Null arguments in Athabascan and a theory of change
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The existence of null arguments in Athabascan languages, and other polysynthetic languages, is a hotly debated topic. We first look at some sides of this debate and argue that, if the agreement on the verb is the argument, the so-called Pronominal Argument Hypothesis, languages such as Navajo do not have null arguments in the traditional sense. We then look at the diachrony of Athabascan object marking on the verb (by looking at the various contemporary languages) and argue this rise of so-called pro-drop calls for a different way of looking at features than is commonly done in Minimalism.

1. Introduction

Pro-drop of subjects and subject agreement on the verb is very frequent; see the data in WALS:

<table>
<thead>
<tr>
<th>Pro-drop Type</th>
<th>Frequency (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pronominal subjects are expressed by pronouns in subject position</td>
<td>82 (11.5%)</td>
</tr>
<tr>
<td>Pronominal subjects are expressed by affixes on verbs</td>
<td>437 (62%)</td>
</tr>
<tr>
<td>Pronominal subjects are expressed by clitics with variable host</td>
<td>32 (4.5%)</td>
</tr>
<tr>
<td>Pronominal subjects are expressed by pronouns in a different syntactic position from full noun phrase subjects</td>
<td>67 (9.4%)</td>
</tr>
<tr>
<td>Pronominal subjects are expressed only by pronouns in subject position, but these pronouns are often left out</td>
<td>61 (8.6%)</td>
</tr>
<tr>
<td>More than one of the above types with none dominant</td>
<td>32 (4.5%)</td>
</tr>
</tbody>
</table>

**Figure 1:** Pro-drop vs no pro-drop of subjects (from Dryer 2011, WALS 101)

Agreement with the object on the verb quite frequent as well. No data on null objects in WALS.

<table>
<thead>
<tr>
<th>marking Type</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>No person marking of any argument</td>
<td>82</td>
</tr>
<tr>
<td>Person marking of only the A argument</td>
<td>73</td>
</tr>
<tr>
<td>Person marking of only the P argument</td>
<td>24</td>
</tr>
<tr>
<td>Person marking of the A or P argument</td>
<td>6</td>
</tr>
<tr>
<td>Person marking of both the A and P arguments</td>
<td>193 (51%)</td>
</tr>
</tbody>
</table>

**Figure 2:** Marking on the verb (from Siewierska 2011, WALS 102)

Extremely head-marking languages such as in the Athabascan family have received two main types of analyses. On the one side is the view that polysynthetic languages are very close to non-polysynthetic ones (e.g. Speas 1990, Rice & Saxon 2005) while on the other side exists the view that the status of full nominals in polysynthetic languages is non-argumental (e.g. Hale 1983, Jelinek 1984; 2006, Willie 1992, Baker 1996; 2001ab, Faltz 2000). Baker is careful to distinguish non-configurational languages from polysynthetic ones. Initially, non-configurational languages are defined as having free word order (e.g. Hale 1983, 1989), but later the emphasis shifts away from word order because Navajo has
relatively strict word order and languages with free word order such as German can be accounted for through scrambling. Thus, there is structure to non-configurational languages. Here we will only be concerned with polysynthesis and define a language as polysynthetic if all arguments are marked on the verbal head.

Our aim is first to discuss the status of pro-drop and secondly to look at changes in argument marking on the verb as that would involve an increase in pro-drop in the traditional sense of the word. In section 2, we discuss pro-drop and polysynthesis, mainly in Navajo. In section 3, we show how non-polysynthetic languages go through a cycle of pro and non-pro. Section 4 puts this in terms of feature change in general. In sections 5 and 6, changes in Athabascan object marking are provided.

2. Pro-drop?

There has been a lot of debate between the two main ways of looking at polysynthesis (see e.g. Tuttle n.d. for an overview). In this section, we concentrate on the second view, the Pronominal Argument Hypothesis and argue, against Baker (2001: 1437) and Luraghi (2010: 213), who generally work within the PAL framework, that pronoun-drop does not lie “at the heart of non-configurality“.

A Navajo sentence like (1) can be analyzed as (a) or (b); in (a), the yi and ni count as arguments, expressing theta-roles, but in (b) the empty pro-arguments bear the theta-roles.

(1) \( \text{yinitsq} \)

a. \( \text{yi-ni-l-tsq} \)

it-you-CL-saw

b. pro pro \( \text{yi-ni-l-tsq} \)

pro pro

’You have seen it.’

How are (a) and (b) different? The first view, represented by Jelinek (1984; etc), has the agreement marker bearing the theta-role. Jelinek (1984), based on Hale’s (1983) ideas on Warlpiri, argues that languages have either lexical or pronominal arguments. In non-configurational languages "clitic Pronouns [are] Verbal Arguments" (1984: 43) and all nominals are adjuncts. Jelinek's version of this difference/parameter is:

(2) Configurationality Parameter

a. In a configurational language, object nominals are properly governed by the verb.

b. In a [...] non-configurational language, nominals are not verbal arguments, but are optional adjuncts to the clitic pronouns that serve as verbal arguments. (Jelinek 1984: 73)

Baker disagrees that the agreement affixes are arguments, though he characterizes the properties of the languages in similar ways as Jelinek and also argues that the nominals are adjuncts. His approach is that "the morphemes on the verb do not replace conventional argument phrases ... but ... reinforce them" (Baker 1995: 15).

(3) The Polysynthesis Parameter
Verbs must include some expression of each of the main participants in the event described by the verb (the subject, object, and indirect object). (Baker 2001: 111)

Baker distinguishes between Subject and Object Polysynthesis (2001: 148; 149. The approaches of Baker and Jelinek are similar in that they assume an adjunct status for the nominal. They differ, however, in how they approach agreement. We will rephrase the two approaches in terms of [phi]-features and indicate how each would account for language change.

In Baker's approach, a tree for a transitive verb with a simplified VP might look like (4), with the pro-elements in specifier positions. The features have been added. These empty arguments make polysynthetic languages very close to non-polysynthetic ones.

\[
(4) \quad \begin{array}{c}
\text{TP} \\
\text{T'} \\
\text{T} \quad \text{VP} \\
\text{V'} \\
\text{V} \\
\text{T} \quad \text{V} \\
\text{u-phi} \\
\text{i-phi} \\
\text{i-phi} \\
\text{i-phi} \\
\text{i-phi} \\
\text{u-phi} \\
\text{u-phi}
\end{array}
\]

In the case of the loss of polysynthesis, the pro in argument position in (4) would be replaced by a nominal. It is not clear what would trigger that and that may only happen in cases of extreme language contact.

A change towards polysynthetic status, as we’ll see happening, would involve the arguments being reanalyzed as adjuncts and empty pro-elements appearing as Goals for the Probes in T and V. This is not an unlikely change.

\[
(5) \quad \begin{array}{c}
a. \quad \text{TP} \\
\text{T'} \\
\text{T} \quad \text{VP} \\
\text{V} \\
\text{u-phi} \\
\text{i-phi} \\
\text{V} \\
\text{u-phi} \\
\text{i-phi} \\
\text{i-phi} \\
\text{i-phi} \\
\text{i-phi} \\
\text{i-phi}
\end{array} \quad \begin{array}{c}
b. \quad \text{CP} \\
\text{DP} \\
\text{C'} \\
\text{T} \quad \text{TP} \\
\text{V} \\
\text{u-phi} \\
\text{i-phi} \\
\text{pro} \\
\text{pro} \\
\text{pro} \\
\text{pro} \\
\text{V} \\
\text{u-phi} \\
\text{i-phi} \\
\text{V} \\
\text{u-phi} \\
\text{i-phi}
\end{array}
\]

Jelinek's basic tree would look like (6). Again, the features have been added; note the lack of [u-F] features.
A change from a polysynthetic to a non-polysynthetic language in this model occurs when the interpretable [i-phi] is reanalyzed as uninterpretable [u-phi], triggering the need for DPs or pro to provide the interpretable [i-phi] features. This is expected under Feature Economy. The change towards a polysynthetic language involves loss of the probe and its uninterpretable features. Under this view, what makes languages polysynthetic is the absence of a probe and the adjunct status of the nominal.

It is therefore very hard to find evidence for or against (5) and (6), either synchronically or diachronically.

We will now provide some of the arguments given by Jelinek, Baker, and others to show that all pronouns and nominals are adjuncts. In polysynthetic Pronominal Argument Languages: (a) nominals (DPs as well as independent pronouns) are optional, as in (7) from Navajo; (b) when subject or object pronouns are present, they have to be left-most, as the ungrammaticality of (8) shows, (c) sentences with more than one nominal are rare, as indicated in (9); (d) there are no anaphors and non-referential quantified DPs; and (e) there is minimal embedding.

(7)  
Nanishté
na-ni-sh-té
around-you-I-carry.IMPF
‘I am carrying you around.’

(8)  
*Diné bizaad  shi  yinishta’
Navajo language  1S  3-1-study

(9)  
(Shi) (diné bizaad)  yinishta’
1S Navajo language  3-1-study
‘I am studying Navajo.’

Characteristics (a) to (c) are expected if overt nominals are adjuncts and pronouns contrastive topics, left-most in the sentence.

Regarding (d), Baker (1995: 49f.) makes the point that anaphors such as ‘himself’ would be adjuncts and hence outside the c-command domain of the real subject. Quantifiers have been argued to be adverbial (Faltz 1995; Jelinek 1995). Thus, in (10), altsó ‘all’ is not a quantifier with scope over the entire sentence; it has scope only over the adjacent DP.
Regarding (e), Hale (1989) notes that (non)-configurationality is confined to constructions, not languages and that sentential complements such as (11) and (12) in Navajo have to be configurational, even though Navajo as a whole is non-configurational.

(11) Shi-zhé’é kinla'ní góó deesháál nízin Navajo
    my-father Flagstaff-to FUT-1-go 3-want
    ‘My father wants to go to Flagstaff.’ (Hale 1989: 300)

(12) doogáál ni Navajo
    3-arrive 3-said (disjoint reference)
    ‘He said that he arrived.’ (Willie 1991: 143)

Baker (1995: chapter 10) says that polysynthetic languages avoid embedded arguments. Constructions such as (12) are rare in Navajo; the preferred embedding strategy is nominalization, as in (13).

(13) honeesná-nígíí yoodlá Navajo
    3.win-NOM 3.believe (free reference)
    ‘He believes he won/he believes the winner.’ (Willie 1991: 178)

The characteristics of Navajo discussed above indicate that the nominals are adjuncts. Work by McDonough (2002) on the prosody of Navajo confirms that focus is not marked on the nominals. Focus is of course a problem for this account. Jelinek argues focus is marked on a position in the left periphery in (9) but it can be argued to be a separate sentence, as in (14) and (15).

(14) Ma’ii hanii yiiltsá.
    coyote FOC 3-saw
    ‘It wasn’t a coyote that I saw.’ (Perkins 1978: 7)

(15) Díí ga’ chidí nizhóní
    this FOC car beautiful
    ‘THIS is the prettiest car.’ (Y&M 369)

So no necessary relationship between pro-drop and polysynthesis. There are in fact cycles of pro-drop not related to polysynthesis.

3. **Pro-drop cycles in non-polysynthetic languages**

   The role of agreement in a number of Romance languages is quite prominent as well. However, in these languages, we have relatively fast cycles of change. We therefore argue that neither Spanish nor Italian dialects are being reanalyzed as polysynthetic languages. The same holds for Colloquial French. ‘Real’ polysynthetic languages are special in the choice if [i-phi] since they lack specifiers.
In Spanish and standard Italian, subjects are optional and one could argue that the agreement is the argument, as it is in Navajo.

(16) (Muchas tribus) buscaban la oportunidad de rebelarse  
Spanish  
many tribes sought-3P the opportunity to rebel  
‘Many tribes sought to rebel.’

(17) a. (nosotros) buscábamos  
‘we sought’

b. (vostros) buscabais  
‘you sought’  
c. (ellos, ellas) buscaban  
‘they sought’

Ordóñez & Treviño (1999) show that pre-verbal overt subjects pattern with left-dislocated objects in ellipsis, extraction of quantifiers, and interpretation of preverbal quantifiers. Postverbal subjects do function as arguments in Spanish (though Ordóñez & Treviño 1999 do not take this into account); quantified subjects are grammatical as are embedded objects. So, Spanish has agreement, pro-drop, and frequent topicalized subjects, but its nominals still function as arguments.

The situation is similar in standard Italian, but there is an incredible diversity in the dialects. In Venetian Italian, full nouns and pronouns can be doubled; indefinites, however, cannot be doubled.

(18) a. Ti te magni sempre  
Venice  
you you eat always  
‘You always eat.’

b. Nissun (*el) magna  
nobody he eats  
‘Nobody eats.’ (Poletto 2004)

In other varieties, especially Northern Italian ones, all of these are grammatical, even the quantified one. That means the formerly topicalized nominal is a real argument.

(19) a. Nisun l’ha dit niente  
Trentino  
nobody he-has said nothing  
‘Nobody said anything.’

b. Tut l’è capita de not  
everything it-has happened at night  
‘Everything happened at night.’ (Brandi & Cordin 1989:118)

(20) a. Tuc i panseva  
Albosaggia (Lombard N.)  
Everybody they thought.  
‘Everybody thought.’

b. Vargù al ruarà tardi  
Somebody he will-arrive late  
‘Somebody will arrive late.’ (Poletto 2007)

So, Romance languages show many cyclical changes from argument pronoun to agreement back to argument. Athabascan languages are different.
Colloquial French patterns with Spanish and Italian dialects. All seem to resemble Navajo in the importance of agreement. The agreement marker, however, doesn't have a theta-role since the nominal doesn’t have to be an adjunct (as it does in Navajo). There are also overt subject arguments.

4. PAL, minimalist features, and pro
Let’s see how various stages of pronouns and pro-drop can be represented.

Figure 3: Stages of the Subject Cycle in non-polysynthetic languages

How to distinguish these stages? Non-adjacency, coordination, etc.

(21) kondo-wa watashi-ga kuruma-o unten-suru kara. Japanese
    this time-TOP I-NOM car-ACC drive-NONPST PRT
    ‘This time, I will drive the car.’ (Yoko Matsuzaki p.c.)

(22) Se je mêisme ne li di
    If I myself not him tell
    ‘If I don’t tell him myself.’ (Franzén 1939:20, Cligès 993)

(23) a. Je lis et j’écris
    I read and I-write
    Colloquial French

    b. *Je lis et écris
    I read and write

<table>
<thead>
<tr>
<th>Theta-role</th>
<th>XP or X</th>
<th>fixed phi position</th>
<th>language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full pronoun</td>
<td>yes</td>
<td>XP</td>
<td>no, yes Hindi/Urdu, Japanese</td>
</tr>
<tr>
<td>Head pronoun</td>
<td>yes</td>
<td>X</td>
<td>no, yes French, (English)</td>
</tr>
<tr>
<td>Agreement</td>
<td>yes</td>
<td>X</td>
<td>yes, yes Navajo, Old English</td>
</tr>
<tr>
<td>(in polysynthetic languages)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreement</td>
<td>no</td>
<td>X</td>
<td>yes, no Hindi/Urdu, etc</td>
</tr>
</tbody>
</table>

Table 1: Pronouns vs. agreement
Some work (e.g. van Gelderen 2011) sees language change as a reanalysis of semantic into interpretable into uninterpretable features. Loss of semantic features occurs when full verbs such as Old English *will* with features such as [volition, expectation, future] are reanalyzed as having only the feature [future] in Middle English. The features can then be considered grammatical rather than semantic. The grammatical features come in two kinds, features that are interpretable at the Conceptual-Intentional Interface and those that are uninterpretable at that interface but functioning to link two positions. Feature Economy explains this change: semantic features are not economical in the computation since they make the elements to be combined inert. Interpretable features are slightly more economical in their interactions since they can value uninterpretable features. Uninterpretable features act as probes and are the most economical in keeping the derivation going. Pronoun to agreement cycles follow these in languages such as French.

(24) **Subject Agreement Cycle**

emphatic > full pronoun > head pronoun > agreement

\[\text{[i-phi]} \quad \text{[u-1/2]} \quad [i-3] \quad [u-\text{phi}]\]

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>b.</td>
<td>c.</td>
</tr>
<tr>
<td>TP</td>
<td>TP</td>
<td>TP</td>
</tr>
<tr>
<td>(T')</td>
<td>(T')</td>
<td>(T')</td>
</tr>
<tr>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>[u-\text{phi}]</td>
<td>[u-\text{phi}]</td>
<td>[u-\text{phi}]</td>
</tr>
<tr>
<td>[i-T]</td>
<td>[i-T]</td>
<td>[i-T]</td>
</tr>
<tr>
<td>DP</td>
<td>DP</td>
<td>DP/pro</td>
</tr>
<tr>
<td>[i-\text{phi}]</td>
<td>[i-\text{phi}]</td>
<td>[i-\text{phi}]</td>
</tr>
<tr>
<td>[u-\text{T}]</td>
<td>[u-\text{T}]</td>
<td>[u-\text{T}]</td>
</tr>
</tbody>
</table>

Figure 4: Stages of the Subject Cycle using Feature Economy

Is Navajo in stage (c) or outside this system? We’ll argue the PAL status means its pronominal affixes have interpretable features and there are no probes with uninterpretable features.

The differences can be represented as:

<table>
<thead>
<tr>
<th>Phi-features (for head-marking)</th>
<th>'Case' (for dependent-marking)</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>
5. Changes in Athabascan Object marking

Compared to subjects, objects are less obviously marked on verbs. Siewierska’s (2008) data show that 70% of languages mark the subject on the verb, while only 60% mark the object. In many languages, the subject affixes are closer to the verb root, which shows that they were attached to the verb before the object affixes. Object marking on the verb in itself doesn’t mean polysynthesis. This depends on the status of the dependents: are they arguments or adjuncts?

In Southern Athabascan languages such as Navajo, both subject and object markers are obligatory on verbs, as are pronominal and oblique objects. Rice (2003: 72) notes that the Southern pattern is an innovation. We will first discuss the northern languages and suggest that even some of these are changing. Then, we show that Apache and Navajo have obligatory head-marking of direct objects. We finish by looking at indirect objects.

Northern Athabascan languages such as Ahtna, Slave, and Dogrib display complementary distribution between nominal objects, e.g. *tuwele* ‘soup’ in (25a), and verbal affixation, *be-* in (25b).

(25) a. \(sú\) \(tuwele\) \(kágoweneli\)
    Q  soup 2S-taste ‘Have you tasted the soup?’

b. \(sú\) \(bekágoweneli\)
    Q  3S-2S-taste  ‘Have you tasted it?’ (from Jelinek 2001)

A similar complementarity between object and agreement marker occurs in Kaska, Salcha, and Dine Sulfine.

Doubling of the object, a step towards object marking, is possible in topicalization (Gunlogson 2001: 376). If the object is clearly topicalized, as in (26a), the object marker/pronoun appears on the verb, but not in the non-topicalized (26b).

(26) a. \(gah\) \(tlį\) \(nidháq\) \(te-ye-déhnde\)
    rabbit  dog  far 3-3-chased

---

1 Baker (2008a: 39; 153) argues that T is not a probe in Japanese, which is similar to not having probing phi-features.
The rabbit, the dog chased it a long way.’ (Rice 1989)

b. tlį nídháq gah tedénde

The same phenomenon occurs in Gwich’in, Slave, and Kaska. It can be explained as in other languages we considered: the pronominal object marker in (26a) counts as an argument. In some other Northern languages, human plural objects (Slave) or definite objects (Babine-Witsuwit’en) trigger the same doubling.

Navajo, a representative of Southern Athabascan, has optional nominals, as the counterparts of Slave (25) in Navajo (27) show; the marker on the verb can never be left off, as (3b) shows.

(27) a. (’atoo’) yi-ní-dlqá’-ish Navajo
   soup 3S-2S-eat-Q ‘Did you eat the soup?’

b. *ni-dlqá’-ish
   2S-eat-Q ‘Did you eat it?’ (Jelinek 2001: 23)

From Slave and Babine-Witsuwit’en, we see that the start of the object cycle is possibly with human/definite objects. The object markers are similar to the subject ones, e.g. in Navajo, but there are specialized forms for animate, unspecified, and areal objects. They all occur in the same position (Y&M IV) so we cannot draw any conclusions as to these representing different stages in the grammaticalization process.

The trend in the Athabascan languages seems to be towards more object polysynthesis. The presence of noun incorporation is relevant here. Rice (2008) shows that the most archaic Athabascan languages, Ahtna and Koyukon, have retained noun incorporation, but Navajo, Apache, and the Pacific Coast languages have not. We will argue that, when pronouns are reanalyzed as the bearers of [i-phi] and nominal arguments as adjuncts, the nominals can no longer incorporate. Thus, we will provide a Minimalist feature approach in arguing that polysynthetic objects can be represented as having [i-phi], without a probe with [u-phi] in v.

The Athabascan family shows some differences in object polysynthesis. Slave has subject but not object polysynthesis; Navajo has both. As to the start of the cycle, definiteness seems a factor in Babine-Witsuwit’en and animacy in Slave.

6. The indirect object

If arguments are listed on the V obligatorily, what happens to indirect objects? These too are obligatory though there is an adposition incorporated as well.

(28) ‘a:k’yiwilaw xo-wa:-0-n-e-’an Hupa
   book 3-P-3-PF-1S-move
   ‘I gave him a book.’ (Campbell 2011: 612)

(29) binabinishtin Navajo
    b-i-na-bi-ni-sh-tin
    3-against-around-3-Q-1S-handle-IMPF
    ‘I teach it to him.’ (Young & Morgan 1987: 223; see also Rice 2000: 94)
Adpositional objects are marked in most Athabascan languages. These are often analyzed as part of the verbal complex: *bi* in Navajo (29) and *beghá* in Chipewyan (30).

\[(30)\]  
\[
\begin{array}{l}
\text{be-ghá-yé-n-i-l-ti} \\
3S\text{-to-3S-ASP-1S-CL-handle}
\end{array}
\]  
Chipewyan

‘I have given her to him.’ (Li 1967: 419)

The pronoun is obligatory in Navajo but not in Slave.

\[(31)\]  
\[
\begin{array}{l}
a. \text{Béeso bi-k'é naashnish} \\
\text{money 3-for 1S.work}
\end{array}
\]  
Navajo

‘I work for money.’

b. Bi-k’é naashnish

c. *Béesok’é naashnish/ *k’é naashnish

\[(32)\]  
\[
\begin{array}{l}
a. \text{Bee hé tádjhwee} \\
\text{knife with 2S.IMP.cut}
\end{array}
\]  
Slave

‘Cut it with a knife.’

b. Behé tádjhwee

c. *Bee behé tádjhwee/ *hé tádjhwee (Saxon 1989: 388, as in Tuttle, n.d.)

The Northern languages show the same optionality with possessive nouns

\[(33)\]  
\[
\begin{array}{l}
a. \text{Charlie ljé} \\
\text{Charliedog}
\end{array}
\]  
(Saxon 1989: 388)

‘Charlie’s dog’,

b. \text{be ljé} \\
3 dog

‘his dog’.

c. *Charlie beljé/ ljé

Young, Morgan & Midgette (1992) divide Navajo adpositions into three categories, depending on their degree of dependence on the verb: "comparison with Eyak points to the probability that many ... were originally independent adverbial elements" (922). Rice (1989: 19) notes this closeness of the adposition to the verb in other Athabascan languages, e.g. Slave: "when the object of a postposition is a pronoun, the phrase is often attracted to the verb". Holton (2000: 284) describes a similar closeness of the adposition and the verb in Tanacross.

There is a problem with a few of the postpositions, as Tuttle (n.d.) based on Saxon (1989), notes:

\[(34)\]  
\[
\begin{array}{l}
a. \text{shádítí k’eh yáníli'í} \\
1S\text{.older.sister like 2S.talk}
\end{array}
\]  
Navajo

‘You talk like my older sister.’

c. *shádítí bi-k’eh yáníli’í \\
1S\text{.older.sister 3S-like 2S.talk}

‘You talk like her.’ (Tuttle n.d.: 19)
It is easy to see how the adposition could be reanalyzed as an applicative marker: $bi$ could be analyzed as an indirect object marker. This is in fact the trajectory Craig & Hale (1988) and Peterson (2007) suggest. Peterson gives the following example from Kinyarwanda. In (35a), the place is marked by a preposition and $mu$ $maazi$ is adverbial; in (35b), the preposition has been incorporated into the verbal complex and $amaazi$ is in a different position.

(35) a. $umwaana$ $y-a-taa-ye$ $igitabo$ $mu$ $maazi$ Kinyarwanda
child he-PST-throw-ASP book in water
‘The child has thrown the book into the water.’

b. $umwaana$ $y-a-taa-ye$-$mo$ $amaazi$ $igitabo$ Kinyarwanda
child he-PST-throw-ASP-APPL water book
‘The child has thrown the book into the water.’ (Kimenyi 1980: 89)


7. Conclusion
In this paper, we have been critical about one link that this workshop on null arguments made in its CFP, namely between null subject and polysynthesis. There are languages where pro-drop is an intermediate stage in a cycle from pronoun to agreement marker (e.g. Italian varieties) but there are also languages that do not have arguments outside the verbal complex.

References
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