Indices as Syntactic Objects: A Case Study from Hakha Lai[1]

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I. Introduction

Goals of the talk

1. Describe and analyze two types of definite expressions in Hakha Lai (South Central Tibeto-Burman), focusing on the morpheme *mah*

- Definite expressions in Hakha Lai occur with and without prenominal *mah*

(1) [___   uico   cu]   a-lian
            dog   CU   3.SG-be.big
    "[The dog] is big."   (pilot data)
    Note: Can be interpreted as "A dog is big/Dogs are big."

(2) **[Mah**   uico   cu]   a-lian[2]
    DEM   dog   CU   3.SG-be.big
    "[That/the dog] (which we are talking about) is big."   (pilot data)
    Note: not interpreted as an exophoric demonstrative

- Demonstratives often contain prenominal *mah*

(3) [**Mah**   cauk   hi]   ka-uar   ngai
    DEM   book   SPKR.PROX   1.SG-like   INT
    "I like [this book (near me)]."   (Vawngtu speaker)

[2] DEM – demonstrative, SG – singular, LOC – locative, INT – intensifier, PERF – perfective, COMP – completive, IRR – irrealis, COP – copula, SPKR.PROX – speaker-proximal, ADDR.PROX – addressee-proximal, DIST – distal, PRO – pronoun, CL – classifier, INT – intensifier, ERG – ergative, POSS – possessive, ADV – adverbial, REFL – reflexive, MASC – masculine, FEM – feminine, COP – copula, PST – past, COM – comitative, IMP – imperative, IDX – index

(4) [**Mah**   cauk   kha]   ka-uar   ngai
     DEM   book   ADDR.PROX   1.SG-like   INT
"I like [that book (near you)]."   (Vawngtu speaker)

- Personal pronouns contain suffixal -*mah*

(5) Café=ah   sayapa$_s$ a-raa.   [**Amah**$_s$]   luchin rang   a-chinh
    café=LOC   male teacher   3.SG-come   3.SG.PRO   hat   white   3.SG-wear
    "A man came into the café. [He] was wearing a white hat."   (Sunthla speaker)

2. Propose a novel analysis of the syntactic and semantic structure of Hakha Lai definite expressions, referencing recent work on the syntactic status of indices in definite expressions (Elbourne 2005; Schwarz 2009; Arkoh and Matthewson 2018; Jenks 2018; Hanink 2021; Jenks and Konate 2022)

- "Plain/unique" definite expressions in Hakha Lai do not contain an index (As seen in (1) above)
- "Indexed/anaphoric" definites in Hakha Lai contain an index, which is represented syntactically by *mah* (As seen in (2) above)

Structure of the talk
1. Describe two categories of definite expressions found in natural language
- "Unique" vs. "Indexed" definites as described by Jenks and Konate (2022) and others

2. Describe the properties of definite expressions in Hakha Lai
- Article-less bare definite expressions (unique and indexed)
- Demonstratives (indexed)
- Personal pronouns (indexed)

3. Propose a syntactic and semantic structure for two categories of Hakha Lai definite expressions
- Unique definites lack an index in their structure and are composed of a D head and an NP
- Indexed definites contain additional syntactic structure (Hanink and Bochnak 2017; Arregi and Hanink 2018; Hanink 2021), which I label DEM
- Personal pronouns are composed of a similar index-bearing head, also labeled DEM

II. Background: Two Types of Definite Expressions in Natural Language

Two theories of definiteness
- Recent work investigating the semantic properties of definite expressions has identified two features which correlate with sub-categories of definiteness:
    (1) presupposition of uniqueness
    (2) anaphoric reference to a previous discourse element
- Two categories: unique "plain" definites and anaphoric "indexed" definites

- "Unique definites" contain a **definite determiner** and merely presuppose uniqueness

(6) **CONTEXT:** There is a single computer in a room, visible to speaker and addressee.
"[The computer] is turned off."

- "Anaphoric definites" contain both a **definite determiner** and an **index**

(7) **CONTEXT:** The speaker bought a computer and a phone the day before utterance time.
"Yesterday, I got a new computer$_c$ and a new phone. The phone didn't cost too much but [the computer$_c$] was pretty expensive."

- Notably, in English, both types of definite expressions can be represented with a DP containing *the*. However, this doesn't hold cross-linguistically, and in some cases, languages exhibit distinct morphological patterns for these two sub-categories of definites (see Schwarz 2013 for further discussion)
- This is not the only proposal for distinguishing sub-categories of definiteness, but recent work (Schwarz 2009, Hanink 2021, Jenks and Konate 2022) provides convincing evidence in support of this analysis

Introducing Unique Definites
- Unique (or "plain") definites are characterized by a *presupposition of uniqueness*
- The presence of a unique referent allows for the felicitous use of the definite expression

(8) Semantic denotation of unique definites:

$[\![\text{the}]\!] = \lambda P_{\langle e,t \rangle}. : |P| \leq 1. \, \iota x.P(x)$ (Jenks and Konate 2022)

$[\![\text{the}_{unique}]\!]: \lambda P_{\langle e,t \rangle}: \exists!x \, (P(x)).\iota x_e \, [P(x)]$ (Schwarz 2009, p. 148)

- Other kinds of "non-anaphoric" definite expressions (e.g., immediate situation, larger situation, bridging definites) also fit within this category
  a. "[The baby] is asleep. Please don't wake it."
  b. "[The sun] is actually just a big fiery ball of gas."
  c. "My car isn't running well. [The engine] needs to be serviced."

- Unique definite expressions also allow for covarying readings
  d. "Every year, [the president] pardons a turkey."
  e. "At every church, [the pastor] is a good speaker."
  f. "Every farmer who owns a donkey hugs [it]."

- Examples of unique definites from other languages:

(9) Marka-Dafing (Mande, Jenks and Konate 2022, p.25):

[té	=!é],	káŋ	fàrì
sun	DEF	BE	intense

"[The sun] is intense."

(10)   Mandarin Chinese:

[tàiyang]	chū	lái-le
sun	go.out	come-PERF

"[The sun] has come out."

Introducing Anaphoric Definites
- Anaphoric (or "indexed") definites are characterized by both uniqueness and the presence of an *index*
- Indices are traditionally modeled as subscripts on nominals that denote shared reference between two nominals
- Recent work has provided evidence that indices are syntactically present
- The uniqueness of the referent as well as its co-reference with a previously established discourse element allows for the felicitous use of the definite expression

(11)   Semantic denotation of anaphoric definites:

$[D^x] = \lambda P_{\langle e,t\rangle}.\lambda y_e.\ \iota x.[P(x) \wedge R_c(x,y)]$ (Jenks and Konate 2022)

Note: R is a contextually supplied relation, in this case, *identity* (x=y)

$[\![\text{the}_{anaphoric}]\!]: \lambda P_{\langle e,t\rangle}\lambda y: \exists!x\ (P(x)\ \&\ x = y).\ \iota x_e\ [P(x)\ \&\ x = y]$ (Schwarz 2009)

- Other kinds of anaphoric expressions (e.g., demonstratives, pronouns, familiar definites) fit within this category
    a. (Holding a burrito) "[This burrito] is delicious."
    b. "I saw Jeff$_j$ at school yesterday. [He$_j$] was eating grapes again."
    c. A cat and a dog$_d$ were chasing each other in the bookstore. I don't know how [the dog$_d$] got in there.

- Unlike plain definites, anaphoric definites prohibit covarying readings

(12) Anaphoric definites disallow covarying readings
    CONTEXT: Every year, whoever is president pardons a turkey. Some years, it is the same individual, and some years, it is a different individual.
    #"Every year, [that president] pardons a turkey."

- Examples from other languages:

(13) Marka-Dafing (Jenks and Konate 2022, p.27):

kúnúŋ	[músó dò]	dó-ná	m̀m̀	lú	kòŋ
yesterday	woman some	enter-PST	my	hous	IN

"Yesterday, [some woman] walked into my house."

ň	tí	má	[wó	músó -ó]	ye	a-ye	wa
1SG	PFV	NEG	IDX:ANA	woman =DEF	see	before	NEG

"I'd never seen [that woman] before."

(14) Mandarin Chinese

[nà-ge	xuésheng]	hěn	cōngming
that-CL	student	INT	smart

(pointing) "[That student] is very smart."

The Syntactic Structure of Unique Definites

- Recent analyses of unique and indexed definites propose differences in the articulated nominal structure in addition to the semantic differences highlighted above

(15) Example of a unique definite (Jenks and Konate 2022)
"Every year, [the president] pardons a turkey."
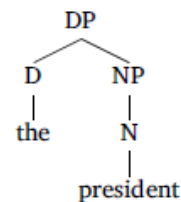
    a. does not contain an index
    b. definiteness arises as a result of a type-shift iota operator (housed in D) and a presupposition of uniqueness

The Syntactic Structure of Anaphoric Definites

(16) Example of an anaphoric definite
CONTEXT: A former president ran in 2016 and won. In 2020, they ran again and lost.
"In 2024, [that president] said he would run again."

(17)

```
        DˣP
       /    \
  D/idxP    Dˣ'
   /  \    /    \
 that  1  Dˣ    NP
         |      |
         Ø      N
                |
            president
```

(Jenks & Konate 2022)

(18)

```
      DP
     /   \
    D     idxP
   the   /    \
      idx_{[i:n]}  NP
                  /\
                 ...
```
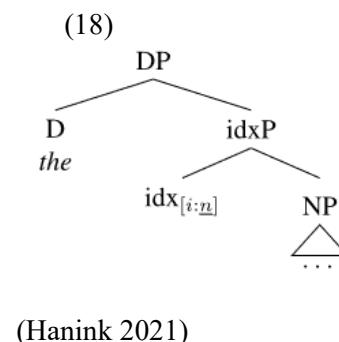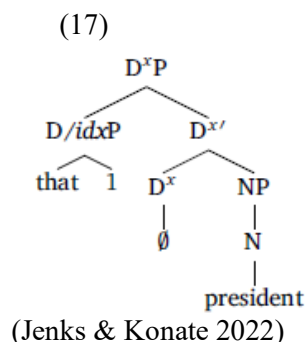
(Hanink 2021)

- Anaphoric definites contain an additional syntactic layer that hosts the index found in indexed definites
- Evidence for the presence of additional syntactic elements is discussed in Schwarz (2009) regarding German and Hanink (2021) regarding Washo

Some notes on the syntactic nature of indices:
- Schwarz (2009) posits "situation pronouns" which co-occur with D and are bound to the situation (cf. Barwise and Perry 1983)
- Hanink proposes that *idx* heads its own projection and is the argument of the D head of DP
- Jenks and Konate (2022) posit a cross-linguistic category of "indexed phrases", wherein the indices surface as a specifier of the DP projection

III. Hakha Lai Definite Expressions

Language Background
- Hakha Lai is a Tibeto-Burman language spoken in Chin State, Myanmar and in Indianapolis, Indiana (Berkson et. al 2023)
  - Hakha Lai is one of many South Central Tibeto-Burman or "Chin" languages, including Zophei, Lutuv (also known as Lautu), Matu, Falam, and many others
  - Lai is an SOV language and is head-final
  - Contains both internally- and externally-headed relatives (Flego 2019)
  - Is (likely) an article-less language

- Data presented here come from four speakers of Hakha Lai
  - Four female speakers in their early 20s
  - Data was gathered using novel field semantic methodology based on Tonhauser and Matthewson (2015)

Hakha Lai Nominal Phrase Structure (Peterson 2017)
(19) [DEMONSTRATIVE] [RELATIVE] [POSSESSOR] <HEAD> [CLASSIFIER-NUMERAL] [QUANTIFIER] [CASE] [DISCOURSE DEICTIC]

(20) Example Hakha Lai nominal phrase

[mah	floor	cung=i	ka	uico	rang	pa-thum=nih	khi-n]	chizawh
DEM	floor	TOP.OF=LOC	1.SG.POSS	dog	white	CL-three=ERG	DIST-n	cat

an-dawi
3.PL-chase
"[My three white dogs on the floor there] chase the cat."   (Sunthla speaker)

- In Hakha Lai demonstrative expressions, the prenominal element *mah*[3] is always at the beginning of the nominal phrase and the postnominal discourse deictic element is always at the end

- Postnominal discourse deictics are in paradigmatic distribution according to the spatial deictic properties which they encode

(21) *Hi* is speaker-proximal
CONTEXT: Two friends, Hiro and Jim, are sitting on the carpet of Hiro's room. Right in front of Hiro is a book about plants that Jim is easily able to see but cannot reach. Hiro says:

[mah	cauk	**hi**]	ka-rel	dih	ka te si
DEM	book	SPKR.PROX	1.SG-read	COMP	just recently

"I just finished reading this book (near me)."   (Hakha speaker)

(22) *Kha* is addressee-proximal
CONTEXT: Two friends, Dawn and Scott, are sitting on the carpet of Dawn's room. There is a book just in front of Scott. It is visible to Dawn but she cannot reach it. Dawn says:

[mah	cauk	**kha**]	ka-uar	ngai
DEM	book	ADDR.PROX	1.SG-like	INT

"I like that book (near you)."   (Hakha speaker)

(23) *Khi* is distal
CONTEXT: Two friends, Hiro and Scott are outside working. There is a book in front of both of them and equidistant to both of them. It is about five steps away from them and easily visible. Hiro says:

[mah	cauk	**khi**]	ka-uar	ngai
DEM	book	DIST	1.SG-like	INT

"I like that book (over there)."   (Hakha speaker)

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[3] The prenominal element does not always surface as *mah.* In demonstrative contexts with a postnominal discourse deictic, the prenominal element can surface as a morpheme which resembles the discourse deictic. E.g., *hi cauk hi, kha cauk kha, khi cauk khi*

- Some analyses of discourse deictics (Barnes 1998; Peterson 2017) have claimed that they function as topicalizers, though this is disputed (Wamsley 2023)
- See Baclawski (2023) for a recent investigation of discourse deictics, referred to as "multi-functional deictics"

Definite Expressions in Hakha Lai

- Definite expressions in Lai appear in several forms
  - Bare nouns
  - Nouns with postnominal discourse deictics
  - Nouns with *mah*, including demonstratives and personal pronouns

Bare Noun Definites
- Hakha Lai bare nouns can realize unique definiteness

(24) Bare noun immediate situation definite
CONTEXT: Art and Michelle are at a party that Art is holding at his apartment. Art is chatting with Michelle and tells her that he bought a lot of food and drinks to serve at the party. He wonders if the drinks he bought will be enjoyed by the party guests. Michelle sees that at least one of the bottles of juice has been opened. She tells Art:

[Juice] a-chinh   a-hawng   cang
juice   3.SG.POSS-cap   3.SG-open   PERF
"[The juice] has been opened."   (Vawngtu speaker)

(25) Bare noun immediate situation definite
CONTEXT: There is a baby sleeping. The speaker wants the addressee to stay quiet.

Zangfang nak   dai   tein   um   uh.   [Nau]   aa-hngilh   lio.
please   quiet   ADV   stay   IMP   baby   3.SG.REFL-sleep   PROG
"Please be quiet. [The baby] is sleeping.   (Hakha speaker)

(26) Personal name definite
CONTEXT: Art and Michelle are talking about a book they are reading for class. They are all reading the same book. One of their classmates, Hiro, is going to lend his copy of the book to another student. Art does not know who Hiro will lend the book to. Art asks Michelle, who tells him that Hiro will give the book to Beverly.
Hiro=nih   cauk   cu   [Beverly]   a-pek   lai
Hiro=ERG   book   CU   Beverly   3.SG-give   IRR
"Hiro will give the book to [Beverly]."   (Thantlang speaker)

- There is at least one example where a bare noun can refer to an anaphoric definite:

(27) Bare noun anaphoric definite
   CONTEXT: Liang and Beverly are at a party that Beverly is holding in her apartment. Beverly is a little worried that she doesn't have enough apples and asks Liang to see if there are any apples left to eat. Liang goes to the kitchen and sees Hiro eating the last apple. She asks him if others got to eat apples and he says he ate every apple. Liang returns and tells Beverly that the apples have all been eaten by Hiro.

Beverly:	Epal	a-um	ti	ma?			
	apple	3.SG-be.at	?	Q			

   "Are there any apples left?"

Liang:	Um	lo.	[Epal]	a zaa tein	aa-ei	dih	cang
	be.at	NEG	apple	all	3.SG.REFL-eat	completely	PERF

   "No, the apples have all been eaten."

Nouns with Discourse Deictics
   A. Hakha Lai nominals with postnominal discourse deictics can realize unique definiteness

- Hakha Lai has a set of postnominal particles which in demonstrative expressions encode spatial deictic properties
   a. In demonstratives, these elements are in paradigmatic distribution according to spatial deixis
   b. In non-demonstrative contexts, they encode spatial properties and speaker-addressee familiarity (Peterson 2017)
   c. They do not encode: definiteness, specificity, topichood (Wamsley 2023)

(28) Immediate situation definite with postnominal discourse deictics
   CONTEXT: This morning, Hiro was driving to campus and was behind a school bus full of children. The bus made frequent stops to pick up more children and this caused Hiro to arrive at campus later than expected. Later, he is telling Dawn about the bus of children. He tells her that the bus eventually stopped in front of a zoo and later stopped in front of a school. Dawn asks what happened. Hiro tells her that the boys went to the zoo and the girls went to the school.

[Hngakchia=pa	pawl	kha]	zoo=ah	an-kal	i,	[hngakchia=nu	pawl	kha]
child=MASC	group	KHA	zoo=LOC	3.PL-go	and	child=FEM	group	KHA

sianginn=ah	an-kal
school=LOC	3.PL-go

"The boys went to the zoo and the girls went to the school."   (Vawngtu speaker)

(29) Kind referent with discourse deictic
CONTEXT: Scott and Hiro are at a party at Jim's apartment. On the kitchen table, there are many kinds of fruits for guests to eat. Scott tells Hiro he is excited that Jim bought lychee. Hiro doesn't know what lychee is and asks Scott. Scott tells Hiro:

[Lychee	cu]	thingthei	a-si.
lychee	CU	fruit	3.SG-COP

"Lychee is a fruit." (Vawngtu speaker)

(30) Indefinite reading with discourse deictic
CONTEXT: Jim and Michelle are at a party in Art's apartment. Jim tells Michelle that he is very hungry but all Art has at the party are drinks. Michelle sees that there is a mango on the table, next to some of the drinks. She thinks that Jim could eat the mango. She tells Jim:

Cabuai	cung=ah	[hai	cu]	a-um
table	TOP.OF=LOC	mango	CU	3.SG-be.at

"There is a mango on the table." (Vawngtu speaker)

(31) Discourse deictic *kha* as speaker-addressee familiarity marker
CONTEXT: Beverly and Jim are talking about a party that Liang held at her apartment last week. Beverly tells Jim that Liang bought a single mango to serve at the party. Beverly knows that Jim likes mangoes. However, when she asks Jim if he ate the mango, he says that he didn't eat it. Beverly asks why he didn't eat the mango.

David=nih	[hai	kha]	a-rak-ei	cang
David=ERG	[mango	KHA]	3.SG-PST-eat	PERF

"David had eaten the mango." (Hakha speaker)

Nouns with *mah*, including demonstratives and personal pronouns

(32) Demonstratives with prenominal *mah*
CONTEXT: David has hurt one of his teeth. Some people were playing baseball and the ball flew through the air and hit him in the tooth. It is now hurting. He is telling his friend Liang about it later that day.

[mah	ha	hi]	a-fak
DEM	tooth	SPKR.PROX	3.SG-hurt

(pointing) "This tooth hurts." (Vawngtu speaker)

(33) Anaphoric definite with *mah*

CONTEXT: Hiro and Jim are at a party that Hiro is holding at his apartment. There is a lot of food on the table in the kitchen for people to eat, including a bowl of bananas. Hiro is looking through the bananas and Jim notices that he seems upset and worried. Jim asks Hiro what's wrong. Hiro says he is upset because one of the bananas was still green and he wanted to eat that one.

banhlaa	aa-ei	i	[mah	banhlaa	kha]	keimah-ta	a-si
banana	3.RFL-eat	and	DEM	banana	ADDR.PROX	1.SG.PRO-POSS	3.SG-COP

"A banana was eaten and that banana was mine."   (Hakha speaker)

(34) Part-whole bridging example

CONTEXT: Jim and Dawn are talking about their friend Michelle. Michelle bought a new car, and the wheels are pink. Jim comments on the car:

Michelle=nih	mawtaw	a-cawk.	[A	tire	cu]	a-sen
Michelle=ERG	car	3.SG-buy	3.SG.POSS	tire	CU	3.SG-be.red

"Michelle bought a car. The tires were red."   (Sunthla speaker)

Note: "[Mah tire cu] a sen" is also acceptable

(35) Personal pronoun example

Café=ah	saya=pa	a-raa.	[(Amah=pa)]	luchin	rang	a-chinh.
café=LOC	teacher=MASC	3.SG-come	3.SG.PRO=MASC	hat	white	3.SG-wear.

"A (male) teacher came into the café. He was wearing a white hat."   (Sunthla speaker)

(36) Personal pronoun example

CONTEXT: Michelle and Hiro are chatting with one another. Hiro asks Michelle if she had lunch yet and she tells him she ate lunch with David.

David=he	sun caw	kan-ei	tti.	(Amah)	khohsuai	a-ei.
David=COM	lunch	1.PL-eat	together	3.SG.PRO	noodles	3.SG-eat

"I had lunch with David. He ate noodles."   (Sunthla speaker)

(37) Personal pronoun example

CONTEXT: There are two women who often go running together. On a typical day, Liang plans to go running with Dawn but Dawn is sick.

Liang	cu	Dawn=he	tlik	a-duh,	a si nain	[(A-mah)	a-zaw]
Liang	CU	Dawn=COM	run	3.SG-want	however	3.SG.PRO	3.SG-be.sick

"Liang wanted to run with Dawn, but she was sick."   (Sunthla speaker)

Note: In (35) the presence of *amah,* 'she' encourages a reading in which Liang is sick. Without a personal pronoun, either reading is acceptable.

Other properties of *mah*

(38) The presence of *mah* prohibits a covarying reading:

Zei	biakinn paoh=ah,	[(#mah)	pastor=pa	cu]	bia	chim	a-thiam.
Every	church each=LOC	DEM	pastor=MASC	CU	word	speak	3.SG-know

"At every church, the pastor is a good speaker."　　　　　　　　(Sunthla speaker)

- With *mah*, "the pastor" is interpreted as the same pastor. Without *mah*, "the pastor" can be interpreted as a different pastor

(39) Testing for a co-varying reading of an indefinite referent:

CONTEXT: A researcher, Liang, is conducting a survey of languages in the Chin community. Liang has noticed that many people who speak Falam also speak Mizo. She begins to ask the Falam-speaking pastors if they also speak Mizo. She explains to a friend:

Falam	holh	a-thiam	mi	pastor	biakinn vialte	kha,	[(#mah)	pastor]	Mizo
Falam	language	3.SG-know	REL	pastor	church every	KHA	DEM	pastor	Mizo

holh	an-thiam	ma	thiam	lo	ka-hal
language	3.PL-know	Q	know	NEG	1.SG-ask

"At every church where there is a pastor who speaks Falam, I ask the pastor if they speak Mizo."　　　(Sunthla speaker)

- A co-varying reading is prohibited when *mah* is present:

#Falam holh a thiam mi pastor biakinn vialte kha, [mah pastor] mizo holh an thiam ma thiam lo ka hal

(40) *Mah* is prohibited with globally unique definites:

(*mah)	[ni]	aa-tlaang	cang
DEM	sun	3.SG.REFL-shine	PERF

"The sun is shining."　　　　　　　　　　　　　　　　　　(Hakha speaker)

IV. The Structure of Hakha Lai Definite Expressions

The structure of Lai Unique "Plain" Definites
- Unique definites do not contain an index and are composed of a D and an NP
- Because Hakha Lai is an article-less language, D is null
- However, D hosts an iota operator ι, which yields the uniqueness interpretation

(41)

Zangfang nak	dai	tein	um	uh.	[Nau]	aa-hngilh	lio.
please	quiet	ADV	stay	IMP	baby	3.SG.REFL-sleep	PROG

"Please be quiet. [The baby] is sleeping.

DP
ιx.baby(x)
 / \
D   NP
(λP. ιx.P(x) / ∅)   (λx.baby(x) / nau)
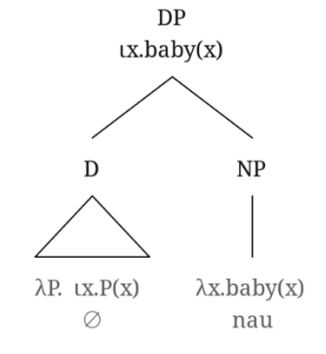
The structure of Lai Anaphoric "Indexed" Definites

- *Mah* is the realization of a syntactic index-hosting head, *idx* or D^x
  a. *Mah* surfaces when there is anaphoric reference
  b. *Mah* is prohibited with globally unique definite expressions
  c. The presence of *mah* prevents covarying readings
- In demonstratives and anaphoric expressions, *mah* takes a nominal argument, similarly to an article

Discourse deictics head "DeixP"

- Hakha Lai definite expressions with postnominal discourse deictics contain a "DeixP" layer
- In exophoric demonstratives, "DeixP" encodes spatial deixis
- The arguments of deictic phrases are moved to [Spec, DeixP], yielding canonical word order with discourse deictics in phrase-final position
- As of right now, it is unclear what triggers this movement. Possibly a probe in DeixP which seeks discourse-level agreement

(42)   Syntactic Structure of *mah ha hi* 'this tooth'

mah ha hi, "this tooth"
DP

```
          DP
        /    \
       D      DeixP
       |     /    \
       ι   mah ha  Deix'
       ∅          /    \
               Deix     DemP
                |      /    \
                hi   Dem     NP
                      |       |
                     mah     ha
```
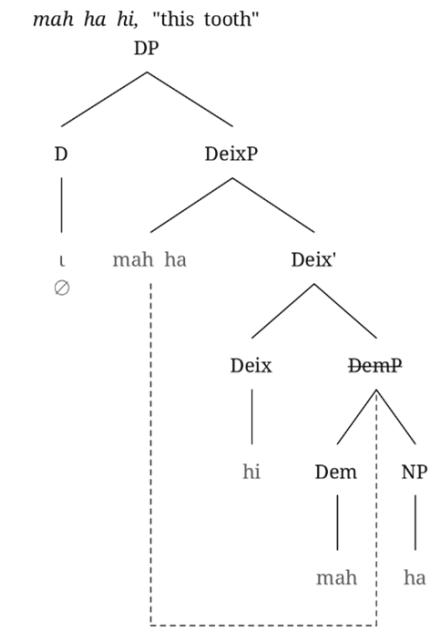
The *idxP* Analysis (Hanink 2021)

- The index, *mah,* heads its own projection, DemP and takes the NP as its argument

- $[\![mah]\!]^g$: $\lambda y_e\ [y = g(i)]$
- $[\![cauk]\!] = \lambda x_{(e)}.\ book(x)$
- **$[\![mah\ cauk]\!]^g = [cauk(x) \wedge x = g(i)]$**
- $[\![hi]\!] = \lambda x_{(e)}.\ proximal.to.speaker(x)$

(43) Syntactic and semantic structure of *mah cauk hi* 'this book'

```
                          mah cauk hi, "this book"
                                    DP
                     ιx. ⟦book(x)∧x=g(i)∧proximal.to.speaker(x)⟧
                                   ╱        ╲
                                  ╱          ╲
                                 D            DeixP
                                 │      ⟦book(x)∧x=g(i)∧proximal.to.speaker(x)⟧
                                 │              ╱      ╲
                                 ι             ╱        ╲
                                 ∅     ⟦book(x)∧x=g(i)⟧      Deix'
                                         mah cauk            ╱    ╲
                                                            ╱      ╲
                                                         Deix       DemP
                                                          │         ╱  ╲
                                                          │        ╱    ╲
                                                  λx.proximal.to.speaker(x)  Dem    NP
                                                          hi          │       │
                                                                      │       │
                                                                 λy ⟦y=g(i)⟧  λx.book(x)
                                                                     mah        cauk
```
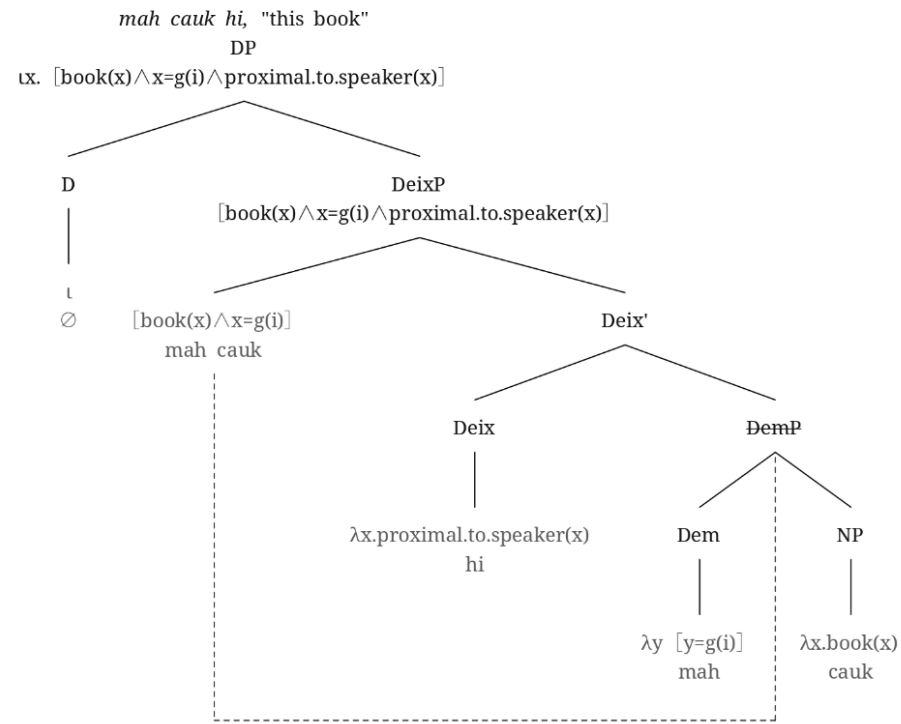
- *Mah* is a suffixal element of personal pronouns

Table 1. Hakha Lai Pronominal Forms

	First Person	**Second Person**	**Third Person**
Singular	keimah	nangmah	amah
Plural	kanmah	nanmah	anmah

- In pronouns, *mah* is the realization of *idxP* and is pronounced with overt phi-features, based on Elbourne (2005)

(44) Pronominal -*mah* suffix
⟦mah⟧^{g}: λy_e [$y = g(i)$]

Amah, "he, him"
DemP

Dem   DP

mah   ∅
+third person   +third person
+singular   +singular
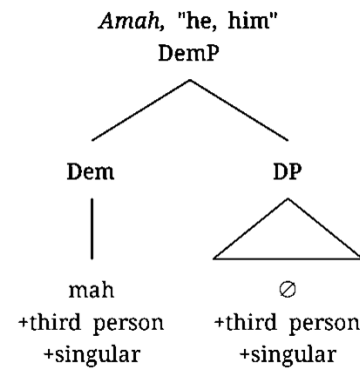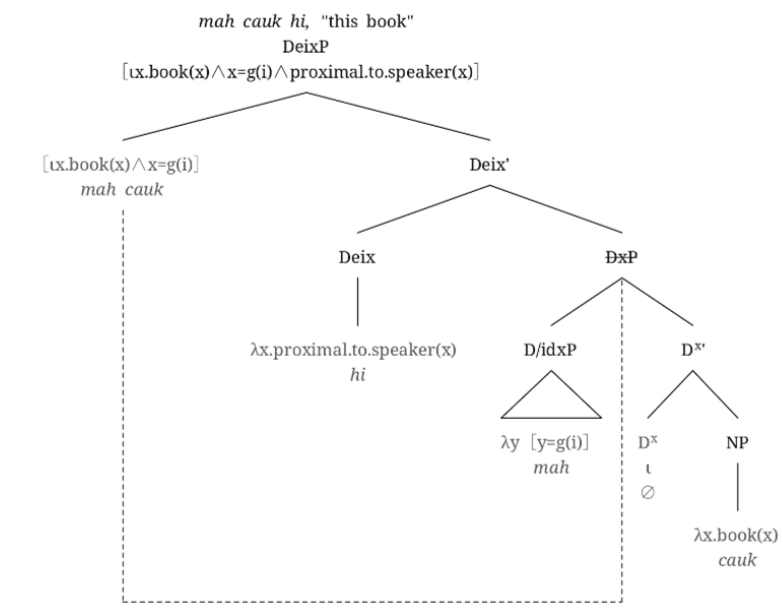
- Pronouns surface as *keimah, nangmah, amah,* etc. as a surface representation of phi-features.

The DˣP Analysis (Jenks and Konate 2022)

- *mah* is the head of D/idxP, which surfaces in [Spec, DˣP]

- $[mah] = \lambda y_e.[y=g(i)]$
- $[\![cauk]\!] = \lambda x_{\langle e \rangle}.\ book(x)$
- **$[\![mah\ cauk]\!]^g = [\iota x.cauk(x) \wedge x = g(i)]$**
- $[\![hi]\!] = \lambda x_{\langle e \rangle}.\ proximal.to.speaker(x)$

(45)   Syntactic and semantic structure of *mah cauk hi* 'this book'

mah cauk hi, "this book"
DeixP
$[\iota x.\text{book}(x) \wedge x=g(i) \wedge \text{proximal.to.speaker}(x)]$

$[\iota x.\text{book}(x) \wedge x=g(i)]$
mah cauk

Deix'

Deix
$\lambda x.\text{proximal.to.speaker}(x)$
hi

~~DxP~~

D/idxP
$\lambda y\ [y=g(i)]$
mah

$D^{x'}$
D^x
ι
$\varnothing$

NP
$\lambda x.\text{book}(x)$
cauk

V.   Conclusion

- There is a growing body of evidence that "definiteness" encompasses several sub-categories which surface with different representations cross-linguistically
- Hakha Lai provides additional evidence supporting the delineation between two major categories of definite expressions, unique and anaphoric, wherein unique definites simply encode a uniqueness presupposition while anaphoric definites contain a more articulated structure
- In Hakha Lai, *mah* is a syntactic instantiation of the index, a definitional component of anaphoric expressions

Ongoing Work

A. "Emphatic/contrastive pronouns"
   CONTEXT: There are two women who often go running together. On a typical day, Liang plans to go running with Dawn but Dawn is sick.

Liang	cu	Dawn=he	tlik	a-duh,	a si nain	[**anih**	a-zaw]
Liang	CU	Dawn=COM	run	3.SG-want	however	**3.SG.PRO**	3-be-sick

"Liang wanted to run with Dawn, but she was sick."   (Sunthla speaker)

- The presence of *anih* 'she' encourages a reading in which Dawn is sick
- *Amah* encourages a reading in which Liang is sick
- A null pronoun allows for both readings

B. Is familiar *kha* a definite article?

(46) **CONTEXT:** Hiro and Jim are at a party that Hiro is holding at his apartment. There is a lot of food on the table in the kitchen for people to eat, including a bowl of bananas. Hiro is looking through the bananas and Jim notices that he seems upset and worried. Jim asks Hiro what's wrong. Hiro says he is upset because one of the bananas was still green and he wanted to eat that one.

banhlaa	aa-ei	i	[banhlaa	**kha**]	keimah-ta	a-si
banana	3.RFL-eat	and	banana	ADDR.PROX	1.SG.PRO-POSS	3.SG-COP

"A banana was eaten and that banana was mine." (Hakha speaker)

(47) **CONTEXT:** Liang and Michelle are at a party at Hiro's apartment. Liang and Michelle are in the kitchen looking for something to eat. Michelle is looking for a mango because she likes mangoes, and she thinks Hiro probably bought one for her. She cannot find any mangoes, however. She tells Liang that she can't find any mangoes. Later, Liang tells Hiro that she is having fun at the party. She also tells him that Michelle did not see any mangoes on the kitchen table. Hiro explains that he didn't buy any, so there were no mangoes:

Michelle=nih	[hai	(**kha**)]	a-hmu	lo	a-ruang	cu,	hai	a-um	lo
Michelle=ERG	mango	KHA	3.SG-see	NEG	3.SG-reason	cu,	mango	3.SG-exist	NEG

caah	a-si
reason	3.SG-be

"The reason Michelle did not see a mango, is because there was no mango." (Vawngtu speaker)

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