Chapter 2

Gradability and degrees

2.1 Gradability in natural language

If I point you towards a 10-foot/3-meter pole, and tell you *that is a long pole*, you are likely to agree with me. If I point you to a 10ft/3m pencil, you would almost certainly agree it was long. But if I point you to a 10-ft/3m long bridge, you are unlikely to agree that *it is a long bridge*. In fact, if I told you it was long, you would likely think I was being sarcastic. The adjective *long* is a classic example of a gradable predicate.

Many predicates, like *pregnant* or *from New Jersey*, are simply true or false about what they describe, but a large number of expressions are gradable. They denote properties that apply to a certain extent or degree. Their truth often depends highly on contexts of explicit or implicit comparison. What makes something long depends on a number of factors, including the type of object being measured, and the kind of objects it is being compared against. If I point you to a covered wooden bridge that is 100 feet/30 meters long, you might agree that it is long, for a covered bridge. But if we compare it to bridges in general, which could span miles/kilometers, it is not even close to long.

2.1.1 Gradable predicates

Gradability is a pervasive feature of language, and has repeatedly been explored in philosophy of language and semantics; see Schwarzschild (2008) or Hohaus & Bochnak (2020) for some reviews of the literature. Gradability has only recently become an area of study in documentary linguistics.

Discussions of gradable predicates typically focus on adjectives, but a lot of adverbs are gradable too. Whether an event is conducted *quickly* depends on the same kinds of comparisons and internal factors that determine whether an object is *long*. Even nouns and verbs also show some effects of gradability in some contexts.

Gradable predicates reveal a large number of subtle differences in grammaticality and semantic acceptability, which allow us to organize predicates into groups associated with particular formal concepts. For instance, gradable predicates with a maximal value (like *full*) behave slightly differently than predicates without one (like *tall*); one can add the modifier *completely* to the former but not the latter. Consequently, a lot of the semantic fieldwork and investigation on gradable predicates involves trying to see how these groups fall out of the data in the target language. However, the groups and their diagnostics vary across languages, so first we have to look for differences among lexical items.

2.1.2 Background on Degrees

A large body of research has sought to formalize the meaning of gradability so that we can predict its effects. The most effective method has been to employ degrees. Kennedy (1999) makes a seminal case for degrees and argues against deriving gradability from mere vagueness. When a gradable predicate describes an object, it expresses where it sits on a particular scale of measurement, which extends along a particular dimension (Cresswell 1976). For instance, if you say that a bridge is *three meters long*, you have specified that it sits at the value of 3m on the scale of length.

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{bridge.png}
\caption{The bridge is three meters long.}
\end{figure}

This might seem trivial at first, but it turns out to be quite powerful. From this we can derive the property of being three meters long as having a length of at least three meters. That is, the object's position on a scale of length
exceeds the position of three meters on the same scale. Different properties will work the same way, but on different scales.

(2)

<table>
<thead>
<tr>
<th>predicate</th>
<th>property that its argument x has</th>
<th>formalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>three meters long</td>
<td>x’s length is at least three meters</td>
<td>$\lambda x. \text{length}(x) \geq 3m$</td>
</tr>
<tr>
<td>three meters tall</td>
<td>x’$\text{ ’s height is at least three meters}$</td>
<td>$\lambda x. \text{height}(x) \geq 3m$</td>
</tr>
<tr>
<td>three meters around</td>
<td>x’$\text{ ’s circumference is at least three meters}$</td>
<td>$\lambda x. \text{circ}(x) \geq 3m$</td>
</tr>
</tbody>
</table>

Put another way, the overt predicate provides the scale, while the amount (three meters) tells us how far along that scale we are measuring. When we examine gradable predicates, we always want to ask: What is the scale at issue?

Gradable predicates are usually used without any explicit measure: long, wide, tall, around…, etc. This form can be called simply a positive predicate. However, it is fruitful to understand these as working just like three meters long, but with a silent contextual threshold instead of an explicit measure. If something is three meters long, its length at least reaches three meters. If it is just long, its length at least reaches some standard of length. It is like there a null contextual length included with these simple positive predicates. Typically that null measure is included in the syntax, and called pos for ‘positive’.

(3)

<table>
<thead>
<tr>
<th>predicate</th>
<th>property that its argument x has</th>
<th>formalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>four meters long</td>
<td>x’s length is at least as much as four meters</td>
<td>$\lambda x. \text{length}(x) \geq 4m$</td>
</tr>
<tr>
<td>(pos) long</td>
<td>x’s length is at least as much as a contextual standard $d_c$</td>
<td>$\lambda x. \text{length}(x) \geq d_c$</td>
</tr>
</tbody>
</table>

No matter how positive predicates are formalized in the grammar, we need to understand what the threshold of comparison is. The contextual standard is up to the speaker to choose, so there is a lot of vagueness and room for variation. A bridge might be long sometimes, and not long other times. Two people might look at the same bridge and if they disagree on whether it is long, they are actually disagreeing on where the threshold is or should be.

2.1.3 Gradability without degrees

While degrees have become the ‘standard’ prism for analyzing gradable predicates, it is not along. Bochnak (2015) argues that the California isolate Washo lacks degrees altogether, because Washo lacks the following key properties that are used as arguments for degrees.

(4)

- No comparative or superlative morphology (like –er or –est)
- No measure phrases (like three feet long)
- No degree-modifying adverbials (like very)
- Gradable predicates are all norm-related
- No comparisons of items that are close in measurement

Bochnak derives these properties simply, by removing degree variables from the predicate denotations in Washo. Instead they are simply tall for the utterance context.

(5) In Washo: $\llbracket \text{tall} \rrbracket^c = \lambda x. \text{x counts as tall with respect to context } c$

Deal & Hohaus (2019) point out that some languages (like the Sahatpian language Nez Perce) lack degrees but also have predicates whose vagueness shifts depending on a quantified over context, along the lines of Klein (1980). Instead of tying the predicate to the utterance context, it is interpreted with respect to a quantified-over one. For instance, with Kareem is taller than Shaq, there is a comparison context $c'$ where Kareem is tall with respect to $c'$ and Shaq is not. Klein had proposed this approach for English, but measure phrases ruled it out — here there is no asserted distance to measure.

Klein’s vagueness approach only works in languages that do not have explicit measures but do have comparative morphology and allow close comparison (what are sometimes called ‘crisp judgments’).
2.2. GRADABLE EXPRESSIONS IN KIOWA

- Has comparative morphology
- No requirement for norm-relatedness
- Allows comparison of items that are close in measurement
- No differential comparatives (*this bridge is much longer than that one*)

As we explore gradable expressions in Kiowa, we will be comparing among these three approaches to see first if Kiowa employs degrees, and if not, then to see what kind of vague predicates it employs. We will propose that Kiowa has degrees. It almost fits the Nez Perce mold by lacking measure phrases, not requiring norm-relatedness, and allowing close or crisp judgments, it also lacks comparative and superlative morphology, though it may have equative morphology, and it has a number of degree-modifying morphemes.

2.2 Graded expressions in Kiowa

In languages with degrees, we can see gradable adjectives as relations between entities and degrees, and gradable adverbs as relations between events as degrees. The degrees are points on scales, and we can use the semantics of scales to find out how gradable predicates work in Kiowa.

Kiowa gradable expressions come in various categories. The most common by far are adjectival verbs like cyó [kjó] ‘be long, tall’ , but there are also adverbs like hájdé [hájɔ́ːdè] ‘carefully’, or locatives like háuigàu [hɔ́jɡɔ́] ‘near’.

(6)

<table>
<thead>
<tr>
<th>scale</th>
<th>expression</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>bounty</td>
<td>/sémɔ́ː/</td>
<td>‘productive (area), bountiful’</td>
</tr>
<tr>
<td>proximity</td>
<td>/hɔ́jɡɔ́/</td>
<td>‘near’</td>
</tr>
<tr>
<td>fondness</td>
<td>+/háp/</td>
<td>‘fond of’</td>
</tr>
<tr>
<td>painfulness</td>
<td>/kʰóp/</td>
<td>‘painful’</td>
</tr>
<tr>
<td>thickness</td>
<td>/tsɛ́ː/</td>
<td>‘thick’</td>
</tr>
<tr>
<td>whiteness</td>
<td>/t’ą́j/</td>
<td>‘white’</td>
</tr>
<tr>
<td>blackness</td>
<td>/kʰǫ́/</td>
<td>‘black’</td>
</tr>
<tr>
<td>depth</td>
<td>/zǫ́j/</td>
<td>‘deep’</td>
</tr>
<tr>
<td>prodigality</td>
<td>/gúm/</td>
<td>‘prodigal’</td>
</tr>
<tr>
<td>heaviness</td>
<td>/pʰíː/</td>
<td>‘heavy’</td>
</tr>
<tr>
<td>energy</td>
<td>/pɔ́l/</td>
<td>‘rousing’</td>
</tr>
<tr>
<td>odor</td>
<td>/sɛ́ː/</td>
<td>‘odorous’</td>
</tr>
<tr>
<td>style</td>
<td>/sót/</td>
<td>‘dressy’</td>
</tr>
<tr>
<td>fright</td>
<td>/zélbé/</td>
<td>‘terrible, frightful’</td>
</tr>
<tr>
<td>skill</td>
<td>/zélbé/</td>
<td>‘highly adept, impressive’</td>
</tr>
<tr>
<td>surprisingness</td>
<td>/t’ɔ́j/</td>
<td>‘unexpected’</td>
</tr>
</tbody>
</table>

2.2.1 Contextual entailment of gradability

One of the most evident effects of gradable predicates can be seen with entailments. Non-gradable adjectives like *American* combine with nouns to create expressions that upward entail both the adjective and noun.¹ This fact works in Kiowa as well, as the unacceptable follow-ups to (8) show.

(7) *Tom is a Texan child* entails *Tom is Texan* and *Tom is a child*.

¹Recall that upward entailment occurs when being in one set/group automatically means being in a bigger set/group (so American children are necessarily Americans, and children).
(8) Tom tēhā́nè́, +sā̀n ə=dɔ́ː:
   Tom Tēhāni, +sā̀n ə=dɔ́ː:
   Tom Texan+child 3SGS=be
   ‘Tom is a Texan child…’
   a.  #né hɔ̨́n tēhā́nè́+k’į́ː tēhā́nè
      né NEG Tēhāni, +kį́ː tēhā́nè
      but NEG Texan+male 3SGS=be–NEG
      ‘but he is not Texan.’
   b.  #né hɔ̨́n sā̀n sā̀n
      né NEG sā̀n sā̀n
      but NEG child 3SGS=be–NEG
      ‘but he is not a child.’

However, gradable predicates in languages with degrees do not generally preserve this entailment. Tom is a tall child does not entail that Tom is tall. This is also the case for Kiowa, so one can truthfully say (9). This tells us that gradable predicates are not necessarily norm-related.

(9) Tom sā̀n+èl sā̀nèl
   Tom sā̀n, +èl sā̀n Èl
   Tom child+big \NPLC 3SGS=be but NEG 3SGS=big \NPL–NEG
   ‘Tom is a tall child, but he is not tall.’

2.2.2 Positive/negative pairs

Gradable predicates often come in positive/negative pairs, like big and small (Table ??) The terms ‘positive’ and ‘negative’ in this context are not values of judgment, but rather descriptions of the direction the scale takes. For instance, on the scale of size, being big describes having a size higher on the scale than some standard, on an upward or positive scale. Being small describes having a size higher on the scale than some standard, on a downward or negative scale. The reason these properties work in pairs is that meeting one of the properties entails failing on the other; if you are big by a particular standard, you are not small by the same standard, or vice versa.

We often think of these pairs as antonyms, but truth-conditionally they are merely incompatible, not contradictory, because something can be neither large nor small, and so on. We can test for contradiction between two expressions if the truth of one entails the falsehood of the other and vice versa. With gradable pairs, there are contexts ‘in between’ where neither applies, so the expressions are not contradictory.

(10) áː–dɔ̀ hɔ̨́n è=kjǫ́j–gɔ̂ː gɔ̀
    áː–dɔ̀ hɔ̨́n è=tséː–gɔ̂ː gɔ̀
    pole–INV NEG 3INV=long \SG–NEG and SA NEG 3INV=short \SG–NEG
    ‘The pole is not long and it is not short.’

2.3 Open/closed or absolute scales

Kennedy & McNally (2005) extensively summarize issues about how different kinds of scales in degree predicates can affect the entailment patterns and distribution of modifiers. Two of the key differences are whether scales are open or closed, and whether they are relative or absolute.

3Bochnak finds that in degree-less languages like Washo, this kind of upward entailment does occur, and the equivalent of (9) is a contradiction.
4The stem /hót/ means ‘crowded’ by itself, but can apply to a passage that is narrow for a purpose or passing through. For instance with the stem /hóː/ ‘travel’, we get /hóː+hót/ to describe a narrow passage, like a canyon.
### 2.3. OPEN/CLOSED OR ABSOLUTE SCALES

<table>
<thead>
<tr>
<th>Scale</th>
<th>Positive Scale</th>
<th>Negative Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>/ét/SG, /bîn/NSG</td>
<td>‘tall’</td>
</tr>
<tr>
<td>Space</td>
<td>/ét/SG, /bîn/NSG</td>
<td>‘roomy’</td>
</tr>
<tr>
<td>Width</td>
<td>/ét/SG, /bîn/NSG</td>
<td>‘wide’</td>
</tr>
<tr>
<td>Size</td>
<td>/ét/SG, /bîn/NSG</td>
<td>‘big’</td>
</tr>
<tr>
<td>Age</td>
<td>/ét/SG, /bîn/NSG</td>
<td>‘old’</td>
</tr>
<tr>
<td>Length</td>
<td>/kjój/SG, /kini/NSG</td>
<td>‘long’ NSG’</td>
</tr>
<tr>
<td>Girth (living)</td>
<td>/tôn/</td>
<td>‘fat’</td>
</tr>
<tr>
<td>Wetness</td>
<td>/báp/+</td>
<td>‘wet’</td>
</tr>
<tr>
<td>Time</td>
<td>/kjój–dë/adv</td>
<td>‘a long time’</td>
</tr>
<tr>
<td>Amount (adv)</td>
<td>/ét–të/adv</td>
<td>‘a lot’</td>
</tr>
<tr>
<td>Amount</td>
<td>/sj/</td>
<td>‘be much’</td>
</tr>
<tr>
<td>Strength</td>
<td>/kót/</td>
<td>‘strong’</td>
</tr>
<tr>
<td>Heat</td>
<td>/sál/</td>
<td>‘hot’</td>
</tr>
<tr>
<td>Speed</td>
<td>/sâj/</td>
<td>‘fast’</td>
</tr>
<tr>
<td>Goodness</td>
<td>/tûgâ/</td>
<td>‘good’</td>
</tr>
<tr>
<td>Weight</td>
<td>/bít/</td>
<td>‘heavy’</td>
</tr>
<tr>
<td>Success</td>
<td>/sûj/</td>
<td>‘successful’</td>
</tr>
<tr>
<td>Difficulty</td>
<td>/kót/</td>
<td>‘hard, difficult’</td>
</tr>
<tr>
<td>Strength</td>
<td>/kót/</td>
<td>‘strong’</td>
</tr>
</tbody>
</table>

**Table 2.1: Positive/negative pairs of gradable predicates**

#### 2.3.1 Open or closed scales

Open scales are infinite, and have no (realistic) endpoint. A scale of height starts at 0 and does not stop; there is no highest height. Closed scales have an endpoint. A scale of fullness cannot surpass the object being completely filled in. In English, the degree modifier *completely* only applies to the closed type.

This distinction is not easy to discern in Kiowa with most gradable predicates. However, many locatives include degrees as they involve the distance between the ground and the figure (Ch. XX on locatives). These locatives can compound with the welcoming stem +/hįː/ ‘genuine, real’ to indicate a high degree on a scale, but whether the scale is open or closed triggers a difference.

If the locative has a closed scale, +/hįː/ indicates the maximal degree on the scale.

1. **(11)**
   a. /pâl+–hįː/ → [pâl+hįː] ‘all the way on this side’, ‘right here’
   b. /góm–gâ+–hįː/ → [góm–gâ+hįː] ‘all the way in the back’
   c. /tûj+–hįː/ → [tûj+hįː] ‘at the highest point’ (on the outside)

In contrast, with locatives that involve an open scale, +/hįː/ only describe a very strong degree, because there is no maximum.

2. **(12)**
   a. /tûj+–hįː/ → [tûj+hįː] ‘far/way on the other side’
   b. /gû–j+–hįː/ → [gû–j+hįː] ‘way outside’
   c. /ô+–p–hįː/ → [ô–p+hįː] ‘a long ways away’

Some locatives can be used in both open or closed environments, for instance, in an open field versus a closed room.

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4The degree use of *completely* should not be confused with its part-whole use in cases like *The restaurant was completely blue*, meaning ‘all parts of the restaurant were blue’. 
(13) underlying → surface open scale closed scale

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>/káp, +hįː/</td>
<td>[kʰáp+hįː]</td>
<td>'well onward from the point in question'</td>
</tr>
<tr>
<td>c.</td>
<td>/tsó, +hįː/</td>
<td>[tsó+hįː]</td>
<td>'well over that way' (with gesture)</td>
</tr>
<tr>
<td>d.</td>
<td>/mâː–pé+hįː/</td>
<td>[mâː–m+hįː]</td>
<td>'at a very high level (outside)'</td>
</tr>
</tbody>
</table>

The difference is well exemplified by /mâː–pé+hįː/ ([mâ̂–m+hįː]) above—spread+genuine. The stem /máː/ can indicate an internal part (the upper half) or an area external (above) to the ground. If it describes the inside of an area, for instance a tipi, there is a limit to the scale of height, so its meaning is up along the top interior of the tipi. If it describes the outside of an area, there is no limit, so its meaning is simply higher up or 'really high'.

2.3.2 Absolute or relative scales

Closed scales can sometimes be subdivided by where their contextual standard generally lies along the scale. If the standard's placement is free like we saw in §2.2, the scale is a relative scale. On the other hand, some predicates have standards that are found around one end of the scale. For instance, for something to be straight it has to be nearly at the top of the scale of exact straightness. Meanwhile, open can start being true if the door is just barely open; practically anywhere past 0% open suffices. Such scales are called absolute scales.

Absolute scale predicates can be further divided by which end of the scale the standard lies at. Minimal scales have a standard at or near the bottom of the scale, and in English include awake, visible, open, and bent. If a stick is bent at all it is bent. Maximal scales have a standard at or near the top of the scale and in English include full, flat, still, closed, and straight. To be still, one must be fairly close to perfectly still.

Testing Kiowa gradable predicates do not seem to distinguish these scales very easily, because oftentimes the equivalent lexical items are not gradable. For instance, Kiowa describes doors or windows as 'lying/put' (/k’ɔ́ː/) or 'missing' (/hę́ː/) rather than as 'open' or 'closed'. Usually, absolute scales are provided by change-of-state predicates such as /pʰɔ̨́ː/ 'become still' or /pêː/'straighten'.

Absolute gradable predicates in many languages can be modified by degree modifiers that indicate portions, like English completely or halfway, while relative ones cannot (halfway closed vs. *halfway tall). Kiowa lacks proportional words except /zájdè/ 'half', and this cannot be used for scales, only for half of the item. The modifier /mɔ́ː/ 'somewhat' has been elicited for expression portions of absolute predicates. For instance, in (14), which is from a text, the subject is a turkey who stood perfectly still to make like a burned-out tree and fool the hunter chasing him.

(14) 

\[
\begin{align*}
&gɔ̀ \quad \emptyset = pédæ + pʰįː – hèl \quad gɔ̀ \quad ɛm=tóːbè – hèl \\
&gɔ̀ \quad \emptyset = pédæ + pʰįː – hèl \quad gɔ̀ \quad ém=tóːbè – hèl
\end{align*}
\]

and.sA 3SG.S=straighten\_DETR\_STOP.PPFV–HSY and.sA 3SG.A:REFL=quiiten.PPFV–HSY

'He [stopped and] stood straight and still.' (Sende and the Turkey, SIL Bedtime)

In elicitation, the insertion of /mɔ́ː/ works if the subject stands kind of straight and kind of still.

(15) 

\[
\begin{align*}
&mɔ́ː \quad \emptyset = pédæ + pʰįː – hèl \quad gɔ̀ \quad mɔ́ː \quad ɛm=tóːbè – hèl \\
&mɔ́ː \quad \emptyset = pédæ + pʰįː – hèl \quad gɔ̀ \quad mɔ́ː \quad ém=tóːbè – hèl
\end{align*}
\]

somewhat 3SG.S=straighten\_DETR\_STOP.PPFV–HSY and.sA somewhat 3SG.A:REFL=quiiten.PPFV–HSY

'He [stopped and] stood kind of straight and still.'

The verb /hɔ́n/ 'exhaust' can be used with some change-of-state stems to indicate that the change reached its utmost degree.

a. /séː/ 'wear out' /séː+hɔ́n/ → [séː+hɔ̨́n] 'wear out totally'
b. /gúl/ 'burn' /gúl+hɔ́n/ → [gúːl+hɔ̨́n] 'burn through'
c. /sǫ́ː/ 'hone' /sǫ́ː+hɔ́n/ → [sǫ́ː+hɔ̨́n] 'blunt'
2.4 Degree modification

One of the hallmarks of gradable predicates with degrees is their ability to be modified in ways that indicate the degree to which they apply. For instance, completely modifies degree predicates to signal that the degree is all the way at the top or bottom of the scale.

(16) The glass is completely full/empty.

English has a long tradition of marshaling predicates to serve as degree modifiers that get bleached of their original meaning to an extent. That is why we can describe something as mighty weak or pretty ugly. The common use of literally in a ‘non-literal’ sense is also a degree modifier. When Mark Twain wrote of Tom Sawyer as “literally rolling in wealth” Twain (1876: ch 2) he was saying that his description was at the top of the scale of aptness in describing the situation: ‘rolling in wealth’ was the best way to say it. The fact that the description is figurative plays no role in the ranking.

Many other languages do not routinely rope predicates into this process, and Kiowa is one of them. Kiowa has a number of degree modifiers, but only a handful can be analyzed as derived from other predicates. Meanwhile, languages argued to lack degree arguments do not have degree modifiers. The presence and frequent use of degree modifiers is a signal that gradable predicates in Kiowa do involve degrees.

2.4.1 Degree intensifiers

Intensifiers combine with a positive or negative predicate (not a bare one), and indicate a precision that delivers a sense of intensity. If tall indicates being taller than a contextual standard (Sc), very tall indicates being taller than a second standard (Sv) that only considers objects that pass the first standard; being tall amongst the tall, if you will (Klein 1980). Other modifiers would work in similar ways, like rather tall (tall amongst the not-very-tall) or extremely tall (tall amongst the very tall).

Kiowa expresses degree intensity with a number of intensifiers that can be classified the same way. The most common is the incorporated stem /kòːdó/ ‘a lot, very’, which when applied to gradable predicates gives a ‘good among the good’ reading.

(17) jòkòj–gú á=kòdó+t’òdèp
jòkòj–gú á=kòdó₄+t’òdèp
3empA= a lot + generous
‘The young women were very generous.’
We can tell it has this reading, because negating an intensified sentence with /kòːdó/+ does not have to negate the ordinary positive predicate.

(18) hɔ́n á=kòːdó+t'ɔ̀dèp–gò;  nè=á=t'ɔ̀dèp
    hɔ́n á=kòːdó,+t'ɔ̀dèp–gò;  nè=á=t'ɔ̀dèp
NEG 3EMPA=a lot+generous–NEG but 3EMPA=generous
‘They were not very generous but they were generous.’

When added to a change of state modifier, the intensifier applies to the resulting state.

(19) jɔ́kɔ́j–gú  á=kòːdó+sɔ̨̀ɔ̨̀ːdè–hèl
    jɔ́kɔ́j–gú  á=kòːdó,+sɔ̨́ɔ̨́ːdè–hèl
young woman–INV 3EMPA=a lot+get angry .pfv–hsy
‘The young women got very angry .’
≠ ‘The young women got angry a lot’

A slightly common intensifier is /ɔ́ː/+ ‘a lot, very’, which can be applied only to a limited number of stative predicates.

(20) dɔ́j  ∅=ɔ́ː+kʰòp
    dɔ́j  ∅=ɔ́ː+kʰóp
medicine 3sgS=a lot+painful
‘The medicine is very bitter.’

Another common intensifier construction is to use the indefinite /hɔ́ndé/ ‘indef \thing’ in an exclamative sense. The exclamation does not directly assert a high degree, but it generally is only used when a notably high degree is reached.

(21) hɔ́ndé  gl=á=sép+dɔ́ː!
    hɔ́ndé  gà=sép+da;
INDEF \thing 3PLS=rain+be
‘How rainy it was!’

The adverbial /mɔ́ː/ ‘somewhat’ is commonly used to attenuate gradable predicates in the way that fairly or rather do in English.

(22) ɛː–dè  k’iqhį́ː m’yː  ∅=sjɔ́n
    ɛː–dè  k’iqhį́ː m’yː  ∅=sjɔ́n
prx–bas man somewhat 3sgS=young \sg
‘This man is fairly young’ (McKenzie et al. 2022: S92)

It can be incorporated or compounded (23), and gets translated variably as ‘fairly’, ‘somewhat’, ‘tolerably’, ‘kind of’, ‘moderately’, and so on. The bound form /mɔ̀hâː/+ ‘somewhat’ indicates a similarly attenuated degree (24).

(23) hájáʔtò m’yː+tiːxè dè  gà=t’ɔː+ʒ’m–dè–t’ɔː:
    hájáʔtò m’yː,+tiːxè dè  gà=t’ɔː+:ʒ’m–dè–t’ɔː:
perhaps somewhat+long time 3EMP:D:3PLO=stay+make\DETR\DETR\PFV\MOD\vi
‘It is possible they may have to remain much longer.’ (McKenzie et al. 2022: S185)

(24) kíː+tsòj  ∅=m’hàː+sàl
    kíː,+tsòj  ∅=m’hàː,+sàl
meat+liquid 3sgS=somewhat+hot
‘The soup is tolerably/moderately hot.’

The sense of ‘barely’ indicates being higher than the contextual standard S_C, but near to it. In Kiowa it can be expressed with the incorporated form /jóːgɔ́/+ ‘barely’.
2.4. DEGREE MODIFICATION

(25) tòː+sàn  orgetown –3: Ω=ðōː–ː;  g̃ː=ôjg̃ː+b̃ːð+d̃ː;  
tòː+sán  orgetown –3: Ω=ðōː–ː;  g̃ː=ôjg̃ː+b̃ːð+d̃ː;  
room, small, SBRD back-in 3SGS=be-at 3PLS=barely+lit+be  
'There was a faint light in the small back room.' (P. McKenzie, n.d. “Ghost Woman”)

Another common method of intensifying degrees is non-linear: lengthening the first vowel of the predicate (glossed as hi-deg for 'high degree'). The longer the vowel is held, the more intensely the predicate applies.

(26) á–ː+tàː–dè  én=hiːːtè–hèl  
á–ː+tàː–dè  én=hiːːtè–hèl  
3.POS=child+daughter=BASE 3SGD=3DUUS=BEAUTIFUL\HI-DEG–HSY  
'This two daughters were sooo beautiful.' (SIL, Sende and Senpit)

Notably, this lengthening can even apply to short vowels. For instance, in (27), the speaker lengthens the vowel of the distorting distatic locative /ó–p/ which in this context means 'to a place far away', to signal 'far far away' or 'really far away'. His short vowels averaged 125ms, his long vowels 290ms. Most expressive lengthenings double that, but this phonemically short vowel is held for 900ms; a very long time that indicates a very long way.

(27) g̃ːt=t’om+àj  g̃ːt=t’om  
g̃ːt=t’om+àj  g̃ːt=t’om  
1SGA=3PL.O=start off.PPFV and SA DIST\HI-DEG=ONWARD some,\INDEF=TO–CONTRAST  
g̃ːt=ʔaj  
g̃ːt=aj  
1SGA=3PL.O=start off.PPFV  
'I escaped and I ran really far away in a different direction' (McKenzie et al. 2022: S139)

Degree modifiers cannot be used with attributive predicates that are compounded onto nouns. Relative clauses must be used instead, with constructions like those we have seen.

(28) a. /sànɛː+èl/ → [sànɛː+èl] ‘big snake’ 
b. */sànɛː+kɔːdɔː+èl/ → [sànɛː+kɔːdɔː+èl] ‘very big snake’ 
c. */sànɛː+mɔː+èl/ → [sànɛː+mɔː+èl] ‘somewhat big snake’

In Kiowa, the verb /óː/ 'pleasant' can be used to indicate degrees, and it is bleached, so you can combine it with predicates like /k’ɔːdè/ 'bad'. The use of /óː/ 'pleasant' is used with states to indicate a significant degree ('quite', 'rather'), not as strong as /kɔːdɔː/ 'very'.

(29) ě–m–hɔː  dɔːm  è=dɔːː+òː;  
ě–pė–hɔː  dɔːm  è=dɔːː+òː;  
PROX–SPRD–DEF ground,\INVS=DEPRESSED+PLEASANT  
The ground around here has a lot of depressions/wallows.'

(30) /k’ɔːdè/ 'bad'  k’ɔːdè+òː 'rather bad' 
/t’aj/ 'white'  t’aj+òː 'rather white' 
/k’ım/ 'elderly'  k’ım+òː 'quite elderly' 
/k’aj/ 'crispy'  k’aj+òː 'quite crispy'

It is also used with nouns to create a derived predicate indicating having a good amount of that item, again in a bleached intensifier sense. It contrasts with the similar construction using /dɔː:/ 'be' that simply indicates having an amount exceeding the contextual standard.

(31) /áː/ 'smoke'  áː+dɔːː 'be smoky'  áː+dɔːː 'be smoke-filled' 
/góm/ 'wind'  góm+dɔːː 'be windy'  góm+dɔːː 'be very windy' 
/pʰaj/ 'dust'  pʰaj+dɔːː 'be dusty'  pʰaj+dɔːː 'be dust-filled' 
/pʰıt/ 'foam, suds'  pʰıt+dɔːː 'be foamy, sudsy'  pʰıt+dɔːː 'be quite foamy, sudsy'
2.4.2 Expressive intensifiers

Many languages employ expressive intensifiers, which indicate the speaker’s attitude at the time of saying it rather than applying their literally meaning. In English a significant number of these expressions are vulgar in nature.

(32) This house is fucking/bloody/stupid huge!

(33) German (colloquial)

Das Ding ist sau/voll/total schnell
the thing is sow/fully/totally fast
‘That thing is (expressive ≈ totally) fast’ (Gutzmann & Turgay 2014: 187)

Kiowa does not have this kind of modification.

2.4.3 Adverbial degree modifiers

It is common in languages like English to use adverbs that indicate the degree directly, like unbelievably hot to describe a temperature that is hot to an unbelievable degree. Evaluation of a degree is not common in Kiowa; the only attested item is /tól/+ ‘unexpectedly’, which can be used with statives and adverbials to indicate that the degree to which the predicate applies was unexpected.

(34) těːgà gà=tól+ts′èː
ice 3PLS=unexpectedly+thick
‘The ice was unexpectedly thick.’

2.4.4 Excessive degrees

Some degrees have a modal component, usually associated with excessive or sufficient degree. If I say it is ‘too warm’, I am essentially saying it is warmer than some maximum that it should be for whatever reason. Meanwhile, ‘warm enough’ indicates warmer than some minimum that it should be.

The Kiowa morpheme generally used for expressing an excessive degree is the bound stem /dôj/+ ‘too much’, which can be incorporated onto verbs or deverbal adverbs.

(35) tseː o=dôj+tôn=kʼɔ̀t ą́n=kšl+m strokeWidth
horse 3SGS=too=as.UNEXP.DF 3SGS=3PLS=turn+be unable
‘As the horse is too fat, it cannot turn around.’

(36) dôj+èʔ–tè tsój ą̄n gá=tôn–mɔ̌
dôj+déʔ–tè tsój ą̄n gá=tôn–mɔ̌
too+big\5SG–ADV coffee HAB ISGA\3SGO=drink–IPFV
‘I drink too much coffee.’

A rarer adverbial is /ɔ́mgâj/ ‘too much’.

(37) ɔ̂mgâj tsój ę̄=óp
ɔ́mgâj tsój ę̄=óp
too much coffee 2SGA\1SGD\3SGO=pour\PFV
‘You poured me too much coffee’ (Notecards, McKenzie (n.d.))

To specify the kind of event or thing for which the predicate is ‘too much’, the positive predicate is often used with the activity incorporated onto it (38). This compounding forms what is sometimes called a ‘tough-construction’.

(38) /kšt/ ‘cross’ /kšt+déʔ/ (too) big to cross
/tʰɛ̌m/ ‘break’ /tʰɛ̌m+kóʔ/ (too) tough to break
/tsój/ ‘be lying down’ /tsój+dɛʔ/ ‘pleasant to lie on’
2.4. DEGREE MODIFICATION

These forms do not actually assert ‘too much’. The excess is implicated, and can be cancelled.

(39) p’ɔ́ː  
\( \emptyset = k\text{t} + \text{ét} \) nɛ̞ hɔ́n  \( \emptyset = d\text{øj} + \text{ét} – gɔ̀ː \)
watercourse 3SG=cross+big SG but NEG 3SG=too+big SG–NEG

‘The river is wide to cross, but it is not too wide.’

For a complex tough-construction, incorporation is not an option because the syntax does not allow large structures to be incorporated. One way around this is to use /dôj/+ in one clause, and explain the reason in another clause.

(40) p’ɔ́ː  
\( \emptyset = d\text{øj} + \text{ét} \) nɔ̀ hɔ́p  \( g\text{ä}=k\text{š} + mɔ́ɔ̂d–\text{èp} \)
watercourse 3SG=cross+big SG and DF traveler:INST 3MPD:3PLS=cross+be unable–IPFV–IPFV

‘The river was too wide for the travelers to cross.’ (Lit. The river was too wide and the travelers could not cross it.)

2.4.5 Sufficient degree

Another modal degree expresses sufficient degree (‘enough’) for some purpose. In Kiowa, sufficiency is expressed in a number of ways but not directly. Elicitation finds that when a gradable predicate P is part of a positive/negative pair, ‘P enough’ is translated with the positive half of the pair, and ‘not P enough’ returns the negative form, often accompanied by /dôj/+ ‘too much’. For instance, ‘too small’ expresses ‘not big enough’.

Eliciting ‘not enough’ by itself usually returns the word /sóːtè/ ‘be scarce’ or /dónmè/ ‘not plentiful’. These are often used with /dôj/ ‘too much’.

(41) tsènbôː–gɔ̀  sòn bëʔ=dôj+sòːtè
    tsènbôː–gɔ̀  sòn bêt=dôj, +sòːtè
cow–INV grass 3INVD:3PLS=too+scarce

‘The cows do not have enough grass.’ (Lit. the grass is too scarce for the cows)

Some predicates allude to being enough or not enough, like the stative amount predicates /hém/+ ‘have insufficient food’ or its contrary /péːdà/ ‘have enough food’, or the active verbs /sëmdép/ ‘get more than enough’ or /ból/ ‘have one’s fill’. The verb /ból/ can be used metaphorically to signal having done enough of an activity, and is productively used as a welcoming verb for a verb describing that activity.

(42) /sɔ́m/ ‘watch with enjoyment’ /sɔ́m,+ból/ ‘see enough, watch enough’
    /bép/ ‘bark’ /bép,+ból/ ‘bark enough’
    /dë:/ ‘sleep’ /dë:+ból/ ‘get enough sleep’
    /kùn/ ‘dance’ /kùn,+ból/ ‘get enough dancing’
    /sép/ ‘rain’ /sép,+ból/ ‘have enough rain’

Kiowa commonly use a series of interjections to tell others that they have said or done enough. Storytellers use them to indicate the end of the story.⁵

(43) a. /óbàhɔ̀ː/ ‘enough’ b. /ótèhɔ̀ː/ ‘enough’ c. /ódèhɔ̀ː/ ‘enough’

Another degree with modal flavor is ‘the right amount’ for some purpose, which indicates being above some minimal preferred amount but below some maximal preferred amount on the relevant scale. For instance, the adverbial stem /tâm/– ‘right (amount)’, which obligatorily takes measure suffixes like –/ót/ ‘right up to’ or –/óbà/ ‘as much as’.

⁵It is plain to see that these are composed historically from various amount markers plus /hɔ́ː/ ‘definite’. However, speakers treat these words as monomorphic.
2.5 Measure phrases

Many languages allow explicit measures to specify exactly how far up the scale the predicate applies. *The bench was two meters long* indicates that the length of the bench is two meters. *The festival was two days long* indicates that the duration of the festival is two days. This kind of measure is a strong sign of the presence of degrees in the semantics, because they explicitly denote a degree and cannot be accounted for without degrees.

Nonetheless, Kiowa does not allow this type of measurement. It is not merely a cultural question of not making precise measurements. While there were no precise traditional measures of distance besides a pace (/ɔ́n/ ‘step’), there were many precise units of time (chapter XX: Location in time and space). Still, this construction is not allowed now, and was not attested in texts by previous generations of speakers.

Instead of saying one was seven years old, for instance, one would say they had seven winters (46), using a possessive construction (chapter XX: argument structure). No matter how many winters have passed, the agreement on the verb is singular, suggesting it is a single interval.

(46) pânsę́ ę́=sáː+dɔ́ː
  pânsę́ ę́=sáː+dɔ́ː
  seven 1sgD:3sgS=winter+be

‘I am seven years old’ (Lit. ‘I have a seven-winter interval’)

Generally, distances and intervals are expressed with an existential construction.

(47) jíː+ɔ̀n  gà=dɔ́ː
  jíː+ɔ̀n  gà=dɔ́ː
  two+mile 3plS=be

‘It’s two miles (away)’ (Lit. ‘there are two miles’)

2.6 Causing a change in degree

Expressing changes of a gradable state also leads to interesting entailments. With open-scale predicates, a change of state only entails a comparative. For instance, if you widen a road, the road becomes wider, but not necessarily wide. The same applies in Kiowa:

(48) hǫ́ɔ̨̀n á=ēl+ɔ́m–hèl,
  hǫ́ɔ̨̀n á=ēl+ɔ́m–hèl,
  road 3empA:3sgO=big\sgc+make.pfv–hsy but neg still 3sgS=big\sg–neg
  ‘They widened the road, but it still isn’t big.’
There is no appreciable difference between lexical causatives like /bôn/ 'bend' and composite ones like /tséː +ɔ́m/ 'short+make = shorten' built out of a predicate with causative /ɔ́m/ 'make'.

With closed-scale predicates, the implication of a result is stronger to the point of nearly being entailed. With the modified positive predicate, speakers do not like to cancel it, but grudgingly accept the result (49). With an attenuating modifier, such as /mɔ́ː/ 'somewhat', the implied result is easily cancelled.

(49) ??hɔ̨́ːg–ɔ̀t
    ??hɔ̨́ːg
    –ɔ́t
wire–inv ISGA:3INV=straighten.PFV but NEG still 3INV=straighten+be–NEG
'I straightened the wire, but it still isn’t straight.'

(50) hɔ̨́ːg–ɔ̀t
    hɔ̨́ːg
    3SG–ADV wire–inv ISGA:3INV=straighten.PFV but NEG still 3INV=straighten+be–NEG
'I straightened the wire some, but it still isn’t straight.'

(51) sj̃–d̃é
    h̃g̃–ɔ́t
    h̃g̃–ɔ́t
small|SG–ADV wire–inv ISGA:3INV=straighten.DETR–PFV but NEG still 3INV=straighten+be–NEG
'The wire straightened a little bit, but it still isn’t straight.'

Kiowa has a wide variety of degree modifying morphemes and constructions. These provide the surest evidence that Kiowa does rely on degrees at least some of the time, which entails that degrees form part of the semantic ontology of the language.

2.7 Comparison

A major feature of gradable predicates is their role in comparison. Unlike categorical predicates like free or priceless, gradable predicates are easily comparable. For instance, I can point you to a 13-foot/4-meter long bridge, and that still is not a long bridge. But if we compare its length to that of the pole from the previous context, it is true that the bridge is longer than the pole. Many languages have specific morphemes to describe elements of comparison. Kiowa does not, for the most part, but still it offers means of expressing these meanings.

2.7.1 Comparatives

Comparative morphemes like English –er or more are used with predicates to indicate being on the predicate’s scale at a higher degree than some argument introduced by a preposition than: Tom is taller than Bill. Many languages allow just that preposition (or an equivalent), without the morpheme indicating ‘more’. Still other languages lack comparative morphology altogether, and Kiowa is one of them. Instead, Kiowa uses three indirect means, which can be classified as P-very P, P-notP, and beyond P.

2.7.1.1 P-very P comparison

P-very P comparison occurs when both compared objects meet the standard for the simple positive predicate. It involves using the simple predicate for the lower one, and an intensified predicate for the higher one (§2.4.1).

(52) ɛ́–gɔ̀
    ɛ́–gɔ̀
    ɛ́–gɔ̀
PROX–INV tree–INV 3INV=very+tall\SG and.DF DIST–VAGUE–INV tree–INV 3INV=very+tall\SG
'That tree is taller than this one' (Lit. ‘this tree is tall, that tree is very tall’)

(53) ñj: K̂op+t̂ó:–j
    ñj: K̂op+t̂ó:–j
1 mountain+beyond–VAGUE 1SGS=dwell and.DF 1+female’s sister mountain+beyond+genuine
∅=k̂il
∅=k̂il
3SGS=dwell
‘I live on the other side of the mountains, and my sister lives further away.’

2.7.1.2 P not P comparison

P not P comparison occurs when one of the compared objects does not meet the standard for the simple positive predicate. Sometimes the comparison has the positive and negative predicate.

\[(54) \ \text{ę́ː–gɔ̀ \ áː–dɔ́} \ \text{ę́ː \ –gɔ́} \ \text{prox–inv \ áː–dɔ́} \ \text{áː–dɔ́ \ hán \ è=kjój–gɔ́;} \]

This tree is taller than that one' (Lit. ‘this tree is tall and that tree is not tall’)

Other times, if there is a positive/negative pair, the comparison involves the opposing pairs.

\[(55) \ \text{ę́ː–gɔ̀ \ áː–dɔ́} \ \text{ę́ː \ –gɔ́} \ \text{prox–inv \ áː–dɔ́} \ \text{áː–dɔ́ \ è=tsé;} \]

‘This tree is taller than that one’ (Lit. ‘this tree is tall and that tree is short’) Parker McKenzie wrote down a humorous scenario that demonstrates this method of comparison well, and also highlights the contextual variability of scales with gradable predicates.

Context:
Another Indian asks a couple of brothers which one is the older one.

\[(56) \ \text{nɔ́ː \ à=ét \ gɔ̀ \ à=sjɔ́n, \ nɔ́ \ é=dè \ Ø=sjɔ́n \ gɔ́ \ Ø=ét} \]

‘I am taller but younger, and he is shorter but older.’ (“Kiowa Humor” McKenzie (n.d.))

This example also illustrates how with comparative use, the simple positive predicate is not entailed. In technical terms it is not necessarily norm-related. Deal & Hohaus (2019) point out that this fact does not necessarily indicate the presence of degrees, but it is certainly compatible with the presence which we established with degree modifiers.

2.7.1.3 Beyond P comparison

A less used sense of comparison, but one more frequent with abilities, is the use of the locative /tʰɔ́–j/ ‘beyond–vague’ to mean ‘better than’.

\[(57) \ a. /nɔ́ː/ \ 1st \ person / nɔ́ː+ tʰɔ́–j / → / nɔ́ː+ tʰɔ́–j / \ ‘better than me/us’ \]
\[(58) \ hɔ̨́n \ hɔ́n \ neg \ hɔ̨́ndé \ tʰɔ́–j \ jāj=ɔ̨́ːm–ɔ̂ː–tɔ́ː \]

‘I wouldn’t be able to do any better than him’ (McKenzie et al. 2022: S117)

It is also used with doing something more than previously.

\[(59) \ hègɔ́ \ àn=háj–gá+dɔ́: \ gɔ̀ \ mɔ́n \ tʰɔ́–j \]

‘She has studied [these languages] and probably more besides.’ (Crowell 1960)
2.7. COMPARISON

2.7.2 Equatives

Equative expressions assert that two items are at the same degree on a scale. Kiowa employs various indirect expressions for this kind of meaning.

(60) –/tsò/ 'like'

\[
\text{hɔ̨́n ̧m} \text{—} \text{tsò} \quad \text{á}=\text{ʃɔ̨́n} \text{—} \text{gɔ̂ː} \\
\text{hɔ́n} \text{—} \text{tsò} \quad \text{á}=\text{sʃɔ́n} \text{—} \text{gɔ̂ː} \\
\text{NEG you—like} \text{1SG—young} \text{SG—NEG}
\]

‘I’m not as young as you.’ (lit. I am not young like you)

(61) –/òbà/ 'at the level of'

A correlative structure is used on occasion to indicate that the extent of one event correlates to the extent of another, giving an ‘as much as’ reading.

(62) mɔ̨́n \text{—} \text{òbà} \quad \text{gá}=\text{pèl}+\text{dòː}; \quad \text{dé—òbà} \quad \text{è:—gà}; \quad \text{gá}=\text{sòː—gú} \\
\text{món há—òbà} \quad \text{gá}=\text{pèl}+\text{dòː}; \quad \text{dé—òbà} \quad \text{èː—gà}; \quad \text{gá}=\text{sòː—gú} \\
\text{EPIS INDEF—level of 3EMPA:3PLO—thought+hold REF—level of PROX—PRS 3EMPA:3PLO=sew\text{PFV—IPFV}}

‘They must have sewn them [moccasins] as long as they had in mind’ (Kiowa Culture Program 1979)

2.7.3 Superlatives

Describing superlatives in Kiowa is simple: They are not marked. Instead, the plain positive predicate is used inside a relative clause, sometimes with the additional morpheme /háː/ that indicates a characteristic of some sort, but which is not restricted to superlative environments.

(63) ɔ́gɔ̀ \text{—} \text{dòː} \quad \text{è}=\text{tséː(=}\text{hàː})=\text{gɔ́} \\
\text{bè=kɔ̨̂n} \\
\text{SBRD stick—INV 3INVS=short | NPL(=}\text{CHAR})=INV 2SGA:3INV O=bring.PFV \text{IMP}}

‘Bring me the shortest stick.’ (lit. bring me the stick that is short)

Even though the plain predicate is used, it does not entail that the positive predicate is true on its own. Instead, the superlative sets a standard on the scale such that the other members of the comparison set are below the standard. For instance, (64) describes a case where three young boys ran away from a boarding school. The English superlative ‘oldest’, provided by the teller in his own translation, corresponds to a relative clause containing a simple positive predicate /éːt/ ‘big \text{SG}, old \text{SG}'. The child is ‘old’ despite being only fourteen.

(64) pʰą́ːǫ̀ː \text{—} \text{dòː} \quad \text{è}=\text{tséː(=}\text{hàː})=\text{gɔ́} \\
\text{kákʰį́ː+jaʔkʲá+tʰąː} \quad \text{á}=\text{sáː+dɔ́ːmę́ː}; \\
\text{pʰą́ːǫ̀ː} \text{—} \text{dòː} \quad \text{è}=\text{tséː(=}\text{hàː})=\text{gɔ́} \\
\text{kákʰį́ː+jaʔkʲá+tʰąː} \quad \text{á}=\text{sáː+dɔ́ːmę́ː}; \\
\text{á}=\text{sáː+dɔ́ːmę́ː}; \\
\text{SBRD stick—INV 3INVS=short | NPL(=}\text{CHAR})=INV 2SGA:3INV O=bring.PFV \text{IMP}}

‘There were three of them. The oldest one was 14 year old.’ (McKenzie et al. 2022: S135–136)
CHAPTER 2. GRADABILITY AND DEGREES

2.8 Questions about degrees

For questions about degrees with locatives, the wh-word /hàôj/ ‘where, when’ is used. It does not necessarily form a constituent with the gradable predicate. This wh-word is derived from the indeterminate stem /hà/ with the suffix /ôj/ ‘exactly at’.

(65)  Colorado Springs+tʰɔ̂ː  há–ôj  mà=kíl?
      Colorado Springs+tʰɔ̂ː  há–ôj  mà=kíl
      Colorado Springs+beyond wh–exactly at 2duS=dwell
      ‘How far past Colorado Springs do you live?’ (lit. ‘Exactly where beyond C.S. do you two live?’) (P. McKenzie Collection Box 23 Folder 2 Pg 51)

For questions about degrees with other predicates, speakers use /hàôtè/ ‘how many’, which derived from the indeterminate stem /hà/ with the suffix /ôtè/ ‘as much/many as’. It does not form a constituent with the predicate.

(66)  há–ôtè  êm=kjój?
      há–ôtè  êm=kjój
      wh–as many as 2sgS=tall
      ‘How tall are you?’

2.9 Other phenomena

This section features phenomena that occur in some languages, but do not occur in Kiowa.

2.9.1 Cross-polar grading

In English and many other languages, you can make comparisons across distinct scales.

(67)  Your house is taller than my house is wide

This is not a possible construction in Kiowa.

2.9.2 External degrees

Some ambiguous strings can be interpreted as an ellipsis structure, in what is called an external comparison. In (68), the missing phrase is can jump, which leads to the ‘external’ reading: jumping higher than Bill can. Interpreting the NP Bill directly gives the ‘internal’ reading: jumping higher than Bill is.

(68)  My dog can jump higher than Bill.
      a. external reading: the point on a scale of height to which my dog can jump is higher than the point on a scale of height that Bill can jump.
      b. internal reading: the point on a scale of height to which my dog can jump is higher than the point on a scale of height that Bill reaches (on his own)

Kiowa does not have this ambiguity. Only an internal reading can be attained with the comparative and equative forms (§2.7.1).

2.10 Summary

Kiowa is full of gradable predicates and adverbials. Using scales built on degrees, we can analyze the behavior of these expressions in various domains. The language lacks clear morphology that denotes comparatives and superlatives, but employs various strategies to express these concepts.
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