR is used in the presence of alternative topics in the discourse (with which the marked topic may contrast) (3b). The contributions of the topic markers are often not reflected in translations to Spanish or English, and most sentences are also accepted as grammatical without them.

(3) TWO TOPIC MARKERS

    a. NEW TOPIC -(ʔ)TA NEW

       tayúpi(-ta)   *=tsû Erisión tsáiʔmbi-ʔtshi teteté=ndekhû=ve*   *fíthi~ʔthi*
       long ago-NEW =3   Erisión many-ADJ   Waorani=PL.ANIM=ACC2 kill~PLA

       "Once upon a time, Erisión killed many Waoranis."

                           (Blaser and Chica Umenda, 2008, p. 152; 2024-06-07(1)_mll)

    b. CONTRASTIVE TOPIC -(ʔ)JA CNTR

       má-ki   *áʔta =tsû Chíga(=ja) páʔkhu ánde=ma úke káti-ya*
       IDSL-DRN day =3   God=CNTR all   land=ACC burn throw-IRR

       "One day, God will burn the whole world down."

                           (Blaser and Chica Umenda, 2008, p. 31; 2024-06-07(1)_mll)

Focus indicates that in addition to the entity denoted by the marked phrase, there are others that are also relevant to the interpretation of the sentence (Krifka, 2008, p. 247). A'ingae has two focus morphemes. The exclusive focus -(ʔ)yi EXCL indicates a proposition holds of the marked entity to the exclusion of the alternatives; it is often translated as "only," "just," "very (same)," or with cleft constructions (4a). The additive focus -ʔkhe ADD indicates that the proposition holds of the marked entity in addition to the alternatives; it is often translated as "too," "as well" or "even" (4b). Although the additive focus -ʔkhe ADD does not show the plain-glottal allomorphy of interest (which will be attributed to its underlying preglottalization in Section 4), I present examples with -ʔkhe ADD throughout for the sake of completeness.

(4) TWO FOCUS MARKERS

    a. EXCLUSIVE FOCUS -(ʔ)YI EXCL

       tsá-ʔka-en   *pá-ʔfa-si khuánifae tsandié=ndekhû=yi khûshá-ʔfa*
       ANA-SML-ADV die-PLS-DS three   man=PL.ANIM=EXCL survive-PLS

       "When they thus died, only three men were spared."

                           (Blaser and Chica Umenda, 2008, p. 37; 2024-06-07(1)_mll)

    b. ADDITIVE FOCUS -ʔKHE ADD

       tsá=ma   *áthe-pa fáesû=ma=ʔkhe áthe*
       ANA=ACC see-SS other=ACC=ADD see

       "When (he) looked, (he) also saw another one."

                           (Blaser and Chica Umenda, 2008, p. 38; 2024-06-07(1)_mll)

The two topic markers -(ʔ)ta NEW and -(ʔ)ja CNTR are mutually incompatible. The exclusive focus -(ʔ)yi EXCL may be followed by the additive focus -ʔkhe ADD (5a), or by either topic marker (5b-c). Finally, the additive focus -ʔkhe ADD may be followed by the new topic -(ʔ)ta NEW (5d). The co-occurrence possibilities among the A'ingae information structural markers are summarized in Table 1.

(5) LICIT COMBINATIONS OF INFORMATIONAL STRUCTURAL MARKERS

    a. EXCLUSIVE FOCUS -(ʔ)YI EXCL + ADDITIVE FOCUS -ʔKHE ADD

        tsá-ʔma tsé-ki   kúse ni   fáe ávû=ve=yi=ʔkhe   índi-ʔfa-mbi   =ngi
        ANA-FRST STA-DRN night neither one fish=ACC2=EXCL=ADD catch-PLS-NEG =1

        "But that night we did not catch even a single fish."   (John 21:3; 2024-06-07(1)_mll)

    b. EXCLUSIVE FOCUS -(ʔ)YI EXCL + NEW TOPIC -TA NEW

        tsá-ʔka-en   kánse-ʔfa-ʔyi-ta   =ki ñuáʔme shaká-ʔfa-ya-mbi
        ANA-SML-ADV live-PLS-EXCL-NEW =2 truly   lack-PLS-IRR-NEG

        "Only if you live like this, you will truly not lack (anything)."

                                                    (Thessalonians 4:12; 2024-06-07(1)_mll)

    c. EXCLUSIVE FOCUS -(ʔ)YI EXCL + CONTRASTIVE TOPIC -JA CNTR

        tsá-ʔkan-si =tsû tíse-ʔsû áʔi=yi=ja   má-ʔka-en   fíʔthi-pa ávû kíniʔjin=ma júkhaningae
        ANA-SML-DS =3   3SG-ATTR person=EXCL=CNTR IDSL-SML-ADV kill-ss   fish tree=ACC   for later

        tsún-ña-ʔchu-ve-ja   tsún-ʔfa
        do-IRR-EN-ACC2-CNTR do-PLS

        "Because of that, those very same ones had to kill, ensuring the survival of the fish tree."
                               (Blaser and Chica Umenda, 2008, p. 25; 2024-06-07(1)_mll)

    d. ADDITIVE FOCUS -ʔKHE ADD + NEW TOPIC -TA NEW

        ké=ʔkhe=ta   =ti=ki   tsa áʔi=ma   shúndu-ʔsû-mbi?
        2SG=ADD=NEW =YNQ=2 ANA person=ACC accompany-SN-NEG

        "Art not thou also one of this man's disciples?"   (John 18:17; 2024-06-07(1)_mll)

1ˢᵀ ↓ / 2ᴺᴰ →	-yi EXCL	-ʔkhe ADD	-ta NEW	-ja CNTR
-(ʔ)yi- EXCL	—	-(ʔ)yiʔkhe	-(ʔ)yita	-(ʔ)yija
-ʔkhe- ADD	✗	—	-ʔkheta	✗
-(ʔ)ta- NEW	✗	✗	—	✗
-(ʔ)ja- CNTR	✗	✗	✗	—

Table 1: Co-occurrence among the A'ingae information structural markers

There is no particular position that the IS-marked constituents must occupy. For example, while new topics are often the first constituent in a sentence (3a, 5b, 5d), non-initial new topics are also grammatical (6). Multiple information structurally marked constituents may appear per clause (5c, 6).

(6) NON-INITIAL NEW TOPIC -(ʔ)TA NEW

    kéʔi=ta   =ti=ki   séjeʔpa=ve=ta   áʔmbian-ʔfa?
    2PL=NEW =YNQ=2 poison-N=ACC2=NEW have-PLS

    "Do you have poison?"   (Quenamá, 1992, pp. 21, 57; 2024-06-10(1)_mll)

A'ingae has five sentence-level clitics which encode the person feature of the matrix subject (first person *=ngi* 1, second person *=ki* 2, third person *=tsû* 3), evidentiality (reportative *=te* RPRT), and illocutionary force (polar interrogative *=ti* YNQ). The clitics are prototypically optional in matrix clauses, disallowed in subordinate clauses, and linearized after the first clausal constituent, i. e. in the second position. (Dąbkowski, t.a.(a) analyzes them as matrix-clausal C-heads.) However, the IS markers enter into co-occurrence restrictions with the second-position (P2) clitics, causing deviations from those prototypical patterns. For example, although generally optional, P2 clitics are strongly preferred after the new topic marker -(ʔ)ta NEW (7), and ungrammatical immediately after constituents marked with the contrastive topic -(ʔ)ja CNTR (8).

(7)   P2 CLITIC PREFERRED AFTER NEW TOPIC -(ʔ)TA NEW

    a.   NEW TOPIC -(ʔ)TA NEW + P2 CLITIC

       án-ʔnda =ngi khipuéʔsû-ya-mbi
       eat-NEW =1   hungry-IRR-NEG

       "If I eat, I won't be hungry."   (2024-05-27(2)_sia)

    b.   NEW TOPIC -(ʔ)TA NEW − P2 CLITIC

       ?*án-ʔnda* khipuéʔsû-ya-mbi
       eat-NEW hungry-IRR-NEG

       "If I eat, I won't be hungry."   (2024-05-27(2)_sia)

(8)   P2 CLITIC DISALLOWED AFTER CONTRASTIVE TOPIC -(ʔ)JA CNTR

    a.   CONTRASTIVE TOPIC -(ʔ)JA CNTR + P2 CLITIC

       *áʔtse=ja   =tsû tsáʔu=nga káʔni
       hummingbird=CNTR =3   house=DAT enter

       intended: "A hummingbird entered the house."   (2024-05-27(2)_sia)

    b.   CONTRASTIVE TOPIC -(ʔ)JA CNTR − P2 CLITIC

       áʔtse=ja   tsáʔu=nga káʔni =tsû
       hummingbird=CNTR house=DAT enter =3

       "A hummingbird entered the house."   (2024-05-27(2)_sia)

The rest of this section focuses on the functions and realizations of the A'ingae IS markers on constituents of various syntactic categories, divided into non-predicates (§3.1) and subordinate predicates (§3.2).

3.1 Non-predicates

The A'ingae IS morphemes are most frequently observed on non-predicate constituents of various kinds, including e. g. bare nouns (9a, 9h), pronouns (9b), question words (9c), stand-alone adjectives functioning as headless noun phrases (9d), nouns with inflectional clitics (9e), case-marked phrases (9f), and adverbs (9g).

(9)   PLAIN REALIZATION ON NON-PREDICATES

    a.   BARE NOUN + NEW TOPIC -TA NEW

       ánde=ta   =tsû aʔí=ndekhû   kánse-ʔchu túyaʔkaen kukuyá=ndekhû   kánse-ʔchu
       land=NEW =3   person=PL.ANIM live-EN   and   demon=PL.ANIM live-EN

       "The earth is where human beings live, but also where the demons live."

                     (Blaser and Chica Umenda, 2008, p. 28; 2024-06-07(2)_mll)

    b.   PRONOUN + CONTRASTIVE TOPIC -JA CNTR

       tíse=ja   ñuáʔme ke   púshe =tsû
       3SG=CNTR truly   2SG wife =3

       "Behold, of a surety she is thy wife."   (Genesis 26:9; 2024-06-10(1)_mll)

    c.   WH-PHRASE + EXCLUSIVE FOCUS -YI EXCL

       jungué-sû=yi   =tsû náʔen=ni kánse?
       IDSB-ATTR=EXCL =3   river=LOC live

       "What is it that lives in the river?"   (2024-06-10(1)_mll)

    d.   ADJECTIVE + NEW TOPIC -TA NEW

       áʔta-tshi-a=ta   =ti   fáeʔngae sínthia=iʔkhû kánʔjen-ña?
       day-ADJ-ADN=NEW =YNQ together darkness=INS be.ANIM-IRR

       "And what communion hath light with darkness?"   (2 Corinthians 6:14; 2024-06-10(1)_mll)

e. INFLECTED NOUN + CONTRASTIVE TOPIC -*JA* CNTR

má-jan   =tsû cofán=ndekhû=ja?
IDSL-CNTR =3   Cofán=PL.ANIM=CNTR

"Who are the Cofán?"   (Blaser and Chica Umenda, 2008, p. 10; 2024-06-10(1)_mll)

f. CASE-MARKED PHRASE + EXCLUSIVE FOCUS -*YI* EXCL

áʔi=nga   enthínge=ve=yi   áfe
person=DAT half=ACC2=EXCL give

"(He) gave the (other) half to the man." (Borman and Criollo, 1990, p. 87; 2024-06-10(1)_mll)

g. ADVERB + NEW TOPIC -*TA* NEW

tayúpi(-ta)   =tsû Erisión tsáiʔmbi-ʔtshi teteté=ndekhû=ve   fíthi~ʔthi
long ago-NEW =3   Erisión many-ADJ   Waorani=PL.ANIM=ACC2 kill~PLA

"Once upon a time, Erisión killed many Waoranis."

                (Blaser and Chica Umenda, 2008, p. 152; 2024-06-07(1)_mll)

h. BARE NOUN + ADDITIVE FOCUS -*ʔKHE* ADD

má-ki   máma=ʔkhe yáya=iʔkhû nasípa=ni já
IDSL-DRN mom=ADD dad=INS   field=LOC go

"Some days, mom also goes with dad into the field."

                (Borman and Chica Umenda, 1982, p. 17; 2024-06-10(1)_mll)

Regardless of the category and the functional morphology of the base of attachment, the new topic -*(ʔ)ta* NEW (9a, 9d, 9g), contrastive topic -*(ʔ)ja* CNTR (9b, 9e), and exclusive focus -*(ʔ)yi* EXCL (9c, 9f) are realized as plain (i. e. not preglottalized). The additive focus is -*ʔkhe* ADD is preglottalized (9h).

3.2   *Predicates*

In addition to arguments and adjuncts, the IS morphemes may appear on subordinate predicates, both verbal and non-verbal. in this section, I briefly summarize the basic facts of predicate morphology.

A variety of grammatical categories can be expressed on a verbal head by means of suffixation (Dąbkowski, 2021b, 2023b). An example of a highly inflected verb is presented in (10).

(10) VERBAL PREDICATE STRUCTURE

   [[[[[*kufi -án*]$_\text{VceP}$ -*ʔje   -ngi*]$_\text{AspP}$ -*ʔfa -mbi*]$_\text{TP}$ -*ʔni*]$_\text{CP}$ *-nda*]$_\text{ΔP}$
        play -CAUS   -IPFV -PROX   -PLS -NEG   -IF.DS   -NEW

   "now$_\text{NEW}$, if$_\text{IF}$ (they$_\text{PLS}$) do not$_\text{NEG}$ come$_\text{PROX}$ to be$_\text{IPFV}$ making$_\text{CAUS}$ play, (someone else$_\text{DS}$) ..."

                (2024-06-18(1)_mll)

The suffixes can be grouped into five major functional projections. The voice projection (VceP) includes the causative -*ña*/-*an*/-*en* CAUS, reciprocal -*khu* RCPR, and passive -*ye* PASS. The verbal inflectional projection (AspP) encompasses the aspectual and associated motion suffixes. The situation-level projection (TP) is comprised of markers for subject number (plural -*ʔfa* PLS), reality (irrealis -*ya* IRR), finiteness (infinitive -*ye* INF), and polarity (negative -*mbi* NEG). The clause-level projection (CP) hosts suffixes that can be categorized as appearing on either matrix clauses, cosubordinate clauses or subordinate clauses. Finally, the discourse projection (ΔP) hosts the four IS markers: the new topic -*(ʔ)ta* NEW, contrastive topic -*(ʔ)ja* CNTR, exclusive focus -*(ʔ)yi* EXCL, and additive focus -*ʔkhe* ADD.

The full morphological template of the A'ingae verb is given in Table 2. The verbal root is at the bottom, and the subsequent morphosyntactic slots appear above the root, mimicking the orientation of a syntax tree.

The first two projections (VceP and AspP) are exclusive to morphological verbs. This is to say, the voice, aspect, and associated motion suffixes can appear only on verbal heads. The morphemes hosted by the latter three

INFO STRUCTURAL SUFFIXES (ΔP)

    (xii)   TOPIC: *-(ʔ)ta* NEW, *-(ʔ)ja* CNTR

    (xi)   ADDITIVITY: *-ʔkhe* ADD

    (x)   EXCLUSIVITY: *-(ʔ)yi* EXCL

CLAUSE-LEVEL SUFFIXES (CP)

    (ix)   CLAUSE TYPE

        MATRIX: *-ja* IMP, *-kha* AIMP, *-ʔse* PERM,

           -jama PROH, *-ʔya* ASSR

        COSUBORDINATE: *-pa* SS, *-si* DS

        SUBORDINATE: *-saʔne* APPR, *-khen* TENT,

           (*-ʔa* IF.SS,) *-ʔni* IF.DS, *-ʔma* FRST

SITUATION-LEVEL SUFFIXES (TP)

    (viii)   POLARITY: *-mbi* NEG

    (vii)   REALITY/FINITENESS: *-ya* IRR, *-ye* INF

    (vi)   SUBJECT NUMBER: *-ʔfa* PLS

VERBAL INFLECTIONAL SUFFIXES (AspP)

    (v)   ASSOC MOTION: *-ʔngi* PROX, *-ʔnga* DIST

    (iv)   ASPECT: *-ʔje* IPFV, *-ji* INGR, *-kha* VDM,

        -ʔñakha ITER

VOICE SUFFIXES (VceP)

    (iii)   PASSIVE: *-ye* PASS

    (ii)   RECIPROCAL: *-khu* RCPR

    (i)   CAUSATIVE: *-ña/-an/-en* CAUS

VERBAL ROOT (√P)

    (0)   VERBAL ROOT: √

Table 2: Morphological template of the A'ingae verb (building on Dąbkowski, 2023b)

projections (TP, CP, and ΔP), on the other hand, can occur on both verbal and non-verbal predicates, including noun phrases and adjectives.[6] A'ingae lacks a copula verb; as such, the TP, CP, and ΔD morphemes attach directly to the non-verbal predicates. An example of a noun phrase (with a bare possessor and the inflectional plural clitic *=ndekhû* PL.ANIM) functioning as a predicate is given in (11). IS morphemes behave in similar ways on verbal and non-verbal predicates. As such, in the rest of the paper, I group and discuss them together.

(11) NOMINAL PREDICATE STRUCTURE

    tíseʔpa [[[[*ña* *yayá =ndekhû*]$_{DP}$ *=ʔfa* *=mbi*]$_{TP}$ *=ʔni*]$_{CP}$ *=nda*]$_{ΔP}$

    3PL   1SG dad =PL.ANIM   =PLS =NEG   =IF.DS   =NEW

    "now$_{NEW}$, if$_{IF}$ they$_{3PL}$ are$_{PLS}$ not$_{NEG}$ my$_{1SG}$ parents$_{PL.ANIM}$, (someone else$_{DS}$) ..."   (2024-06-18(1)_mll)

A'ingae subordinate clauses can be inflected for features such as subject plurality (*-ʔfa* PLS; 12a-12b), reality status (irrealis *-ya* IRR; 12a), polarity (negative *-mbi* NEG; 12a), and finiteness (infinitive *-ye* INF; 12b). This

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6 A'ingae word order is largely free in matrix clauses, but predominantly verb-final in subordinate clauses. Consequently, I describe the IS morphemes variably as attaching to clauses, predicates, or verbs/noun phrases/adjectives without any intended difference in meaning.

suggests that subordinate clauses consist of at least the TP layer (and also may have an overt or phonologically null CP layer).

(12)   SUBORDINATE CLAUSE INFLECTION

    a.   FINITE SUBORDINATE CLAUSE
       kúfe-ʔje-ʔfa-ya-mbi-ʔma =tsû avûjá-tshi-ʔfa-ya
       play-IPFV-PLS-IRR-FRST =3   rejoice-ADJ-IRR
       "They won't be playing but they will be happy."

    b.   INFINITIVE SUBORDINATE CLAUSE
       mandá-ʔfa =tsû sumbú-ʔfa-ye
       order-PLS =3   leave-PLS-INF
       "They told them to leave."

Positive realis singular-subject predicates are morphologically unmarked. Consequently, the head of a finite TP may consist of a bare root. By default, uninflected eventive verbs are interpreted as perfective and past (13). Uninflected stative verbs and non-verbal predicates are interpreted as present (14).

(13)   EVENTS — DEFAULT PAST INTERPRETATION

    a.   *tíse =tsû tshái*
       3SG =3   hit
       "S/he hit."   (2024-04-12(1)_sia)

    b.   *tíse =tsû gíyaen*
       3SG =3   clean
       "S/he cleaned."   (2024-04-12(1)_sia)

(14)   STATES — DEFAULT PRESENT INTERPRETATION

    a.   *tíse =tsû kánse*
       3SG =3   live
       "S/he lives."   (2024-04-12(1)_sia)

    b.   *tíse =tsû chíʔga*
       3SG =3   not want
       "S/he doesn't want."   (2024-04-12(1)_sia)

Below, I show the patterns -CV/-ʔCV alternation when the IS markers attach to infinitive clauses (§3.2.1) and finite clauses (with both verbal and non-verbal predicates) (§3.2.2). This section will present the key data that will be accounted for in Section 4.

3.2.1   *Infinitive predicates*

First, I considered the various uses of infinitive predicates. Infinitive clauses may, for example, function as subjects of stative predicates (15a), arguments selected by verbs such as the habitual auxiliary *atesû* 'know' (15b) or *seʔpi* 'forbid' (15f), same-subject rationale clauses (15c), different-subject rationale clauses (optionally introduced with the different-subject purpose subordinator *kûintsû/kaentsû* PURP.DS) (15d), or complements of the hortative operator *jinge(sû)* HORT (15e).

(15)   PREGLOTTALIZED REALIZATION ON INFINITIVES WITH -*YE* INF

    a.   VERBAL *YE*-SUBJECT + NEW TOPIC -*ʔTA* NEW
       án-ñe-<u>ʔnda</u> =tsû injénge-ʔchu
       eat-INF-NEW =3   needed-EN
       "Eating is important."   (2024-05-27(2)_sia)

b. VERBAL *YE*-ARGUMENT (WITH *-AN* CAUS) + CONTRASTIVE TOPIC *-ʔJA* CNTR

    atésû =ngi guáʔthi-an-ñe-ʔjan
    know =1   boil-CAUS-INF-CNTR

    "I (habitually) boil."   (2024-06-11(2)_mll)

c. SAME-SUBJECT VERBAL *YE*-RATIONALE (WITH *-KHU* RCPR) + EXCLUSIVE FOCUS *-ʔYI* EXCL

    áʔingae=ma atésu-ʔje =ngi júsû afa-khú-ye-ʔyi
    A'ingae=ACC learn-IPFV =1   only speak-RCPR-EXCL

    "I am learning A'ingae just so that I can argue (with people)."   (2024-06-10(1)_mll)

d. DIFFERENT-SUBJECT VERBAL *YE*-RATIONALE (WITH *-ʔJE* IPFV) + CONTRASTIVE TOPIC *-ʔJA* CNTR

    tíse =tsû avûja-en   (kûintsû) kúfe-ʔje-ye-ʔja
    3SG =3   rejoice-CAUS   PURP.DS play-IPFV-INF-CNTR

    "S/he encouraged them to be playing."   (2024-06-10(1)_mll)

e. ADJECTIVAL *YE*-HORTATIVE (WITH *-ʔFA* PLS) + EXCLUSIVE FOCUS *-ʔYI* EXCL

    jingésû kíʔan-ʔfa-ye-ʔyi
    HORT   strong-PLS-INF-EXCL

    "Let's just be strong!"   (2024-06-25(1)_mll)

f. VERBAL *YE*-ARGUMENT + ADDITIVE FOCUS *-ʔKHE* ADD

    án-ñe-ʔkhe séʔpi =ngi
    eat-INF-ADD forbid =1

    "I also forbid eating."   (2024-06-11(2)_mll)

All of these uses are compatible with IS markers. When appearing on an infinitive verb, the new topic -(*ʔ*)*ta* NEW (15a), contrastive topic -(*ʔ*)*ja* CNTR (15b, 15d), exclusive focus -(*ʔ*)*yi* EXCL (15c, 15e), and additive focus -*ʔkhe* ADD (15f) are always realized as preglottalized. The presence of earlier inflectional morphology appearing to the left of -*ye* INF, including VceP (15b, 15c), AspP (15d), and TP (15e) suffixes, does not affect the IS markers' realization.

3.2.2   *Finite predicates*

A'ingae finite clauses may be (co)subordinated by one of the following morphemes: the same-subject marker -*pa* SS (§3.2.2.1), the different-subject marker -*si* DS (§3.2.2.2), the apprehensional -*saʔne* APPR (§3.2.2.3), the tentative -*khen* TENT (§3.2.2.4), the same-subject conditional antecedent marker realized as -*ʔa* IF.SS before the additive focus -*ʔkhe* ADD and as phonologically null otherwise (§3.2.2.5), the different-subject conditional antecedent marker -*ʔni* IF.DS (§3.2.2.6), and the frustrative -*ʔma* FRST. The first six of the subordinating morphemes may be followed by discourse markers.

3.2.2.1   SAME SUBJECT   A'ingae has two switch-reference morphemes that encode whether or not the subjects of two connected clauses are the same (same subject -*pa* SS and different subject -*si* DS), and appear in three constructions: clause chaining, adverbial clauses, and "bridging" clause linkage (AnderBois, Altshuler, and Silva, 2023). The adverbial clauses, often (though not always) translated with "because," are compatible with IS markers.

The same subject -*pa* SS is used if the subject of the *pa*-marked clause and the subject of the following clause are the same (16). When appearing on a same-subject clause, the new topic -(*ʔ*)*ta* NEW (16b), contrastive topic -(*ʔ*)*ja* CNTR (16c), and exclusive focus -(*ʔ*)*yi* EXCL (16d) surface as plain. The additive focus -*ʔkhe* ADD (16e) is always preglottalized. The presence of earlier inflectional morphology, such as the imperfective -*ʔje* IPFV (16d), does not affect the IS markers' realization.

(16) PLAIN REALIZATION ON SAME-SUBJECT CLAUSES WITH -PA SS

    a. VERBAL *PA*-PREDICATE

       ápi=ma   píʔpi-pa ísû
       clay=ACC mold-SS take

       "(S/he) made a clay pot and picked it up."

                     (Borman and Chica Umenda, 1977, p. 13; 2024-02-20(1)_sia)

    b. VERBAL PREDICATE + NEW TOPIC -*TA* NEW

       amphí-pa-<u>ta</u> =ti=ki   tsífu=ja   báthi-ʔchu-mbi?
       fall-SS-NEW =YNQ=2 neck=CNTR dislocate-EN-NEG

       "Did you injure your neck by falling?"

                     (Borman, Cooper, and Criollo, 1991, p. 60; 2024-06-07(1)_mll)

    c. NOMINAL *PA*-PREDICATE + CONTRASTIVE TOPIC -*JA* CNTR

       afé-ya   =ti   fae regálo=ve ké=nga ke yáya-pa-<u>ja</u>?
       give-IRR =YNQ one gift=ACC2 2SG=DAT 2SG dad-SS-CNTR

       "Will he give you a gife because he's your dad?"   (2024-06-10(1)_mll)

    d. VERBAL *PA*-PREDICATE (WITH -*ʔJE* IPFV) + EXCLUSIVE FOCUS -*YI* EXCL

       túya án-ʔjen-mba-<u>yi</u> =ki jí-mbi?
       still eat-IPFV-SS-EXCL =2 come-NEG

       "You didn't come just because you were still eating?"   (2024-06-10(1)_mll)

    e. VERBAL *PA*-PREDICATE + ADDITIVE FOCUS -*ʔKHE* ADD

       amphí-pa-<u>ʔkhe</u> =ti=ki   tsífu=ja   báthi-ʔchu-mbi?
       fall-SS-ADD   =YNQ=2 neck=CNTR dislocate-EN-NEG

       "Did you injure your neck also by falling?"   (2024-06-06(1)_mll)

3.2.2.2 DIFFERENT SUBJECT   The different subject -*si* DS is used if the subject of the *si*-marked clause and the subject of the following clause are different (17). When appearing on a different-subject clause, the new topic -(*ʔ*)*ta* NEW (17b), contrastive topic -(*ʔ*)*ja* CNTR (17c), and exclusive focus -(*ʔ*)*yi* EXCL (17d) is not preglottalized. (The additive focus -*ʔkhe* ADD (17e) is preglottalized, as always.) The presence of earlier inflectional morphology, such as the plural subject -*ʔfa* PLS or the irrealis -*ya* IRR (17c), does not affect the IS markers' realization.

(17) PLAIN REALIZATION ON DIFFERENT-SUBJECT CLAUSES WITH -*SI* DS

    a. VERBAL *SI*-PREDICATE

       arápa   pá-si   =tsû ísû
       chicken die-DS =3   take

       "The chicken died and s/he picked it up."

                     (Borman and Chica Umenda, 1977, p. 13; 2024-02-20(1)_sia)

    b. NOMINAL *SI*-PREDICATE + NEW TOPIC -*TA* NEW

       tíse ke yáya-si-<u>ta</u>   =ti=ki isǘ-ya fae regálo=ma?
       3SG 2SG dad-DS-NEW =YNQ=2 get-IRR one gift=ACC

       "Will you get a gift from him because he's your dad?"   (2024-06-10(1)_mll)

    c. VERBAL *SI*-PREDICATE (WITH -*ʔFA* PLS, -*MBI* NEG) + CONTRASTIVE TOPIC -*JA* CNTR

       kéʔi atesǘ-ʔfa-mbi-si-<u>ja</u>   kéʔi=nga tenáen-mbi =ngi
       2PL know-PLS-NEG-DS-CNTR 2PL=DAT write-NEG =1

       "I do not write to you because you do not know (the truth)." (1 John 2:21; 2024-06-10(1)_mll)

    d. VERBAL *SI*-PREDICATE + EXCLUSIVE FOCUS -*YI* EXCL

       tsá=ma   áthe=pa kúse índi-ye rúnʔda-ʔma áthe-mbi tíse ána-si-<u>yi</u>   jí-pa   já-ʔje-si
       ANA=ACC see-SS night catch-INF wait-FRST   see-NEG 3SG sleep-DS-EXCL come-SS go-IPFV-DS

       "Having seen him, she tried to catch him at night, but she didn't see him, because he only comes when (you) sleep."   (Blaser and Chica Umenda, 2008, p. 156; 2024-06-18(1)_mll)

e. VERBAL *SI*-PREDICATE + ADDITIVE FOCUS *-ʔKHE* ADD

píyi kán-si-ʔkhe =ti *íñe?*
turn look-DS-ADD =YNQ hurt

"Does it hurt also when you turn (your head)?"   (2024-06-06(1)_mll)

3.2.2.3 APPREHENSIONAL   The apprehensional *-saʔne* APPR marks undesirable potential future situations (18). Three main verbal functions of the morpheme may be distinguished: avertive precautioning (18a, 18c, 18e), in-case precautioning (18b), and *fear*-complementizer (18d) (AnderBois and Dąbkowski, 2020; Dąbkowski and AnderBois, t.a.). These three functions of *-saʔne* APPR are similar to the range of uses of the archaic English *lest* (Dąbkowski and AnderBois, 2024).

(18) PLAIN REALIZATION ON APPREHENSIONAL CLAUSES WITH *-SAʔNE* APPR

a. VERBAL *SAʔNE*-AVERTIVE PRECAUTIONING

sinthí-mb-e-ʔyi   tsû kán-ña-ʔchu kháse anjámpa tshán-saʔne
blow-NEG-ADV-EXCL =3 AUX-IRR-EN again blood   bleed-APPR

"You should not blow your nose, so that you don't make it bleed again."
                    (Pederson and Cooper, 1982, pp. 68–69; 2024-02-20(1)_sia)

b. VERBAL *SAʔNE*-IN-CASE PRECAUTIONING + NEW TOPIC *-TA* NEW

űnjin tűi-saʔne-nda   =ngi bûthú-ya
rain rain-APPR-NEW =1   run-IRR

"I will run in case it rains."   (2024-06-18(1)_mll)

c. VERBAL *SAʔNE*-AVERTIVE PRECAUTIONING + CONTRASTIVE TOPIC *-JA* CNTR

tayúpi=ja   jungáe-sû=ma séma-ʔjen-ʔjan tsé-ʔthi=nga =tsû má-ʔka-en   jungáe-sû=ma
long ago=CNTR IDSB-ATTR=ACC work-IPFV-CNTR STA-PLC=DAT =3 IDSL-SML-ADV IDSB-ATTR=ACC
kháʔna-saʔne-jan íyûʔû-pa kúndase-ʔfa
steal-APPR-CNTR scold-SS tell-PLS

"In the old days, when (young people) were working on something (for someone else), (their fathers) would caution them not to steal anything from there."
                    (Criollo and Blanco Pisabarro, 1992, pp. 43, 90; 2024-03-04(1)_sia)

d. NOMINAL *SAʔNE*-COMPLEMENT OF *FEAR* (WITH *-NDEKHÛ* PL.ANIM, *-ʔFA* PLS) + EXCLUSIVE FOCUS *-YI* EXCL

tíseʔpa ña   yayá-ndekhû-ʔfa-saʔne-ñi   =ngi dyúju
3PL   1SG dad-PL.ANIM-PLS-APPR-EXCL =1   be afraid

"I fear only they are my parents."   (2024-06-11(1)_mll)

e. VERBAL *SAʔNE*-AVERTIVE PRECAUTIONING + ADDITIVE FOCUS *-ʔKHE* ADD

índi-saʔne-ʔkhe =ngi bûthú-ya
catch-APPR-ADD =1   run-IRR

"I will run also so that (s/he) doesn't catch (me)."   (2024-06-18(1)_mll)

When appearing on an apprehensional-marked clause, the new topic *-(ʔ)ta* NEW (18b), contrastive topic *-(ʔ)ja* CNTR (18c), and exclusive focus *-(ʔ)yi* EXCL (18d) surface as plain. (The additive focus *-ʔkhe* ADD (18e) is preglottalized, as usual.) The presence of earlier inflectional morphology, such as the plural subject *-ʔfa* PLS (18d), does not affect the IS markers' realization.

3.2.2.4 TENTATIVE   The tentative *-khen* TENT introduces subordinate verbs in auxiliary constructions that express an attempt or effort on the part of the subject to accomplish something (19). A *khen*-marked clause may be introduced as a complement to verbs such as *tsun* 'do' (19b, 19e), *iyikhu* 'fight' (19c), and *vana* 'suffer' (19d). They can often be translated with "try to (do sth)" or "struggle to (do sth)."

(19)   PLAIN REALIZATION ON TENTATIVE CLAUSES WITH -KHEN TENT

    a.   VERBAL KHEN-PREDICATE

        seʔjé-khen =ngi tsún-ʔjen

        cure-TENT =1   do-IPFV

        "I am trying to cure."   (2022-07-01(1)_jxm)

    b.   VERBAL KHEN-PREDICATE (WITH -YE PASS) + NEW TOPIC -TA NEW

        athe-yé-khen-nda   =ngi tsún-ʔjen

        see-PASS-TENT-NEW =1   do-IPFV

        "I am trying to be seen."   (2024-06-11(2)_mll)

    c.   VERBAL KHEN-PREDICATE + CONTRASTIVE TOPIC -JA CNTR

        inʔján-khen-jan   iyíkhu-ʔje =ngi

        believe-TENT-CNTR fight-IPFV =1

        "I am wrestling to believe."   (2024-06-18(1)_mll)

    d.   NOMINAL KHEN-PREDICATE (WITH -MBI NEG) + EXCLUSIVE FOCUS -YI EXCL

        vána-ʔjen   =ngi iñajam-paña-fasi-mbí-khen-ñi

        suffer-IPFV =1   ask-hear-IN-NEG-TENT-EXCL

        "I am only struggling not to be nosy."   (2024-06-11(2)_mll)

    e.   VERBAL KHEN-PREDICATE + ADDITIVE FOCUS -ʔKHE ADD

        athé-khen-ʔkhe =ngi tsún-ʔjen

        see-TENT-ADD =1   do-IPFV

        "I am also trying to see."   (2024-06-18(1)_mll)

When appearing on a tentative clause, the new topic -(ʔ)*ta* NEW (19b), contrastive topic -(ʔ)*ja* CNTR (19c), and exclusive focus -(ʔ)*yi* EXCL (19d) surface as not preglottalized. (The additive focus -*ʔkhe* ADD (19e) surfaces as preglottalized.) The presence of earlier inflectional morphology, such as the passive -*ye* PASS (19b) or the negative -*mbi* NEG (19d), does not affect the IS markers' realization.

3.2.2.5   SAME-SUBJECT CONDITIONAL   Now, I move on to the A'ingae conditional constructions. The A'ingae conditionals may have afactual and factual interpretations. Afactual conditionals do not presuppose that the antecedent will obtain and can often be translated with "if." Factual conditionals presuppose that the antecedent will obtain and can be translated with "when." There is no morphological distinction between afactual and factual conditionals.

There is, however, a morphological distinction that tracks whether the subject of the antecedent is the same or different from the subject of the consequent. As such, A'ingae conditionals participate in the same switch-reference system as that encoded by -*pa* SS and -*si* DS in non-conditional constructions.

Same-subject antecedents do not, in most circumstances, receive any overt dedicated marking. Rather, they are distinguished by carrying only IS marking. When introducing a same-subject conditional antecedent, the first IS marker, be it the new topic -(ʔ)*ta* NEW (20a), contrastive topic -(ʔ)*ja* CNTR (20b), or exclusive focus -(ʔ)*yi* EXCL (20c), is always preglottalized. The following IS markers (other than the additive focus -*ʔkhe* ADD; 20f), if present, surface without an additional glottal stop (20d-e). The presence of inflectional morphology on the predicate, such as the reciprocal -*khu* RCPR (20b), imperfective -*ʔje* IPFV (20c), plural subject -*ʔfa* PLS (20d), or negative -*mbi* NEG (20f), does not affect the IS markers' realization. Note that although in most constructions the IS morphemes are optional, at least one IS morpheme must appear to introduce a same-subject antecedent.

(20) PREGLOTTALIZED REALIZATION ON SAME-SUBJECT CONDITIONALS

a. NOMINAL ANTECEDENT + NEW TOPIC -*ʔTA* NEW

ña yáya=<u>ʔta</u> =tsû afé-ya fae regálo=ve ña=nga
1SG dad=NEW =3 give-IRR one gift=ACC2 1SG=DAT

"If it's my dad, he'll give me a gift." (2024-06-10(1)_mll)

b. VERBAL ANTECEDENT (WITH -*KHU* RCPR) + CONTRASTIVE TOPIC -*ʔJA* CNTR

afa-khú-<u>ʔja</u> sumbú-ya =ngi
speak-RCPR-CNTR leave-IRR =1

"If I argue, I will leave." (2024-06-11(2)_mll)

c. VERBAL ANTECEDENT (WITH -*ʔJE* IPFV) + EXCLUSIVE FOCUS -*ʔYI* EXCL

thési=ma afáse-ʔje-<u>ʔyi</u> =ngi bûthú-ya
jaguar=ACC criticize-IPFV-EXCL =1 run-IRR

"I will run criticizing only the jaguar." (2024-06-06(2)_mll)

d. VERBAL ANTECEDENT (WITH -*ʔFA* PLS) + EXCLUSIVE FOCUS -*ʔYI* EXCL + NEW TOPIC -*TA* NEW

tsá-ʔka-en kánse-ʔfa-<u>ʔyi-ta</u> =ki ñuáʔme shaká-ʔfa-ya-mbi
ANA-SML-ADV live-PLS-EXCL-NEW =2 truly lack-PLS-IRR-NEG

"Only if you live like this, you will truly not lack (anything)."
(Thessalonians 4:12; 2024-06-07(1)_mll)

e. VERBAL ANTECEDENT + EXCLUSIVE FOCUS -*ʔYI* EXCL + CONTRASTIVE TOPIC -*JA* CNTR

thési=ma áfase-<u>ʔyi-ja</u> bûthú-ya =ngi
jaguar=ACC criticize-EXCL-CNTR run-IRR =1

"Only if I criticize a jaguar, I will run." (2024-06-06(2)_mll)

f. NOMINAL ANTECEDENT (WITH =*MBI* NEG) + EXCLUSIVE FOCUS -*ʔYI* EXCL + ADDITIVE FOCUS -*ʔKHE* ADD

va ni fae ávû=mbi=<u>ʔyi=ʔkhe</u> =tsû ami-án-ña-mbi
DEM neither one fish=NEG=EXCL=ADD =3 fill up-CAUS-IRR-NEG

"If this is not even a single fish, it won't fill me up." (2024-06-11(2)_mll)

A different structure is seen with the additive focus marker -*ʔkhe* ADD: If the same-subject conditional carries the additive focus marker -*ʔkhe* ADD (where -*ʔkhe* ADD is not preceded by any other IS marker), the morpheme -*ʔa* IF.SS appears obligatorily between the subordinated verb and -*ʔkhe* ADD (21).

(21) SAME-SUBJECT CONDITIONAL MARKED WITH -*ʔA* IF.SS WHEN FOLLOWED BY -*ʔKHE* ADD

a. VERBAL *ʔA*-ANTECEDENT + ADDITIVE FOCUS -*ʔKHE* ADD

khúpa-ʔnga-pa jí-ʔa-<u>ʔkhe</u> =tsû utishí-ya-ʔchu
defecate-DIST-SS come-IF.SS-ADD =3 wash hands-IRR-EN

"After using the restroom, one must also wash hands."
(Borman and Chica Umenda, 1982, p. 27; 2024-06-07(1)_mll)

b. VERBAL *ʔA*-ANTECEDENT + ADDITIVE FOCUS -*ʔKHE* ADD

kuénza áʔi=ve dá-ʔa-<u>ʔkhe</u> ñú-ʔa áʔi-ya =tsû
old person=ACC2 become-IF.SS-ADD good-ADN person-IRR =3

"Also When s/he grows old, s/he will be a good person."
(Borman, 1981, pp. 16–17)

In modern A'ingae, the morpheme -*ʔa* does not (often) appear in circumstances other than before -*ʔkhe* ADD in same-subject conditional clauses. In addition, it is disallowed before the other IS markers (22). As such, in Section 4, I will analyze it as an allomorph of the (otherwise phonologically null) feature bundle [IF, SS] selected specifically when adjacent to -*ʔkhe* ADD.

(22) OVERT -ʔA IF.SS ALLOWED AND REQUIRED ONLY WITH -ʔKHE ADD

    a. *jí-ʔa-(ʔ)ta   b. *jí-ʔa-(ʔ)ja   c. *jí-ʔa-(ʔ)yi   d. *jí-ʔkhe

      come-IF.SS-NEW   come-IF.SS-CNTR   come-IF.SS-NEW   come-NEW

      intended: intended: intended: intended:

      "if (sb) comes"   "if (sb) comes"   "only if (sb) comes"   "only if (sb) comes"

Recall that the IS morpheme may appear also on non-predicates, in which case they surface without the glottal stops. This gives rise to minimal pairs, where non-verbal predicates (23b, 24b) may be distinguished from arguments (23a, 24a) solely by the presence of glottalization before the IS marker.

(23) MINIMAL (ʔ)TA-PAIR

    a. ADJECTIVAL ARGUMENT + NEW TOPIC -TA NEW

      ránde=ta   =tsû jí-ya-mbi

      large=NEW =3   come-IRR-NEG

      "(The) large (one) will not come."

    b. ADJECTIVAL PREDICATE + NEW TOPIC -ʔTA NEW

      ránde=ʔta   =tsû jí-ya-mbi

      large=NEW =3   come-IRR-NEG

      "If (s/he) is large, (s/he) will not come."   (2024-06-20(2)_mll)

(24) MINIMAL (ʔ)JA-PAIR

    a. NOMINAL ARGUMENT + CONTRASTIVE TOPIC -JA CNTR

      yáya=ja   ñá=ma   íyûʔû-ya =tsû

      dad=CNTR 1SG=ACC scold-IRR =3

      "(My) dad will advise me."   (2024-06-20(2)_mll)

    b. NOMINAL PREDICATE + CONTRASTIVE TOPIC -ʔJA CNTR

      yáya=ʔja   ñá=ma   íyûʔû-ya =tsû

      dad=CNTR 1SG=ACC scold-IRR =3

      "If (he)'s a dad, he'll advise me."   (2024-06-20(2)_mll)

3.2.2.6 DIFFERENT-SUBJECT CONDITIONAL   Finally, different-subject conditional antecedents are introduced by the always overt -ʔni IF.DS (25). Different-subject antecedents are frequently accompanied by an IS marker (25b-e), but that is not obligatory (25a). When appearing after -ʔni IF.DS, the new topic -(ʔ)ta NEW (25b), contrastive topic -(ʔ)ja CNTR (25c), and exclusive focus -(ʔ)yi EXCL (25d) surface as plain. (The additive focus -ʔkhe ADD (25e) surfaces as preglottalized.) The presence of earlier inflectional morphology, such as the imperfective -ʔje IPFV (25b) or plural subject -ʔfa PLS (25d), does not affect the IS markers' realization.

(25) PLAIN REALIZATION ON DIFFERENT-SUBJECT CONDITIONALS WITH -ʔNI IF.DS

    a. VERBAL ʔNI-ANTECEDENT

      khén íngi sû́-ʔje-ʔni   fáeʔkhu-e-ta   púʔtaen-ʔfa-ʔya

      THUS 1PL say-IPFV-IF.DS one-ADV-NEW shoot-PLS-ASSR

      "While we were saying this, there was a gunshot."   (Quenamá, 1992, pp. 25, 42)

    b. VERBAL ʔNI-ANTECEDENT (WITH -ʔJE IPFV) + NEW TOPIC -TA NEW

      ñá   náʔen=nga kháya-ʔje-ʔni=nda   =tsû tíseʔpa séma-ʔjen-ʔfa

      1SG iriver=DAT swim-IPFV-IF.DS-NEW =3   3PL   work-IPFV-PLS

      "When I swim in the river, they work."   (2022-07-01(2)_sia)

    c. ADJECTIVAL ʔNI-ANTECEDENT + CONTRASTIVE TOPIC -JA CNTR

      ránde=ʔni=jan   chavá-ya =ngi

      large=IF.DS=CNTR buy-IRR =1

      "If it's large, I'll buy it."   (2024-06-10(1)_mll)

d. VERBAL *ʔNI*-ANTECEDENT (WITH *-ʔFA* PLS) + EXCLUSIVE FOCUS *-YI* EXCL
  thési=ma   áthe-ʔfa-ʔni-ṉ̃i   =tsû bû́thu
  jaguar=ACC see-PLS-IF.DS-EXCL =3   run
  "As soon as they saw a jaguar, (another person) ran."   (2024-06-18(1)_mll)

e. VERBAL *ʔNI*-ANTECEDENT + ADDITIVE FOCUS *-ʔKHE* ADD
  kúndase khṹi,   tíse dyú-ʔni-ʔkhe
  tell   lie down 3SG fear-IF.DS-ADD
  "While lying (on the ground, the severed head) talked to (him/her), even though s/he was scared."   (Chica Umenda, 1980, p. 26; 2024-03-04(1)_sia)

In interim summary, in most contexts, the IS markers are not preceded by a glottal stop. The glottal stop appears only if an IS marker attaches directly to a predicate. Those cases include attaching to infinitival clauses and morphologically unmarked same-subject conditional antecedents (including both verbal and nominal predicates). The environments where the IS markers are preglottalized are repeated in (26).

(26) ENVIRONMENTS FOR IS MARKER PREGLOTTALIZATION
    The IS morphemes are preglottalized only when attaching to:
    a. *infinitival clauses, and*
    b. *finite subordinate clauses which do not have an overt subordinator (i. e. same-subject conditional antecedents).*

4 ANALYSIS

In this section, I provide a DM analysis of the A'ingae IS-preglottalization pattern, which draws on the insights of Bossi and Diercks (2019) and Mikkelsen (2015) regarding the organization of discourse features.

First, I propose that the four IS morphemes (*-ta* NEW, *-ja* CNTR, *-yi* EXCL, *-ʔkhe* ADD) are the exponents of four discourse features: [NEW], [CNTR], [EXCL], and [ADD]. The discourse features are organized hierarchically, with a superordinate *discourse* feature [δ] (Bossi and Diercks, 2019; Mikkelsen, 2015) dominating all the more specific IS features. A tree representing a minimally differentiated organization of the relevant IS features is given in (27).

(27) DISCOURSE FEATURE HIERARCHY
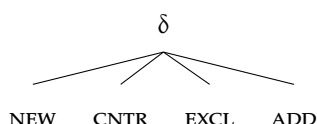
The above hierarchy draws on Mikkelsen (2015) and Bossi and Diercks's (2019) accounts of word order in Danish and Kipsigis. In Danish (North Germanic, Denmark), the subject-initial position may be filled by different phrases, including e. g. a WH-word, topic, or focus. Mikkelsen (2015) observes that "[in] Danish, Spec,CP must be occupied by an information-structurally distinguished element, but is not dedicated to a particular function" (p. 634) and proposes that the relevant notion for capturing the word-order patterns is *information structural differentiation*.

In Kipsigis (Nilo-Saharan, Kenya), the immediately post-verbal position is occupied by a discourse-prominent item (Bossi and Diercks, 2019). To account for the empirically similar pattern, Bossi and Diercks (2019) build on Mikkelsen's (2015) and formalize *information structural differentiation* as "an underspecified [δ] (discourse) feature that can be satisfied by phrases of any information structure designation or—even more generally—by any phrase that is sufficiently discourse-differentiated" (p. 30). My proposal directly adopts Bossi and Diercks's (2019) feature hierarchy.

Now, I propose specifically that the glottal stop *-ʔ* is a realization of T° when linearly adjacent to the discourse feature [δ]. The critical vocabulary item (VI) is given in (28a). Since *-ta* NEW, *-ja* CNTR, *-yi* EXCL, and *-ʔkhe* ADD all inherit from [δ], they all satisfy this environment condition. Otherwise, T° is realized as phonologically null (28b). This derives the observed distribution of the IS-conditioned *-ʔ*. All of the VIs relevant to the analysis are given in (28-30).

(28) TP FEATURES
    a. T ⟷ *-ʔ* / _ δ
    b. T ⟷ *-∅* / elsw.
    c. PLS ⟷ *-ʔfa*
    d. IRR ⟷ *-ya*
    e. INF ⟷ *-ye*
    f. NEG ⟷ *-mbi*

(29) CP FEATURES (SELECTED)
    a. IF, SS ⟷ *-ʔa* / _ ADD
    b. IF, SS ⟷ *-∅* / elsw.
    c. SS ⟷ *-pa*
    d. IF, DS ⟷ *-ʔni*
    e. DS ⟷ *-si*
    f. APPR ⟷ *-saʔne*
    g. TENT ⟷ *-khen*

(30) ΔP FEATURES
    a. NEW ⟷ *-ta*
    b. CNTR ⟷ *-ja*
    c. EXCL ⟷ *-yi*
    d. ADD ⟷ *-ʔkhe*

When an IS marker attaches to most syntactic categories, including DPs (31a) and adverbs (31b), there is no T° adjacent to a discourse-marked morpheme. As such, *-ʔ* is not realized. The constituent to which an IS marker is attached is bracketed [ ].

(31) MOST CATEGORIES: *-ʔ* NOT REALIZED
    a. DP + NEW TOPIC *-TA* CNTR
       [*yáya*]_{DP}*-=ta* *=tsû tsámpi-ni   já*
       dad=NEW   =3   forest=LOC go
       "Dad went hunting."   (2024-06-10(1)_mll)
    b. ADVERB + CONTRASTIVE TOPIC *-JA* CNTR
       [*tayúpi*]_{advP}*-ja* *fíthi˷ʔthi =tsû*
       long ago-CNTR kill˷PLA =3
       "Once upon a time, s/he killed (many)."

When an IS marker attaches immediately to an infinitive TP (e. g. a complement of a raising predicate) (32a), the adjacent T-head is realized as *-ʔ* (28a).

(32) RAISING PREDICATE COMPLEMENT: *-ʔ* REALIZED
    a. TP + NEW TOPIC *-ʔTA* NEW
       [*ñúʔfa-ye-ʔ*]_{TP}*-ta* *=ngi atésû*
       rest-INF-T-NEW   =1   know
       "I (habitually) rest."   (2024-10-08(1)_mll)

When an IS marker attaches to CP with overt subordinating C°, there is overt material intervening between T° and the IS marker (33a). Since environments conditioning allomorphy are strictly local (Embick, 2010, 2015), *-ʔ* is not realized (28b). (The assumption that infinitival morphology is TP-internal, while subordinating morphemes are C-heads, is widely accepted cross-linguistically (Adger, 2003), and corroborated for A'ingae by Dąbkowski, 2022, 2023b.)

(33) OVERTLY-SUBORDINATED CLAUSE: *-ʔ* NOT REALIZED
    a. OVERTLY SUBODINATE CP + EXCLUSIVE FOCUS *-YI* EXCL
       [*já-ya-∅-pa*]_{CP}*-yi* *=ngi ína-ʔjen*
       go-IRR-T-SS-EXCL =1   cry-IPFV
       "I'm crying only because I will leave."   (2024-10-08(1)_mll)

However, when an IS marker attaches to a CP with a null C°, such as a complement of a control predicate (34a), there is no overt morphology intervening between T° and the IS marker. Since phonologically unrealized material is ignored for purposes of satisfying allomorphy environments (*pruning* in Embick, 2010, 2015), T° is realized as *-ʔ*.

(34) CONTROL PREDICATE COMPLEMENT: *-ʔ* REALIZED

    a. NULL-C° CP + CONTRASTIVE TOPIC *-ʔJA* CNTR

      [*kéʔi án-ʔfa-ye-ʔ-∅*]_{CP}*-ja̠ séʔpi =ngi*
      2PL eat-PL-INF-T-C-CNTR forbid =1
      "I prohibit y'all from eating."   (2024-10-08(1)_mll)

I propose that same-subject conditional antecedents are likewise introduced by a head that is phonologically unrealized in most environments (29b). Since, again, null material is ignored for the purposes of allomorphy (Embick, 2010, 2015), T° is realized as *-ʔ* (35a). This derives the fact that preglottalization is realized on same-subject antecedents, but not on other types of subordinate clauses—only the same-subject antecedents are introduced by a phonologically unrealized feature bundle.

(35) SAME SUBJECT CONDITIONAL ANTECEDENT: *-ʔ* REALIZED

    a. NULL-C° CP + EXCLUSIVE FOCUS *-YI* EXCL

      [*thési-ma áthe-ʔ-∅*]_{CP}*-yi̠ =ngi bûthú-ya*
      jaguar-ACC see-T-IF.SS-EXCL =1   run-IRR
      "As soon as I see a jaguar, I will run."   (2024-10-08(1)_mll)

When a same-subject antecedent hosts the additive focus *-ʔkhe* ADD, the morpheme *-ʔa* appears before it (36a). I propose that *-ʔa* is an allomorph of the same-subject conditional feature bundle introduced specifically in the context of *-ʔkhe* ADD (29a).

(36) SAME-SUBJECT CONDITIONAL ANTECEDENT REALIZED AS *-ʔA* BEFORE *-ʔKHE* ADD

    a. SAME-SUBJECT ANTECEDENT + ADDITIVE FOCUS *-ʔKHE* ADD

      [*khúpa-ʔnga-pa jí-∅-ʔa*]_{CP}*-ʔkhe =tsû utishí-ya-ʔchu*
      defecate-DIST-SS come-T-IF.SS-ADD =3   wash hands-IRR-EN
      "After using the restroom, one must also wash hands."
                           (Borman and Chica Umenda, 1982, p. 27; 2024-06-07(1)_mll)

Finally, the additive focus *-ʔkhe* ADD is always realized as preglottalized. I propose that *-ʔkhe* ADD is underlyingly preglottalized (30d). It participates in the same triggering of T-allomorphy as the other IS morphemes (37a), but two contiguous glottal stops are later phonologically reduced to one.

(37) ADDITIVE FOCUS *-ʔKHE* ADD: UNDERLYINGLY PREGLOTTALIZED

    a. TP + ADDITIVE FOCUS *-ʔKHE* ADD

      [*án-ñe-ʔ-∅*]_{CP}*-ʔkhe séʔpi =ngi*
      eat-INF-T-C-ADD   forbid =1
      "I also forbid eating."   (2024-06-11(2)_mll)

5 DISCUSSION AND CONCLUSIONS

The above analysis draws on the notion of *discourse differentiation*, proposed by Mikkelsen (2015) to account for word order in Danish, and formalized as a superordinate discourse feature [δ] by Bossi and Diercks (2019) to capture the word order in Kipsigis. By showing that all of the A'ingae IS morphemes pattern alike

in triggering an allomorphy of T°, the current paper provides novel morphological evidence for a hierarchical arrangement of discourse features, with [δ] inherited by all the maximal IS features.

Cross-linguistically, conditionals and topics are marked in similar, often identical, ways (Haiman, 1978). In A'ingae, the IS morphemes appear optionally (though frequently) on different-subject antecedents (§3.2.2.6), and obligatorily on same-subject antecedents (§3.2.2.5). Nonetheless, conditionality is expressed with separate morphosyntactic features (29a-b, 29d).

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