

Building a semantic reference grammar (for Kiowa)

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Kiowa Camp outside Fort Sill, OK. in the Museum of the Great Plains Collection

1 Introduction

- In this talk I introduce a semantic reference grammar for Kiowa
- Motivations
- Methods
- Content
- Filling in gaps
- Focus on one bit: Modality
- What I hope for language documentation

2 A semantic reference grammar?

A reference grammar : generalized description of the systematic components of (one version of) a language

- Ideally comprehensive, and accompanied by texts and a dictionary

- Maybe even cultural discussion

Aikhenvald 2014

- Flourishing of modern reference grammars

Lang Sci Press, U of Nebraska, De Gruyter Mouton

- But they actually are NOT comprehensive

- A massive glaring gap : the semantics

- Even when they cover semantic topics, it's missing key parts

This semantic reference grammar fills in the big gap concerning meaning in Kiowa

By making a document that is of the semantics, by the semantics, for the semantics

3 ...of the semantics

organized along the lines of semantic inquiry

- chapters:
- 1. Anaphora and reference
 - 2. Number, animacy, and noun class
 - 3. Quantification
 - 4. Mood & Modality
 - 6. Attitudes & intensions
 - 7. Aspect & event structure (no tense)
 - 8. Location in space & time
 - 9. Argument structure & thematic roles
 - 10. Incorporation & compounding
 - 11. Gradability & degrees
 - 12. Modification
 - 13. Discourse grammar
 - 14. Lexical semantics

4 ...by the semantics

Investigation driven by the concepts important to (formal) semantics

- truth-conditions
- compositionality
- formal background
- pragmatics

Using methodologies from semantics

- context-based elicitation
- follow up with entailed or contradictory phrases
- detangle pragmatic meaning
- profit from voluminous texts & recordings

It helps us find cases where meaning is not reflected by the morphology

5 ...for the semantics

Promote semantic documentation

- especially by non-semanticists
- grounds for a new level of semantic typology
- possible universals

Not too much has been done for semantic typology, except on particular topics, like modality

Nauze 2018, van der Auwera & Ammann 2013, Matthewson 2016

quantification

Bach et al. 1995

Or the focus was on grammaticalization van der Auwera & Plungian 1998

Or the goal was to dig below the meaning bohnemeyer, haspelmath

And even then, most of the data came about from languages those linguists happened to be exploring theoretically.

6 A gap in presupposition

A change of state verb like *stop* triggers a presupposition.

The meaning of the proposition it's in depends on this presupposition being true.

So we can test: Making the proposition true and the presupposition false should be rejected.

And it is.

- (1) já= só:té+p^hà?kjà. #né hón gjàt= só:té+p'ajgò:
 já= só:té_{*}+p^hátkjà. né hón gát= só:té_{*}+p'ájgô:
1SGD:3PLS= work+stop.PFV but not 1SGA:3PLO= work+fight.NEG
‘I stopped working. #But I wasn’t working.’

But does a verb like *stop* trigger this presupposition in every language? We have no idea.

What about other presuppositions?

Matthewson 2009

Differences could lead to typology, or tell us about indigenous logics

Similarities could tell us about human cognition in general ...if we knew.

7 A gap in degree

Gradable predicates can be analyzed with degrees on a scale

Kennedy 1999, Kennedy & McNally
2005

(2) What is ‘tall’?

- a. Marta is tall = the degree of Marta’s height exceeds some standard
- b. Marta is very tall = the degree of Marta’s height exceeds some standard within a standard
- c. Marta is five feet tall =the degree of Marta’s height exceeds 5 ft
- d. Marta is taller than Bill = The degree of Marta’s height exceeds the degree of Bill’s height
- e. #Marta is completely tall = The degree of Marta’s height is the maximal possible

This approach explains why (2d) \neq (2a), etc.

But! Some languages don’t work this way, and don’t require degrees

Bochnak 2015, Hohaus & Bochnak
2020

What about Kiowa?

8 A gap in degree

Kiowa has some features found in degree languages but lacks others

(3) What is ‘tall’?

- a. Marta is tall = Marta Ø=ét
- b. Marta is very tall = Marta Ø=kò:dó+èt
- c. Marta is too tall = Marta Ø=dôj+èt
- d. Marta is five feet tall = ungrammatical
(Marta is 5 feet)
- e. Marta is taller than Bill = ungrammatical
(Marta is tall, Bill is not / Bill is tall, Marta is very tall)

But it does require degrees for the semantics (even if (3e) ⇒ (3a)!)

(4) Tom sâñ+èl Ø=dó:, né hýn Ø=ét-gô:
Tom sâñ_*+êl Ø=dó: né hón Ø=ét-gô:
Tom child+big.NPL_C 3SGS=be but NEG 3SGS=big.NPL-NEG

‘Tom is a tall child, but he is not tall.’

NPL: nonplural, C: combining form

9 Why is there this gap?

Generally just a matter of time and focus

Structuralists started from observable morphemes

Americanists' positivism precluded looking too deep at meaning

In order to give a scientifically accurate definition of meaning for every form of a language, we should have to have a scientifically accurate knowledge of everything in the speaker's world.

—Leonard Bloomfield (1933:140)

... but they needed to figure out the new morphemes they discovered

Early generativists hoped to separate grammar from meaning

and in any case there was little to include

In the domain of semantics there are, needless to say, problems offact and principle that have barely been approached, and there is no reasonably concrete or well-defined "theory of semantic representation" to which one can refer.

—Noam Chomsky (1972:62)

... but Functionalists and observations kept pulling them back ...and they eschewed documentation anyways

10 Formal semantics is new-ish

- Philosophers (of language) looked at semantics to understand logic + knowledge
- Focus on a model that captures the truth-conditions, rather than worry about psychological states

In order to say what a meaning is, we may first ask what a meaning does, and then find something that does that. A meaning for a sentence is something that determines the conditions under which the sentence is true or false.
— David Lewis (1970:22)

- Late 60's/Early 70's, linguists & philosophers started to bring this together with generative syntax
- By using logic and syntax as means rather than ends, these linguists developed formal semantics into the 80s
- By about 2000 it was cemented in linguistic study and began to be applied beyond the 'easy' languages

All together: Not a lot of attention to semantics in the documentation

11 Is there anything?

There have been a few documentations along the lines of what I mean

- In other areas of the grammar of course
- Semantics of Time in Koyukon
- Handbook of Japanese Semantics and Pragmatics
- Semantics for Latin
 - closest to this model
 - but written for Classicists
 - laden with formal analysis
- ...so what about Kiowa?

McDonough 2003, Round 2013, Tor-
rence 2013

Axelrod 1993

Jacobsen & Takubo 2020

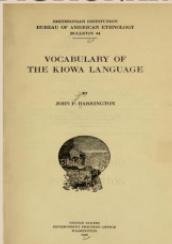
Devine & Stephens 2013

12 The Kiowa language

Kiowa [kʰai.o.wə] ([kój.tò:.gjà] | kio | Kiowa-Tanoan | Oklahoma)

Actually well documented by linguists and community members alike

DICTIONARY



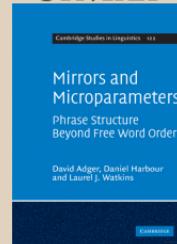
Mooney 1896
Harrington 1928

GRAMMAR



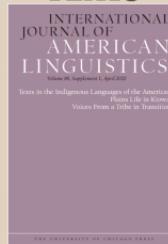
P. McKenzie & Harrington
1948
Watkins 1984

SYNTAX



Harbour 2008
Adger *et al.* 2009

TEXTS



A. McKenzie *et al.* 2022

Gatschet 1882, Wonderly *et al.* 1954
Crowell 1960, Harrington 1910, Hale 1967
Watkins 1990, 1993
Neely & Palmer, Jr. 2009, Neely 2012, 2015, Miller 2018
Harbour 2003, Harbour & McKenzie 2022
McKenzie 2012, 2015, 2018, McKenzie 2022

13 Community documentation

- D. Poolaw 2022 : ongoing dictionary
- L. Toyebi et al. (1962): Kiowa hymns and stories
- P. McKenzie (1940s - 1999) : lexical/grammatical files, letters, and writing
- Kiowa Culture Program (1970s) : historical, cultural, linguistic discussions, in Kiowa
- A. Gonzales : pedagogical materials
- G. Palmer, Jr. : storytelling 2003, 2013
- Kiowa Language and Culture Revitalization Program



P. McKenzie with the author (1988)

14 Brief bit about structure

It is roughly an (SO)V language, with polysynthesis and tone

Every free verb is finite and bears an agreement proclitic, up to three arguments.

- (5) hàgià sâ:-dò è=jáj+ò:m-ò
 hàgà sâ:*-dó è=jáj*+òm-ò
 maybe child_{INV}-INV 3INV S=play+do_{IPFV}-IPFV_{VT}
 'Perhaps the children are playing.'

- (6) sân kút éní:= kòn
 sân kút éní:*= kôn
 child book 3DUA:1SGD:3PL O= bring:PFV
 'The (two) kids brought me the book.' 'book' is lexically PL

INV = inverse number (plural animates, singular inanimates)

HSY = hearsay evidential

* = tones are set to low for rest of word

X_Y = X's form is morphologically conditioned by Y

15 Focus on modality

Modality is one of the key components of natural language

It has been discussed, notably in Watkins's grammar

Modal suffix

Modal particles whose meanings can be difficult to determine

The modal particles constitute a large group of words whose exact meanings and distributions are sometimes difficult to determine. ... The meanings of several of these modal particles cluster around the notion of probability.

Watkins (1984: 219-220)

But ! Modality is all over the place

We'll find that a lot of classic modal categories are not really expressed directly

16 Even now it's the same

A Grammar of Malanang

Visser 2020

Morpheme-based discussion

- mood-marking affixes/clitics
- free modal markers

good at telling us force, but only hints at bases: “general possibility; possibility or ability”

(74) *jadi ter nan-ere bisa kai nan-ere bisa*
so tea consume-COND can medicine drink-COND can
'So if [you] drink it as tea that's possible or if [you] drink it as medicine
that's possible.' [narr34_0:32]

(75) *an mat gerket ka bisa nan ye ge*
1SG 3SG.OBJ ask 2SG can consume or not
'I asked him: "Can you eat or not?"' [stim6_14:29]

17 Organizing modal meaning

Background: Possible world semantics

Kratzer 2012

Modal meaning split : Force + flavor

Modals are quantifiers over possible worlds: force reflects the quantifier

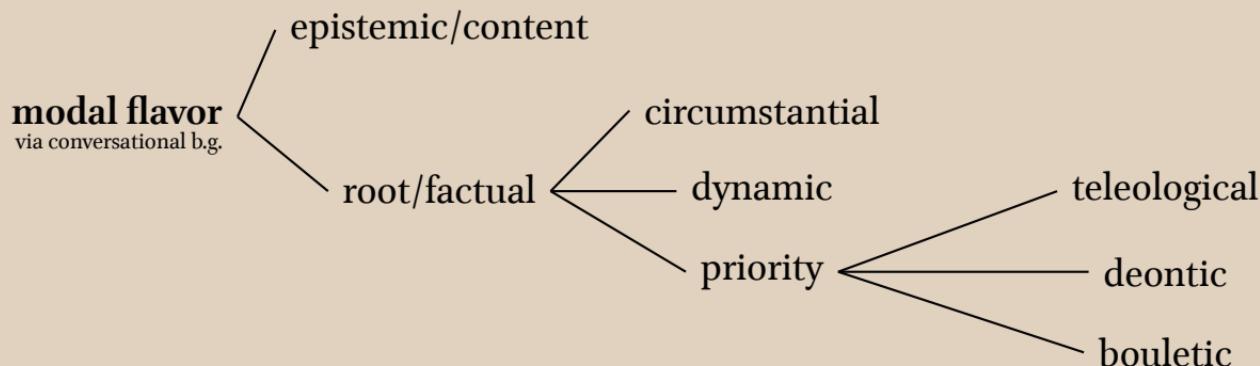
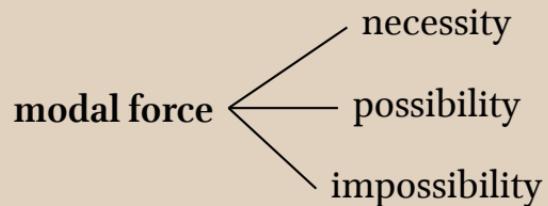
Force is easy to see in English, as it's lexically marked.

- (7) *Carrie can go home.* : possibility
in some relevant possible worlds, Carrie goes home
- (8) *Carrie must go home.* : necessity
in all relevant possible worlds, Carrie goes home
- (9) weaker or stronger (should, ought to, might) : reduce to the best possible worlds

but on what grounds? ability, laws, rules, circumstance, her wants, goals, mine...

These come from conversational backgrounds, often unspoken

18 Categorizing modals



19 Not by form alone

Kiowa modals come in plenty of shapes and sizes

- (10) **hàgjà** â:=bòn–mò
hàgà â:_*=bón–mó
maybe 3EMPA:1sgO=see_{IPFV}–IPFV_{VT}

‘Maybe they can see me.’

EMP: empathetic plural

- (11) k^hjáhí:gó: Ø=jí:-jà=dè+pè:-gù
k^háhí:gó: Ø=jí:-jà_=dé+pé:-gú
tomorrow 3SGS=disappear_{IPFV}–IPFV_{VI}=NOM+direction–to

ét=âj–**tò:**

ét=âj_*–**tó:**

1EXCLA:3PLO=start off.PFV–**MOD_{VT}**

‘Tomorrow we (will) head west.’

- (12) kút bàt= **sɔj**+k᷑n
kút bàt= **sɔj**_*=k᷑n
book 2SGA:3PLO= **in case**+bring.PFV.IMP
‘Bring a book just in case.’

20 Epistemic modals

The truth of an epistemic modal depends on the knowledge content of the speaker.

Its use signals an inference by the speaker based on the things they know about the world, to describe the things they do not know.

'Great-Grandmother used to tell me this story when I was still little. I **must** have been no more than seven years old about then' (McKenzie et al. 2022: S26)

- (14) pólá:tè tsé: á=p'j-hjèl=dè móñ ógò t'ók^hjó+j'í: Ø=hól=dè móñ
 pólá:tè tsé: á=p'j*-hél=dé móñ ógò t'ók^hjó+j'í: Ø=hól*=dé móñ
 Poolant horse 3SGD:3SGS=lose.PFV-HSY=BAS **INFER** SBRD White+male 3SGA:3SGO=kill.PFV=BAS **INFER**
 á=pò:+dò:
 á=pò:+dò:
 3SGA:3SGD:3SGO-bring_c+hold

'Poolant had lost one of his horses and the White man was **probably** keeping it for him.' (McKenzie et al. 2022: S131)

21 Confirming the epistemic meaning

Speakers clearly hold /món/ as epistemic, but how do we tell? Contexts

It is inappropriate to use epistemic modals when the speaker does know the truth.

So given a context where they do know, /món/ should fail, and it does.

Context:

John is a child, and is required to be home at this time of evening, because his parents said he had to be. However, you and I just saw him at Braum's eating an ice cream. I tell you:

- (15) # John **món** tōj Ø=dó:
 John **món** tōj Ø=dó:
 John INFER house.in 3SGS=be
 'John must be home.'

The context also set up that English *must* might work on a different modal base. However, rejection also rules that out, confirming that /món/ is only epistemic.

22 Epistemics and scope

Epistemic modals are also characterized by wide scope over other operators, like negation

von Fintel & Iatridou 2003

No matter what the word order is, /món/ takes scope over negation
must > not

- (16) hón **món** ám à=dó:-mŷ:
hón **món** ám à=dó:-mŷ:
NEG INFER you lSGS=be-NEG

'I'm not you, I guess.' (McKenzie et al. 2022: S143)

- (17) **món** hón gò=bó:-mŷ:
món hón gò=bó:-mŷ:
INFER NEG 3SGA:2SGO=see-NEG
'I don't think he saw you.'

23 The force of /móñ/

It has an epistemic base, but what of its force?

Its force is necessity... but not always the strongest.

- (18) Al **móñ** tōj Ø=dó:, né hàgjá hétó gjà=só:tè+tò:
Al **móñ** tōj Ø=dó: né hàgà hétó gà=só:tè_{*}+tò:
Al INFER house.in 3SGS=be but maybe still 3SGA:3PLO=work+act(IPFV)
'Al {must be/is probably} at home, but maybe he's still at work.'

- (19) tsé: pàhí: Ø=ál+dó:, **móñ** há:têl Ø=ál-é:
tsé: pàhí: Ø=ál+dó: **móñ** há:têl Ø=ál-é:
horse clearly 3SGS=move+be **INFER** person:INDEF 3SGA:3SGO=move-PFV
'Clearly the horse has moved; maybe somebody chased it.'

24 Correcting the literature

The incorporated stem /hén/ is ‘dubitative’ in Watkins 1984

However, it actually indicates that the speaker believes the proposition (epistemic or doxastic base)

- (20) hón gjà= **hén**+sò:tè+p'àj-gò:
hón gá= **hén**_{*}+só:té+p'áj-gô:
NEG 3SGA:3PLO=possibly+work+fight(PFV)-NEG
'I don't think he has a job.' / 'I doubt he's working.'

- (21) Ø=p^hó:-hèl gò Ø=tó:n-ê, "pê: mó:
Ø=p^hó:_{*}-hèl gò Ø=tón-ê, "pê: mó:
3SGS=stop.PFV-HSY and.SA 3SGS=say.IPFV-HSY turkey somewhat

Ø= **hén**+dò:!"

Ø= **hén**_{*}+dó:!"

3SGS=possibly+be

'He stopped and said, "I think that was a turkey!"

(Toyebo 1962: 10)

25 Correcting the literature

It turns out, /hén/ usually accompanied in naturalistic examples by /mó:/ 'somewhat', which weakens the certainty being expressed.

- (22) tsô: mó: àn bá=hén+tò:-gjà:
tsô: mó: àn bá=hén_*+tòr-gà:
thusly somewhat HAB 3NSGS=possibly+ speak-IPFV_{VI}
'I believe that is the way it is rendered'

Letter to L. Watkins, 3-17-79

I somewhat believe that p → dubitative

The observations were all correct; the characterization was not

26 Rounding out the list

force	Kiowa	English	note
necessity	/páhí:/	'clearly, definitely'	incompatible with MOD
	/bá:tsòl/	'clearly, definitely'	incompatible with MOD
	/mó:n/	'INFER'	incompatible with HSY
	/kóttè/	'likely, liable to'	incompatible with MOD
possibility	/hájáttò/	'maybe, perhaps'	requires MOD
	/hágà/	'maybe'	also means 'or'
	/hén/+	'possibly'	must be incorporated
impossibility	/bèthêndè/	'unlikely, doubtful'	requires MOD, incompatible with NEG
	/ádàltè/	'unlikely, doubtful'	only found in word-lists

necessity weak necessity weak possibility possibility impossibility

←———— *stronger* —————→ *weaker* →

all all the best some of the best some none

27 Epistemic unlikelihood or impossibility

The adverb /bèthêndè/ ‘unlikely, doubtful’ indicates epistemic unlikelihood or impossibility that things will turn out a certain way.

Harrington (1928) mistakenly translates this as ‘never’.

- (23) tó: **bè:t^hêndè** Ø=́m-dé-t’ò:
 tó: **bèthêndè** Ø=́m-dé_{*}-t’ò:
 house **unlikely** 3SGS=make_{DETR}-DETR.PFV-MOD_{vi}

‘The house will never be finished.’

(Harrington 1928: 42)

‘I doubt the house will be finished.’

- (24) **bè:t^hêndè** kú:tò+hjòj bét=bó:-tó:
bèthêndè kú:tò_{*}+hjòj bét=bó:-tó:
unlikely bird+genuine.INV 1INCLA:3INV0=see.PFV-MOD_{VT}
‘I doubt we’ll see any eagles.’ / ‘It was unlikely we would see any eagles.’

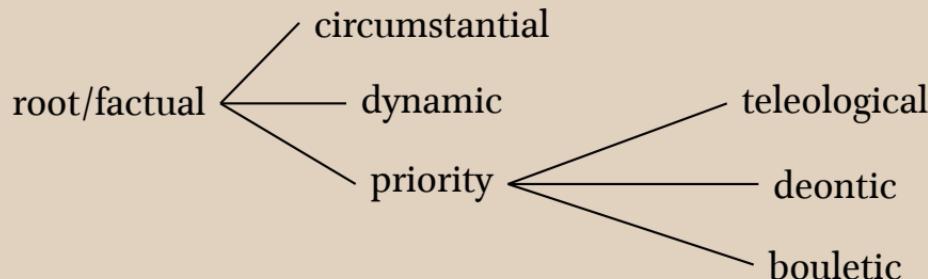
/bèthêndè/ is limited to looking forward. For the past you have to negate /móŋ/, which always takes scope above negation (16)

28 Root modality

Root modality : alternate results of how an event might turn out given facts that constrain or permit what happens.

Tom has to go home indicates a strong necessity or obligation that Tom should go

Tom can go home simply indicates a possibility available to him



29 Inferring root modality

Kiowa root modals are generally indirect.

No 'have to' or 'should' : Usually either the imperative is used or the MODAL inflection

MOD varies for transitivity

(25) Context: We are in the Elders Center and they are about to close it.

a. Prompt: 'We have to leave now.'

é:-h̥ɔ:-g̥ɔ: (dá) bà=kó+kʰí:

é:-h̥ɔ:_*-g̥ɔ: (dá) bà=kó_*+kʰí:

PROX-DEF-during (ABS.NEC) LINCLS=right now+**exit.PFV.IMP**

'Let's leave right now.'

b. Prompt: 'We should leave now'

é:-h̥ɔ:-g̥ɔ: bà=kó+kʰí:-t'ó:

é:-h̥ɔ:_*-g̥ɔ: bà=kó_*+kʰí:-t'ó:

PROX-DEF-during LINCLS=right now+exit.PFV-**MOD_{VT}**

'We should leave right now'

30 Capability

No ‘can’ either, at least not in the English sense of dynamic ability

- (26) Prompt: Elena can dance well.

Habitual (entailing she can)

- a. Elena àn t'á:gjà-j èm= gún-mò
Elena àn t'á:gà-j èm= gún-mò
Elena HAB good-ADV 3SGA:REFLO= dance-IPFV_{VT}
'Elena dances well.'

Knowing (a form of ability)

- b. Elena áñ= kún+hàj-gjà+dò:
Elena án= kún_{*}+háj-gá+dó:
Elena 3SGD:3PLS= dance_C+inform-DETR_C+be
'Elena knows how to dance.'

31 Capability

Being skilled (better than mere ability)

- (27) Elena áŋ=kún+m̩ɔ:g̩
Elena áŋ=kún_{*}+mó:g̩
Elena 3SGD:3PLS=dance_C+be skilled
'Elena is a good dancer.'

Detransitive ('manage to' reading, implicates ability)

- (28) Prompt: 'Elena was able to clean the floor.'
Elena tò:+d̩ɔm àŋ á=pʰí:lj-à
Elena tò:+d̩ɔm àŋ á=pʰíl-à
Elena house_C+bottom:VAGUE HAB 3SGD:3SGS=wipe.DETR-IPFV_{VI}
'Elena managed to clean the floor/got the floor cleaned.'

32 Untested ability

In many languages, ability modals can be true even if the event has never happened.

(Unboxing a juicer) *This machine can press a grapefruit!*

Kiowa ability expressions only apply if the event has taken place at least once.

If it hasn't, you must predict with modal inflection.

- (29) Prompt: (Elena just grabbed a broom) 'Elena can clean the floor.'

Elena tò:+dôm á=p^híʔtè–t'ò:

Elena tò:+dôm á=p^hítté_{*}–t'ó:

Elena house_C+bottom:VAGUE 3SGD:3SGS=wipe.DETR.PFV-MOD_{VI}

'Elena will get the floor cleaned.'

33 Eliciting the untranslated

Speakers can get flustered if they can't provide 'simple' translations like these

Can be thorny in a context of an endangered language

Recordings, texts, and linguists' notebooks show that there never were such morphemes

Even when translated by L1 Kiowa speakers into English

'We need to decamp right away and head to the mountains, because my wife is having some difficulties [soon to give birth].'

McKenzie et al. (2022: S42-43)

34 Root possibility

Some kinds of root possibility are lexically expressed.

The bound stem /t^hénts'ò/ 'permitted' expresses deontic or bouletic possibility:

(31) **Context:**

You have family over, but don't want the grandkids running around over by the windows. You show their parents where you are letting them play.

Prompt: 'The children can play over there.'

ó:-gò: sâ:-dò gjá=jáj+**ténts'ò+dò:**
ó:-gò: sâ:_{*}-dó gá=jáj_{*}+**ténts'ò+dó:**
there-PRS child_{INV}-INV 3EMPD:3PLS=play+**allow+be**

Lit: 'it is play+permitted to the children'

PRS=presenting

35 Showing root, not epistemic

Showing /t^hénts'ò/ is not epistemic: In a context where

- the subject is known not to be doing an action
- yet is permitted to do so
- prediction:
 - a deontic possibility meaning will be accepted
 - an epistemic one will not be accepted.

With /t^hénts'ò/ such contexts are accepted.

(32)	hóñ èm=gú:n-ŷ:	né áñ=t ^h énts'ò+dò:
	hóñ èm=gún-ŷ:	né áñ=t ^h énts'ò _* +dó:
	NEG 3SGA:REFLO=dance-NEG but 3SGD:3PLS=	permit+be

‘He is not dancing, but he is allowed to.’
(cp. epistemic #He isn't dancing, but he might be.)

36 Showing root, not epistemic

Another piece of evidence that /tʰénts'ò/ is not epistemic: it takes narrow scope.
Here it scopes below negation, and cannot scope above it.

not > be allowed

- (33) hón yá=kûn+tʰénts'ò+d̪y:-m̪:
hón yá=kûn_*+tʰénts'ò+d̪y:-m̪:
NEG 1SGD:3PLS=dance_c+permit+be-NEG

'I am not allowed to dance.'

#‘I am allowed not to dance./I don’t have to dance but I can’

37 Caused possibility

A number of lexical items in languages indicate an event that makes some other possibility true. Combining /tʰénts'ò/ with the causative /óm/ 'make' gives this sense with permission or allowance.

- (34) ðnk'í: há-bé gjà=dó:=è: kój-gú gò kjâj-gù gò
ðnk'í: há-bé gá=dó:=è: kój-gú gò kâj-*gú gò
in past INDEF-SPRD 3PLS=be=when:DF Kiowa-INV and Comanche-INV and
tʰògûj gá_= k'ù:+tʰénts'ò+ð:m-è: t'ókʰòj
tʰògûj gá_*= k'ú:+tʰénts'ò+ðm_*-é: t'ókʰòj
Plains.Apache\INV 3EMPA:3EMPD:3PLO= camp+**permit+make-PFV** White\INV
“It was during a former time when Kiowas and Comanches and Apaches (3EMP)
permitted the White people (3EMP) to settle here (3PL).’ McKenzie et al. (2022: S165)

.: non-linear morpheme
df: different subject
sprd: spread about

38 Caused possibility

/dó:pé:/ ‘ask, order’ is sometimes used to indicate granting permission.

- (35) $\emptyset=t\acute{q}:n-\hat{e}:$ $t^h\acute{q}:+\acute{o}lk^h\acute{o}y$ $gy\grave{a}=d\acute{o}:=d\grave{e}$ $k\grave{o}l$
 $\emptyset=t\acute{q}:n-\hat{e}:$ $t^h\acute{q}:+\acute{o}lk^h\acute{o}y$ $g\grave{a}=d\acute{o}_*:d\acute{e}$ $k\grave{o}l$
 3SGS=say.IPFV-HSY_{IPFV} water+wicked 1SGA:3SGO=have=BAS some.IRR
 à= $t^h\acute{q}:$ n~ ègó hèg~
 à= $t^h\acute{q}:$ nò hègó hègó
 2SGA:3SGO=drink.PFV.IMP and.DF then then
 êm= $t^h\acute{e}p+$ **dò:pè**-tò:
 êm= $t^h\acute{e}p_*$ +**dó:pé**-tò:
 1SGA:2sO=exit_C+**permit.PFV**-MOD_{VT}
 ‘He said, “Drink some of this alcohol I’ve got, and then I’ll let you out.” (McKenzie et al. 2022: S226–227)

Consultants affirm the ‘let’ meaning, and in elicitation, they say that this sense is fine out of the blue for a meaning of /dó:pé:/.

39 Permissive

Kiowa has a bound stem /kón/ that Watkins labels as ‘permissive’.

- (36) tségi^ù-dò è=kóⁿ+hè:bà
tségi^ù*-dó è=kóⁿ*+hé:bà
dog_{INV}-INV 3INV\$=let+enter.PFV

‘Let the dogs in.’

It does not affect the arg. struc.

- (37) è=kóⁿ+kí:+pi^ù+hè:bà
è=kóⁿ*+kí:+pi^ù+hé:bà
3INV\$=let+meat+eat+enter.PFV

‘Let them come in to eat meat.’

We can re-categorize this: /kón/+ indicates a caused bouletic possibility on the part of the *addressee* rather than the speaker. The addressee is bid to allow the event to happen, or at least should not stand in the way when they could.

40 Adding an implicature

This marker's usage can also be translated with a simple possibility modal, but that's via implicature.

- (38) á=kón+k'òmbàà?kyà gò
á=kón_{*}+k'òmbáátkà gò
3EMPS=let+imitate:PFV and:SA
gyà=kón+kɔj+kùt+hàj-gjà
gà=kón_{*}+kɔj+kút+háj-gá
3EMPD:3PLS=let+Kiowa+write+inform-DETR.PFV
'so they might be motivated to do likewise and learn Kiowa writing'
Lit. 'and let them do the same and learn to write Kiowa.' McKenzie et al. (2022: S181)

Also: /kón/ only takes scope over its verb's event, not both conjuncts

41 Root impossibility

Eliciting ‘can’ is indirect, but ‘cannot’ is no problem! Negating possibility modals is one route, but there are lexical expressions of impossibility that vary based on flavor.

/mòó:/ ‘be unable (due to circumstance)’

(39) *Circumstantial inability*

tsé: dôj+tón=k'òt

án=kâl+mòó:d-èp

tsé: dôj_{*}+tón=k'òt

án=kâl_{*}+mòó:d-èp

horse too much+fat=as.UNEXP.SA 3SGD:3PLS=turn around+**be unable-IPFV**

‘The horse is too fat and it can't turn around’

UNEXP: unexpected due to world context

42 Discerning distinct flavors

Context:

I know how to cook bót, but I don't have the ingredients.

- (40) bót já= pí:+m̥ɔ́:dèp
 bót já= pí:+m̥ɔ́:dèp
 bót 1SGD:3PLS= cook+be unable.IPFV
 'I can't make bót.'

Context:

I was asked to make bót, but I never learned how.

- (41) a. #bót já=pí:+m̥ɔ́:dèp
 b. hón bót já= pí+háj-g-ɔ:
 hón bót já= pí+háj-g-ɔ:
 NEG bót 1SGD:3PLS= cook+inform-DETR-NEG
 'I can't make bót.' (lit. 'I didn't learn how to make bót')

43 Discerning distinct flavors

Context:

I wanted to make bót, but I was told not to.

- (42) a. #bót já=pí:+m̥jó:dèp
b. bót yá=pí:+íl+dò:
bót yá=pí:+íl_*+dó:
bót 1SGD:3PLS=cook+forbid+be
'I can't make bót.' (Lit. 'cooking bot is forbidden to me')

Context:

I tried to make bót, but I didn't succeed.

- (43) a. #bót já=pí:+m̥jó:
b. bót yá=pí:+jó?kjàj
bót yá=pí:+jótkàj
bót 1SGD:3PLS=cook+blunder.PFV
'I couldn't make bót/I failed to make bót.'

44 Priority modals

Priority modals involve some ordered set of someone's priorities

bouleptic	speaker's desires (listener's in questions)
deontic	general mores, rules, and regulations
teleological	goals, usually stated in context

They can vary in force (necessity, possibility)

In Kiowa, most of them are indirect

45 Explicit Necessity Modal

The only observed deontic expression is /mâ:sòt/ 'supposed to', which is rare. This adverb is used without modal inflection.

It indicates moderate deontic necessity:

In all the best worlds where the rules/mores are respected, the event happens.

- (44) **mâ:sòt** óy-gú é:-hò-dè àn
 mâ:sòt óy-gú é:-hò_{*}-dé àn
- supposed to** be many-INV PROX-DEF-BAS HAB
gyá=k'ì:kò:m-è:
gá_{*}=k'í:kò:m-è:
3EMPA:3PLO=decide.IPFV-HSY_{IPFV}

'The majority is supposed to make these decisions' (McKenzie et al. 2022: S189)

46 Imperative ‘necessity’ modals

Most priority necessity is expressed by command.

In English, necessity modals are often used to indirectly give commands.

In Kiowa it's the converse: commands are used to indirectly express necessity.

- (45) kój+tò:-gyà é=tsá:lj-û:-tò:=dè
 kój_{*}+tó:-gá é=tsál-û:_{*}-tó:=dé
 Kiowa+ speak-BAS 2SGA:1SGO=ask_{IPFV}-IPFV-MOD_{VT}=BAS
 bà?=mò:kjá+**gùl**
 bàt=mò:ká_{*}+**gùl**
 2SGA:3PLO=in preparation+**write.PFV.IMP**

‘You, 2s, must write up beforehand Kiowa words that you will be asking me about.’

(P. McKenzie Box 21 Folder 1 Pg 81)

47 Blast through

Habituals are often used for indirect necessities (e.g. 'Men take care of their loved ones')

The verb /óndó:/ 'want' is sometimes used to express needs

Modal inflection can be used to indicate necessity

Bouletic necessity (i.e. optative) particle /jàl/ 'hopefully'

Caused obligation can be expressed with –/hóp/ 'tell to'

- (46) $\emptyset = k\acute{u}n + \grave{a} : - \textcolor{red}{hòp}$
 $\emptyset = k\acute{u}n_* + \grave{a} : - \textcolor{red}{hòp}$
 3SGS=dance_C+come.PFV=tell to

'Tell him/her to come dance.' / 'He/she should come dance'

48 Prediction: Future ‘tense’ or WOLL

Predictions generally involve the modal inflection

- (47) dó:+k^hí: à=ŷj+pŷ: +tsà̄n-**t'ò:**
dó:_{*}+k^hí: à=ŷj_{*}+pŷ: +tsán-**t'ó:**
holy+day 1SGS=again+see_C+arrive.PFV-MOD_{VT}
'I will/should/might come see you again on Sunday.'

However, like English *will*, the modal inflection is not a tense marker, but instead the root necessity WOLL:

In all the relevant possible outcomes given how things are going, the proposition will become true.

49 Variable force

Unlike *will*, MOD varies in force.

- (48) hájá?tò dó:+k^hi: à=ɔj+pø:+tsàn-t'ò:
hájáttò dó:_*+k^hi: à=ɔj_*+pø:+tsán-t'ò:
maybe holy+day 1SGS=again+see_C+arrive.PFV-MOD_{VT}
'I might come see you again on Sunday'

- (49) èm=tsán-t'ò:=nò dáàl èm=t^háj+hì:-tò:
èm=tsán_{*}-t'ò:=nò dáàl èm=t^háj_{*}+hí:-tó:
2SGS=arrive.PFV-MOD_{VT}=if.DF **WK.NEC** 1SGA:2SGO=accompany+take.PFV-MOD_{VT}
'If you come then I WILL go with you'

P. McKenzie papers b21-f4-p21

50 The futurate

Using imperfective for fairly certain future events

Copley 2008

- (50) dó:+k^hi: à=ŷj+pò:+tsà̄n-mà
dó: *_+k^hi: à=ŷj_*+pó:+tsán-mà
holy+day 1SGS=again+see_c+arrive_{IPFV}-IPFV_{VI}
'I'm coming to see you again on Sunday.'

If an event is not planned or expected to come about, the imperfective is not allowed.

Context:

Melody has come by to visit you sometimes on Sundays, and she might this weekend, but you have yet to make any plans.

- (51) #Melody dó:+k^hi: à=ŷj+pò:+tsà̄n-mà
Melody dó: *_+k^hi: à=ŷj_*+pó:+tsán-mà
Melody holy+day 1SGS=again+see_c+arrive_{IPFV}-IPFV_{VI}
'Melody is coming to see me again on Sunday.'

51 Domain sizing

Modals being quantifiers, they become weaker or stronger based on the size of their quantifier domain.

With root modals, Kiowa employs particles that indicate the size.

particle	force	gloss	to-do	circumstances
/dá/	absolute necessity	ABS.NEC	obligation, must	under all
/dáàl/	strong necessity	STR.NEC	advice, should	under the best
/hét/	weak necessity	WK.NEC	suggestion, invitation	if you like
/pòj/	negative necessity	NEG.NEC	prohibition	under none

- (52) k^{hy}áhí:gó: **dá** èm=tsán
k^háhí:gó: **dá** èm=tsán
tomorrow **ABS.NEC** 2SGS=arrive.PFV.IMP

'You have to come tomorrow.'

(PM Archives, Box 21 Fol 1 Pg 17)

52 Domain sizers

These are often used with imperatives, but easily also with MOD (the prohibitive must be).

53 Summary

A very detailed documentation of the modal meanings of Kiowa

Organized around the meaning

Still room for unheralded, never-before-seen types of meaning

Theory-driven, not theory-bound

New ways of expressing the parts of modals

54 Other aspects of modality

- Conditionals (MOD + conjunctive clitic)
- Counterfactuals (add /χgɔl/)
- Biscuit conditionals (because clause)

Attitude predicates (for another chapter)

Intensional noun interpretations (for another chapter)

55 Sum up

The rest of the grammar works like that

Fills in a huge amount of gap that even 'comprehensive' grammars miss

So far only semanticists have really looked

Suggests: Non-semanticists could use a guide

I hope this reference grammar will serve as one

Reference grammars will have a beautiful 'semantics' chapter

Semanticists can do one better than me

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