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Stacy Fang-ching Teng

ACADEMIA SINICA

In Puyuma, the marker i- is used to express meanings of wearing, possession, instrumentality, and existence. The purpose of this paper is to investigate how these different meanings can be related and what the developmental path is. It is suggested that the original meaning of this marker is ‘carry, wear’, and that this was later grammaticalized to give the meanings of possession and instrumentality. The meaning of existence is the result of a later development. Evidence from other Formosan languages also shows that the morpheme *Si-, meaning ‘wear, carry’, can be reconstructed to Proto-Austronesian, and thus supports our hypothesis.

1. INTRODUCTION. Cross-linguistically, the manifestation of possession may take two forms; the relation between possessor and possessee may either be the main assertion of the sentence, as in (1a), or it may be presupposed, as in (1b).

(1) a. Mary has money. (predicative possession)
   b. Mary’s money has been saved. (adnominal/attributive possession)

In Nanwang Puyuma, the concept of possession can be expressed adnominally, as in (2), or be asserted predicatively by utilizing a mi- ‘have’ verb, as in (3). Note that mi- may be further analyzed as m-i-, where m- functions as an actor voice marker.\(^2\)

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1. This paper presents part of the findings of NSC project (Denominal verb constructions in Puyuma, NSC 99-2410-H-001-096). I would like to thank the following Puyuma consultants: Aukayan Pawkayan (Chin-mei Lin), Zen-cheng Lin, Yuan-de Li, Yu-chiao Cheng, and Xiang-mei Tseng. An earlier version of this paper was presented at the NTU workshop on June 1, 2013. I wish to thank all the participants. My gratitude also goes to Elizabeth Zeitoun, Malcolm Ross, Hsiu-chuan Liao, Rui-wen Wu, Joy J. Wu, Amy P. Lee, Rik De Busser, Maya Yu-ting Yeh, and two anonymous reviewers for their helpful comments and discussion on a previous draft of this paper. They are, however, not responsible for any remaining errors and omissions.

2. In standard Puyuma orthography, upper case is used only for place names and personal names, not for the beginning of a sentence. Abbreviations used in this paper that are not included in the Leipzig Glossing Rules are: ACAUS, anticausative; AV, actor voice; HUM, human; MOT, motion; PROJ, projective; PSR, possessor.

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(2) mu-apet=la tu=paisu kan Senayan.
ACAUS-save=PFV 3PSR.NOM=money SG.OBL Senayan
‘Senayan’s money has been saved.’

(3) m-i-paisu i Senayan.
AV-I-money SG.NOM Senayan
“Senayan has money.”

In (2), the possessor (Senayan) is manifested twice: as a pronoun (tu= ‘his/her’) appearing before the possessum (paisu ‘money’), and as an oblique noun phrase (kan Senayan) following the possessum. In (3), the possessor (i Senayan) is the subject noun phrase of the clause, while the possessum (paisu ‘money’) is the stem that the i- marker attaches to.

The marker i- is multifunctional. It attaches to nouns and builds a relationship between the noun it attaches to—for example, pitaw ‘hoe’ in (4)—and the noun that expresses the subject/agent—for example, =ku ‘I’ in (4). Generally, the relationship is that of possession, as indicated in (3) and (4), but other relationships, such as instrumentality, as in (5), and existence, as in (6), may also be encoded.

(4) m-i-pitaw dra sadru i Malradram.
AV-I-hoe INDF.OBL many SG.NOM Malradram
‘Malradram has many hoes.’

(5) m-i-pitaw=ku me-rebay.
AV-I-hoe=1SG.NOM AV -weed
‘I use a hoe to weed.’

(6) m-i-riwanes na lrangitr.
AV-I-rainbow DEF.NOM sky
‘There is a rainbow in the sky.’

As will be shown in Section 3, the Puyuma marker i- is a reflex of Proto-Austronesian (PAN) *Si- ‘carry, wear’. While the meaning of ‘carry’ does not appear in modern Puyuma, the meaning of ‘wear’ is kept. For instance:

(7) kabung ‘hat’ m-i-kabung ‘to wear a hat’
iris ‘head ornament’ m-i-iris ‘to wear a head ornament’
’aputr ‘flower’ m-i-’aputr ‘to wear flowers’

Cross-linguistically, possessive constructions are very often found to be related to either comitative/instrumental constructions or existential/locative constructions: Stolz (2001) and Stolz, Stroh, and Urdze (2006) point out that expressions used to denote possession are very often related to comitativity and instrument. For instance, in Irish, the three named concepts (possession, comitativity, instrumentality) are expressed by the element le/leis ‘with’.

3. The morphosyntactic features of denominal verb constructions (including the i- constructions discussed here) in Puyuma are very interesting. Teng (2011) shows that when there is a modifier in a denominal verb construction, the modifier is manifested as oblique and it needs to follow the predicate immediately. This indicates that, while words are formed in morphology, under some circumstances parts of words are accessible to syntax, contrary to what the Lexical Integrity Principle—that is, “syntax neither manipulates nor has access to the internal structure of words”; see Anderson (1992:84)—has predicted.
(8) IRISH

a. Cé leis iad?
who with.3 SG.MASC 3PL
‘To whom do they belong?’ (possession)

b. Téann said ag rince Déardaoin le cailín-í an bhaile.
go 3 PL on dance Thursday with girl-PL DEF village
‘On Thursday, they go to dance with the girls of the village.’ (comitative)

c. Mar is le peann luaidhe a bhreactar síos
like COP with pencil lead REL write.IMPERS down
tuairiscí na dtaiscealaithé i dtús báire.
description.PL DEF.PL investigator.PL in beginning game
‘Because for a start, the descriptions by the explorers are written
down with pencil.’ (instrument)

(Stolz 2001:341)

On the other hand, the correlations between existential, possessive, and locative have
also been widely reported in literature. For instance, Lyons (1967:390) indicates that
these three types of construction are closely related to each other. Similar claims have
been made by Kuno (1971), Clark (1978), and Freeze (1992). In Formosan literature,
Zeitoun et al. (1999) have done a typological study that shows that the same elements are
used to introduce existential/possessive/locative sentences in the languages they investi-
gate. Taking Puyuma as an example, in (9) we see that the same element ulaya ‘exist’ is
used to denote the meaning of existential, possessive, and locative.

(9) a. ulaya a ma’idrang i Puyuma.
exist INDF.NOM old LOC Puyuma
‘There was an old man in Puyuma.’ (existential)

b. ulaya ku=idrus a k<em>adri.
exist 1 SG.PSR.NOM=spoon INDF.NOM <AV>this
‘I have such kinds of spoons.’ (lit., ‘My such kinds of spoons
exist.’) (possessive)

c. ulaya i temuu i Puyuma.
exist SG.NOM your.grandparent LOC Puyuma
‘Your grandmother is in Puyuma.’ (locative)

Figure 1 summarizes the above discussion. The concepts that Puyuma ulaya ‘exist’
encodes (existential, locative, and possessive) are shown in the left oval; the concepts that
the Irish element le/leis ‘with’ denotes (comitative, instrumental, and possessive) are
grouped in the right oval, and the concepts that Puyuma i- conveys (existential, instru-
mental, and possessive) are indicated by the gray area.

From figure 1, we see that on the one hand Puyuma i- denotes possessive and existential
but not locative, and on the other hand it denotes possessive and instrument but not comita-
tive. This seems unusual from a typological perspective. As is pointed out by Stolz
(2001:321), if expressions of predicative possession involve a marker that also has the func-
tion of encoding instrumentality, such combinations of functions generally involve comita-
tivity as well. That is, comitativity is a necessary bridge between predicative possession and
instrumentality. Stolz’s observation echoes with Heine and Kuteva’s (2001) generalization
about the grammaticalization pathways for predicative possession. Scrutinizing their *World lexicon of grammaticalization*, one will find that only the concept of comitativity can function to connect predicative possession with the notion of instrumentality.

Since the morphosyntactic features of the *i*-constructions are very complex and have been discussed in another paper (see footnote 3), the present paper will only focus on its development. First, from a typological and grammaticalization point of view, it is interesting to know what the original meaning *i*- encodes in Puyuma and how the three notions it denotes—namely existential, possessive, and instrumental—can be related. Second, from a diachronic perspective, we investigate whether this morpheme can be found in other Formosan/Austronesian languages and whether we have strong evidence for its reconstruction in Proto-Austronesian.

The organization of the paper is as follows. Section 2 focuses on questions regarding how *i*- has grammaticalized to express instrumental, existential, and possessive meanings, and how these notions can be related; section 3 offers supporting evidence from other Formosan languages to reconstruct the morpheme *i*- to Proto-Austronesian; and section 4 summarizes the paper and points out some directions for future research.

2. GRAMMATICALIZATION PATH OF *i*-. In this section, I investigate the developmental pathway of *i*- constructions in Puyuma to see how the notions they convey can be related.

Heine (1997:45) points out that “possession is a relatively abstract domain of human conceptualization and expressions for it are derived from more concrete domains.”

Since possession is a complex concept and there are many subdomains, it seems natural for a given language to use different constructions to express different possessive notions.

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4. Heine (2001) makes a few observations about possession that appear to hold true across languages.
   (i) Possession is a cross-culturally fairly stable concept; following Seiler (1983), Heine defines possession as a biocultural domain involving a relationship between a prototypically human possessor, in most cases presented as the topic, and the possessee, normally the comment.
   (ii) There is no universal linguistic structure common to all possessive constructions.
   (iii) Possessive constructions are likely to also express concepts other than possessive ones.
   (iv) Possessive concepts can be expressed by linguistic forms that are not typically associated with the domain of possession.
   (v) That there is not necessarily a one-to-one-correspondence between possessive form and possessive meaning is neither unusual nor abnormal.
To facilitate the discussion in the following sections, I begin with some descriptions of the *i-* possessive in 2.1, focusing on the possessive notions it expresses. In 2.2, I discuss the evolution of *i-* and its developmental pathways.

### 2.1 Possessive Notions *i-* Expresses

Different subtypes of possession are distinguished by linguists, based on different parameters. For instance, according to Bugenhagen (1986:128), possessive notions are derived from the intersection of two parameters: (i) the length of time during which the possessed item has been located in proximity to the possessor; and (ii) the extent of control that the possessor has over the possessed item. Inspired by this insight, Stassen (2009:15) formulates the following definition: “A prototypical case of possession is characterized by the presence of two entities (the possessor and the possessee) such that (a) the possessor and the possessee are in some relatively enduring locational relation, and (b) the possessor exerts control over the possessee (and is therefore typically human).”

According to this definition, Stassen (2009:15–17) further suggests using two parameters—PERMANENT CONTACT (which depicts the locational relation between the possessor and the possessee), and CONTROL (which states the relation involving control of the possessor over the possessee)—in distinguishing possession into inalienable, abstract, alienable, and temporary possession, as shown in table 1.

<table>
<thead>
<tr>
<th>TABLE 1. Possessive Subtypes (based on Stassen 2009:17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSSESSIVE SUBTYPES</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Inalienable</td>
</tr>
<tr>
<td>Abstract</td>
</tr>
<tr>
<td>Alienable</td>
</tr>
<tr>
<td>Temporary</td>
</tr>
</tbody>
</table>

Following Stassen’s categorization, in this paper four subtypes of possession are distinguished, as given in (10).

10. a. **Inalienable**

\[
\text{m-i-walak}=\text{ku dra mi-a-telru.} \quad (\text{AV-I-child=1SG.NOM INDF.OBL HUM-PL-three})
\]

‘I have three children.’

b. **Abstract**

\[
\text{m-i-trungulr dra temumuwan dra saigu m-alup.} \quad (\text{AV-I-line INDF.OBL ancestor INDF.OBL capable AV-hunt})
\]

‘It (the dog) is from a bloodline that was capable of hunting.’ (lit., ‘It has an ancestor’s bloodline that was capable of hunting.’)

---

5. The distinction of possession into subtypes is related to the discussion in the following sections because there is a correlation between a given subtype of possession and the source schema that it may have developed from.

6. Apart from these four subdomains, Heine (1997:35) adds a notion of inanimate possession and distinguishes both an inalienable form of inanimate possession and an alienable form of inanimate possession. Following Stassen (2009:17), in this paper, cases of inanimate possession are considered to be metaphorical extensions of possession.

7. The marker *mi-* (glossed as HUM ‘human’) in the numeral *mi-a-telru* ‘three’ functions as a classifier.
c. **Alienable**

\[
\text{m-i-ruma'}=\text{mi.} \\
\text{AV-I-house=1PL.EXCL.NOM}
\]

‘We have a house.’

d. **Temporary**

\[
\text{adri}=\text{ku} \quad \text{m-i-palriding, ki-p-u-isatr}=\text{ku} \quad \text{dra} \quad \text{trau.} \\
\text{NEG=1SG.NOM} \quad \text{AV-I-car} \quad \text{PASS-CAUS-MOT-up=1SG.NOM} \quad \text{INDF.OBL person}
\]

‘I didn’t drive; I asked someone to fetch me.’ (lit., ‘I don’t have a car; I asked someone to fetch me.’)

At first glance, we find that *i-* may be used to express all four subtypes of possession, but when we look closer, there are some restrictions in the expression of inalienable possession. Inalienable possession may be further categorized into three groups: kinship relations, body-part relations, and part-whole relations. Not all kinship relations can be expressed via *i-*. In Puyuma, the cooccurrence of a kin term and the morpheme *i-* reflects the fact that every human has kin in the direct ascending generation, but not necessarily in the descending or collateral directions. Thus, kin terms of direct ascending, such as *mu* ‘grandparent’, *ina* ‘mother’, and *ama* ‘father’ cannot be expressed via *i-* , while expressions such as *walak* ‘child’, *kataguin* ‘spouse’, *wadi* ‘younger sibling’, *temuwan* ‘grandchild’ can. It has been rightly pointed out by Seiler (1983:21) that ‘to have’ is used when the possessee is not inherently relational. Examples are given below:

(11) a. *m-i-walak=ku.*

\[
\text{AV-I-child=1SG.NOM}
\]

‘I have a child/children.’

b. *m-i-ina=ku*

\[
\text{AV-I-mother=1SG.NOM}
\]

Intended: ‘I have a mother.’

As for nominal stems that refer to body parts, *i-* normally does not attach to major body-part words like *dradrek* ‘body’, *dapat* ‘foot’, *lrima* ‘hand’, *matra* ‘eyes’, or *tranguru* ‘head’, unless the speakers want to express some extraordinary situations. For instance, *m-i-tranguru* can only be used metonymically to mean ‘I have a brain’ (that is, it can not be used to mean ‘I have a head’), as in (12a), or when there is an attributive modifier, as (12b).

(12) a. *m-i-tranguru'=ku.*

\[
\text{AV-I-head=1SG.NOM}
\]

‘I have a brain.’ / *‘I have a head.’

b. *m-i-tranguru'=ku dra matrina.*

\[
\text{AV-I-head=1SG.NOM} \quad \text{INDF.OBL big}
\]

‘I have a big head.’

However, when *i-* attaches to ephemera body parts, such as *seki* ‘nails’, *'arebu* ‘hair’, and *ngusngus* ‘beard’, or effluvia body parts, such as *dawak* ‘blood’ or *palaw* ‘skin ulcer’, there is no such restriction. That is, the construction can be used to refer to the literal meaning, with or without an attributive modifier. For instance,
Part-whole relations are similar to body-part relations, but the possessor is not human or animal. Like body-part relations, some part-whole relations have more restrictions than others (that is, *m-i-rami* ‘have roots’ seems to be far less acceptable than *m-i-bira* ‘have leaves’ or *m-i-sa’adr* ‘have branches’ when we are talking about parts of a tree).

Based on the above discussion, a distinction is made within inalienable possession, as summarized in table 2.

Going back to the two parameters PERMANENT CONTACT and CONTROL, we find that those possessive expressions that may be denoted by *i*- are more controllable but have less permanent contact. That is, they are less typical in the category of “inalienable” possession.

The possessor of abstract possession is typically a human being, and the possessee is a concept that is not visible or tangible. Some other examples of this category include *ngal-rad* ‘name’, *kakualengan* ‘illness’, *sayguwan* ‘ability’, and *pali* ‘supernatural power’.

Unlike the previous two categories (that is, inalienable and abstract possession), where the nominal base that *i*- attaches to determines which subtypes of possession the named construction belongs to, whether a named construction manifests alienable possession or temporary possession is contextually determined. For instance, the first half of sentence (10d), *adri=ku m-i-palridin* ‘I don’t have a car’, may either indicate that the possessor does not own a car (alienable possession), or did not drive a car at the moment when the utterance took place (temporary possession).

**TABLE 2. INALIENABLE POSSESSION IN PUYUMA**

<table>
<thead>
<tr>
<th>KINSHIP RELATIONS</th>
<th>MAY BE DENOTED BY <em>i</em>-</th>
<th>MAY NOT BE DENOTED BY <em>i</em>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinship terms except those that are used to express direct ascending (e.g., child(ren), siblings, spouse)</td>
<td></td>
<td>direct ascending (e.g., parents, grandparents)</td>
</tr>
<tr>
<td>BODY PARTS</td>
<td>ephemera/effluvia body parts (e.g., nails, blood)</td>
<td>major body parts (e.g., nose, hands)</td>
</tr>
<tr>
<td>PART-WHOLE RELATIONS</td>
<td>nonessential parts (e.g., leaves, branches)</td>
<td>essential parts (e.g., root)</td>
</tr>
</tbody>
</table>

**2.2 GRAMMATICALIZATION PATHWAYS FOR POSSESSION**

**2.2.1 Looking for the source.** Having given a brief overview of the possessive notions the *i*- construction conveys, I now proceed to ask about its original meaning. As has been mentioned earlier and will also be seen later on in section 3, the original meaning of the *i*- morpheme is ‘carry, wear’. There is strong evidence that a morpheme *Si*, meaning ‘carry, wear’, can be reconstructed in PAN, whose reflex in Puyuma is *i*- (PAN *S became Ø in Puyuma). This section aims to provide further support from typological/grammaticalization aspects for this evolution.
In seeking the sources for the expression of predicative possession, Heine (1997:47) provides eight possible schemas that account for the majority of possessive constructions in the languages of the world, which are given in table 3. Note that X stands for the possessor, whereas Y stands for the possessee.

According to Heine (1997:47–65), in the Action schema, the sense of “acting to take possession” has been bleached, leaving behind only the implied result of “having possession.”

### Table 3. Heine’s Schemas Used for the Expression of Predicative Possession

<table>
<thead>
<tr>
<th>Formula</th>
<th>Source Schema</th>
</tr>
</thead>
<tbody>
<tr>
<td>X takes Y</td>
<td>Action</td>
</tr>
<tr>
<td>Y is located at X</td>
<td>Location</td>
</tr>
<tr>
<td>X is with Y</td>
<td>Companion</td>
</tr>
<tr>
<td>X’s Y exists</td>
<td>Genitive</td>
</tr>
<tr>
<td>Y exists for/to X</td>
<td>Goal</td>
</tr>
<tr>
<td>As for X, Y exists</td>
<td>Topic</td>
</tr>
<tr>
<td>Y exists (away) from X</td>
<td>Source</td>
</tr>
<tr>
<td>Y is X’s (property)</td>
<td>Equation</td>
</tr>
</tbody>
</table>

The process involved can be characterized as ‘X takes Y > X has, owns Y.’ In the Location schema, the process involved can be described with the following formula: ‘Y is at X’s place > X has, owns Y.’ Note that the possessee is encoded as the subject and the possessor as a locative complement. In the Companion schema, the possessee is conceptualized as a kind of companion, and the process involved can be described as ‘X is with Y > X has, owns Y.’ The Genitive schema is characterized by the fact that the possessor is encoded as a genitival modifier of the possessee, and the process involved can be depicted as ‘X’s Y exists > X has Y.’ In the Goal schema, the process can be sketched as ‘Y exists for/to X > X has, owns Y.’ The schema typically consists of a verb of existence or of location, where the possessor is encoded as a dative/benefactive or goal case expression. In some languages, it is hard to distinguish between the Location and Goal schemas, but according to Heine, they represent different cognitive patterns. In the Topic schema, the possessor is presented as a kind of clausal topic or theme, and it appears as a topic or theme and also figures as a possessive modifier of the possessee in addition. The schematic structure can be described as ‘As for X, Y (of X) exists > X has, owns Y.’ The structure of the Source schema can be formulated as ‘Y exists (away) from X > X has, owns Y’, where the possessor is expressed as an ablative participant, typically encoded as a marker denoting notions such as ‘from’, ‘off’, ‘out of’, and so on. The last one is the Equation schema, which, like the Genitive Schema, involves some genitival-possessive morphosyntax. Its structure can be outlined as ‘Y is X’s (property) > Y belongs to X’. Unlike the Genitive schema, which has a one-place propositional structure, the Equation schema has two places (Y’s and X’s).

Having briefly introduced Heine’s schemas, let us now examine the possessive notions behind each schema and how the possessor and the possessee are encoded. Among the possessive notions that a given schema is likely to express, Heine notes that the Companion and Location schemas are more likely to express alienable possession, whereas Genitive, Goal, and Topic schemas are more likely to be associated with permanent and inalienable possession. Following our discussion in the previous section, Geni-
tive, Goal, and Topic are excluded as the possible sources of *i-* possession because *i-* possession is more typically related to alienable possession.

With regard to the coding of participants, table 4 summarizes the encodings of the possessor and the possessee for the corresponding source schemas. As can be seen from table 4, the possessor is coded as subject in Action and Companion schemas, while in the other schemas, it is the possessee coded as subject.

Returning now to the Puyuma data, in an *i-* construction like that in (14), the possessor (=ku ‘I’) is manifested as the subject, and the possessee (*pitaw ‘hoe’) is the nominal stem of the *i-* verb, as summarized in table 5 and illustrated in 14:

(14) m-\-i-\*pitaw=ku dra sadru.
     AV-1-hoe=1SG.NOM INDF.OBL many
     ‘I have many hoes.’

From table 4, only the Action and the Companion schemas encode the possessor as a subject, and as a result, these two are the only two possible candidates we are left with. Typologically, the Action schema is more likely to be the source of *i-* possessive than the Companion schema, for two reasons. First, as noted in section 1, the *i-* construction does not function to express comitative. On the other hand, Givón (1984:103) points out that “most commonly, a ‘have’ verb arises out of the semantic bleaching of active possession verbs such as ‘get’, ‘grab’, ‘seize’, ‘take’, ‘obtain’, etc.” Heine (1997:48) adds that, in addition to ‘take’ and a number of related action verbs, nondynamic and/or inactive verbs like ‘hold’ and ‘carry’ may give rise to the sense of ‘have’. These typological considerations echo with the diachronic evidence that the original meaning of *i-* is ‘carry/take, wear’, from which the possessive meaning is developed.8

The external evidence from other Formosan languages will be discussed in detail in section 3.

<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>HEINE’S SCHEMAS</td>
<td>CODING OF THE POSSESSOR</td>
</tr>
<tr>
<td>Action</td>
<td>Subject</td>
</tr>
<tr>
<td>Location</td>
<td>Locative complement</td>
</tr>
<tr>
<td>Companion</td>
<td>Subject</td>
</tr>
<tr>
<td>Genitive</td>
<td>Genitive modifier of the possessee</td>
</tr>
<tr>
<td>Goal</td>
<td>Dative /benefactive/goal</td>
</tr>
<tr>
<td>Topic</td>
<td>Clausal topic/theme</td>
</tr>
<tr>
<td>Source</td>
<td>Ablative participant</td>
</tr>
<tr>
<td>Equation</td>
<td>Predicate</td>
</tr>
</tbody>
</table>

| TABLE 5. ENCODING OF THE POSSESSOR AND THE POSSESSEE IN *i-* CONSTRUCTIONS |
|---------------------------------|---------------------------------|
| *i-* CONSTRUCTION | CODING OF THE POSSESSOR | CODING OF THE POSSESSEE |
| Subject | Nominal stem of the *i-*verb |

---

8. Similar developments can be found in Chinese. According to Nivison (1978:30) and Yue (2011:6), one of the oracle-bone graphs that represents the meaning of 有 (You) “possession” depicts the right hand, which in combination with another graph meaning ‘meat’, forms a compound graph, conveying the meaning of ‘to possess’.
The second reason for rejecting the Companion schema as the source of the i-possessive is as follows. Both Heine (1997) and Stassen (2009)\(^9\) claim that languages that use the Companion schema are likely to encode the possessor as the subject and the possessee as a comitative complement. Stassen (2009) also predicts that this type of possessive is likely to undergo predicativization; that is, the named possessive structure might have been a prepositional phrase at an earlier stage. However, no morphosyntactic evidence is found that the marker i- has ever been a prepositional phrase used to mark comitative.

Having demonstrated that i- possession came from the Action schema and that the original meaning of i- is ‘carry, wear’, what we still need to explain is how the marker i-evolved to encode the meanings of existential and instrumental. We will turn to this issue in the following sections.

2.2.2 Possessive to existential: Violation of a unidirectionality principle?
The development from source to target is supposed to be unidirectional; that is, we do not expect a possessive construction, the target of grammaticalization, to give rise to location, action, topic, or any of the other source concepts. However, there is one seeming exception. Heine (1997:94) notes that “occasionally it happens that expressions for predicative possession may also give rise to existential expressions.” Instances of predicative possession extending to express existence in French and Spanish are given below.

(15) FRENCH
a. **Possession**
   Il a deux enfant-s.
   he has two child-PL
   ‘He has two children.’

b. **Existence**
   Il y a deux enfant-s.
   it there has two child-PL
   ‘There are two children.’ (Heine 1997:94)

(16) SPANISH
   Hay un médico en este pueblo?
   exist.3SG a doctor in that town
   ‘Is there a doctor in that town?’ (lit., ‘Has it a doctor in that town?’)
   (Heine 1997:95)

In Saisiyat, another Austronesian language in Taiwan, the possessive verb *hayza’* ‘have’ may give rise to an existential concept, as shown below:

(17) SAISIYAT
a. **Possession**
   Yako *hayza’* ka ’aehae’ minatini’ ki rosha’ minayti’.
   1SG.NOM have ACC one older.sibling and two younger.sibling
   ‘I have one older brother and two younger brothers.’

---

9. Stassen’s (2009) categorization is based on the encoding of the possessor and possessee in terms of their grammatical function. He distinguishes four types: the LOCATIONAL possessive, the WITH possessive, the TOPIC possessive, and the HAVE possessive. His WITH possessive is parallel to Heine’s Companion schema.
b. **Existence**

Ma’an halapaw ‘iizo’ hayza’ ka kina:at.
1SG.GEN bed inside have ACC book

‘Inside my room there are books.’ (Hsieh 2013)

Are these examples really showing a reversal of directionality in grammaticalization? To this question, Heine (1997:95–96) explains that there is no language known to him or in the literature where existence as a “nuclear” schema (\(X \text{ exists}\)) provides the source for predicative possession. Rather, it is an existential expression plus some additional participant that provides the source for possession. The following Puyuma examples with the existential verb *ulaya* ‘exist’ serve as an illustration. Sentence (18a) expresses the existence of *paisu* ‘money’, and in (18b), with an additional participant *ku=‘my’, the possessor, the construction comes to denote the possessive meaning.

(18) a. ulaya a paisu.
exist INDF.NOM money
‘There is money.’

b. ulaya ku=paisu.
exist 1SG.PSR.NOM=money
‘I have money.’ (lit., ‘My money exists.’)

In other words, two different types of existence should be distinguished: existence (\(Y \text{ exists with reference to } X\)) vs. “nuclear” existence (\(Y \text{ exists}\)). Hence, rather than saying there is violation of a unidirectionality principle, the development should be depicted as follows:

(19) Existence > Possession > “Nuclear” existence
(Y exists with reference to \(X\)) (X has \(Y\)) (it has \(Y > Y \text{ exists}\))

While (18) demonstrates process A, examples in (15), (16), (17), and the development of *i*- from possessive to existential illustrate process B.

### 2.2.3 ‘Carry’ to instrument.

If our proposal that the original meaning of *i*- is ‘carry/wear’ is correct, the development of *i*- from ‘carry/wear’ to instrument is straightforward. Similar developments can be found in a number of languages (see Heine and Kuteva 2002:288–89 for more discussion). Take Efik (a Niger-Congo language of southeastern Nigeria) as an example.

(20) **EFIK**

\[\text{Dá } \text{ékuri sibé éto.}\]

take axe cut tree

‘Cut down the tree with an axe.’ (Welmers 1968:69; Claudi 1993:45)

Hence, the development from ‘carry/wear’ to possessive and that to instrumental can be seen as being parallel.

This scenario can be depicted as (21):
There are two matters that need more explanation. First, recall that examples (4) and (5) in section 1 (repeated here as [22a] and [22b]) showed that, when the prefix *i-* attaches to a noun denoting a tool, it either conveys a possessive meaning or an instrumental meaning. Compare:

(22) a. m-i-pitaw=ku dra sadru.
    \[AV-I-hoe=1SG.NOM \text{ INDF.OBL many}\]
    'I have many hoes.'

b. m-i-pitaw=ku me-rebay.
    \[AV-I-hoe=1SG.NOM AV-weed\]
    'I use a hoe to weed.'

In both sentences, we have \textit{m-i-pitaw}, and we get a possessive meaning in (22a) but an instrumental meaning in (22b). The difference seems to depend on the fact that \textit{m-i-pitaw} forms a serial verb construction with another verb in (22b). However, in (23) we get an instrumental meaning but not a possessive meaning even when \textit{m-i-tadraw} does not form a serial verb construction with another verb.

(23) a-uka=ku k<em>awi-a i, adri=ku m-i-tadraw.
    \[IRR-go=1SG.NOM <AV>timber-PROJ TOP NEG=1SG.NOM AV-I-knife\]
    'When I go to hack timbers, I don’t use a knife.'

Hence which meaning—possessive or instrumental—can be inferred depends mainly on the context, not on the structure.

Second, in addition to possessive, existential, and instrumental, \(i\)- also conveys the meaning of ‘wearing’ (for example, \textit{m-i-kiping} ‘wear clothes’, \textit{m-i-kabung} ‘wear a hat’). However, we do not find the meaning of ‘carrying’ in modern Puyuma. Our explanation for this is similar to what Heine, Claudi, and Hünnefelder (1991:60–62) refer to as “emerging metaphor,” which is a kind of “metaphorical extension that does not arise as a spontaneous act of transfer from one domain of conceptualization to another but emerges gradually in the course of years or even centuries.” The driving force behind this is context extension. Initially, the expression concerned exclusively denoted the literal meaning of the source schema (that is, the meaning of ‘carrying/wearing’). Later on, when the expression was increasingly used in contexts that allowed for a possessive interpretation (like temporary possession) this interpretation became primary, and from it (that is, temporary possession), other notions of possession (for example, alienable possession,inalienable possession and abstract possession) emerged.

3. RECONSTRUCTION. Ross (1995:758) seems to have been the first to notice the validity of reconstructing the morpheme *Si- ‘wear/carry/possess’. He indicates that “from reflexes in Se[e]diq, Amis and Rukai …, we know that PAN *Si- was added to a noun N to make a verb meaning ‘have, possess, wear N’.” Because the reflex of *S in Puyuma is \(\emptyset\), the reflex of *Si- is \textit{i-}, and thus in Puyuma \textit{mi-} should be analyzed as \textit{m-i-}, where \textit{m-} is an actor voice marker.
Here I regard the voice marker *Si- and the *Si- meaning ‘have, wear, carry’ as two different morphemes. For one thing, the reflexes of the voice marker *Si- in daughter languages have different distributions from the reflexes of *Si- ‘have, wear, carry’. The reflexes of the voice marker *Si- in daughter languages occur with a verbal stem and the subject is usually a transported theme, a beneficiary, or an instrument. On the other hand, the reflexes of *Si- ‘have, wear, carry’ prefixed to nominal stems and the subject is an actor. The second reason has to do with the fact that while the reflexes of voice marker *Si- never cooccur with an actor voice marker, in some languages (for example, Puyuma, Siraya, and Paiwan), the reflexes of *Si- ‘have, wear, carry’ can cooccur with an actor voice marker. In the following discussion, relevant data from other Formosan languages are provided as pieces of evidence supporting the validity of reconstructing *Si- ‘have, wear, carry’ in PAN.

To recognize cognates, we first need to know the sound correspondences in daughter languages. In what follows, I tentatively adopt Blust’s (1999) reconstruction of PAN proto-phonemes as a basis for our discussion.

The reflex of PAN *S was *s in Proto-Rukai. In Mantauran Rukai, Proto-Rukai *s becomes a glottal stop. The morpheme ‘i- attaches to a nominal stem to form a verb and gives the meaning ‘wearing’. In Tanan Rukai, the reflex of *Si is si- which, in addition to conveying the meaning of ‘wearing’, also has the meaning of ‘carrying’ and ‘having’.

(24) a. MANTAUARAN RUKAI
   kipingi ‘clothes’    ‘i-ki-pingi ‘to wear/put on clothes’
   tovese ‘head ornament’ ‘i-toves ‘to wear head ornament’
   lrisaisi ‘bracelet’   ‘i-lrisaisi ‘to wear bracelet’
   ilo ‘bead’            ‘i-ilo ‘to wear beads’ (Zeitoun 2007)

   b. TANAN RUKAI
   ki’ing ‘clothes’     si-ki’ing ‘to wear clothes’
   ra’al ‘baby’         si-ra’al ‘to carry/possess a baby’
                         (Li 1973:250)

In Paiwan, the reflex of PAN *Si- is si-, which seems to convey only the meaning of ‘carrying’.

(25) a. KULALAO PAIWAN
   gung ‘cow’            ma-si-gung ‘to lead a cow’
   vagu ‘millet’         ma-si-vagu ‘to carry millet’
                         (Ferrell 1982:25)

   b. PULJETJI PAIWAN
   pangul ‘stick’        ma-si-pangul ‘to carry a stick in one’s hand’
   itung ‘clothes’       ma-si-itung ‘to carry clothes’
   paisu ‘money’         ma-si-paisu ‘to carry money’
                         (Huang 2012:167)

In Pazih, the reflex of PAN *Si- is si-, and it has the meaning of ‘having’. Note that the possessive notion we obtain from si- in Pazih is inalienable possession (that is, the examples are all related to ephemera body parts), as in (26a). There is another morpheme ti-, where /t/ is a reflex of PAN *s, and it conveys the meaning of ‘carrying’ and ‘wearing’.
As shown in (26a) and (26b), the morpheme $t\text{i}$- can cooccur with an actor voice marker, while $s\text{i}$- cannot.

(26) **PAZIH**

| a. pazeng ‘thorns’ | si-pazeng ‘to have thorns’ |
| sinat ‘moles’ | si-sinat-an ‘to have moles’ |

(Li and Tsuchida 2001:274)

| b. tatuku ‘stick’ | ma-ti-tatuku ‘to carry a stick’ |
| kuribu ‘skirt’ | ma-ti-kuribu ‘to wear a skirt’ |
| dauguar ‘bamboo hat’ | ma-ti-dauguar ‘to wear a bamboo hat’ |

(Li and Tsuchida 2001:187)

In Truku Seediq, the reflex of PAN *S is /s/, and the morpheme $s\text{-e-/s-}$ gives the meaning of ‘having big X’, ‘wearing’ and ‘growing (an ephemera body part).’ However, the functions of denoting the meaning of ‘wearing’ and ‘having big X’ are not productive; its appearance is quite limited (I have only found one example for each of them).

(27) **TRUKU SEEDIQ**

| buyus ‘belly’ | s-buyus ‘to have a (big) belly’ (Lee to appear) |
| lukus ‘clothes’ | se-lukus ‘to dress up’ (Tsukida 2009:261) |
| ngudus ‘beard’ | s-ngudus ‘to grow a beard’ (Hsu 2008:66) |
| mabaw ‘leaf’ | s-mabaw ‘to grow leaves’ (Hsu 2008:66) |

Similar to Truku Seediq, in Saisiyat, the occurrence of $s\text{hi}$- (a reflex of *Si) meaning ‘wearing’ is limited and the meaning is somewhat idiosyncratic, as can be seen in the following examples.

(28) **SAISIYAT**

| potoeh ‘break’ | shi-potoeh ‘to wear shorts’ |
| ‘oehay ‘upside-down’ | shi-‘oehay ‘to wear inside out’ |
| ‘iizo ‘inside’ | shi-‘iizo ‘to wear inside’ |
| ‘oehaz ‘outside’ | shi-‘oehaz ‘to wear outside’ |

(Zeitoun, Chu, and Kaybaybaw to appear)

In Amis, the reflex of *S is /s/, but the meaning of ‘wearing, carrying, having’ is denoted by $c\text{i}$-, where /c/ is a reflex of PAN *s:

(29) **AMIS**

| cokap ‘shoes’ | ci-cokap ‘to wear shoes’ |
| po’ot ‘knife’ | ci-po’ot ‘to carry/have a knife’ |
| limaw ‘free time’ | ci-limaw ‘to have free time’ (Fey 1986) |

In Kavalan, $s\text{i}$- is used to give the meaning of ‘wearing’ and ‘having’. The reflex of PAN *S and *s merged in Kavalan, but because Kavalan and Amis belong to the same subgroup (East Formosan), it is more likely that in Kavalan the morpheme $s\text{i}$- is a reflex of PAN *s*-i-, rather than *Si*-.
(30) KAVALAN
ruqu ‘bamboo hat’ si-ruqu ‘to wear a bamboo hat’
kun ‘trousers’ si-kun ‘to wear trousers’
nappawan ‘spouse’ si-nappawan ‘to get married; to have a spouse’
razat ‘people’ si-razat ‘to have company’

(Li and Tsuchida 2006)

Now, according to the above examples and discussion, we can divide these languages into two groups: the first reflects *Si- denoting the meaning of ‘wear/have/carry’, and the second reflects *si- with the same meaning. Among them, Pazih has reflexes of both *Si- and *si-. Tables 6 and 7 summarize the above examples.

TABLE 6. EVIDENCE SUPPORTING THE RECONSTRUCTION OF *Si- ‘TO WEAR, TO CARRY’

<table>
<thead>
<tr>
<th>Language</th>
<th>Reflex of *S</th>
<th>Reflex of *s</th>
<th>Affix</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puyuma</td>
<td>Ø</td>
<td>*s</td>
<td>i-</td>
<td>to wear; to have</td>
</tr>
<tr>
<td>Proto-Rukai</td>
<td>*s</td>
<td>*Ø</td>
<td>*si-</td>
<td>to wear</td>
</tr>
<tr>
<td>Paiwan</td>
<td>s</td>
<td>t</td>
<td>si-</td>
<td>to carry</td>
</tr>
<tr>
<td>Pazih</td>
<td>s</td>
<td>z/t</td>
<td>si-</td>
<td>to have</td>
</tr>
<tr>
<td>Seediq</td>
<td>s</td>
<td>h</td>
<td>se-/s-</td>
<td>to grow; to have</td>
</tr>
<tr>
<td>Saisiyat</td>
<td>sh</td>
<td>h</td>
<td>shi-</td>
<td>to wear</td>
</tr>
</tbody>
</table>

TABLE 7. EVIDENCE SUPPORTING THE RECONSTRUCTION OF *si- ‘TO WEAR, TO CARRY’

<table>
<thead>
<tr>
<th>Language</th>
<th>Reflex of *S</th>
<th>Reflex of *s</th>
<th>Affix</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kavalan</td>
<td>s</td>
<td>s</td>
<td>i-</td>
<td>to wear; to have</td>
</tr>
<tr>
<td>Amis</td>
<td>s</td>
<td>c/s</td>
<td>si-</td>
<td>to wear</td>
</tr>
<tr>
<td>Pazih</td>
<td>s</td>
<td>z/t</td>
<td>ti-</td>
<td>to carry; to wear</td>
</tr>
</tbody>
</table>

There are two additional languages that may show a reflex of *Si-. First, in Tsou, there is a morpheme *i- that attaches to a nominal stem to give the meaning of ‘wearing’; this is exemplified in (31).

(31) TSOU
cceopungu ‘hat’ i-ceopungu ‘to wear a hat’
keoeii ‘corset’ i-keoeii ‘to wear a corset’
totfu ‘leg cover’ i-oftu ‘to wear a leg cover’ (Tung 1964:477)

According to Blust (1999), the reflex of PAN *S in Tsou is /s/, so we would expect to find the reflex of PAN *Si- in Tsou as si-. However, Ross (to appear) reconstructs two proto-phonemes, *x and *S, paralleling Blust’s *S. In Ross’s reconstruction, the reflex of *x is Ø in Tsou, and the reflex of *S is Tsou /s/.

Similarly, according to Blust (1999), the Siraya reflex of PAN *S is /g/ which, according to Adelaar (2011:37), is a velar fricative [x];10 while according to Ross (to appear), the reflex of *x in Siraya is Ø. If Ross is right, the following examples in (32) may show that the prefix i-11 may be another possible reflex of *Si-.

10. Adelaar (2011:37) also notes that in the gospel dialect, *R and *S are in the process of being lost in initial and intervocalic position.
Now we face two subsequent questions. First, what should we reconstruct in PAN as the morpheme meaning ‘carry, wear, have’? Second, how do we account for those cases where the languages do not have the expected reflex of the reconstructed form? From table 8, we can see that the most probable protoform is *Si-, whether we follow Blust’s reconstruction, or that of Ross. Data from Kavalan, Pazih, and Amis also force us to reconstruct another protoform,13 but because these three language do not distinguish *θ from *s in Ross’s reconstruction, we will tentatively reconstruct it as *si-.14

With regard to the question of how to account for the cases where the languages do not have the expected reflex of the reconstructed form, it seems that at the moment the only language that needs explanation is Tsou. One possibility is that the prefix i- ‘wearing’ in

**TABLE 8. REFLEXES OF THE PAN SIBILANTS (based on Ross to appear)**

<table>
<thead>
<tr>
<th>Blust PAN</th>
<th>*s</th>
<th>*θ</th>
<th>*x</th>
<th>*S</th>
<th>AFFIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puyuma</td>
<td>s</td>
<td>s</td>
<td>⚤</td>
<td>⚤</td>
<td>i-</td>
</tr>
<tr>
<td>Proto-Rukai</td>
<td>*s</td>
<td>*θ/ *s</td>
<td>⚤</td>
<td>*s</td>
<td>*si-</td>
</tr>
<tr>
<td>Tsou</td>
<td>s</td>
<td>s</td>
<td>⚤</td>
<td>s</td>
<td>i-</td>
</tr>
<tr>
<td>Paiwan</td>
<td>t</td>
<td>t</td>
<td>s</td>
<td>si</td>
<td></td>
</tr>
<tr>
<td>Siraya</td>
<td>s</td>
<td>s</td>
<td>⚤</td>
<td>x/θ/ij</td>
<td>i-</td>
</tr>
<tr>
<td>Pazih</td>
<td>z/t</td>
<td>z/t</td>
<td>h</td>
<td>s</td>
<td>ti/si-</td>
</tr>
<tr>
<td>Amis</td>
<td>c</td>
<td>c</td>
<td>s</td>
<td>ci</td>
<td></td>
</tr>
<tr>
<td>Kavalan</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>si</td>
<td></td>
</tr>
<tr>
<td>Seediq</td>
<td>h</td>
<td>h</td>
<td>h</td>
<td>s</td>
<td></td>
</tr>
<tr>
<td>Saisiyat</td>
<td>h</td>
<td>h</td>
<td>h</td>
<td>j</td>
<td>shi</td>
</tr>
</tbody>
</table>

11. In Adelaar (2011:132), the prefix i- is treated as one of the orientation prefixes. He says that derivations with it are “semantically less transparent than derivations with other orientation prefixes.” He divides the derivations with i- into three groups: “location in space or time,” “physical activity,” and those that do not seem to belong to a specific semantic domain. Of the three, the examples that seem to be relevant to this study all belong to the category of “physical activity.”

12. There is an example ma-i-ku’a ‘carry’ (Gospel of St. Matthew iii:11; xxvi:7) that directly has the meaning of ‘carrying’. Reid (2013) finds that in some Austronesian languages, the reflexes of *kuSa ‘go’ are homophonous with the forms meaning ‘say’, which, among many other functions, may carry a simile function, meaning ‘like’. In Siraya, the form kua also means ‘go’ and ‘say’. Following his line of thought, it is likely that the following Siraya example (Adelaar 2011:173) can be re-interpreted as ‘carry things like...’:

(i) … ñi=ko tu ka-irang-an ma-i-ku’a ki ta-tapil
NEG=1SG.NOM LOC V1-great-UO AO4-LOC-be.at/move DF RDP-shoe
fin=da;
3SG.GEN=ADV
‘...whose sandals I am not worthy to carry...’

13. Pazih and East Formosan (including Amis, Kavalan, and Siraya) do not form a subgroup.

14. In many Northern Luzon languages, the meaning ‘have’ is often expressed by the prefix si- (Hsiuchuan Liao, pers.comm.), which may be another piece of evidence for reconstructing it to PAN.
Tsou is not a reflex of *Si- at all; it has another source. A more probable explanation is that there were some sound changes involved that we need to reexamine more closely.

4. CONCLUDING REMARKS AND DIRECTIONS FOR FURTHER RESEARCH. In this paper the development of i- from the meaning of ‘carrying/wearing’ to that of possessive and instrumental is discussed. The existential meaning is a further development from the notion of possession. The validity of reconstructing both *Si- and *si-, meaning ‘wear/carry/have’, to PAN is also presented.

Heine (1997:72) points out that it is quite common for a given language to have derived expressions for predicative possession from three or more different schemas. Even if one particular schema is strongly favored in a given language, there tend to be constructions derived from alternative schemas that serve as paraphrases for possessive constructions. In Puyuma, while notions of alienable/inalienable/abstract possession can be manifested by other means (for example, ulaya ‘exist’, existential schema, and kadrudu ‘be there’, locative schema), temporary possession is exclusively coded by i- constructions. It would be interesting to see how these constructions interact with different notions of possession.

Among the languages investigated, Puyuma i- is the most grammaticalized and the most productive. Another direction for further research concerns the grammaticalization of this morpheme (be it a reflex of *Si- or *si-) in other languages. In some of the other languages, like Rukai, Paiwan, and Kavalan, this particular morpheme appears productively, while in others, like Seediq and Saisiyat, the words containing it are usually quite limited in number and have idiosyncratic meanings.

To extend our scope of research to non-Formosan Austronesian languages, we find that in Yami (a Malayo-Polynesian language) there is a morpheme mi- ‘to wear, to grow, to have’ that has similar functions. From the sound correspondences, we expect mi- to be a reflex of Proto-Malayo-Polynesian (PMP) *maR-.15

(33) YAMI
ayob ‘clothes’ mi-ayob ‘to wear clothes’
sakop ‘hat’ mi-sakop ‘to wear a hat’
ipois ‘tail’ mi-ipois ‘to grow/have a tail’
isis ‘scale’ mi-isis ‘to grow/have fish scales’
panid ‘wing’ mi-pani-panid ‘to have wings’ (Rau and Dong 2006)

Is this related to the morpheme we reconstruct in the paper?16 Or is it simply an accidental resemblance? If the latter, why does it have a similar development (from the meaning of ‘wearing’ to the meaning of ‘having’)? More research is needed to answer these questions.

15. In Bashiic languages, the reflex of *R is y, so PMP *maR- will reflect as may- or mi- (Conant 1910; Hsiu-chuan Liao, pers.comm). The major function that associates with reflexes of this form in Philippine languages is to encode a reciprocal relationship. Other functions, including marking reflexive, grooming, translational motion, change in body posture, middle, and so on, may have developed from reciprocal. See Liao (2013) for a detailed discussion.

16. One reviewer points out that it would be suspicious where two homophonous prefixes that developed from different sources have quite similar functions. To this, there are two possible explanations. First, it is possible that the use of m-i- meaning ‘have, wear’ in Yami is due to contact, rather than to inheritance from a common ancestor. Second, it would be reasonable to say that pre-Yami perhaps had a reflex of *Si-, namely i- (PAN *S became PMP *h, and the reflex in Yami is Ø), so that mi- replaced i-, due to contamination.
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