Light attitudes, heavy complements: evidence from Äiwoo

Overview Attitude verbs were traditionally treated as universal quantifiers over possible worlds (Hintikka, 1969, a.m.o.). Much recent work, however, has argued that some of the modal contribution of attitude reports comes not from the attitude verbs themselves, but from their complements (Kratzer, 2006, 2013; Moulton, 2009; Bogal-Allbritten, 2016, a.m.o.). Based on original fieldwork, we bring new evidence for the latter view from Äiwoo (Austronesian; Solomon Islands). We present a case study of the attitude predicate *kä*, which is translated as 'think/say' when it embeds a clause containing aspectual morphology (1), and as 'want' when it embeds a clause whose verb carries the prefix *nä-* (2). Following Bogal-Allbritten's (2016) analysis of similar facts in Navajo, we propose that *kä* itself is a fully underspecified attitude predicate, and its different interpretations are brought about by the semantics of the embedded clause.

(1) **With embedded *ki-* (IPFV), or *i-* (PFTV): *kä* = 'say, think'**
kä Sam=kä [$_{CP}$ buk enge {**i**/**ki**}-gââ-no]
KÄ Sam=CV book this {**PFTV**/**IPFV**}-read.UV-1SG
'Sam {thinks/says} that I {read/am reading} this book.'

(2) **With embedded *nä-*: *kä* = 'want'**
kä Sam=kä [$_{CP}$ buk enge **nä**-gââ-no]
KÄ Sam=CV book this **NÄ**-read.UV-1SG
'Sam wants me to read this book.' (Lit: 'Sam wants that I read this book.')

[(i) *kä* requires 'Circumstantial Voice' (CV), whose marker *=kä* is only accidentally homophonous to the attitude predicate; (ii) the embedded CPs in (1)–(2) are in 'Undergoer Voice' (UV), which has OVS order.]

Analytical alternatives One may consider three analytical paths: (i) *kä* is homophonous between a 'think/say' and a 'want' meaning; (ii) *kä* has an underspecified modal meaning, and the alternation above boils down to context-sensitivity; (iii) *kä* denotes a general mental attitude, and its interpretation is determined by material in the complement clause. The kind of evidence that is usually leveraged as an argument against (i)–(ii) involves two conjoined CPs giving rise to different interpretations under one single occurrence of the attitude verb. However, because Äiwoo lacks overt complementizers, such examples are ambiguous between the target reading, and a reading where the second CP is coordinated to the matrix clause (i.e., [*kä* [CP_1 & CP_2]] is string-identical to [*kä* [CP_1]] & [CP_2]). This creates garden-path issues, which render judgments hard. However, looking into other environments that are morphologically similar to the complements of *kä* in (1) and (2) provides strong positive evidence for (iii): *nä-* by itself can express bouletic (3a) and deontic (4a) necessity (and teleological necessity, but not epistemic necessity; not shown here); these readings are not available in the absence of *nä-* (3b)–(4b). Therefore, adopting Portner's (2009) taxonomy, *nä-* seems to be a priority necessity modal. Besides that, as shown in (3b)–(4b), plain declarative sentences carry (im)perfective morphology. Given the association between declaratives and epistemic modality (Portner, 2007), it is plausible to assume that these clauses are also implicitly modalized.

(3) **Context:** Jane loves jewelry, she is always buying more than she should. She walks past a seller, and sees a beautiful necklace. She thinks:
a. dekilikoli enge **nä**-ve-no
necklace this **NÄ**-buy.UV-1SG
'I have$_{boul}$ to buy this necklace.'
b. #dekilikoli enge {**i**/**ki**}-ve-no
necklace this {**PFTV**/**IPFV**}-buy.UV-1SG
'I {bought/am buying} this necklace.'

(4) **Context:** By the law, when you ride a bike…
a. helmet **nä**-vitee-mu ngâ nuwotaamu
helmet **NÄ**-put.on.UV-2SG on your.head
'You must$_{deon}$ wear a helmet on your head.'
b. #helmet {**i**/**ki**}-vitee-mu ngâ
helmet {**PFTV**/**IPFV**}-put.on.UV-2SG on
nuwotaamu
your.head
'You {wore/are wearing} a helmet.'

Proposal We adopt Bogal-Allbritten's (2016) analysis of closely-related facts in Navajo. We propose that *kä* denotes an underspecified mental attitude event (5). Whether the event introduced by *kä* is interpreted as a thinking/saying- or a wanting-event depends solely on the semantics of the embedded clause.

(5) $[\![\text{kä}]\!] = \lambda e_v.\lambda w_s.[\text{mental-attitude}](e)(w)$

We treat the prefix *nä-* as a priority necessity modal, defined in (6). It has a circumstantial modal base $\cap f(e)$, which contains the worlds compatible with the circumstances of an event e, and a bouletic, deontic or teleological ordering source $g(e)$. This ordering source ranks the worlds in $\cap f(e)$ according to desires, rules or goals in e; i.e., the priorities of the participants of e. Best picks out the highest ranked worlds.

(6) $[\![\text{nä-}]\!] = \lambda P_{st}.\lambda e_v.\lambda w_s.\forall w' : w' \in \text{Best}_{g(e)}(\cap f_{\text{circ}}(e)).P(w')$

Composition follows straightforwardly: *nä-* combines with the *v*P via Functional Application (FA), then with *kä* via Predicate Modification (PM). The attitude holder is introduced by (matrix) *v*, and ∃ closes the event variable of *kä*. The final truth conditions for (2) (the 'want' reading) are given in (7):

(7) $[\![(2)]\!](w_c) = 1$ iff $\exists e.[\text{mental-attitude}](e)(w_c) \wedge \text{exp}(e) = \text{sam} \wedge$
$\forall w' : w' \in \text{Best}_{g(e)}(\cap f_{\text{circ}}(e)) \rightarrow [\text{I-read-this-book}](w')$

→ In prose: There is an event e in w_c of Sam experiencing a mental attitude. In all worlds w' that rank higher according to Sam's priorities in e, I read this book.

In the absence of *nä-*, we assume modality comes from a covert ASSERT operator, defined in (8). Following Romero (2024), we assume this modal quantifies universally over worlds that are compatible with what is reported to be true in e. That is, although we translate (1) as 'think/say', strictly speaking, this example has a stronger meaning than that of a plain doxastic attitude report. Truth conditions for (1) are in (9).

(8) $[\![\text{ASSERT}_{\emptyset}]\!] = \lambda P_{st}.\lambda e_v.\lambda w_s.\forall w' : w' \in \cap f_{\text{rep}}(e).P(w')$

(9) $[\![(1)]\!](w_c) = 1$ iff $\exists e.[\text{mental-attitude}](e)(w_c) \wedge \text{exp}(e) = \text{sam} \wedge$
$\forall w' : w' \in \cap f_{\text{rep}}(e) \rightarrow [\text{I-read-this-book}](w')$

→ In prose: There is an event e in w_c of Sam experiencing a mental attitude. In all worlds w' that are compatible with what Sam reports to be true in e, I read this book.

In matrix clauses, *nä-* and $\text{ASSERT}_{\emptyset}$ are relativized to the speech event: they are anchored to the speaker at the utterance time, instead of the attitude holder and the attitude now introduced by *kä*.

Incompatibility of *nä-* with *i/ki-* We propose that the aspectual distinction expressed by *i/ki-* is morphologically neutralized in the presence of *nä-* (viz., $\text{ASP}_{\text{PFTV/IPFV}} \Rightarrow \emptyset$ / $[\text{MOOD}_{\textit{nä-}}]$ __). As supporting evidence, we point out that *nä-* is compatible with other aspectual morphology in the language as long as this is realized elsewhere on the verb, such as prospective *=naa* (10), which we take to be the spell-out of a different head than *i/ki-* (Roversi, 2025).

(10) **kä** Mary=kä [$_{\text{CP}}$ pedevalili **nä**-lu-po-kä=**naa** ngâ nuumä]
KÄ Mary=CV children **NÄ**-3PL-go-DIR=**PROSP** to town
'Mary wants the children to come home.'

Conclusion and prospects We have developed a unified analysis for sentences containing the underspecified attitude predicate *kä* in Äiwoo. The data presented highlights a striking parallel between Äiwoo, Navajo, and Koryak; these last two languages also contain an attitude verb (respectively *nízin* and *ivək*) whose interpretation depends on the material in the complement clause (Bogal-Allbritten, 2016; Močnik, 2025). It is interesting to note that in all three languages, only priority and assertive/epistemic readings are available for *kä*/*nízin*/*ivək* (including variable force for this last one), and not other conceivable types of attitudes (e.g. 'imagine', 'forget', 'be happy that', etc.). Since these three languages are extremely distant both genetically and geographically, we believe this restriction is unlikely to be accidental. Drawing on the connection between priority modals and imperatives, and epistemic/assertive modals and declaratives (Portner, 2007), a potentially interesting prediction worth investigating is that the range of available readings for underspecified attitude predicates crosslinguistically should match, and not exceed, the types of modals that can otherwise exist in main clauses. More complex attitude meanings (like 'forget', etc.) could not be composed this way: since no modals are rich enough to convey this meaning alone, some of the semantic burden will have to fall onto the attitude predicate itself, which thus cannot be underspecified.

References

Bogal-Allbritten, Elizabeth. 2016. *Decomposing attitudes: The view from Navajo*: UMass Amherst PhD dissertation.

Hintikka, Jaakko. 1969. Semantics for propositional attitudes. In *Models for modalities: Selected essays*, 87–111. Springer.

Kratzer, Angelika. 2006. Decomposing attitude verbs. Talk presented at the Hebrew University of Jerusalem.

Kratzer, Angelika. 2013. Modality and the semantics of embedding. Talk presented at the 20th Amsterdam Colloquium.

Močnik, Maša. 2025. *Strange attitudes on top*: MIT PhD dissertation.

Moulton, Keir. 2009. *Natural selection and the syntax of clausal complementation*: University of Massachusetts Amherst PhD dissertation.

Portner, Paul. 2007. Imperatives and modals. *Natural Language Semantics* 15(4). 351–383.

Portner, Paul. 2009. *Modality*. Oxford University Press.

Romero, Maribel. 2024. Mood across constructions: a unified approach. In *Semantics and linguistic theory*, vol. 34, 584–604.

Roversi, Giovanni. 2025. *Locality: a case study from Äiwoo*: MIT PhD dissertation.