Chapter 1

Modality

1.1 Introduction

One of human language’s most powerful traits is its ability to transmit information about possible alternatives to the way the world is. It **might** be raining, for instance, or **Tomorrow we will head west**, or **Bring a book just in case**. Other animals can think of alternatives to the world and act accordingly, but only humans are observed communicating about them. In semantics, we use the term **modality** broadly to encompass all elements of linguistic meaning that treats these alternatives.

Often, linguists will use the noun **modal** in a structural sense to describe a closed class of verbs that express modal meanings, such as the morphologically defective auxiliaries like **might** or **should**. With a semantic focus we will not limit ourselves in this way, and retain **modal** as an adjective relating to any kind of modality. Modal meaning is found up and down the grammar, sometimes in unexpected ways. Kiowa is no exception, e.g. in the modal adverb in (1), the verbal inflection in (2), or the incorporated stem in (3).

(1) hàgʲà hàgà àː=bón–mɔ̀
    maybe 3EMP:A:SGO=see/ipfv–IPFV
    ‘Maybe they can see me.’

(2) kʰjàhį ꜱ̂j ꜱ̂j ꜱ̂ j=kɔ̀n
    tomorrow 3SGS=disappear/ipfv–IPFV,1EXCLA:3PLO=start off.PFV–MOD
    ‘Tomorrow we (will) head west.’

(3) kút kút ꜱ̂ j ꜱ̂ j kɔ̀n
    book 2SGA:3PLO=in case+bring.PFV
    ‘Bring a book just in case.’

1.1.1 Categorizing modal meanings

We will organize the documentation of modal meanings around two basic dimensions we use to distinguish them—force and flavor. **Modal force** describes how many alternatives to the way the world is that a modal claim covers. For instance, telling someone Carrie **can go home** indicates what is a **possibility**, what happens in some of the outcomes. Meanwhile, saying Carrie **must go home** indicates a **necessity**, what happens in all the outcomes. **Modal flavor** tells us the basis for the modal we use. If we are in some situation where the regulations make Carrie’s going home the issue, saying Carrie **has to be home** indicates that in all of the outcomes where the regulations are followed, Carrie is home: it is a requirement. If we are in some situation where the regulations are not at issue, but we are trying to figure out where Carrie is, the same sentence indicates that in all of the outcomes where our knowledge and inferences are correct, Carrie is home: it is a deduction.

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To formalize matters we can apply the framework laid out by Angelika Kratzer (2012), which builds off of years of research into modals by philosophers and semanticists. In this framework, force is applied by quantifiers over possible worlds, which are the alternatives to the actual world: in all/some/most possible worlds, etc. The flavor comes from conversational backgrounds, contextual sets of propositions we can use as a premise for modal reasoning. Together these make the bulk of the modal. For instance, if Carrie can go home in the context of regulations, she goes in all possible worlds where the regulations are followed. The use of possible worlds helps us characterize and test modal meanings for understanding how Kiowa employs modality, no matter what the morphology is doing.³

1.1.2 Modal structure and inflection

The organization of modals by force and flavor provides a useful organization for this chapter. First, though, we will lay out a few structural notes. Most dedicated modal expressions in Kiowa are either adverbials or main verbs (4).

(4) a. hàgå sâ-–dɔ̀ è=e=yáy+ɔ̂ːm–ɔ́
    hâgå sâ-–dɔ̀ è=e=yáy+3m–ɔ́
    maybe childINV–INV 3INVŠ=play+d0PPV–IPPVVT
    'Perhaps the children are playing.' (§1.2.2.1)

b. sâ-–dɔ̀ bêt=jáj+mɔ̀ɔ̂ːdèp
    sâ-–dɔ̀ bêt=jáj+3mɔ́ːdèp
    childINV–INV 3INV3PLS=play+be unable.IPFVVI
    'The children can’t play.' (§??)

Kiowa has no modal auxiliary verbs; modal and semi-modal verbs are all main verbs. They are intransitive, with the subject being what is required, allowed, or possible (or not). If there is an entity involved, it is added as a dative/applicative argument (4b). One can compare (4b) to the English It is impossible for the children to play.

Kiowa has only one modal inflectional affix on verbs. This suffix has two allomorphs whose distribution depends on argument structure. The form “–/tɔ́ː/ MODVT” is used with transitive verbs, while “–/t’ɔ́ː/ MODVI” is used with intransitive ones.

(5) a. kʰʲáː–híː–gɔ́ː kʰáː–híː–gɔ́ː
    morn–during Carnegie–at è=m=tsán–tɔ́ː
    Carnegie–klè èm=tsán–tɔ́ː
    ‘I will see you tomorrow.’

b. kʰʲáː–híː–gɔ́ː: Carnegie–kà èm=tsán–t’ɔ́ː
    kʰáː–híː–gɔ́ː: Carnegie–at è=m=tsán–t’ɔ́ː
    ‘You will arrive in Carnegie tomorrow.’

This suffix is used for several kinds of modal meanings. We will summarize here and discuss details in the relevant sections. It is nearly always an indicator of circumstantial necessity: It expresses something that must happen given a selected set of facts that shape the situation. However, the kinds of facts vary, as does the strength of the necessity, so it gets translated into English by several different modals. In (5) there is the strong necessity of ‘will’ and it can also be used for ‘have to’, ‘ought to’, ‘should’ and even ‘can’ or ‘might’, depending on the context.

(6) éː–hɔː–gɔː: è=m=âj–tɔː
    éː–hɔː–gɔː: è=m=âj–tɔː
    prox–def–during 1sgA:3plO=start off.PFV–MODVT
    ‘I have to/should/will/might go now.’

²Sometimes it is intuitive to think of possible worlds as possible outcomes, although formally those are distinct items. So if Carrie must go home, then in all possible outcomes where she follows the regulations, she goes home, and so on.

³Philosophers and physicists argue over whether these other possible worlds actually exist, but as semanticists we need not worry: We can understand the systems of language as treating them as if they exist. Menzel (2021) has a useful summary of the debate in philosophy; Donoghue (2016) for physics.

⁴This verb is translated as an intransitive, but is morphosyntactically transitive.
This suffix is also used in conditional clauses, which are another expression of circumstantial necessity (Abusch 2012).

\[(7) \quad \emptyset = \text{sép} + \text{dɔ̀ː–} \quad t'ɔ̀ː \quad \emptyset = \text{nɔ̀} \quad \emptyset = \text{sép} + \text{dɔ́ː–} \quad t'ɔ́ː \quad \emptyset = \text{nɔ̀} \quad 3\text{SGS}=\text{rain} + \text{be–MOD}_{\text{VT}} = \text{if.DF NEG INDEF–to INCLS=go–NEG–MOD}_{\text{VT}}
\]

‘If it rains we won’t go anywhere.’

The modal suffix can be used in generic contexts to relay an expectation of how things typically unfold. In (8), the speaker is describing a traditional courting custom.

\[(8) \quad \text{tʰáj} \quad \emptyset = \text{ą́ːgʲà–} \quad \text{t'ɔ̀ː} \quad \emptyset = \text{ą́ːgà–} \quad \text{g} \quad \text{gɔ̀} \quad \text{and:sa} \quad \text{ìgɔ́} \quad \text{hègɔ́} \quad \text{then} \quad \text{páː} \quad \text{páː} \quad \text{some} \quad \text{k'ʲɔ̨́–dé+pèː–dò} \quad \text{k’ʲɔ̨́–dé} \quad \text{+péː–dò} \quad \text{love–bas+direction–because} \quad \text{gʲà=dɔ́ː+kʰɔ̂\,\,\,m–tɔ̀ː} \quad \text{gà=dɔ́ː+kʰɔ̂ m–tɔ́ː} \quad \text{3SGA:3PL=Sing+call.PFV–MOD}_{\text{VT}}
\]

‘He would be on horseback and sometimes he would serenade his girlfriend.’ (Kiowa Culture Program 1978: 00:30)

For the rest of this chapter the documentation will be organized by flavor and force.

### 1.2 Epistemic modality

Epistemic modality is a modal flavor that involves a speaker making inferences about the world based on what they know about it. In Kiowa, epistemic modality is almost exclusively expressed by adverbials. Structurally these adverbials can be free or obligatorily incorporated into the verb (Table 1.1). Semantically they express a range of forces or strengths.

<table>
<thead>
<tr>
<th>force</th>
<th>Kiowa</th>
<th>English</th>
<th>note</th>
</tr>
</thead>
<tbody>
<tr>
<td>necessity</td>
<td>/pàhįː/</td>
<td>‘clearly, definitely’</td>
<td>incompatible with MOD</td>
</tr>
<tr>
<td></td>
<td>/bátsòl/</td>
<td>‘clearly, definitely’</td>
<td>incompatible with MOD</td>
</tr>
<tr>
<td></td>
<td>/mɔ́n/</td>
<td>‘INFER’</td>
<td>incompatible with HSY</td>
</tr>
<tr>
<td></td>
<td>/kòttè/</td>
<td>‘likely, liable to’</td>
<td>incompatible with MOD</td>
</tr>
<tr>
<td>possibility</td>
<td>/hájáttò/</td>
<td>‘maybe, perhaps’</td>
<td>requires MOD</td>
</tr>
<tr>
<td></td>
<td>/hàgà/</td>
<td>‘maybe’</td>
<td>also means ‘or’</td>
</tr>
<tr>
<td></td>
<td>/hén/+</td>
<td>‘possibly’</td>
<td>must be incorporated</td>
</tr>
<tr>
<td>negative</td>
<td>/bèthêndè/</td>
<td>‘unlikely, doubtful’</td>
<td>requires MOD, incompatible with NEG</td>
</tr>
<tr>
<td></td>
<td>/ádàltè/</td>
<td>‘unlikely, doubtful’</td>
<td>only found in word-lists</td>
</tr>
</tbody>
</table>

Table 1.1: Epistemic modal forms

#### 1.2.1 Epistemic necessity

The term epistemic necessity describes modals that apply to all the possible worlds in which what the speaker knows about the world is true. They are often used to describe inferences. Epistemic necessity modals themselves can vary in strength, like how English *certainly* is stronger than *likely* or *probably*. Semanticists usually rely on domain restriction to bring about this variation of strength about. Domain restriction affects the strength of a universal quantifier (see chapter xx). *Everyone likes my book* tells us more about the world the wider the domain of *everyone* is. It is stronger. The narrower the domain, the fewer people *everyone* means, and the less the proposition tells us about the world. It is weaker.
Since necessity modals denote universal quantifiers, this effect also works with modality. We add an ordering source that ranks the worlds so that some are the best, and the modal only takes the best of them, rather than all of them.\(^5\)

Let us look at an example. Saying *Tom must be the culprit* indicates that all the worlds compatible with the known evidence show Tom is the culprit. Saying *Tom should be the culprit* only implicates Tom in all the best worlds compatible with the evidence... but there are still compatible worlds where he is not the culprit. The modal strength reflects the proportion of best compatible worlds to all compatible worlds: The closer we get to all of them being equally best, the stronger the modal. The further we get, the more worlds slip outside our modal's grasp, and the weaker the modal gets. (See Portner (2009) for more discussion).

In this section we will discuss the common epistemic modals in terms of strength, and list the less common ones.

### 1.2.1.1 /mɔ́n/ ‘infer’

The most common epistemic modal in Kiowa is /mɔ́n/ ‘infer’, an adverb that expresses a broad necessity that ranges from somewhat probable to quite certain. This range is reflected in its range of English translations: ‘must (have)’, ‘probably’, ‘might (have)’, ‘I suppose’, or ‘I guess’.

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. It is often found with people recollecting to figure when something occurred. Hence its gloss as infer rather than ‘probably’ or some other English translation.

\[(9)\] p’iːtè ən ē=hiː=tē=t=tō hētō ā=ṣjōn=ē=tē=m̥̂n pānsē=ōtē

\[(10)\] pōl̃tè tsêː ā=p’ŋj̃j̃e=hl̃ė=ð̃e m̥̂n ʂg̃ ĩ ŋk̃j̃j̃+k’ı̂=höl=ð̃e=m̥̂ñ m̥̂n pōl̃t̃e tsêː ā=p’ŋj̃j̃=hl̃ė=ð̃e m̥̂n ʂg̃ ĩ ŋk̃j̃j̃+k’ı̂=höl=ð̃e=m̥̂ñ Poolant horse 3SGD:3SGS=lose.PFV−HSY=BASE INFER SBBD White+male 3SGA:3SGO=kill.PFV=BAS INFER ā=p’ök̃j̃=ð̃e=ð̃ m̥̂ñ ā=p’ök̃j̃=ð̃e=ð̃ 3SGA:3SGD:3SGO=bringC+hold

‘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)

It is frequently used in narratives to fill in gaps in the action, where the source information is not reliable. In (10), the speaker knows that Poolant had lost a horse, but had to suppose that the other man was taking care of it.

Speakers clearly distinguish /mőn/ as epistemic in flavor. Of course, we do not simply ask them a question we might ask a fellow language researcher, like “Is this epistemic?” Instead, we can use contexts that lead towards or away from epistemic readings to control for this kind of modality, and see the distribution of modal forms like /mõn/ given these contexts.

The crucial nature of epistemic modals is that they express what the speaker infers but does not know everything that happened. Consequently it is infelicitous to use them when the speaker does know what happened or did not happen. A test with such a context should rule out the use of /mõn/, 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:*

\(^5\)Rullmann et al. (2008) instead employs a choice function, which picks a subset of the worlds which varies in size. The larger the subset, the stronger the necessity.
Speakers reject this as false, as we predict. It is saying “To the best of my knowledge, it is probable that John is home,” but that statement is clearly at odds with the best of our knowledge, since we know he is not home.

As for force, /mɔ́n/ can be classified as a necessity modal, but of varying strength, depending on what the speaker knows about the situation. In a context where the speaker is confident that Al is at home, (12) is unacceptable because all the possible outcomes of the speaker's inference involve Al being home. However, if they are not so confident, then only in the best outcomes is Al home, leaving the door open for other possibilities.

In addition, the strength of /mɔ́n/ can emerge from contrast with another modal. In (12), it is contrasted with weaker /hàgà/ (§1.2.2.1), and is interpreted as stronger necessity. If it is contrasted with a stronger modal, however, weakness comes out. We can directly compare /mɔ́n/ with the stronger modal /pą̀hį́ː/ ‘clearly, definitely’ (§1.2.1.2).

Most of the time /mɔ́n/ is used without modal inflection, but it is compatible with it when the sentence is about the future or about generic usage. However, /mɔ́n/ is never compatible with hearsay inflection, even in contexts that are clearly hearsay for modern speakers, like mythical stories or long-ago histories. In (14), a Kiowa man tells a story about an incident. The sentences expressing propositions that he knows carry hearsay marking because the source is reliable (a, c), while those that require inference contain /mɔ́n/ and not hearsay inflection, even though the narrator was also told them, but their source is not as reliable (b). Moreover, the way the incident is described, the narrator could not have been there and only witnessed one half of the action and not the other.

Outside of texts, the restriction on hearsay marking holds as well. In elicitations, /mɔ́n/ with hearsay inflection is swiftly and strongly rejected.
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* Bill mɔ̱n [hɛtɔ̆t ə=sɔ:tɛ+tɔ̆j:i] 
Bill mɔn [hɛtɔ̆t ə=sɔ:tɛ+tɔ̆j:i] 
Bill INFER still 3SGA:3PLO=work+act(1PPFV)–HSYIPFV

‘Bill is still at work.’

It is common for /mɔ́n/ to occur multiple times in a sentence, even after the verb, but the additional /mɔ́n/’s do not affect the strength of the modal.

1.2.1.2 /pàhį́ː/ ‘clearly, definitely’

The strongest epistemic modal is /pàhį́ː/, which expresses a complete certainty, reflected in its translations ‘clearly’, ‘obviously’, ‘very likely’, or ‘definitely’.⁶

On account of that, this letter very likely will be delayed a day.

Watkins (1984:220) indicates that /pàhį́ː/ must occur with a verb in the bare perfective form, however it occurs with the imperfective in (18), and elsewhere. It does not occur with modal inflection, even when about the future.

1.2.1.3 /báːtsòl/ ‘must be’

This rare form accompanies a reported epistemic state. Parker McKenzie lists it as an alternative form of /báːtsòl/, which he does not define except as ‘prefacing particle that seems to denote “in the belief of” (disyl 39). McKenzie et al. (2022) gloss it as ‘must.be’ in (19), which recounts a person’s thoughts. These thoughts happened to be incorrect, but the statement is still true. This kind of false belief is another sign of modality: The propositions that follow from our own knowledge may not be true in the actual world.

The certitude can be augmented by a degree modifier; in (18), the degree modifier /hégɔ́bɔ́y/ indicates an absolute level of certainty.

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"n-~gį́ báːtsòl 3–j–hjɔ:s=dè+k’į́: ɔ=ɔ̂ːd–e: ɔ̂ːd–e: gɔ
nɔ hégɔ́bɔ́j+ pàhį́ː n–j–hjɔ:s=dè+k’į́: ɔ=ɔ̂ːd–e: ɔ̂ːd–e: gɔ
d and DF then must be MED–VAGUE–DEF–ADV+male 3SGS=thingINDF+be 3SGS=thinkIPFV–HSYIPFV and SA
\(=kùːtɔː+ p’ajdè–hèl \)
\(=kùːtɔː+ p’ajdè–hèl \)
3SGS+struggle+fight(ASP),PFV–HSY

⁶The adverb /pàhį́ː/ derives from a stative verb meaning ‘be easily visible’.
⁷This is Parker McKenzie’s own translation.
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'It's another one of those men,' she thought, and began to struggle hard. (McKenzie et al. 2022: S52)

1.2.2 Epistemic possibility

Epistemic possibility modals indicate the speaker's inference that something may be true based on what they know. Formally we describe these as an existential quantifier over possible worlds. That is, in some worlds where the best of my knowledge is true, the proposition is true. As such, epistemic modals are often used as hedges in discourse. Possibility modals can also be adjusted in terms of strength using domain restriction. In contrast with necessity modals, shrinking the domain strengthens a possibility modal. If the proposition is true in just one possible world out of a big group, the odds for the actual world being that world are low. The smaller the group, though, the better the odds that the actual world will be that true one. Think of it like a lottery: The fewer people buy tickets, the better each person's odds are.

1.2.2.1 /hàgà/ 'maybe'

The common adverb /hàgà/ 'maybe' indicates an epistemic possibility of weak to moderate strength. For instance, in (20), it is used because the speaker does not know whether the boy has been found.

(20) tʰá́liː á=dó̂nj–mɔ̀
   gɔ̀     hàgà   á=tʰɔ̂̂n

boy 3EMP:A:3SGO–look for–IPFVVT and.sA maybe 3EMP:A:3SGO–find.PFV

'They were searching for the boy and may have found him.' (Watkins 1984: 221)

The use of /hàgà/ always opens the door for other possibilities. This is likely how /hàgà/ came to be used for disjunction as well (see chapter X). We can predict that cannot be used when the situation is impossible (21), and that prediction holds.

Context:
You know that Tom is not at the store, because you just saw him at work.

(21) # hàgỳà tóm kɔ̃tɔ̀+tɔː–kɔ́ː ə=ðɔ̀
   hàgà   tóm kɔ̃tɔ̀+tɔː–kɔ̀ ə=ðɔ̀
   maybe Tom shop+house–at 3SGS=be

'Maybe Tom is at the store.'

Speakers clearly distinguish /hàgà/ from /mɔ́n/ in elicitations, noting that /mɔ́n/ indicates that the speaker is more sure about the information.

1.2.2.2 /hén/+ 'possibly'

/hén/ 'possibly' is an obligatorily bound stem that indicates a fairly small degree of epistemic possibility. It is usually accompanied by the free adverb /mɔ́ː/ 'somewhat', which lowers the degree of certainty. This led (Watkins 1984: 225) to gloss this as 'dubitative'. Parker McKenzie, in his notes, defines it consistently as 'possibly' or 'maybe', and the following instance from a narrative involves /hén/ relating the protagonist/speaker's affirmative decision. In it, a turkey hiding from the trickster Sénđé pretends to be a burnt tree stump. Sénđé passes by it, then later he suddenly realizes what it was before turning back to hunt it.

(22) ə=pʰɔ̃ː–hèle gɔ̀ ə=tɔ̃ːn–ə, "pɛː: mɔ́ːə ə=hɛn+dɔ̀'
   ə=pʰɔ̃ː–hèle gɔ̀ ə=tɔ̃ːn–ə, "pɛː: mɔ́ːə ə=hɛn+dɔ̀'

3SGS=stop.PFV–HSY and.sA 3SGS=say.PFV–HSYIPFV turkey somewhat 3SGS=possibly+be

'He stopped and said, "I think that was a turkey!"' (Toyebo 1962: 10)

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8This example has been slightly updated to correct some tone markings.
9In the text itself this is translated into a colloquial English as 'I think I saw a turkey!'
Parker McKenzie writes of a conversation he had with his aunt Ilene Queton. Parker brought up an old name for the Kiowas, /kʰòmpɔ̀+bį́ː–dɔ̀/ 'tipi flap+big\_PL\_INV' or the 'Big Flaps'. Talking about the word's exact tone pattern, she remarked without great certainty:

(23) tsɔ̂ː mɔ̨́ː mɔ́ː ą̀n bá–hén+ tǫ̀ː–gàː
tsɔ̂ː mɔ̨́ː mɔ́ː ą̀n bá–hén+, tǫ̀ː–gàː
thusly somewhat 3NSG$=$possibly+speaker--IPFV

'I believe that is the way it is rendered'\(^{10}\) (Letter to Laurel J. Watkins, Mar 17, 1979. PMA Box 21 Folder 2 Pg 22)

Without /mɔ́ː/ the modal is a bit stronger, but rarer. Like other epistemic modals, /hén/ is speaker-oriented and therefore indicates what the speaker thinks. Since it indicates a fairly weak possibility, it is often translated as 'I think'. Even though /hén/ is always incorporated into the verb, it takes scope over the entire proposition. A negated sentence with /hén/ means ‘possibly not’, rather than ‘not possibly’.

(24) hɔ̨́n gà+hén, sɔ́ː+gàː
hɔ̨́n gà+hén, sɔ́ː+gàː
NEG 3SGA:3PLO$=$possibly+work+fight--NEG

'I don't think he has a job.' / 'I doubt he's working.'

1.2.3 Strong possibility / Weak necessity

Sometimes, strong possibility is barely distinguishable from weak necessity. Possibility modals weaken to the point that the speaker does not really believe the proposition to be true, but only accepts that it is not impossible.

1.2.3.1 /hájáttò/ ‘maybe (prediction)’

A weaker necessity is expressed with /hájáttò/ ‘maybe, perhaps’, which skirts the line between weak necessity and strong possibility; we could place this word in that section instead. This breadth is shown in (25–26), where /hájáttò/ is translated within the same text as ‘likely’ and ‘possible’; in fact, within two consecutive sentences. The translations are by the writer himself, so we are confident that they accurately reflect what he had in mind.

(25) kɔ̂l=āl  hájáʔtò  ā=tōːtè–tɔ̀ː
kɔ̂l=āl  hájáʔtò  ā=tōːtè–tɔ̀ː
some\_IRR=also\_perhaps 3EMPA:3SGO=gather--PFV--MOD\_VT and.DF then

gɔ̨́=tʰq̂ː+gàː–tɔ́ː

'More money will likely be collected and then I can send it to them.'

(26) háyáʔtò  mɔ́ː+tɔ̀ːdè
gɔ̨́=tʰq̂ː+gàː–tɔ́ː
háyáʔtò  mɔ́ː+tɔ̀ːdè
háyáʔtò  mɔ́ː+tɔ̀ːdè
perhaps somewhat+long time 3ENP:D:3PLS=stay+make$=$DETR--DETR--PFV--MOD\_VT

'It is possible they may have to remain much longer' (McKenzie et al. 2022: S185)

Sentences with /háyáʔtò/ require the modal inflection on the verb. In essence, /háyáʔtò/ reflects the speakers judgment about how likely it is that things will turn out a certain way from the topic time.\(^{11}\) This can also involve statements about the present going forward, like (27), which is in a narrative about Kiowa warriors on the run from soldiers. As they woke up in camp they came to a conclusion:

\(^{10}\)This is Parker's translation in the letter.

\(^{11}\)The adverb /háyáʔtò/ is clearly derived from the form /háyá–tò/ 'by some means, in some way', but speakers do not decompose it that way in these kinds of sentences.
1.2. EPISTEMIC MODALITY

(27) hájáʔtò hétò dɔː=tɔː–hjèl  mɔ̨́n  bá=ʒn  gɔ̀
hájáttò hétò dɔː=tɔː–hjèl  mɔ̨́n  bá=ʒn  gɔ̀
perhaps still 3INVA:1NSGO=pursue hither.PFV–MODvt. INFER 3PLS=think.PFV and.SA

gá=ʒj=aj–hjèl
gá=ʒj=aj–hèl
3EMP5:5PLO=again+start off.PFV–HSY

“They might still be in pursuit,” they probably thought. Once more they took flight.” (Palmer, Jr. 2013: 417)

It is difficult to elicit exact judgments of probability with adverbials like /háyáttò/. However, speakers do rate /mɔ́n/ as being stronger or reflecting more certitude than /háyáttò/.

1.2.3.2 /kòttè/ ‘liable to’

One strong possibility adverb is /kòttè/ ‘liable to’, which indicates a fairly strong possibility. It does not trigger modal inflection, even when used to make predictions about the future.12

(28) kòttè [ą́m  sę́ndé  tsàː–gɔ̀]  é=ts'ą́ːn+hól–hèl  gɔ̀
kòttè ám  sę́ndé  tsàː–gɔ̀  é=ts'ą́ːn+hól–hèl  gɔ̀
liable to ANAPH Sę́ndé prairie dog–INV 3SGA:3INVNO=deceive+kill.PFV–HSY and.SA

e=ʒl+t'ò+péː–jɔ́ː  ézən  tsɔː:  dɔ́=ʃm–é:  há–bé
e=ʒl+t'ò+péː–jɔ́ː  ézən  tsɔː:  dɔ́=ʃm–é:  há–bé
3SGA:3INVNO=see.pfv–MODvt.

tó+péː–jɔ́ː  tsáː–gɔ̀
'to+péː–jɔ́ː  tsáː–gɔ̀
future+direction–in

‘It could be that the agency will do to us in sometimes in the future, like Sende when he tricked the prairie dogs and then beat them over the head.’ (McKenzie et al. 2022: S189)

1.2.4 Epistemic unlikelihood or impossibility

Kiowa has a number of expressions of unlikelihood or impossibility, which do not seem to derive from the negation of a positive modal (the way English un–likely is derived). These can be considered negative quantifiers, which are true if the proposition holds in none of the (best) possible worlds. The more worlds that are included, the stronger the unlikelihood.

1.2.4.1 /bèthêndè/ ‘unlikely, doubtful’

The adverb /bèthêndè/ ‘unlikely, doubtful’ indicates epistemic unlikelihood or impossibility that things will turn out a certain way. It requires the modal inflection, and a non-negative verb, because it only applies to predictions about the future from the topic time.13 If the topic time is in the past, we can get a ‘would’ reading about a time that is future from then, but in the past of today.

(29) bèt'bèndè kútò+hjǫ́j  bét=by–tɔ́:
bèthêndè kútò+hjǫ́j  bét=by–tɔ́:
unlikely  bird+genuine.INV 1INCLA:3INVO=see.PFV–MODvt

‘I doubt we’ll see any eagles.’ / ‘It was unlikely we would see any eagles.’

Harrington (1928) gives the meaning of /bèthêndè/, which he transcribes as [bei-t'ɛɳ-dei], as ‘never’. However, his examples involve the modal marking in the future, and do not all involve ‘never’.

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12 This adverb should not be confused with /kòttè/ ‘strongly, swiftly’. It seems to be derived historically from some lost stem /kòt/ bearing the adverbial affix /té/ ‘ADV’.
13 A variant of bèthêndè is /bòt.hêndè/.
CHAPTER 1. MODALITY

(30) tó: bêṯhę̂ndę́ 3sgS=make~det~PFV~mod~vi
      house unlikely
      ‘The house will never be finished.’ (Harrington 1928: 42)

For expressing the unlikelihood of an actual event in the past or present, /mɔ́n/ is used with negation (31). No
matter what the word order is, /mɔ́n/ takes scope above negation, so the result is that the prejacent ‘must not’ be
true, rather than that it ‘does not have to’ be true.

(31)  hɔ̨́n  mɔ́n  ą́m  à=dɔ̨́ː–mɔ̂ː
      neg  must  1sgS=be–neg
      ‘I’m not you, I guess.’ (McKenzie et al. 2022: S143)

(32)  mɔ́n  hɔ́n  gɔ̀=bǫ́ː–mɔ́n
      infer  neg  3sgA:2sgO=see–must
      ‘I don’t think he saw you.’

1.2.4.2 /ádàḻtè/ ‘unlikely’

One final epistemic modal listed in Parker McKenzie’s files is /ádàḻtè/ ‘unlikely’, but this is not attested elsewhere
and could not be elicited.

1.2.5 Wide scope of epistemic modals

Modal expressions take scope over other elements, including each other. Their analysis as quantifiers over possible
worlds naturally explains their scope-taking nature. For instance, the modal in Ellen must not leave takes scope
over the negation (must > not), while in Ellen doesn’t have to leave it takes scope beneath it (not > must). A lot of
interesting observations can be made by comparing a modal’s scope to negation, to other modals, or to quantified
nominals.

Epistemic modals are cross-linguistically known for having wide scope with respect to negation and root modality,
and most quantifiers in a sentence (von Fintel & Iatridou 2003). In Kiowa, epistemic modals work this way. Most
of them are adverbials that tend to be placed toward the left edge of the clause.

Some of them, however, are more flexible in placement but not in scope, raising interesting questions about
their nature. The epistemic certainly modal /mɔ́n/ (§1.2.1.1). For instance, in (33), from a story featuring the trickster
Séndé, Séndé is trying to get a horse to go, but thinks it is balk ing because it does not recognize his owner on him.
The modal /mɔ́n/ is located inside the negation phrase, but takes semantic scope outside it: In all the worlds where
his information is true, the horse does not recognize him.

(33)  hɔ̨́n  mɔ́n  ą́m  à=dɔ̨́ː–mɔ̂ː
      neg  must  1sgS=be–neg
      ‘I’m not you, I guess, and he’s watching you.’ [ must > not ] (McKenzie et al. 2022: S148)

1.3 Root modality

The term root modality applies to modal expressions that describe alternate results of how an event might turn out
given facts that constrain or permit what happens. For instance, Tom has to go home indicates a strong necessity or
obligation that Tom should meet, while Tom can go home simply indicates a possibility.
1.3. ROOT MODALITY

1.3.1 Types of root modality

Root modals can be further subdivided based on the particular set of facts that serve as the source of that obligation or possibility. Tom might have to go home because of a curfew rule at his dorm, or because his parents want him to, or because his show is coming on and he wants to see it. These sets of facts are usually assigned to distinct modal bases, or more frequently now, as ordering sources that restrict the broad set of circumstances that feed root modality.

Deontic modality describes modals that are based on rules, regulations, laws, ethics, or customs. You have to stop at a red light. You can’t fish here. You need to clock in at 8 o’clock, and so on. Deontic modals are associated with obligation and permission.

Bouletic modality describes modals based on the wishes of a relevant person, usually the speaker. You have to come out with me tomorrow. You should visit more often. You may rub my shoulders. Bouletic modals are associated with wishes and consent.

Teleological modality describes modals based on achieving a goal. You have to take Highway 9. You ought to enroll in 320. You can get a C and still advance. Teleological goals are associated with requirements and pathways.

We will follow Portner (2007)’s approach of grouping the above types together as “priority” modals, which essentially relate the priorities of some party concerning the situation at hand. These behave in similar ways in many languages, and in Kiowa they often behave alike as well.

Dynamic modality describes modals based on the sentential subject’s internal capacities or dispositions, as applied to a situation. This complexity makes their analysis tricky, and languages sometimes differ on how they express these, depending on whether the action actually happened or not.

Circumstantial modality describes modals based on a selected set of relevant facts about the world. You have to stop because you have a flat tire. You can sit outside because it’s sunny. You should take the turnpike because the highway is under construction. Circumstantial modals are sometimes hard to distinguish from ability modals.

1.3.2 Inferred root modality

Root modals are particularly difficult to investigate in Kiowa because many times they have to be inferred from a non-modal expression. For instance, there is no distinct morpheme to use to tell someone they have to do something, or that they should do it. Usually speakers use the imperative, with or without dá or dáàl to strengthen it (34a), or the modal inflection (34b). See §1.6.1.2 for more details. For general requirements they may use the habitual.

(34)  

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

a. Prompt: ‘We have to leave now.’

ę́ː–hɔ̀ː–gɔ̀ː ę́ː–hɔ̀ː–gɔ́ː prox–def–during bà=kó+kʰiː bà=kó+kʰiː: (dá) (dá) abs.nec

‘Let’s leave right now.’

b. Prompt: ‘We should leave now.’

ę́ː–hɔ̀ː–gɔ̀ː bà=kó+kʰiː–t’ɔ̀ː bà=kó+kʰiː+1inclS=right now+exit.pfv.imp–mod

‘We should leave right now.’

There are also no simple ways to express abilities. Usually, people use forms that entail an ability, like saying they know how to do it. We can test for an ability modal with a context that rules out circumstances external to the subject. See §1.4.3 for more details.

(35)  

Context: We are in the Elders’ Center about to serve food and we need someone able to cook to make it, with all these ingredients and equipment.

Prompt: ‘Bill can cook.’
a. Bill ą́n=pį́ː+ɔ̨́m+háj–gʒà+dɔ̀ː
   Bill 3SGD=3PLS=food+make+inform–detr+be
   'Bill knows how to cook.'

b. Bill ą́n=pį́ː+ɔ́m+mɔ́ːgɔ́
   Bill 3SGD=3PLS=food+make+be skilled
   'Bill is a good cook.'

Given this significant lexical gap, eliciting for root modals can prove difficult both for practical and social reasons. Some speakers get flustered if they cannot find a single form to help the linguist translate from the English, while others seem concerned that they might have forgotten an important word. However, we can be certain that the speakers did not forget anything, because we observe no such morphemes in old narratives and documentation, even as far back as speakers working with Gatschet (n.d.), Mooney (1896), or (Harrington 1928).

Sentences in these older sources that have been translated into English with root modals, even by Kiowas like Parker McKenzie, do not show direct root modality in the Kiowa. For instance, in McKenzie’s translation of the story of the Cutthroat Massacre, we find the following statement, said by a band leader telling his people it is time to get a move on. The English translation contains need to, but the Kiowa sentence has the imperative.

(36) nɔ̨́ː holdé bá=mɔ́ː  
   nɔ́ː holdé bá, =mɔ́ː

1 soon INCLSA:3SGO=move camp.PFV \IMP and.sA mountain+direction–to
bà=hóː+bàː  
   bót māːjį́ː  mɔ́ː  
   1inclA:3sgO=move vehicle+go. pfv
bà=hóː+bàː  
   bót māːjį́ː  mɔ́ː  
   1inclA:3sgO=move vehicle+go. pfv

We point out that that one must not draw ‘Whorfian’ conclusions here. The lack of certain modal morphemes does not mean that Kiowa speakers lack or ever might have lacked the notions of obligation and ability. The history and culture of the tribe show very clearly that they always did and still do; so does spending five minutes with modern Kiowas. What we do observe is that the way that Kiowa packages modal meanings differs from the English, and that this difference affects elicitations and translations.

1.4 Root possibility

1.4.1 /tʰénts’ò/ ‘permitted’

The bound stem /tʰénts’ò/ ‘permitted’ expresses deontic or bouletic possibility: based on the rules or wishes of a person, it is possible. This is translatable to permission. It cannot describe abilities or circumstantial possibilities.

The stem is bound, so it must incorporate with a welcoming verbal stem that gives a stative or active sense of permission. While it can incorporate with other predicates, the common ones are in (37). The active forms are discussed in §1.4.2.1.
To express a state of permission, /tʰéntsʰɔ/ is incorporated onto the stative verb /dɔ́ː/ ‘be’. This appears to be a standard result stative (Ch. XX), although /tʰéntsʰɔ/ cannot be a main verb.

**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.’

Lit: ‘it is play+permitted to the children’

This allowance is generally deontic in nature, but can also be bouletic, for instance, (39) is felicitous if a society is dancing and I am not in it (deontic), or if I’m a terrible dancer and nobody wants to see me dance, so they don’t let me (bouletic). However, its use is false if I mean to say simply that I am a terrible dancer.

General or arbitrary permission (i.e. anyone can) still grammatically requires the permittee to be expressed in agreement. As is common with arbitrary agreement in Kiowa, the empathetic plural is used in such cases.

It is fairly simple to show that /tʰéntsʰɔ/ cannot be epistemic: In a context where the subject is known not to be doing an action yet is permitted to do so, a deontic possibility meaning should be available while an epistemic one should not be. That is the case in the follow-up context in (41).

1.4.1.2 /kʰôl/ ‘allowed’

Less commonly, /kʰ ôl/ expresses deontic permission, and especially permission linked to social mores, honors, and privileges. In Kiowa culture it is common for certain songs, dances, and religious items to be reserved for a certain person or certain people. When a person meets the criteria for that reservation, or if those cultural items are not reserved, then that item is /kʰ ôldɔː/ for the person. More recently the term is also used for legal permission. Poolaw’s glossary 2022 lists tax deductions as one example.

‘I am not allowed to dance’ (it is not my place to dance that)
The stem is bound, so it must incorporate with a welcoming verbal stem that gives a stative or active sense of permission. The active forms are discussed in §1.4.2.

<table>
<thead>
<tr>
<th>welcoming stem</th>
<th>result</th>
<th>usual English translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ /dɔ́ː/ 'be'</td>
<td>kʰôlₙ.s + dɔ́ː</td>
<td>'be able to'</td>
</tr>
<tr>
<td>+ /šm/ 'make, do, cause'</td>
<td>kʰôlₙ.s + ŝmːèː</td>
<td>'allow.PFV'</td>
</tr>
<tr>
<td>+ /šmgʃa/ 'become, make.DETR'</td>
<td>kʰôlₙ.s + ŝmgʃa</td>
<td>'become permitted'</td>
</tr>
<tr>
<td>+ /hɛː/ 'lacking'</td>
<td>kʰôlₙ.s + hɛː</td>
<td>'not allowed' (non-verbal predicate)</td>
</tr>
</tbody>
</table>

### 1.4.2.1 possibility+/ɔ́m/

The active granting of permission is most often expressed by incorporating the stem /tʰénts'ò/ (§1.4.1.1) onto the causative verb /ɔ̨́m/ 'make'. The result is a transitive verb, whose agent is the grantor of permission, whose object is what is permitted (actions are 3pl), and whose dative argument is the entity permitted.

(44) ŋkːiː há–bɛ gá=ðɛ=ɛː kǎj–gú gɔ̀ kǎj–gú gɔ̀ tʰɔ́gmùj

This transitive verb is often used to describe medicine or religious powers, where it is translated as 'grant', or in legal contexts as 'authorize'.

(45) hɔ̨́ndɛ gáʔ=tʰénts'ò+ɔ̨́ːm–ɛː dɔ́ːkɔ́+ɛː 0=ðɔ́ː

The detransitive form of /šm/ /šm–gà/ 'make–DET.PFV' is used to indicate being granted permission, or becoming allowed.

(46) ɛː–hɛː–dɛ+dɔ́ːm+tʰàj jà=tʰénts'ò+ɔ̨́ːm–ɛː

A similar form with /kʰ ōl/ is rarely used, but indicates the granting of permission in ways to which /kʰ ōl/ applies.

(47) tʰɔː=kʰɔ́ɡɔt gáː=kǐn+3pl=kʰôl+ɔ̨́ːm–ɛː

The stem is bound, so it must incorporate with a welcoming verbal stem that gives a stative or active sense of permission. The active forms are discussed in §1.4.2.

### 1.4.2 Causing possibility

A number of stems express causing possibility. In such cases, these describe events the result of which is a possibility modal. Caused possibility comes out as granting permission or letting things happen.

#### 1.4.2.1 possibility+/ɔ́m/

This transitive verb is often used to describe medicine or religious powers, where it is translated as 'grant', or in legal contexts as 'authorize'.

(45) hɔ̨́ndɛ gáʔ=tʰénts'ò+ɔ̨́ːm–ɛː dɔ́ːkɔ́+ɛː 0=ðɔ́ː

The detransitive form of /šm/ /šm–gà/ 'make–DET.PFV' is used to indicate being granted permission, or becoming allowed.

(46) ɛː–hɛː–dɛ+dɔ́ːm+tʰàj jà=tʰénts'ò+ɔ̨́ːm–ɛː

A similar form with /kʰ ōl/ is rarely used, but indicates the granting of permission in ways to which /kʰ ōl/ applies.

(47) tʰɔː=kʰɔ́ɡɔt gáː=kǐn+3pl=kʰôl+ɔ̨́ːm–ɛː

'The Black Leggings allowed me to dance this.'
1.4.2.2 /dɔ́ːpéː/ 'ask'

The verb /dɔ́ːpéː/ 'ask, order' is sometimes used to indicate granting permission. The standard lexical entry for this verb clearly involves asking or ordering someone to do something. However, sometimes it (or a homophonous form) can be used for possibility modals.

One instance of this is found in a narrative passage where one man locks another in a public restroom and will not let him leave until he drinks a bottle of whiskey. The gloss of ‘ask’ or even ‘order’ makes no sense.

(48) \( \emptyset=tɛːn–ɛː; \) \( tɛːp;=ɛɪlɛːp;y \) \( gəː=ɛdː=ɛ; \) \( kəl \) \( a=tɛːp; \) \( n≈ \)
\( \emptyset=tɛːn–ɛː; \) \( tɛːp;=ɛɪlɛːp;y \) \( gəː=ɛdː=ɛ; \) \( kəl \) \( a=tɛːp; \) \( n≈ \)

3SGS=\text{say}.PFV−HSY=\text{say}.PS\text{drink}.PFV\text{\|IMP and DF}

′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 /dɔ́ːpéː/.

1.4.2.3 /kɔ́n/+ ‘let’

Another stem involving the granting of permission is /kɔ́n/+ , ‘let’. This is a bound stem that Watkins (1984: 225) glosses as ‘permissive’. This gloss is broadly accurate. Specifically, we observe that /kɔ́n/+ 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.

The stem is incorporated onto a main verb that is inflected with the perfective and no modal inflection, even though there is a future-orientation to the modal; the speaker is telling the addressee to not stop a event that has yet to happen. The agreement on the verb reflects the arguments of the main verb, not an incorporated one.\footnote{All the examples here have third person subjects, but first-person subjects are acceptable.}

(49) tsɛ̄ɲː–dɔː kɔ́n+hɛːbà
tsɛ̄ɲː–dɔː kɔ́n+hɛːbà
dog\text{INV}\text{\|3INV=let+enter.PFV}

′Let the dogs in.′

(50) kíː ét=kɔ́n+ŋɛː–gəː
kíː ét=kɔ́n+ŋɛː–gəː
meat 3INVA:3PLO=let+eat−PFV

′Let them eat the meat.′

(51) è=kɔ́n+kíː+pįː+hɛːbà
e=kɔ̃+kíː+pįː+hɛːbà
3INVS=let+meat+eat+enter.PFV

′Let them come in to eat meat.′

Because of this usage, this marker’s usage can also be translated with a simple possibility modal (‘they can come in’). This is a conventional implicature of telling someone to let it happen.

The action the addressee takes to allow the event to take place can be direct, like in (49) or very indirect, like in (52), where the letter-writer suggests showing other Kiowas how they write to each other, so that they in turn might take it up.

(52) á=kɔ́n+kɔ̈mbàʔkɔː gəː gəː=kɔ́n+ko̞j+kút+hɛː–gəː
á=kɔ̃+kɔ̈mbàʔkɔː gəː gəː=kɔ̃+ko̞j+kút+hɛː–gəː
3EMP\text{\|\text{let+imitate:PFV and SA}} 3EMP\text{\|\text{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)
As this example also shows, /kɔ́n/ only takes scope over the event described by the verbal complex it is a part of. That is, it cannot take scope over the first clause. Elicitation shows it in such cases to be required on both conjuncts.

1.4.3 Capability: Ability and circumstantial possibility

Abilities describe root possibility modals that reflect the subject’s capacity of carrying out the described action, like *Elena can dance well*. Such a phrase in English can be whether she is doing it at the time or not, or even if she has never actually done it. In Kiowa, expression of ability is a peculiar semantic gap – it is not directly expressed. There are no ‘words’ describing abilities in the same abstracted sense. There are a number of indirect or unspecified methods of indicating ability based on some proven skill or action. More common are means of expressing inabilities that are not simply the negation of abilities. Most of these are indirect as well.¹⁵

An apparently simple elicitation prompt like *Elena can dance well* does not return a simple result. One can say she dances well, with the habitual (53a), which entails that she can. One can say she knows how to dance (53b). If the ability is a general skill, the verb /mɔ́ːgɔ́/ ‘be skilled’ is used (53c), and obviously entails ability. If the verb has a detransitive (non-agentive form), that form can be used to indicate a ‘manage to’ reading that entails an ability, especially with the habitual (54).

(53) Prompt: Elena can dance well.

a. Elena ą́n t’ágà–j ɬ̄m=gün–mɔ́
   Elena ą́n t’ágà–j ɬ̄m=gün–mɔ́
   Elena 3SG:3PLS=dance*–IPFVVT
   ‘Elena dances well.’

b. Elena ą́n=k̀ mn+hàj–glà+dɔ́:
   Elena ą́n=k̀ mn+hàj–glà+dɔ́:
   Elena 3SG:3PLS=dance*+inform*–DETRC+be
   ‘Elena knows how to dance.’

c. Elena ą́n=k̀ mn+mɔ́gɔ́
   Elena ą́n=k̀ mn+mɔ́gɔ́
   Elena 3SG:3PLS=danceC+be skilled
   ‘Elena is a good dancer.’

(54) Prompt: ‘Elena was able to clean the floor.’

Elena tôː+dɔ́m ą́n á=pʰiːl–à
Elena tôː+dɔ́m ą́n á=pʰiːl–à
Elena house+bottom:vague HAB 3SGD:3SGS=wipe.detr–PFVVT
‘Elena managed to clean the floor/got the floor cleaned.’

In the case of English, ability modals can be true even if the event has never happened. In Kiowa though, the ability expressions only apply if the event has taken place at least once. In the case that it hasn’t happened, you have to make a prediction, and use one of the above methods with the modal inflection.

The modal inflection is sometimes used for root possibility on its own. For instance, in one story, a man has locked another in a gas station restroom, forcing him to drink some alcohol before letting him out.

(55) hégɔ́ kɔ̂ːl ą=tʰoː+ṯê:
    k’íː~ gìg~ ěm=kʰîː–t’ɔː:
    hégɔ́ kɔ̂ːl ą=tʰoː+ṯê:
    k’íːgà hégɔ́ ěm=kʰîː–t’ɔː:
    just as some intersect 2SGA:3SGO=drink+take.PFV\IMP afterwards then 2SGS=leave.PFV–MOD
    ‘Just take it and drink. After that you can leave.’ (McKenzie et al. 2022: S227)

¹⁵The term dynamic is sometimes used to describe this kind of modality, specifically ones that are determined on the subject’s capacities, rather than some external set of propositions.
1.5 Root impossibility

Negative ability is expressed with a number of verbs indicating difficulty or inability, implied by negating the root possibility modals (39), or implied with a formulaic wh-question.

Circumstantial impossibility is expressed in a variety of ways as well. It is difficult to distinguish circumstantial impossibility from inability, since they both involve facts of the world. Abilities involve facts internal to the subject, while circumstantial modals focus on facts (though may sometimes include them).

1.5.1 Lack of ability

Lack of abilities are expressed by negating various means of expressing ability (see (§???), also (63b) in this section).

(56) Negation involved with an inability modal can indicate ability in a roundabout way, though it is not preferred.

(57) hɔ́n bót yán=pj̩ː+mɔ̂ː–gɔ́:
    hɔ́n bót yán=pj̩ː+mɔ̂ː–gɔ́:
    NEG bót 2SGD:3PLS=cook+be unable–NEG
    ‘You can cook bot.’ (Lit. You are not unable to cook bot)

(58) hɔ́n hɔ́ndé ̨   glà=mɔ̂ː+dɔ̂ːḿ̩ː:
    hɔ́n hɔ́ndé ̨   glà=mɔ̂ː+dɔ̂ːḿ̩ː:
    NEG thing\INDEF–BAS 3EMPD:3PLS=be unable+be.NEG
    ‘There is nothing to great for you to do.’ (Harrington 1928: 115)

Harrington (1928) also seems to encounter this indirectness. He lists ‘z-ά-dα’ as ‘be unable’ (p. 17), but his examples are actually mis-glossed cases of /mɔ̂ː/. Harrington also lists pᾱ'-t̩̄h as ‘not to be able’ (p. 131). This is actually the negative form of /pɔ̀ː t̩̄h/: ‘come to feel to be easy’. That is, the subject is not finding it easy.

1.5.2 Circumstantial inability

In other cases, ‘inability’ tends to be circumstantial in nature. That is, the subject has a capacity to perform the event, but is somehow prevented by outside forces. Kiowa has a number of ways to describe this kind of inability.

1.5.2.1 /ɔ́ː/ ‘become unable’

The verb /ɔ́ː/ ‘become unable’ welcomes incorporating verbs, linked by the particle /pá/, especially if the inability is linked to the circumstances. In (59), the speaker was stunned by another person’s blunt words, and found themselves unable circumstantially to reply.

(59) tsɔ̂ː:  ∅=tɔ́  n~  ēg̃=j̩̄g̃  j̩=háj̩̄j̩+tɔ̂ː+pà+ɔ́ː:
    tsɔ̂ː:  ∅=tɔ́  n̂  hégɔ̂  hégɔ̂  j̩=háj̩̄j̩+tɔ̂ː+pà+ɔ́ː:
    thusly 3SGS=say.PFV and DF meanwhile then 1SGD:3PLS=anyhow+say+PART+become unable.PFV
    k’igłà
    k’igłà
    afterward
    ‘That’s what she said, and afterwards I just couldn’t say anything after that.’ (McKenzie et al. 2022: S180)

1.5.2.2 /hę́ː/ ‘lacking’

Sometimes a circumstantial inability can be expressed by incorporating the verb stem onto the welcoming form /hę́ː/ ‘lacking’, making a descriptive predicate.

(60) kʰɔ̂ː:  āj+hę́ː:
    kʰɔ̂ː:  āj+hę́ː:
    car start+lacking 3SGS=be
    ‘The car won’t start.’
CHAPTER 1. MODALITY

1.5.2.3 /mɔ́ɔ́ː/ 'be unable (from circumstance)'

In texts and elicitation, the expression of 'cannot' with a circumstantial context usually employs the verb /mɔ́ɔ́ː/ 'be unable (due to circumstance)', which is limited to circumstantial modal contexts. It is far more commonly used in its imperfective form /mɔ́ɔ́ːdèp/.¹⁶

(61) ts̄̂ː: dōj+tōn=k'ɔ́t
    ʔán=kɔ́l+mɔ́ɔ́ːdèp
    horse too much+fat=as.UNEXP.SA 3SGD:3PLS=turn around+be unable
    'The horse is too fat and it can't turn around' (P. McKenzie Collection Box 21 Folder 4 Pg 21)

1.5.3 Eliciting different flavors of inability

Elicitation with contexts that do not involve circumstance require the use of other verbs than /mɔ́ɔ́ː/. For instance, if we are talking about making bót, a Kiowa delicacy, the verb indicates the reason for the inability. Comparing with the use of /mɔ́ɔ́ː/ when circumstance prevents one from being able (62), we can see other verbs to describe not knowing how (63), or it not being proper (64), or having tried but failed (??). One can also indicate being told not to do it with the verb /îl/, 'warn, dissuade, forbid' (??), §??). As with /mɔ́ɔ́ː/, what is impossible or difficult is the grammatical subject, and the person it is impossible for is dative-marked.

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

(62) bót ʕā=þi+mɔ̀ɔ́ːdèp
    bót ʕā=þi+mɔ́ɔ́ːdèp
    1SGD:3PLS=cook+be unable
    'I can't make bót.'

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

(63) a. #bót ʕā=þi+mɔ̀ɔ́ːdèp
    b. hɔ́n bót ʕā=þi+háy–g–ɔː
    hɔ́n bót ʕā=þi+kʰɔ́l+dɔ́ː–mɔ́:
    NEG bót 1SGD:3PLS=cook+inform–DET–NEG
    'I can't make bót.' (lit. 'I didn't learn how to make bót')

Context:
I was asked to make bót, but it isn't the Kiowa way for me to do it.

(64) a. #bót ʕā=þi+mɔ́ɔ́ːdèp
    b. hɔ́n bót ʕā=þi+kʰɔ́l+dɔ́ː–mɔ́:
    hɔ́n bót ʕā=þi+kʰɔ́l+(dɔ́ː–mɔ́:
    NEG bót 1SGD:3PLS=cook+allow+be–NEG
    'I can't make bót.'

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

(65) a. #bót ʕā=þi+mɔ́ɔ́ːdèp
    b. bót ʕā=þi+îl+dɔ́:
    bót 1SGD:3PLS=cook+forbid+be
    'I can't make bót.'

¹⁶This verb seems to be derived from /mɔ́ɔ́ː/ 'somewhat' + /ɔ́ː/ 'become unable'. The nasality does not carry over to the second vowel as it usually does, which suggests an incorporation boundary; those block nasal spreading. Also, the short vowel on /mɔ́/ suggests a solid lexicalization. Speakers now consider this word monomorphemic.
1.6 Root necessity

1.6.1 Priority necessity

Priority necessitates combine different kinds of modal flavors that involve priorities that can affect the described actions. For instance, deontic modals

It is difficult in elicitation to distinguish bouletic modals from deontic ones. If you're telling someone what to do, the line can get blurry. Teleological modals are easier because you merely need to add the goal explicitly.

Kiowa does not employ many dedicated expressions of direct deontic obligation, that indicates a necessity based on the laws or customs. Elicitation found none, and eliciting 'have to' rarely had fruitful results with direct translation. The only observed deontic expression is /mâːsɔ̀t/ ‘supposed.to’, which is rare.

1.6.1.1 /mâːsɔ̀t/ ‘supposed to’

The free adverbial /mâːsɔ̀t/ is an adverbial used for a modal base involving expectation due to various social factors, like a plan (??) or the law (67), which can both be characterized as moderate deontic necessity. In all the best worlds where the expectations are met, the event happens. This adverb is used without modal inflection.

\begin{align*}
\text{(66)} & \quad \text{/mâːsɔ̀t/ ‘supposed to’} \\
& \quad \text{The free adverbial /mâːsɔ̀t/ is an adverbial used for a modal base involving expectation due to various social factors, like a plan (??) or the law (67), which can both be characterized as moderate deontic necessity. In all the best worlds where the expectations are met, the event happens. This adverb is used without modal inflection.}
\end{align*}

\begin{align*}
\text{(67)} & \quad \text{/mâːsɔ̀t/ ‘supposed to’} \\
& \quad \text{The majority is supposed to make these decisions’ (McKenzie et al. 2022: S189)}
\end{align*}

The use of /mâːsɔ̀t/ implicates that the event is not happening like it ought to, but that is not an entailment.

While /mâːsɔ̀t/ is rare, much more common are several expressions and morphemes used to translate various deontic necessities, all of which have independent non-deontic meanings.

1.6.1.2 Imperative ‘necessity’ modals

Most often, the imperative is used for this kind of expression. In English, necessity modals are often used to indirectly give commands. In Kiowa it's the converse: commands are used to indirectly express necessity. Instead of saying “you have to do it,” one simply says “do it.” A good example of this switch comes from Parker McKenzie’s notes, with his own translation (including specification of number).

\begin{align*}
\text{(68)} & \quad \text{Kiowa+speak–bas 2sgA:1sgO=ask–ipfv–ipfv–mod=bas 2sgA:3plO=decide–ipfv–hsy–ipfv} \\
& \quad \text{You, 2s, must write up beforehand Kiowa words that you will be asking me about.’ (P. McKenzie Collection Box 21 Folder 1 Pg 81).}
\end{align*}

When used for deontic modality, the imperative usually comes with a particle: /dá/ if the modal resulting from the imperative is absolute, /dáàl/ if it is strong, or /hét/ if it is weak. In section (1.8), we discuss how these particles lead to different strengths; here we can see that imperative ‘deontics’ with /dá/ cannot be avoided, while those with /dáàl/ can. This is reflected in translations and judgments. As we see in (70), the imperfective imperative that is used for ongoing or generic commands can be used for regular or long-term obligations.

\begin{align*}
\text{(69)} & \quad \text{Kiowa+speak–bas 2sgA:isgo=ask–ipfv–ipfv–mod=bas 2sgA:3plO=decide–ipfv–hsy–ipfv} \\
& \quad \text{abs.nec 2sgA=arrive–pfv \textbackslash imp} \\
& \quad \text{You have to come tomorrow.’ (PM Archives, Box 21 Folder 1 Pg 17)}
\end{align*}
CHAPTER 1. MODALITY

The story where the trickster Sëndë tricks a White man, as told by Alma Ahote (McKenzie et al. 2022: 145 et seq.), shows the use of /hét/ to give various senses and uses of weak necessity. First, the White man finds out he's talking to Sëndë, and asks him to do a trick. He is adding to Sëndë's To-Do List, but only if the latter agrees.

'Story where the trickster Sëndë tricks a White man, as told by Alma Ahote (McKenzie et al. 2022: 145 et seq.), shows the use of /hét/ to give various senses and uses of weak necessity. First, the White man finds out he's talking to Sëndë, and asks him to do a trick. He is adding to Sëndë's To-Do List, but only if the latter agrees.'

Sëndë demurs, saying his medicine is far away, so the White man strengthens his request to a command:

'Story where the trickster Sëndë tricks a White man, as told by Alma Ahote (McKenzie et al. 2022: 145 et seq.), shows the use of /hét/ to give various senses and uses of weak necessity. First, the White man finds out he's talking to Sëndë, and asks him to do a trick. He is adding to Sëndë's To-Do List, but only if the latter agrees.'

Sëndë still balks, so the White man makes an offer, which will only go through if the addressee accepts.

'Story where the trickster Sëndë tricks a White man, as told by Alma Ahote (McKenzie et al. 2022: 145 et seq.), shows the use of /hét/ to give various senses and uses of weak necessity. First, the White man finds out he's talking to Sëndë, and asks him to do a trick. He is adding to Sëndë's To-Do List, but only if the latter agrees.'

Sëndë takes the horse and pretends he can't get it to walk because the horse knows he isn't its owner. He gently prods the White man for some help to convince it:

'Story where the trickster Sëndë tricks a White man, as told by Alma Ahote (McKenzie et al. 2022: 145 et seq.), shows the use of /hét/ to give various senses and uses of weak necessity. First, the White man finds out he's talking to Sëndë, and asks him to do a trick. He is adding to Sëndë's To-Do List, but only if the latter agrees.'

This kind of exchange continues until the White man watches Sëndë ride off with all his possessions…but at least he got to see a trick!

1.6.1.3 Habitual 'deontics'

Imperatives are useful for adding obligations to the Common Ground, but how do Kiowa speakers describe an obligation that is already there? Usually people simply use a generic sentence, expressed with a habitual particle /àn/. This is notably the case for explaining cultural expectations, such as what Kiowas ought to do, in a manner similar to a parent telling a child, "We say 'please' in this house" as an implicit admonishment. Note that the singular noun in the prompt in (76) was returned as a plural, which is normal for habitual statements in Kiowa.

Prompt: A man has to take care of his family.
1.6. ROOT NECESSITY

1.6.1.4 Modal inflection for circumstantial necessity

Sometimes the modal inflection can be used to indicate a necessity borne of pressing circumstance. For instance, if it is time to leave.

Lit. 'Men take care of their loved ones'

The use of negation in these forms is discussed in §1.7.2

1.6.1.5 /ɔ́n+dɔ́ː/ 'want, be in need'

The verb /ɔ́n+dɔ́ː/ 'want, be in need' is a main verb that can be used to express needing something. When it is used that way it denotes a circumstantial modal, and when it is 'want' it denotes an attitude (§§??). It is an intransitive verb, even if its English counterpart is transitive. When there is an overt object of need, that object is the intransitive subject, and the needer is an applicative argument (??).

17

Elicitation also finds /ɔ́n+dɔ́ː/ meaning 'need' sometimes. While /ɔ́n+dɔ́ː/ can be used for circumstantial necessity, it cannot be used for deontic necessity.

1.6.2 Caused obligation with –/hóp/

Kiowa has a verb suffix –/hóp/ 'tell to' that indicates a transferred obligation: It applies to sentences with third-person subjects, and tells the addressee to have that third person do the action. It adds to the Addressee's To-Do List the task of adding to the subject's To-Do list. As such, it can be translated into English with 'have to' or 'should', though it does not directly denote that modal priority. However it is closer to telling someone in English to make sure the person does it.

This suffix is added to the perfective stem of the verb and does not inflect or bear other inflection.

17It seems that /ɔ́n+dɔ́ː/ is derived from the stative result form of /ɔ́n/ 'think', although modern speakers do not consider it as directly related.

18Parker McKenzie (ms.) also discusses the ambiguity in his papers.
1.6.3 Bouletic necessity /jàl/

One common expression to express propositions subject to the speaker's desire is /jàl/ 'hopefully', which is a kind of optative particle that describes what happens in all the possible worlds where the speaker's relevant wishes come true.⁹⁹ It is generally sentence-initial, and always occurs with with no modal or aspectual inflection, though it can occur with negated clauses.

(82) jàl jìgàtʰɔ̀j mè=k’jáːl–éː
    jàl jìgàtʰɔ̀j mé=k’ál–éː
    hopefully each other 2DUA:REFL=meet.pfv–PFV
    'I hope you two meet each other.'

(83) jàl hɔ́n ɛ̂=ɔ̂j+kʰín+ɔ̂m–gɔ̀ː
    jàl hɔ́n ɛ̂=ɔ̂j+kʰín+ɔ́m–gɔ̀ː
    hopefully NEG 1sgD:3sgS=again+cough+make DETR–DETR.NEG
    'I hope I don’t catch another cold.' (P. McKenzie Collection Box 21 Folder 02 Pg 06)

One common use of /jàl/ is in well-wishes.

(84) jàl hêčkɔ̀ ján=ʊː!
    jàl hêčkɔ̀ ján=ʊː!
    hopefully Christmas 2SGD:3PLS=be pleasant
    'Merry Christmas!' (lit. ‘hope your Christmas is great!’)

Using /yàl/ in a yes/no question asks about the addressee's hopes.

(85) hò jàl há–bé hóldé ɛ̂m=ɔ̂j+bɔ̀ː
    hò jàl há–bé hóldé ɛ̂m=ɔ̂j+bɔ̀ː
    yes/no.q hopefully some–along soon 1sgA:2sgO=again+see.pfv
    'Do you hope I’ll see you again soon?'

Semantically, /jàl/ is always indexical and future-oriented from the utterance time. To talk about hopes at other times, or to allow for non speech act participants to be the hoper, the predicate /òbàtɔ̀ː/ 'hope' is used (Chapter XX: Attitudes and intensions).

1.6.4 Prediction: Future ‘tense’ or WOLL

Standard predictions generally involve the modal inflection, and is most often translated into English with ‘will’, as it is used for most future contexts.

(86) dɔ́ː+kʰìː: ə=ɔ̂j+pɔ́ː+tsán–t’ɔ̀ː
    dɔ́ː+kʰìː: ə=ɔ̂j+pɔ́ː+tsán–t’ɔ̀ː
    holy+day 1sgS=again+seeC+arrive.pfv–MODVT
    'I will/should/might come see you again on Sunday.'

However, like English will, the modal inflection is not a tense marker, but instead indicates root necessity: In all the relevant possible outcomes given how things are going, the proposition will become true. This modal form is sometimes given the abstract name WOLL, after the German modal form.

The modal inflection varies in force, so the translations range from ‘will’ to ‘should’ to ‘might’. As we saw in §1.2.1, this weakening effect can be attained by shrinking the domain the universal quantifier applies to. Adverbials like /hájáttò/ (§1.2.3.1) also strengthen or weaken the modal.

⁹⁹Parker McKenzie lists /tsàl/ as an alternative form, though it may be an archaic word, for we have neither attested it nor been able to elicit it.
1.7. ROOT NEGATIVE NECESSITY

Expressing negative deontic necessities (essentially “must not”) indicates that in no possible worlds, the proposition will come true. Or rather, that in all possible worlds it will not come true. In addition, expressions of prohibition do not involve the imperative in Kiowa, and there are no dedicated modal expressions to it. Instead, it involves either the prohibitive form, a negated generic clause, or the verb /îl/ ‘dissuade, forbid’.

Domain sizing particles (§1.8) can be used to fix the prediction as stronger, and narrowers can fix it as weaker.

'I might come see you again on Sunday.'

If the event’s beginning or culmination is imminent, /mîn/ ‘about to’ is used.

1.6.5 Futurate imperfective

In many languages, and in Kiowa, imperfectives can be used for future events that have yet to start, like *The Yankees are playing tomorrow*. Copley (2008) points out that this ‘futurate’ use is licensed by the certitude that the event will happen, for instance if it is planned. In all the realistic possible worlds where the plan plays out, this event will happen. This sense of playing out fits with modal senses of the imperfective like Portner (1998), Deo (2009), which describe events that will eventually become complete if nothing intervenes (ch. on aspect).

1.7 Root negative necessity

Expressing negative deontic necessities (essentially “must not”) indicates that in no possible worlds, the proposition will come true. Or rather, that in all possible worlds it will not come true. In addition, expressions of prohibition do not involve the imperative in Kiowa, and there are no dedicated modal expressions to it. Instead, it involves either the prohibitive form, a negated generic clause, or the verb /îl/ ‘dissuade, forbid’.

Context:

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

'Melody coming to see me again on Sunday.'
1.7.1 Prohibitive form

The form that Watkins (1984) labels the 'prohibitive' is most often used for this meaning. This is a periphrastic construction, using the particle /pòj/ 'NEG.NEC' which transmits instructions that under no circumstances shall the event take place, along with the non-negated modal inflection. The prohibitive form is usually used for forms that indicate the illocutionary act of telling someone not to do something. That is, it puts "do not" on the addressee's To-Do List (§3). For instance, in (?), the speaker is exhorting listeners not to be stingy with Christmas presents.

(92) hégɔ́ pój káñ+hólɔ́ bà=tòj=tɔ́ː:
      ‘Don’t give people dumpy clothing.’ (Hokeah 1946)

The speaker can be included in the list.

(93) pój ɛjːː–hɔ́ː há Jackson bà=tòj=tɔ́ː:
    ‘Let’s not say anything.’ (McKenzie et al. 2022: S112)

This form can also be used for caused prohibition. In (?), the speaker is telling the addressee not to let a baby cry, which would hinder their escape.

(94) pój ɛjːː–hɔ́ː há Jackson bà=tòj=tɔ́ː:
    ‘Don’t let him cry out.’ (McKenzie et al. 2022: S55)

1.7.2 Negated habitual 'deontics'

Generic prohibition can be expressed by using the prohibitive form with the modal-marked imperfective, or by using a negated habitual form, the converse of the use in §1.6.1.3. The syntax requires the negation particle /hɔ́n/ to appear to the left of the habitual particle /àn/. This is generally seen as indicating that /hɔ́n/ is higher than /àn/ in the syntax. However, semantically there is variability in scope. Sometimes it is negation > habitual, which gives a sense of 'never', while other times it is habitual > negation, which gives a sense of 'usually don’t'.

(95) gįː–gɔ́ː tsój hɔ̣n ɛn a=tʰɔ̀ː–mɔ́ː
    ‘One mustn’t/shouldn’t drink coffee at night.’ (Lit. ‘People do not drink coffee at night.’)

(96) sńː–dɔ̀ hɔ̣n tʰáː–dé bèt=ɔ̣–mɔ́ː
    ‘Children should not be given matches.’ (Lit. ‘People do not give children matches.’ P. McKenzie Collection Box 18 Folder 02 Page 30)

1.7.3 /îl/ ‘forbid, dissuade’

The verb /îl/ is commonly used to describe forbidding. Strictly speaking, it denotes the set of speech acts of telling someone not to do something, either as a warning, an exclusion, or retroactively as an admonishment.

In its result stative form it can be used to describe a thing or activity that is forbidden. As such that thing or activity is the subject, and the person forbidden from it is expressed as a dative argument.
1.8 Domain sizing particles

In §1.2.1, we discussed how domain widening can strengthen a necessity modal, by applying the universal quantifier to a wider range of possible worlds. With root modals we can see the same effect, and Kiowa even has particles that specifically indicate a widened or a narrowed domain. These particles can be described indicating the strength of the necessity, from completely strong (thus a hard obligation) to incredibly weak (a mere suggestion or invitation), to a completely negative strength. None of these particles (??) can co-occur. They are often used with imperatives (98) but sometimes with modal inflection (99), with the exception of /pòj/, which can only be used with the inflection.

<table>
<thead>
<tr>
<th>particle</th>
<th>force</th>
<th>gloss</th>
<th>to-do</th>
<th>circumstances</th>
</tr>
</thead>
<tbody>
<tr>
<td>dá</td>
<td>absolute necessity</td>
<td>ABS.NEC</td>
<td>obligation, must</td>
<td>under all</td>
</tr>
<tr>
<td>dàáll</td>
<td>strong necessity</td>
<td>STR.NEC</td>
<td>advice, should</td>
<td>under the best</td>
</tr>
<tr>
<td>hét</td>
<td>weak necessity</td>
<td>WK.NEC</td>
<td>suggestion, invitation</td>
<td>if you like</td>
</tr>
<tr>
<td>pòj</td>
<td>negative necessity</td>
<td>NEG.NEC</td>
<td>prohibition</td>
<td>under none</td>
</tr>
</tbody>
</table>

Table 1.2: Domain-sizing particles

(98)  dá/dááll/hét kí: bàʔ=kɔ̂n
      dà/dááll/hét kí: bàt=kɔ̀n

ABS/STR/WK.NEC meat 2SGA:3PL.O=bring.PFV\IMP

  a. /dá/: you have to bring meat
  b. /dááll/: you should bring meat
  c. /hét/: why don't you bring meat

(99)  t’ólɔ̀ː+tʰǫ̀ː gà=kɔ̂n–tɔ́ː  kí:
      nɔ̀  nɔ̨̀  nɔː= dà/dááll/hét/pòj kí:

sweet+drink 1SGA:3SGO=bring.PFV–MODVT and.DF ABS/STR/WK/NEG.NEC meat

  a. /dá/: you certainly will bring the meat
  b. /dááll/: you will bring the meat
  c. /hét/: why don't you bring the meat
  d. /pòj/: you, don't bring the meat / you will not bring the meat

The particle /dááll/ seems to be derived from the combination of /dá/ and the clitic /àl/ 'also', but speakers do not think of it as such. Indeed, one can find contexts where /dá/ is combined with /àl/.

(1)  kʰɔ̂ː dá=ál    à=kɔ̂l
     kʰɔ̂ː dá=ál    à=kɔ̂l

car STR.NEC=also 2SGA:3SGO=turn.PFV\IMP

‘You 2s must also turn the car around’ (P. McKenzie Collection Box 21 Folder 1 Pg 17)
Notably, with modal inflection these are rejected in out of the blue contexts; they need some content to which they can refer, like the first conjunct in (??). However, they are fine to use out of the blue with imperatives, except for /pòj/, which cannot be used with imperatives.

These particles offer a mix of modal meaning and imperative meaning. The interaction of modals and imperatives has drawn significant interest, but Portner (2007) links imperatives to modals in a way that is instructive here. The ordering sources that specify priority modals (deontic, bouletic, teleological, etc) draw their information from what Portner calls the To-Do List, an analogue to the Common Ground (ch. XX) but which indicates various tasks requiring completion. Imperatives add new positive tasks to the To-Do List, and prohibitives add negative tasks. Priority modality then reflects what is on this list. Essentially, an imperative results in a necessity modal being in the Common Ground, which could be weak or strong. “Go to the store and buy milk” proposes to add that idea to the listener’s To-Do list, which in turn is reflected by proposition with a necessity modal: We need milk.

Formally we can derive this effect for the Kiowa particles if they indicate adding to the To-Do list and also affect the domain of the necessity modal. The particle /dá/ widens the domain of the modal. Widening a necessity modal’s domain strengthens it: in all the possible worlds. Meanwhile, /dáàl/ narrows the modal’s domain just the best possible worlds. The use of /hét/ indicates is narrowed to the point that it only includes the worlds where the addressee agrees to do it. Meanwhile /pòj/ narrows it to zero worlds. We can now propose why it is unavailable with the imperative. The imperative in Kiowa marks a positive proposition on the To-Do List, which is incompatible with a priority of never doing it. We can get a close sense of this distinction with the ‘under x circumstances’ locution in English.

(100) Modal priority strength associated with To-Do proposition

a. /dá/ You must/should under all circumstances
b. /dáàl/ You must/should under all the best circumstances
c. /hét/ You must/should under a small number of desired circumstances
d. /pòj/ You must/should under no circumstances

1.9 Conditionals

Conditional clauses are another important realm of modality. Conditional clauses modify the modal base, telling us information about which worlds are at issue. In (101), the if-clause indicates that among the circumstances that will is treating, we are only considering worlds where it rains.

(101) a. If it rains, we will not go.

In essence, the truth of the main clause is conditioned on the embedded clause being true. In (101), the truth of whether you go or not depends on whether or not it rains.

Kiowa conditional clauses are not formed with a dedicated conjunction such as if. Instead, the condition clause is marked with the modal suffix and connected with the clause with the enclitic switch-reference connective =gɔ̀/nɔ̀ (section (ref)). We will gloss it as ‘if’ here, since that is what it corresponds to in English, but it is also used for ‘as, when, and’, and other connective meanings.

(102) ∅=sép+dɔ̀ː–t’ɔ̀ː=nɔ̨̀ hɔ́n bà=báː–mɔ̂ː–t’ɔ́ː=if.df
∅=sép₃⁺+dɔ́ː–t’ɔ́ː=nɔ̀ hɔ̨́n bà=báː–mɔ̂ː–t’ɔ́ː
3SG=rain+be–MODᵥ₃=if.DF NEG INCL₃=go–NEG–MODᵥ₃
‘If it rains, we won’t go.’
The conditional clause usually comes before the main clause, but it can come after it, or embedded within it.

1.9.1 Circumstantial conditions

With a circumstantial conditional, an asserting main clause always has a modal marker.

(104) báːò à=kɔ̨̂n–tɔ̨̀ː=nɔ̨̀ à=kɔ̂n–tɔ́ː=nɔ̀
    cat à=kɔ̂n–tɔ́ː=nɔ̀
    2sgA:3sgO=bring pfv–mod vt=if.df
    sàn à=pɔ̀ːdôː–tɔ̀ː=nɔ̨̀ à=pɔ̀ːdôː–tɔ́ː=nɔ̀
    sàn à=pɔ̀ːdôː–tɔ́ː=nɔ̀
    3sgA:3sgO=care for pfv–mod vt=if.df
    ‘If the child brings home a cat, she’ll take care of it.’

1.9.2 Epistemic Conditions

Conditional clauses can modify an epistemic modal as well. However, as epistemic modals generally do not take
modal inflection in Kiowa, the main clause does not bear it. The adverbial /mɔ́n/, which marks epistemic conclusion,
is often present.

(105) Prompt: If Tom has the knife, then he killed Sam.
    Tom k’ɔ̂ː ∅=dóː–tɔ̀ː=gɔ̀, k’ɔ̂ː ∅=dóː–tɔ́ː=gɔ̀,
    knife ∅=dóː–tɔ́ː=gɔ̀, ∅=dóː–tɔ́ː=gɔ̀,
    3sgS:3sgS=hold–mod vt=if.sa infer Sam 3sgS:3sgS=kill.pfv
    ‘If Tom has the knife, he must have killed Sam.’

(106) If Tom didn’t kill Sam, then Harry must have.
    Tom hɔ̨́n Sam ∅=hóːdɔ̂ː ∅=hóːdɔ̂ː
    neg 3sgS:3sgS=kill.neg 3sgS:3sgS=kill.pfv
    nɔ̨̀ ɔ́–j–hjɔ̀=dò ɔ́–j–hjɔ̀=dò
    5–j–vague–def=because of 5–j–vague–def=because of
    ∅=hól ∅=hól
    Harry mɔ̨̀ ∅=hól
    3sgS:3sgS=kill.pfv
    ‘Tom didn’t kill Sam, and thus Harry must have.’

1.9.3 Counterfactuals

Counterfactuals are conditional clauses where the condition being expressed is known to be false. They are lin-
guistically interesting because in many languages they trigger curious inflection, such as the past tense in English (107).

(107) If you had/(*have) been there, I would have seen you.

Kiowa counterfactuals do not trigger any special inflection. They resemble ordinary conditionals morphologi-
cally, in that both the if-clause and the main clause are marked with modal inflection. However, the if-clause begins
with the particle /ɔ́ ̨gɔ̀l/ ‘CNTRFACT’, which has no other meaning than to signal counterfactuals.21

21 There are two adverbials that look like they are built from this stem, although their current meanings would not appear composed from
counterfactual meaning: /ɔ̨́gɔ̀làl/ appears to be built out of /ɔ̨́gɔ̀l=àl/ cntrfct=also but means ‘in turn’. The word /ɔ̨́gɔ̀ltʰɔ̀p/ appears to be built
out of /ɔ̨́gɔ̀l+tʰɔ́–p/ cntrfct+beyond–onward/ but means ‘in reply’. Speakers do not break either of these down.
1.9.4 Relevance conditionals

Sometimes, the conditional clause does not modify the truth of the statement, but describes what might make it relevant to the speech situation. For instance, in (??), whether or not you come over does not affect whether or not I have any bót; I do anyways. It is as if there is a hidden "you should know" in the sentence. In a relevance conditional, what the conditional modifies are the worlds where the main clause is relevant. These worlds are not generally expressed by an overt modal.

(109) If you come over, I made some bót. In some of the worlds where it is relevant that I made some bót, you come over and I made some bót.

Relevance conditionals are often called ‘biscuit’ conditionals after an example where the speaker had biscuits. I have not observed any in texts, but they are more common in conversations than narratives. Then again, offering food is the norm in Kiowa culture, so there is little sense in using a conditional. Attempts at elicitation found that instead of conditionals, suggestions were made. A surefire way to elicit relevance conditionals is a translation task where the condition is about the future but the main clause describes a past event; that way the main event cannot have depended on the condition.

1.9.4.1 Context: You are inviting a friend over, and are using the promise of bót to entice them. You tell them, “If you come by, I made some bót.”

(110) ém=tsán, bót gát=ɔ́ːm–ę́ː=dò
ém=tsán bót gát=ɔ́ːm–ę́ː=dò
2SGS=arrive.PFV IMPER bót 1SGA:3PLO=make–PFV=because

‘(You should) come by, because I made some bót.’
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