POLARITY AGREEMENT IN A'INGAE NOMINALIZATIONS

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ABSTRACT   I describe and analyze the "nominal negative" suffix *-a* NN in A'ingae (or Cofán, ISO 639-3: con), an understudied and endangered Amazonian isolate. The suffix *-a* NN obligatorily attaches to noun phrase-internal functional heads which nominalize negated predicates. I propose that *-a* NN expones agreement with the Neg(ative) feature on T. Therefore, I document the first case of agreement with polarity on nominalizers to date.

1   INTRODUCTION

In this paper, I describe and analyze the "nominal negative" suffix *-a* NN in A'ingae (or Cofán, ISO 639-3: con), an understudied and endangered Amazonian isolate. The suffix *-a* NN obligatorily attaches to noun phrase-internal functional heads which nominalize negated predicates. I propose that *-a* NN expresses agreement with the Neg(ative) feature on T. Therefore, I document the first case of agreement with polarity on nominalizers to date.

The rest of the paper is structured as follows. The rest of the talk is organized as follows. Section 2 present background on the language and its speakers. Section 3 details the distribution of the "nominal negative" *-a* NN. Section 4 provides an analysis and formalizes it in Distributed Morphology (Embick, 2010; Embick and Noyer, 2007). Section 5 discusses and contextualizes the findings.

2 LANGUAGE BACKGROUND

A'ingae (or Cofán, ɪsо 639-3: con) is an indigenous language spoken by ca. 1,500 Cofán people in northeast Ecuador and southern Colombia (Dąbkowski, 2021).[1]
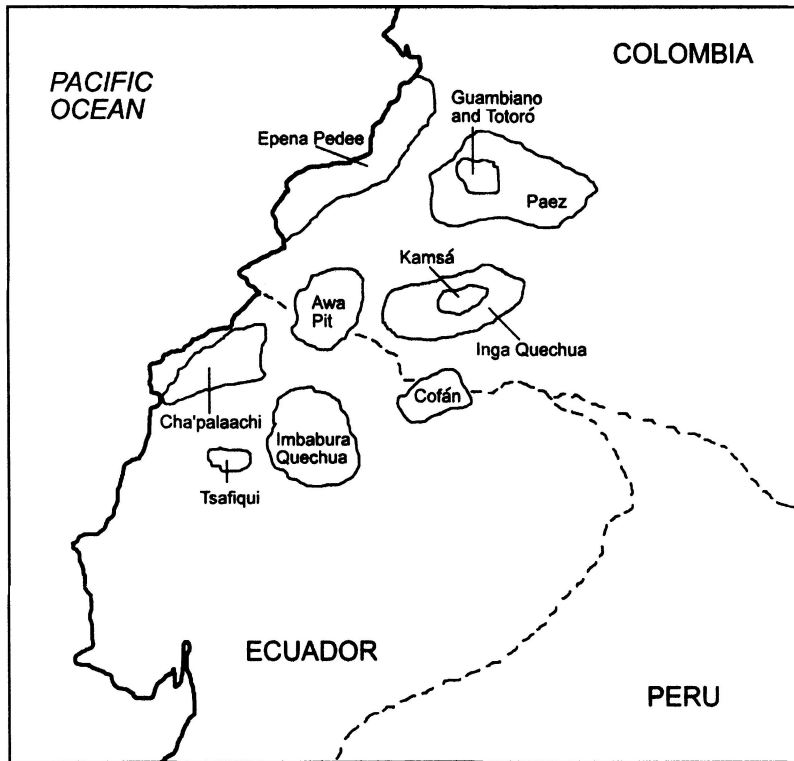

Figure 1: Indigenous languages of southern
Colombia and northern Ecuador.

Despite spurious, mostly geography-driven, claims about genetic affiliations with other languages (e.g. with Barbacoan in Rivet, 1924, 1952 and Chicham in Ruhlen, 1987), A'ingae remains classified as a language isolate (AnderBois et al., 2019).

Around the 16th century, the Cofán still lived in the Eastern Andean Cordilleras. The history of the Cofán descent to the Amazon Basin finds reflection in their language which retains Andean features, while showing various Amazonian innovations (AnderBois et al., 2019).

A'ingae is endangered and highly underdocumented. However, despite economic, ecological, and political pressures, the Cofán language attitudes towards A'ingae are uniformly positive (Dąbkowski, 2021).

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1 map from Curnow and Liddicoat (1998)

MORPHOLOGY   A'ingae is a highly agglutinating, exclusively suffixing (and encliticizing), predominantly head-marking language, with a flexible, predominantly SOV word order. In matrix clauses, word order is largely free, whereas finite subordinate clauses are verb-final.

Verbal dependents are marked for case in a nominative-accusative alignment (1).[2] The nominative case is unmarked. All the other cases are expressed with clitics.

(1)   NOMINATIVE-ACCUSATIVE ALIGNMENT
       ain mishi =ma mandian-'jen
       dog cat   =ACC chase-IPFV
       "A dog is chasing a cat."

Case clitics follow the noun phrase, within which word order is free to some extent (2).

(2)   WORD ORDER WITHIN DP
       a. *rande tsa'u =ma athe*   b. *tsa'u rande =ma athe*
          large house =ACC see   house large =ACC see
          "saw a large house"   "saw a large house"

Also, A'ingae has a set of second-position clitics which agree with the person feature of the subject and can appear in matrix clauses, optionally (3). (For an analysis of the A'ingae second-position clitics as matrix C-heads, see Dąbkowski, to appear.)

(3)   SECOND-POSITION CLITICS AGREE WITH SUBJECT PERSON
       ain =tsû mishi =ma mandian-'jen
       dog =3   cat   =ACC chase-IPFV
       "A dog is chasing a cat."

I'm mentioning these subject person-agreeing second-position clitics because these clitics and the negative agreement to be discussed in this paper are the only cases of morphological agreement in A'ingae reported to date.

DATA   All the data were collected via remote elicitation by the author in 2022 with two native speaker consultants (both male, 24 and 36 years old) from the community of Dureno, Sucumbíos, Ecuador.

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2 The following abbreviations are used: 3 = third person, ACC = accusative, ACC2 = accusative 2, ADN = adnominalizer, ADV = adverbial, COP = copula, DAT = dative, DLM = delimited, DRN = diurnal, EVAL = evaluative, FLAT = flat, FUT = future, HRS = hirsute, IPFV = imperfective, IRR = irrealis, NEG = negative, NN = negative noun, PL = plural, PLC = place, PLS = plural subject, PRD = periodic, PST = past, SBRD = subordinator.

SOCIAL IMPACT   The Cofán communities have an active interest in creating and disseminating pedagogical resources for A'ingae, including a grammar and other resources for teaching the language. Linguistic research helps inform the structure and content of pedagogical materials.

This is especially true for grammatical phenomena such as the polarity agreement on nominalizers described here, since it is—as far as I can tell—entirely unique to A'ingae. Thus, detailed documentation, description, and analysis of the A'ingae grammar aligns with the Cofán people's goal of producing educational materials to be used in schools.

3   DESCRIPTION

Now, in this section, I will present the core facts of clausal subordination and polarity agreement on nominalizers. First, however, I will motivate the distinction between nouns and verbs in the language, and then talk in some detail about the A'ingae nominal morphology, including nominalization, and various clitics in order to establish the basic structure of the A'ingae noun phrase, which will become relevant momentarily.

So first, the distinction between nouns and verbs, and in particular identifying nominalizations, will be important in the upcoming analysis. So, it is necessary to establish that these two lexical classes can be reliably distinguished in A'ingae.

Several diagnostics allow for this. For example, there is a class of inflectional suffixes, such as the imperfective *-'je* IPFV, which attach only to morphological verbs (4).

(4)   SOME SUFFIXES ATTACH ONLY TO VERBS, NOT NOUNS
    a. *panza -'je*   b. **dûshû -'je*
       hunt -IPFV   child -IPFV
       "(S/he) is hunting."   intd.: "(S/he) is being a child."

Moreover, nouns can function as verbal arguments without any additional derivation, but verbs cannot (5).

(5)   NOUNS ARE VERBAL ARGUMENTS, VERBS ARE NOT
    a. *dû'shû =tsû jin*   b. **panza =tsû jin*
       cat   =3   exist   hunt =3 exist
       "There is a child."   intd.: "There is a hunt."

Now that we've established that nouns and verbs are separate lexical classes in A'ingae, let's move on to nominal morphology.

A'ingae has a rich set of classifying nominalizers, including the place nomi-
nalizer *-'thi* PLC (6a), diurnal nominalizer *-'ki* DRN (6b), hirsute nominalizer
-'si HRS (6c), delimited space nominalizer *-khû* DLM (7a), periodic nomi-
nalizer *-ite* PRD (7b), flat shape nominalizer *-je* FLAT (7c), etc. They allow
for deverbal (6) and denominal (7) nominalizations. The semantics of the
derived nouns is not fully predictable.

(6) CLASSIFYING NOMINALIZERS: DEVERBAL NOMINALIZATIONS
    a. *sumbu-'thi*   b. *isûye-'ki*   c. *fûndûi -si*
       leave-PLC   be born-DRN   sweep -HRS
       "door"   "birthday"   "broom"

(7) CLASSIFYING NOMINALIZERS: DENOMINAL NOMINALIZATIONS
    a. *amba-khû*   b. *na-ite*   c. *na-je*
       yucca-DLM   fruit-PRD   fruit-FLAT
       "yucca field"   "fruit season"   "leaf"

A'ingae also has a rich set of evaluative clitics which attach to noun phrases
and express qualities such as size, appearance, and the speaker's emotional
attitude towards the referent (8).

(8) EVALUATIVE MORPHEMES
    a. *pindu =fa'u*   b. *pindu =chu'u*
       hawk =EVAL   hawk =EVAL
       "an ugly skinny hawk"   "a fat hawk"

    c. *pindu =khû'vi*   d. *pindu =khû'khu*
       hawk =EVAL   hawk =EVAL
       "a nice large skinny hawk"   "a nice large healthy hawk"

The relative order of the noun and the modifier within a noun phrase is
free (9b-c), but the evaluative appears to the right of the whole phrase. The
evaluatives are phonologically bound (as evidenced by facts of stress shift,
which I don't discuss here in detail), so they are enclitics.

(9) EVALUATIVE MORPHEMES ARE CLITICS
    a. *pindu =fa'u*   b. *rande pindu =fa'u*   c. *pindu rande =fa'u*
       hawk =EVAL   large hawk =EVAL   hawk large =EVAL
       "an ugly hawk"   "a large ugly hawk"   "a large ugly hawk"

And plurality is optionally expressed with *=ndekhû* PL (10a). If both an
evaluative and the plural clitic are present, the plural clitic comes after the
evaluative (10b).

(10) PLURAL CLITIC

    a. *pindu =ndekhû*
        hawk =PL
        "hawks"

    b. *pindu =fa'u =ndekhû*
        hawk =EVAL =PL
        "large ugly hawks"

Now, let's look at the A'ingae subordinate clauses. Subordinate clauses are often introduced as nominalizations. And there is a variety of means for nominalizing a clause, including a dedicated subordinator =*'chu* SBRD (11a), evaluative markers (11b), classifying nominalizers (11c), and the plural marker (11d). The clause to which the nominalizer attaches is bracketed [ ]. The semantic contribution of the nominalizer is retained (underlined).

(11) SUBORDINATE CLAUSAL NOMINALIZATIONS

    a. *athe =ngi [tise tsa =ma an] ='chu =ma*
        see =1 (s)he that =ACC eat =SBRD =ACC
        "I saw <u>that</u> (s)he ate that."

    b. *[tshai'pa-tshe mangû] =fa'u =tsû jin*
        slow-ADV crawl =EVAL =3 be
        "There is a slow <u>ugly</u> crawler."

    c. *jayi =ngi [tise mama =me ru'nda] =khû =nga*
        going =1 (s)he mom =ACC2 wait =DLM =DAT
        "I'm going to <u>the room</u> where (s)he waited for his mother."

    d. *[khuvi =ma panza] =ndekhû*
        tapir =ACC hunt =PL
        "<u>those</u> who hunted tapir"

The clauses introduced by these morphemes are nominalized, as evidenced by the fact that they can occupy argument positions and can be case-marked.

Observe that the nominalized clauses are fully inflected, they can be marked for categories such as aspect (e. g. with the imperfective -*je* IPFV), number (with the plural subject -*'fa* PLS), and reality (with the irrealis -*ya* IRR, which contributes the future interpretation) (12).

(12) NOMINALIZED CLAUSES ARE FULL INFLECTED CLAUSES

    jayi =ngi [tise'pa mama =me runda-'je-'fa-ya] =khû =nga
    going =1 they mom =ACC2 wait-IPFV-PLS-IRR =DLM =DAT
    "I'm going to the room where <u>they will be</u> waiting for their mother."

Now, let's look at negative predicates. Negative predicates, both verbal (13a) and nominal (13b), are formed with -/=*mbi* NEG.[3]

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[3] When the negative morpheme -/=*mbi* NEG combines with a verbal predicate, it attaches to the verbal head. Thus, it behaves like a clitic. When it attaches to a nominal predicate, it

(13)   NEGATIVE PREDICATES

    a. *tise   =tsû khuvi =ma panza-mbi*   b. *va   =tsû pindu=mbi*
       (s)he =3   tapir =ACC hunt-NEG   this =3   hawk=NEG

       "(S)he didn't hunt tapir."   "This is not a hawk."

Note that although the negative *=mbi* NEG can attach to nouns, the resulting word functions as a predicate, not a negative noun (14a). As such it cannot occupy an argument position without first undergoing some type of nominalization (14b).

(14)   A NOUN WITH *=mbi* NEG IS A PREDICATE

    a. *pindu=mbi*   b. **pindu=mbi =tsû jin*
       hawk=NEG   hawk=NEG =3   exist

       "to not be hawk"   intd.: "there is a non-hawk"

Now come the central data points, which involve the protagonist of this talk, the suffix *-a* NN.

When a negative clause is nominalized via any of the strategies in (11), the nominalizer is obligatorily followed by *-a* NN (15, wavy underline).[4] When several of the clitics in (11) attach to a negative clause, *-a* NN follows each of them (15b-c).[5]

(15)   NOMINALIZED NEGATIVE PREDICATES

    a. *jayi   =ngi [tise mama =me   ru'nda-mbi] =khi-a   =nga*
       going =1   (s)he mom =ACC2 wait-NEG   =DLM-NN =DAT

       "I'm going to the room where he did not wait for his mother."

    b. *athe =ngi [pindu=mbi] =fa'khu-a =ndekhi-a =ma*
       see =1   hawk=NEG =EVAL-NN =PL-NN   =ACC

       literally: "I saw skinny (animals) which are not hawks."
       less clunkily: "I saw skinny non-hawks."
       (not: "*non-[skinny] hawks" or "*non-[skinny hawks]")

    c. *athe =ngi [pindu=mbi] ='chu-a   =fa'khu-a =ma*
       see =1   hawk=NEG =SBRD-NN =EVAL-NN =ACC

       literally: "I saw a skinny (animal) that is not a hawk."
       less clunkily: "I saw a skinny non-hawk."
       (not: "*a non-[skinny] hawk" or "*a non-[skinny hawk]")

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is noun phrase-final, regardless of the word order with the noun phrase. Thus, it behaves like a clitic. This double suffix/clitic-like behavior characterizes all the A'ingae functional morphemes which can attach to both verbal and nominal predicates.

4 There also exists another suffix *-a* ADN, which marks a class of adjectives when used adnominally. I assume that *-a* NN and *-a* ADN are homophonous and synchronically unrelated.

5 The final *û* /ɨ/ of *=khû* DLM (15a) and *=ndekhû* PL (15b) surfaces as *i* before *a*. This is regular phonology.

Now, when it comes to the scope of negation, it corresponds to the linear position of *=mbi* NEG, not *-a* NN (hence the translations of 15b-c).

More generally, for low-scoping negation, *=mbi* NEG attaches below the nominalizer (16a). For high-scoping negation, *=mbi* NEG attaches past the nominalizer (16b).

(16) LINEAR ORDER OF *=mbi* NEG CORRESPONDS TO ITS SCOPE

    a. *va*   *=tsû* [*pindu=mbi*] *=fa'khu-a*
        this =3   hawk=NEG =EVAL-NN
        literally: "This is a skinny (animal) that is not a hawk."
        less literally: "This is a skinny non-hawk."

    b. *va*   *=tsû* [*pindu*] *=fa'khu =mbi*
        this =3   hawk =EVAL =NEG
        "This is not a skinny hawk."

The central generalization that emerges from this data is that *-a* NN is found on nominalizers that have a negated clause in their scope (17).

(17) CENTRAL GENERALIZATION
    The negative nominal suffix *-a* NN is found on nominalizers that have a negated clause in their scope.

4 ANALYSIS

And now, I will present the analysis which captures this generalization.

All of the nominal morphemes presented in the previous section, including the dedicated subordinator *='chu* SBRD (11a), the evaluative markers (11b), the classifying nominalizers (11c), and the plural marker (11d), can function as nominalizers. To capture this behavior, I propose that they all expone features on the nominal categorizing head *n* (Halle and Marantz, 1994).

I assume that A'ingae clauses have the following structure: The verb head-moves up the verbal spine through a number of projections, including AspP (aspectual) and TP. The TP is a locus of features such as number, reality, and polarity. As such, it can optionally host the Neg(ative) feature. Since the A'ingae nominalized clauses can be inflected for all of these categories (18), they are TP-nominalizations.

(18) NOMINALIZED CLAUSES ARE FULL INFLECTED CLAUSES
    jayi   *=ngi* [*tise'pa mama =me*   *runda-'je-'fa-ya-mbi*] *=khi-a*   *=nga*
    going =1   they   mom =ACC2 wait-IPFV-PLS-IRR-NEG =DLM-NN =DAT
    "I'm going to the room where <u>they will not be</u> waiting for their mother."

Following (Halle and Marantz, 1994), I assume that nominalizers are categorizing *n*-heads, so nominalized clauses are modeled as an *n*-head taking a full TP as its complement (Figure 2).
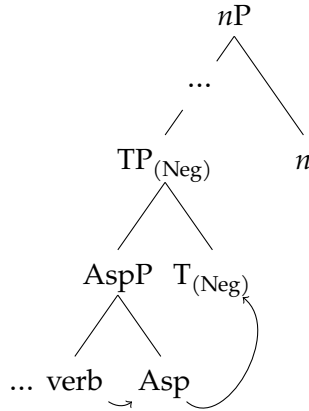

Figure 2: Structure of the A'ingae nominalized clause.

To model the distribution of -*a* NN, I propose that in A'ingae, the nominal head *n* is always associated with an unvalued uPol(arity) probe, which probes into its complement and copies the Neg(ative) feature located on T (19a). Assuming the *vocabulary items* of Distributed Morphology (Embick and Noyer, 2007), we can straightforwardly say that the exponent of Neg in the context of *n* is -*a* (19b).

(19)   VOCABULARY ITEMS

     a.   the clitics in (11): { *n*, uPol:__ }

     b.   Neg ⟷ -*a* / *n* _

For the sake of concreteness, I assume that positive polarity on T is underspecified, but a failure of agreement does not result in ungrammaticality (Preminger, 2014). Thus, A'ingae nominalizers can attach to positive clauses, with -$\emptyset$ as the realization of non-agreement (20).

(20)   NON-AGREEMENT WITH NEGATION LEADS TO $\emptyset$-EXPONENCE

     athe =*ngi* [*tise   tsa   =ma   an*] =*'chu̱-$\emptyset$* =*ma*

     see =1   (s)he that =ACC eat =SBRD-$\emptyset$ =ACC

     "I saw <u>that</u> (s)he ate that."

Each *n* is associated with a separate uPol-probe. Thus, each clitic separately shows morphological agreement with negation (21).

(21)   MULTIPLE AGREEMENT WITH NEGATION WITHIN ONE NOUN PHRASE

    athe =ngi [pindu=mbi] =ʼchu̯-a̱   =faʼkhu̯-a̱ =ma
    see =1   hawk=NEG   =SBRD-NN =EVAL-NN =ACC

    "I saw a skinny non-hawk."

Note that the analysis involves stacking *n* heads, but denominal nominal-ization is robustly attested in A'ingae, as we already saw; nominalizing morphemes can easily attach to nouns (22).

(22)   DENOMINAL NOMINALIZATIONS

    a. *amba-khû*   b. *na-ite*   c. *na-je*
        yucca-DLM   fruit-PRD   fruit-FLAT

        "yucca field"   "fruit season"   "leaf"

Since the *n* heads probe downward (into their complements), nouns below negation are not marked with *-a* NN (23).

(23)   NOUNS BELOW NEGATION NOT MARKED WITH *-a* NN

    va   =tsû [pindu] =faʼkhu =mbi
    this =3   hawk   =EVAL   =NEG

    "This is not a skinny hawk."

The derivation of the NP in (15b) is given in Figure 3. Feature copying is represented with dashed lines.
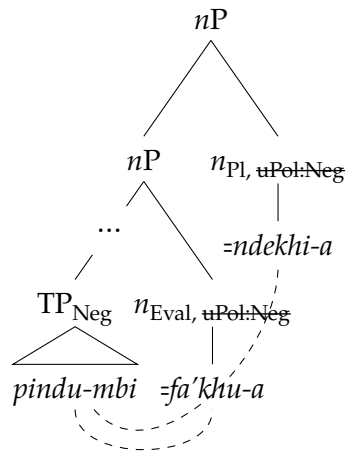

Figure 3: The nominal negative *-a* NN as an exponent of Neg on *n* heads.

Each nominalizer is a separate *n* head; each head probes into its complement independently and copies the Neg(ative) feature, so the suffix *-a* NN shows up twice, once on each nominalizing clitic.

5 DISCUSSION

Finally, I'm going to talk a bit about formally similar phenomena in the research on negation and possibly relevant areal phenomena.

Both classic negative concord and the A'ingae negative agreement involve the feature Neg. However, the two phenomena are, in a sense, opposites of each other.

In classic negative concord, the verbal head agrees with (nominal) constituents it c-commands (Giannakidou and Zeijlstra, 2017; Zeijlstra, 2004). For example, in Spanish, the negative agreement takes place between a negated verb and a noun phrase within the scope of the verb (24).

(24) NEGATIVE CONCORD IN SPANISH
      no ha   llegado nadie
      not has arrived no one
      "No one has arrived."

And in the A'ingae negative agreement, a nominal head agrees with the verbal constituent it c-commands. This is to say, the negative agreement takes place between a nominalizer and a negated verb within the scope of the nominalizer (25).

(25) A'INGAE NEGATIVE NOMINALIZER AGREEMENT
      va   =tsû [pindu=mbi] =fa'khu-a
      this =3   hawk=NEG   =EVAL-NN
      "This is a skinny non-hawk."

This means that A'ingae presents the first known case of negative agreement on nominal heads. Since polarity is a prototypically verbal feature, indexing it on nominalizers is a typological oddity. Notably, A'ingae lacks gender, class, or number agreement, making this unusual agreement pattern all the more striking.

At the same time, many American languages, including A'ingae, use nominalization as their main strategy for clausal subordination. In light of this fact, it is perhaps less surprising that the subordinating morphemes express verbal categories.

We also find other South American languages, such as Paraguayan Guaraní, which famously expresses tense on nouns (26).

(26) NOMINAL TENSE IN PARAGUAYAN GUAYANÍ (Tonhauser, 2007, p. 836)
      Juan ha'e pa'i-kue/-rã
      Juan COP priest-*n*.PST/-*n*.FUT
      "Juan is a former/future priest."

So, the indexing of polarity on nominalizers in A'ingae may perhaps be seen as an instance of a broader areal trend, whereby prototypically verbal categories are expressed on nouns.

APPENDIX   Long-distance probing is blocked (27).

(27)   *tise'pa =tsû* [[*pindu=mbi*] *='chu̯-a̯*   *=ma panza*] *=ndekhû̯-∅*
        they   =3   hawk=NEG   =SBRD-NN =ACC hunt   =PL-∅

        "They are those who hunted non-hawks."

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