

THE ANTHROPOLOGY OF INTENSITY

What counts as too close for comfort? How can an entire room suddenly feel restless at the imminence of a yet unknown occurrence? And who decides whether or not we are already in an age of unliveable extremes? The anthropology of intensity studies how humans encounter and communicate the continuous and gradable features of social and environmental phenomena in everyday interactions. Focusing on the last twenty years of life in a Mayan village in the cloud forests of Guatemala, this book provides a natural history of intensity in exceedingly tense times, through a careful analysis of ethnographic and linguistic evidence. It uses intensity as a way to reframe Anthropology in the age of the Anthropocene, and rethinks classic work in the formal linguistic tradition from a culture-specific and context-sensitive stance. It is essential reading for not only anthropologists and linguists, but also ecologically oriented readers, critical theorists, and environmental scientists.

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The Anthropology of Intensity

Language, Culture, and Environment



PAUL KOCKELMAN

Yale University



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For Mia, Zeno, and Lara

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Abbreviations

A	= asserted content
A	= absolutive case
ABS	= abstracting suffix
AF	= afactive status
AP	= adposition
APSV	= anti-passive
CF	= counterfactual status
COMP	= complementizer
CONJ	= conjunction
DAT	= dative case
DEIC	= deictic
DEM	= demonstrative
DIR	= directional
DM	= determiner
e	= event
E	= ergative case
En	= narrated event
Er	= reference event
Es	= speech event
F	= factive status
FUT	= future tense
HAB	= habitual
HOR	= hortative
IMP	= imperative
INF	= inferential
INTERJ	= interjection

List of Abbreviations

IRR	= irrealis
LOC	= locative
NEC	= necessity
NEG	= negation
NOM	= nominalizer
NS	= nonspecific
P	= proposition
PLR	= plural number
PART	= participle
PERF	= perfect aspect
PREP	= preposition
PRES	= present tense
PSV	= passive
NP	= noun phrase
q	= proposition
Q	= questioned content
Qr	= reference quantity
Qn	= narrated quantity
QUES	= question particle
RN	= relational noun
S	= singular number or ‘nonplural’
SD	= status designator
SG	= speaker’s gloss
t	= reference time
TOP	= topic
W	= world
1	= first person
2	= second person
3	= third person
/	separates alternative forms that may occur in the same syntactic position
()	indicates added material.

Vowel length (signaled by doubling letters) is phonemic in Q’eqchi’. /k/ and /q/ are velar and uvular plosives, respectively. /x/ and /j/ are palato-alveolar and velar fricatives, respectively.

Introduction: Intensity

Too Close for Comfort

This book is about intensity, which might be provisionally understood as significant degrees of salient dimensions in shared worlds. For example, what counts as *too hot*, *very cruel*, *not far enough*, *over-priced*, *most pressing*, *underwhelming*, *sooner than previously believed*, *excessively polite*, *almost unlivable*, or *extremely shortsighted*. As may be seen, such assessments involve dimensions such as heat, speed, proximity, cruelty, price, importance, unlivability and shortsightedness. Such assessments involve degrees, and ways of manipulating them: discursive resources and embodied registers for sensing and expressing how hot, cruel, close, expensive, shortsighted, or unlivable something is. And such assessments involve the particular worlds in which such dimensions and degrees come to matter: not just physical places with ecological potentials and material constraints, but also imagined worlds of possibility and necessity, normative worlds of permission and obligation, economic worlds of credit and debt, affective worlds of anxiety and desire, and far beyond.

What are the conditions of possibility for assessments of this kind? And what are the consequences? For example, why do certain dimensions become salient, or certain degrees become significant, such that they are subject to shared judgments? Conversely, why is it that other

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dimensions and degrees – potentially just as critical – remain relatively unnoticed, such that judgments about them remain fleeting or singular, isolated or suspect? What sets the thresholds that such assessments are sensitive to, such that something may be judged to have too much of one dimension, or not enough of another? How are such seemingly qualitative and subjective assessments of intensity coupled to quantitative, objective, or legal standards, such that a judgment like ‘too hot’ can come to mean ‘hotter than 102 degrees’, or a judgment like ‘too much pollution’ can provoke a particular intervention? What is presumed and produced by such assessments, such that they may reflect and transform the ontologies (theories, cosmologies, ideologies, intuitions, identities, etc.) of the agents who express them? And how are such assessments coupled to causal logics, ecological understandings, and if-then imaginaries, such that they may influence the inferences, affects, and actions of those agents?

What kinds of resources do agents rely on to make such assessments, and which kinds of agents have access to such resources? Crucially, such resources include not just the semantics of words like ‘too’ and ‘enough’, or ‘very’ and ‘more’; but also the pragmatics of their deployment in situated interactions. And such resources include not just grammatical categories and discursive practices, but also modes of sensation and techniques of assaying, embodied intuitions and distributed infrastructures, regimenting institutions and organism-specific instincts, inter-subjective grounds and distributed agents. How do such assessments, and the resources they depend on, change over time and shift over scales? And what is the genealogy and politics of such transformations? Finally, in regard to the Anthropocene, what kinds of effects do such judgments, actions, inferences, and affects have on the existence, perdurance, destruction, or overthrow of the worlds in question, and on the lives and livelihoods of those who inhabit them? By answering such questions this book offers a natural history of intensity in exceedingly tense times.¹

Language, Culture, Environment

At the center of this book are speakers of Q'eqchi', a Mayan language spoken in Guatemala and Belize by upwards of one million people.² It focuses on the last twenty years of life in and around a small village in the cloud forests of Alta Verapaz, and a range of ecological crises that have confronted villagers since the end of the Guatemalan civil war: landslides, deforestation, climate fluctuation, and the contamination of commons resources. Of particular interest are the Mayan (quasi) equivalents of the following kinds of world-specific, dimension-sensitive, and degree-setting constructions: *too* and *enough*; *more* and *less*; *a lot* and *a little*; *exceedingly* and *slightly*; as well as closely related constructions such as: *already*, *no longer*, *still*, and *not yet*; *in place of* and *in comparison to*; *because of* and *for the sake of*; *if* and *then*; *may* and *must*; *unless* and *until*; *only* and *also*. Based on ethnographic and linguistic fieldwork undertaken during the last five years, and building on more than twenty years of research in this area by the same author, this monograph analyzes the ways speakers use such resources to understand, communicate, and counter the changing worlds around them.

While this book makes its case through a careful analysis of such ethnographic and linguistic evidence, its arguments aim to be much broader in scope. In part, it achieves this analytic portability by focusing on categories (indefinite quantities, comparative strategies, causal constructions, etc.) that have long existed in most languages. In part, it achieves this by focusing on dimensions (such as price, temperature, degradation, etc.) that are currently salient to most collectivities given the global dangers that confront us in the Anthropocene. In part, it achieves this by focusing on entities and events that stand at the intersection of material processes, communicative practices, affective unfoldings, and social relations. And, in part, it achieves this by backgrounding more technical linguistic

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arguments, and letting the events, actors, and ethnography carry the narrative. In these ways, the book is designed to bring together not only anthropologists and linguists, of various persuasions, but also ecologically oriented readers, critical theorists, and environmental scientists, whatever their background.

As may be seen in the table of contents, this book is composed of twelve chapters divided into three parts: Grounds, Tensors, and Thresholds. Each of these interrelated terms refers to a relatively shared interpretive resource that speakers of Q'eqchi', and most other languages, depend on. Such a set of resources, as a kind of semiotic commons, allows speakers to judge intensities, draw inferences, communicate and critique values, act effectively, experience affectively, relate socially, and both configure and inhabit possible worlds. The next three sections introduce readers to each of these key themes, while motivating the content and organization of the chapters that follow.

Grading, Gradients, Degradation, Grace

Here are somewhat extended passages from two very different kinds of texts: (1) a thesis in geological engineering on the causes of landslides in settlements around Guatemala City; (2) a newspaper's description of one such landslide, and some of its horrific effects.

- (1) The settlements are exposed to high landslide risk because they are located in very steep and large ravines made of weakly cemented pyroclastic deposits. In addition to the weak slope conditions, the occurrence of landslides is further exacerbated by hurricanes, severe wet seasons, and earthquakes. There is significant vulnerability because the majority of the population in the settlements is in impoverished conditions with very low-income leading to poorly planned developments made of badly constructed structures that are frequently damaged by landslides. Families have typically migrated from rural areas to the urban settlements because they sought economic opportunities that are more apparent [in such places]. (Faber 2016:1)

- (2) At least 220 bodies have been recovered after a massive landslide buried part of a town in Guatemala last week but about 350 people are still missing, the country's national disaster agency has announced . . . Loosened by heavy rains, a hillside collapsed on to Santa Catarina Pinula on the south-eastern flank of Guatemala City on 1 October, burying more than 100 homes under tonnes of earth, rock and trees, and sparking a huge rescue effort . . . Prosecutors in Guatemala said they are looking at whether there was any criminal misconduct at the site after Conred [the National Coordinator for the Reduction of Disasters] warned of the risks of building homes in the neighborhood, which lies at the bottom of a deep ravine. (*The Guardian*, October 8, 2015)

These passages illustrate two key themes of this monograph. First, there is the social and semiotic mediation of *causal grounds* – in particular, the way people come to understand, and alter, the sequencing of events, or the channeling of forces. For example, apparent economic opportunities cause migration to urban settlements; low income leads to poorly planned developments; rains loosen hillsides; buried homes spark rescue efforts. Second, there is the social and semiotic mediation of *comparative grounds* – in particular, the way people come to understand, and alter, the relative intensity of entities and events. For example, what counts as a steep slope, a low income, a heavy rain, a more apparent economic opportunity, or a huge rescue effort.

Part I of this monograph is about the intertwining of such causal and comparative grounds. Focusing on the multiple processes that mediate people's understandings of landslides in a Mayan village, it shows the ways these grounds relate to physical forces and phenomenological experiences, as much as to communicative practices and social conventions. And, as intimated by these examples, it highlights the political, economic, affective, and ecological stakes at play in such forms of mediation.

Framed another way, which should foreground the relation between such fieldsite-specific themes and the global *Anthropocene*, as a

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particularly timely locus of more general anthropological concern, Part I is about *gradients* (the way qualities vary in their intensity over space and time, and the ways such variations relate to causal processes), *grading* (the ways agents assess and alter such intensities, and experience and intervene in causal processes), *degradation* (the ways highly valuable variations in qualitative intensities are lowered or lost), and *grace* (the way agents work to maintain gradients, care for those whose lives have been degraded, and value those agents who work and care in such ways).

Chapter 1 will focus on comparative grounds. Chapter 2 will focus on causal grounds. Chapter 3 will focus on the ways such grounds mediate phenomenological experience and material culture. Finally, Chapter 4 will relate all of these concerns to Mayan cosmology, the origins of the Anthropocene, and the foundations of anthropology. In moving from landslides to heat flows, and in showing that there can be no ‘anthropology of energy’ without a simultaneous account of work, power, temperature, and entropy, it offers an analytic that might best be called *thermodynamic anthropology*.

The first part of this monograph thereby sets the stage, and develops the stakes, for later arguments. The next two parts – on tensors and thresholds – take up particular categories and themes introduced in Part I and develop them in greater detail.

The Genealogy of Intensity

Part II analyzes the structure, function, and history of what might best be called *tensors*: the semiotic resources speakers of Q’eqchi’ have, qua context-sensitive and culturally salient arrays of values, for registering intensities and/or regimenting tensions. To introduce readers to the phenomenon at issue, the following examples show common functions of two contrasting – if not dueling – intensifiers: *mas* ‘very’ and *jwal* ‘very, very’.

- (3) ab'an wi x-Ø-in-hupub' l-in kaxlan,
 but if PERF-A3S-E1S-cover DM-E1S chicken
 'But if I covered my (brooding) hens,
 xko'-in chi b'eeek,
 go.PERF-A1S PREP walk
 (and) I went for a walk,
 t-e'-moq li kok' kaxlan
 FUT-A3P-hatch DM small.PL chicken
 (when) the chicks will hatch,
 mas najt t-e'-xik
 very far FUT-A3P-go
 they will go very far (away from home).'

This multipart utterance (from fieldwork undertaken in 1999), spoken by a young woman who had three hens and thirteen chicks at the time, describes one of the many taboos (*awas*) that regiment women's behavior in relation to the chickens (*kaxlan* < Spanish *Castillan*) they care for. As may be seen from the two sets of parallel constructions, just as a woman covering her brooding hens with a basket is similar to – and a condition for – the chicks hatching from their shells, a woman taking a walk (while her hens are thus covered) is similar to – and a cause of – the chicks wandering far from the homestead.

As may be seen in the last line, this utterance involves a degree modifier *mas* ('very, much'), that is modifying an adverb (*najt* 'far'), that is itself modifying a verb (*xik* 'to go'). In particular, the chicks don't just wander somewhat far from the homestead (as all chicks do, in their search for food and so forth), they wander *very* far, and thus are easy prey for the chicken hawk.

Note, then, the relation between intensity, taboo, causality, and accountability. Just as a woman's movements (while her hen is brooding) are coupled to the movements of the hen's chicks, a woman's movements are constrained insofar as she herself is thereby accountable

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for the health of her hen's chicks. Or, as it might be put in English, a woman shouldn't go *too* far, or else her chicks will *too*.

- (4) qawa' Trump (k)i-Ø-x-ye,
 SD PN INF-A3S-E3S-say
 "Trump said,
 l-aa'in wan-Ø-Ø jun in-boton chan-Ø-Ø,
 DM-A1S exist-PRES-A3S one E1S-button say-PRES-A3S
 "I have a button," he said.
 mas nim, w-e
 very big E1S-DAT
 "Mine is very big."
 t-Ø-in-pitz', ut t-ex-in-kamsi,
 FUT-A3S-E1S-press and FUT-A2P-E1S-kill
 "I will press it, and I will kill you (plural)."
 li jun chik k-Ø-ix-ye,
 DM one more INF-A3S-E3S-say
 The other one said,
 l-aa'in wan-Ø-Ø ajwi' jun li w-e,
 DM-A1S exist-PRES-A3S also one DM E1S-DAT
 "I too have a button."
 jwal nim ke chi-r-u l-aaw-e,
 very.very big COMP PREP-E3S-RN DM-E2S-DAT
 "Mine is very, very big in comparison to yours.
 t-Ø-in-pitz', t-at-in-kamsi
 FUT-A3S-E1S-push FUT-A2S-E1S-kill
 I will press it (and) I will kill you (singular)."

In this example (from fieldwork undertaken in 2018), a man used two sets of parallel constructions to report the gist of a much publicized "conversation" between Donald Trump and Kim Jong-un regarding nuclear missiles. If Trump described his missile-launching button as *mas nim* or 'very big' (in implicit comparison to a typical button), Kim described his button as *jwal nim* or 'very, very big' (in explicit comparison to Trump's button). That is, Kim not only one-upped Trump by

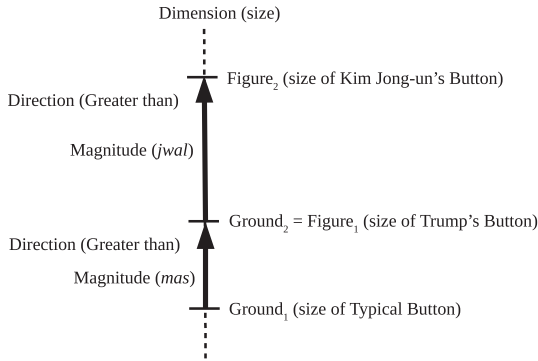


Figure I.1 Sizing up Kim Jong-un and Donald Trump

using a degree modifier that encoded a greater intensity (*jwal* > *mas*), he also used an explicit comparative construction with the size of his button as the figure and the size of Trump's button as the ground (and thereby stacked his on top of Trump's). Trump's button may be much bigger than the average button, as it were, but Kim's button is much, much bigger than Trump's. See Figure I.1.

Finally, and quite chillingly, whereas Trump is described as threatening to kill a plurality of people ('I will kill you [plural]'), and hence perhaps the whole of North Korea, Kim is portrayed as far more moderate and precise, insofar as he was only threatening to kill Trump, and only in response to Trump's provocation.

As will be shown, the intensifier *mas* can modify a wide range of word classes: not just adverbs and adjectives, as per examples (3) and (4), but also noun phrases, verb phrases, and other indefinite quantities. It immediately precedes the constituent it modifies, and indicates there is a large amount (however indefinite) or a high degree (however vague) of the dimension specified by that constituent: the distance of a journey, the size of a button. As should also be clear, *mas* frequently occurs in utterances that describe (and create) affect-laden situations, themselves anchored in cultural values and reflective of social relations. Such values and relations not only link speakers to addressees, they can also link

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people to animals (through modes of care), and indigenous people to foreign despots (through modes of critique).

As intimated by the contrast between *mas* and *jwal* in example (4), for each function *mas* serves, there is a range of other words in Q'eqchi' that play very similar roles, but tend to be used less frequently (at least nowadays), tend to have more specialized functions, and often have particularly revealing histories. For example, whereas *mas* entered Q'eqchi' from Spanish in the late 1800s (where it originally meant 'more' as opposed to 'very'), *jwal* has also undergone significant transformation. Indeed, somewhat ironically in the context of example (4), it derives from an inalienable possession that meant '(male) leader', and only in the last century or so did it come to mean 'very, very'.

The purpose of Part II is to analyze the structure, function, and history of such forms, and thereby offer what might best be called a *genealogy of intensity*. That is – and with a nod towards Nietzsche – an account of the grammatical structure, discursive function, and linguistic history of such forms, so far as this sheds light on social relations and cultural values (themselves always already in transformation), with particular attention to the ways such relations and values mediate modes of affect, ontology, and power.

Chapter 5 will focus on the system of degree operators in Q'eqchi', and thus compare and contrast the wide range of present-day forms that indicate greater and lesser degrees of intensity (qua magnitude). Chapter 6 will focus on the particularly rich history of one of these forms, *mas* (very/much), which derives from the Spanish comparative form *más* (more), and the way its multiple functions have long been misanalyzed by linguists and lay-speakers. Chapter 7 will analyze the complex history of comparative constructions in Q'eqchi', from colonial times until the present. Finally, in preparation for Part III, Chapter 8 focuses on the multiple functions of the form *chik* (longer, else, other, also) which, somewhat paradoxically, serves most of the same functions as Spanish *más* aside from its comparative function. The conclusion of

this chapter will return to women and their chickens, focusing on the uncanny relation between *two*, *too*, and *taboo*.

As will be seen, intensifiers don't just index or encode intensity (as sign to object). Following Peirce (1955a) and James (1985), they also channel and transduce it, often as the ultimate, energetic, and affective interpretants of sign-object relations. Intensification does not just turn on modulating the degree of a specific dimension. In line with Whitehead (1920) and Bergson (1913), it may involve bringing into play more and more dimensions (including more and more subtle distinctions within a single dimension), as well as stoking greater resonances, furthered durations, and deeper ingressions.

Temporality, Modality, Replenishment

Part III offers an analysis of *thresholds*: particular moments (along a timeline) when the truth of a statement changes from true to false (or vice versa), with various gradations in between; and particular degrees (along a dimension) where the relative intensity of some condition makes an otherwise acceptable action unacceptable (or vice versa), with various gradations in between. Temporal operators like 'still' and 'no longer' turn on such thresholds, as do modal operators like 'too' and 'enough'. Indeed, judgments like 'no longer clean enough to drink' or 'already too late to act', which link social practices and ecological processes, interrelate both kinds of thresholds in somewhat complicated ways.

To introduce readers to the phenomenon at issue, the following examples show some common functions of such threshold-sensitive forms.

- (5) naab'al in-tz'ol-om,
 many EIS-study-NOM
 'I have (completed) many studies.
- ab'an moko tz'aqal ta naab'al
 but NEG sufficient IRR many
 But not sufficiently many.'

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The speaker is a middle-aged man who teaches elementary school in a village on the outskirts of Chamelco, in Alta Verapaz. He is explaining why he does not try to obtain a higher-paying job teaching in a larger city. As may be seen, his explanation turns on the fact that, while he has completed many (*naab'al*) studies, he has not completed sufficiently (*tz'aqal*) many. Note, in particular, the contrast between an intensifier like *naab'al* (many, much, a lot), which indicates a large, but indefinite, quantity; and a threshold-sensitive operator like *tz'aqal* (sufficient, enough), which indicates that the degree of some dimension – however high or low – is or is not sufficient for some activity or undertaking. Just as something may be very cheap, but not cheap *enough* (for someone to buy, given their budget), something else, while very light, may nevertheless be *too* heavy (for someone to lift, given their strength). In particular, while the man has already taken 'many' courses (relative to some comparative ground, however subjective), he has not taken 'enough' courses to be able to obtain such a position (given the Guatemalan schooling system, and the standards it maintains). As will be seen, the Q'eqchi' word for 'enough' (*tz'aqal*) is closely related to the word for price (*tz'aq*), a relation that is not without bitter repercussions here: for the man would continue his studies to obtain such a position, if only he could afford to. Such semiotic resources, then, play a key role not just in representing and regimenting, but also lamenting and circumventing, boundaries and barriers.

We now move from notions like 'too much' and 'not enough', to relatively temporal operators like 'still' (*toj*) and relatively modal operators like 'can' (*ruuk*).

- (6) *toj* *wan-Ø-Ø* *sa'* *k'iche'*
 still exist-PRES-A3S PREP forest
 'There still are (tepezquintle) in the forest.
 wan-k=eb' *li* *kristyan*
 exist-PRES=A3P DM people
 There are people ...

naab'al li halaw nek-Ø-e'x-pub'tesi,
 many DM tepezquintle PRES-A3S-E3P-shoot
 many are the tepezquintle they shoot.

entonces, na-Ø-ru t-Ø-aa-low
 thus PRES-A3S-able FUT-A3S-E2S-eat/taste
 So it is possible that you will eat them (or taste their meat).'

This example shows a woman talking about tepezquintle, also known as the lowland paca, a large rodent found in many parts of Guatemala, whose meat is said to be delicious. After stating that there *still* exist tepezquintle, as well as people who hunt them, she uses these facts to justify the claim that it is *possible* that the addressee will eat them (and thereby experience what they taste like). The relatively explicit propositions that the woman puts forth might be summarized as follows:

- (i) there are (still) tepezquintle;
- (ii) there are people who hunt them (indeed, who kill many of them);
- (iii) thus, you can taste tepezquintle meat.

As relatively tacit, background assumptions, serving as a kind of infrastructure for her reasoning, the woman seems to take for granted the following kinds of propositions:

- (a) if you taste tepezquintle meat, there are hunters of tepezquintle
 (that is, there being successful hunters of T is a condition for you to taste T);
- (b) if there are hunters of tepezquintle, there are tepezquintle
 (that is, there being T is a condition for there to be successful hunters of T).

As may be seen, the auxiliary premises (i–ii), in conjunction with such backgrounded conditions (a–b), justify the main claim (iii): it is *possible* for the addressee to taste tepezquintle meat. Loosely speaking, such a modalized claim has the following truth conditions: there exist

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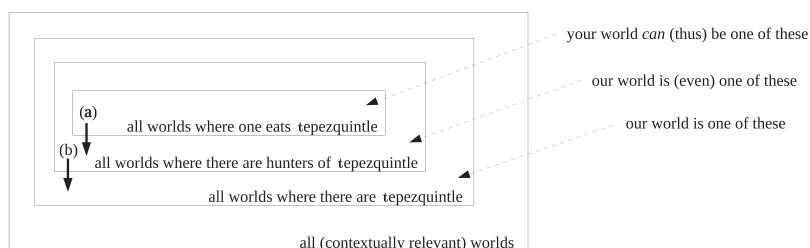


Figure I.2 All the worlds where one can taste tepezquintle meat

one or more worlds, compatible with certain restrictions that exist in the world of narration (here the speech event), in which the addressee's tasting of tepezquintle meat is true. In particular, if there weren't tepezquintle, such that claim (i) were false, there wouldn't be successful hunters of tepezquintle, given condition (b). And if there weren't successful hunters of tepezquintle, such that claim (ii) were false, the addressee wouldn't have the opportunity to taste tepezquintle, given condition (a). See Figure I.2.

As may be seen, the modalized utterance in the last line of this example has two verbal predicates, *ruuk* 'can' and *lowok* 'to try/eat', each of which is independently inflected. In particular, the first predicate is marked with present-tense and third-person affixes; whereas the second predicate is marked with future-tense and second-person affixes. Loosely speaking, the first predicate indicates that, conditions being what they are (in this world), something is possible. And the second predicate indicates what that possibility is: the addressee tasting tepezquintle sometime in the future (given those conditions). The modality in question is not deontic (having to do with norms or laws), nor dynamic (having to do with the addressee's personal abilities), but broadly circumstantial: having to do with external conditions, and the sorts of events they make possible. Extending Gibson (1979), not just things and their qualities, but also worlds and their conditions, are affordances: circumstances that don't so much determine, as enable

and constrain, actions and outcomes (thereby mediating predictions and plans, hopes and fears, and much else besides).

Finally, as may be seen in the opening line of this example, the first claim – there are tepezquintle – is modified by *toj*, or ‘still’. As will be shown, just as this operator presupposes that claim (i) was true before the speech event, and continuously so up until the speech event, it invites the inference that this claim will not be true for long, such that the second claim (ii) won’t be true for long, such that the third claim (iii) won’t be true for long. That is, while the ecological conditions are such that the addressee can still taste tepezquintle, they probably won’t be that way in the near future. (So, if the addressee really wants to taste tepezquintle, he should hurry.) Such an operator smuggles in not only presuppositions about the past, but also predictions about the future given knowledge about the present; and such presumptions and predictions reveal not just the beliefs and values, but also the identities and affects, of the participants.

One goal of Part III is to analyze the semantics and pragmatics of such operators, and thereby offer an account of *phase transitions in satisfaction conditions*: moments in time, or degrees along dimensions, whereby worlds transform in relevant – and often radical – ways: what was possible becomes impossible; what was desirable becomes unacceptable; what was useless becomes useful; what was true becomes false; what was forbidden becomes permissible; what was vital becomes extinct. As will be seen, such operators are essential to understanding not just temporality and modality, and thus the nature and culture of time and world, but also ecology and potentiality, affordances and determinism, imagination and existence, labor and price, affect and mood, renewal and replenishment.

To capture this mediation, the chapters in Part III treat intensity, and various thresholds of intensity, through the lens of temporality and modality. Chapter 9 introduces the Q’eqchi’ institution of replacement (*eeqaj*), a set of practices and beliefs which determine when various

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kinds of entities and agents *must* be replaced, as well as what kinds of entities and agents *may* substitute for them, and thereby serve as their replacements. It uses this institution as a means to articulate various modes of temporality that underlie social practices and material processes: temporality as repetition (and interruption); temporality as irreversibility (and reversibility); temporality as reckoning (and regimentation); temporality as roots and fruits; and temporality as cosmology and worldview. And it highlights the important role that thresholds play in mediating such practices and processes. The three chapters that follow pursue different facets of this mediation. Chapter 10 focuses on temporal categories in Q'eqchi' that are somewhat similar to English adverbs like *still* and *not yet*. Chapter 11 focuses on modal categories like possibility and necessity. Finally, Chapter 12 focuses on various constructions that are closely coupled to such temporal profiles and possible worlds – somewhat similar to the English words *too*, *under-*, and *over-*, as well as *sufficient* and *enough*, not to mention concepts like *scarcity* and *excess*. As will be seen, such operators – and the thresholds they depend on – not only undergird processes of reciprocation and degradation in village life, they also mediate political economy and technoscience in the face of ecological crises and economic upheaval.

From Small Potatoes to Unlivable Extremes

To conclude this introduction, let me offer a somewhat extended example of some of the modes of analysis that this monograph will offer, one that begins with the utterly trivial and ends with the globally consequential. While firmly rooted in a certain moment of the English language and a certain segment of American culture, it takes inspiration for its analysis from the Mayan categories and concerns just described, all the while porting the consequences of such categories and concerns to the world, and the wording and worlding of worlds and words, at large.

Growing up in the Bay Area I often went to the Santa Cruz Beach Board Walk. The signature ride of this amusement park was an all wooden roller coaster known as the ‘Big Dipper’. To ride this roller coaster you had to be as tall as a wooden cutout of a pelican, with an adjacent sign that said something like: ‘you must be at least *this* tall to ride the Giant Dipper’. For a short kid with tall friends, this height requirement was a particularly burdensome threshold, as I was the only one in my circle who didn’t meet it. Setting aside for the moment the psychodynamics of desire, anxiety, and inadequacy, let’s turn to the role this sign played in a certain mode of signification.

This sign constituted an important ground for a certain kind of speech event: a child, placed under the beak of the pelican, while a parent, friend, and/or ticket-taker issued a judgment, however implicit or unspoken, such as *tall enough* or *not tall enough*, thereby enabling the child to go on the ride (or not), assuming he or she also had enough tickets (and hence parents with enough money to have bought them in the first place). Such judgments could even be fleshed out with other grammatical categories that indicated temporal movements towards admittance: from a somewhat hopeful *almost tall enough*, though a more neutral *not yet tall enough*, to a most unmerciful *still too short*. (While I doubt anyone ever said this utterance regarding others, I had several opportunities over the years, post-rejections from the ride, to think it about myself.)

While the entirety of such a process is too complicated to capture with a simple diagram or description, here are some key steps along the way. There is the embodiment of a height threshold, or standard for acceptability: the wooden cutout of the pelican whose beak exemplifies the height in question. There is the adjacent sign that not only makes this embodiment clear, but also indicates the rule itself, while offering instructions regarding how to know if one meets the criterion stipulated by the rule, itself only known in relation to the ruler: you must be *this* tall to ride the Big Dipper. There is the action of following

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such a sign by actually standing next to the pelican such that one's meeting of the threshold, or not, becomes perfectly clear and manifestly public. There is the action of observing the child–pelican height relation, in relation to the stipulated rule, and then issuing a judgment: *tall enough, not tall enough, not yet tall enough, still too short*, and so forth. There are all the actions and affects that follow from such judgments: getting in line, paying the ticket-taker, taking the ride; turning away (or being turned away), feeling happy or sad, nervous or disappointed, being soothed by teachers, or teased by classmates, and so forth. (Not to mention new senses of self, of one's characteristics and capacities, as well as an attendant sense of one's own developmental clock and the movement of time per se, and of course questions as to the justice or rationale of the rule itself, and imaginings of ways to cheat, or otherwise route around it.) Finally, back to the beginning, there was a set of judgments (by engineers, lawyers, and owners) as to a proper height standard given their assumptions about risks to riders (trauma, bodily injury, death) and/or risks to owners (lawsuits, bad press, low attendance), themselves grounded in relatively shared assumptions regarding government regulations, legal proceedings, and, of course, causal processes – such as the physics of roller coasters and the vulnerability of children's bodies.

For present purposes, we can focus on an intermediate judgment like *he is not yet tall enough to ride*, which stands more or less in the middle of all the foregoing issues, being both mediated by them (as roots) and mediating of them (as fruits). Setting aside the obvious fact that it involves a pronoun (*he*) and present tense, such that its meaning is dependent on context in a relatively straightforward fashion, we may turn to two of its more interesting operators, one relatively temporal (*not yet*) and the other relatively modal (*enough*).

Loosely speaking, the operator *not yet* takes two arguments: a proposition (here, the rest of the clause, however elided: *he is tall enough to*

ride); and a reference time (here, the speech event, or time of utterance). The presence of such an operator presupposes that the proposition is false before the reference time; it asserts that the proposition continues to be false at the reference time; and it defeasibly implies that the proposition will be true (soon) after the reference time. Closely related operators (like *still* and *no longer*) invert such relations and/or restage such conditions. For example, to say that someone was *still alive when the police arrived* is to: (i) presuppose they were alive before the arrival of the police; (ii) assert they were alive at the time of the arrival (and continuously so in between); and (iii) imply that they were dead soon after (thereby licensing still (!) future inferences of possible actions, outcomes and motivations, however weak, nefarious, accusative, fleeting, or well-founded).

The operator *enough* arguably takes four arguments: a nonfinite clause indicating a salient action or event (here, to ride the Big Dipper); a quality or dimension (here, tallness or height); a standard degree or threshold associated with such a dimension for the action in question (here, the height one *must* be to ride); and a set of norms, rules, or facts that link action, degree, and dimension (here, the rules of the amusement park, which specify an acceptable range of heights, themselves understood as legitimate and/or binding). If a phrase like *tall enough* (to ride) indicates that one meets a threshold, and so is within the range of acceptability (but on the low side), a phrase like *too tall* (to ride) indicates that one exceeds a threshold, and so is outside the range of acceptability (and on the high side), and so may not (or cannot) undertake the action in question (given the rules or laws so defined).

Treating these two operators (*not yet* and *enough*) together, such an utterance presupposes that one did not meet the height requirement (and so could not go on the ride) prior to the reference time. It asserts that one does not meet the height requirement (and so cannot go on

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the ride) at the reference time. (In particular, there exists no world, qua possible near future, accessible to this world – so far as the rules of this world are followed – in which a proposition like ‘he rides the Big Dipper’ will be true.) And it implies that one will meet the height requirement in the (more distal) future, and so *will be able* to go on the ride at such a time.

In so doing, such an utterance thereby takes for granted (re-enforces, and/or makes known) particular rules and restrictions, dimensions and thresholds, permitted and prohibited actions, normal and marked developmental processes, safe and unsafe situations, possible or impossible futures, marked and unmarked children, gatekeepers and interest groups, sadists (ready with the ridicule) and sympathizers (willing to overlook tiptoes).

To be sure, being permitted or prohibited from riding a roller coaster (even one as exhilarating and storied as the Big Dipper) is pretty small potatoes. I linger on its details not just because it so compactly illustrates the relation between intensity, temporality, and modality (not to mention the coupling of language, culture, and environment, or the nature of grounds, tensors, and thresholds); but also because it so readily generalizes to a wide range of phenomena that have such important stakes.

Here is a sample headline from the *New York Times* (April 5, 2020) that illustrates many of the same issues in a radically different setting: “Italy *underestimated the outbreak*, then became one of the first countries to order a national lockdown to contain it. A month later, officials warn it is *still too soon to reopen*.” Similarly, what counts as *too close for comfort* (given the possibilities of contagion in the context of a virus like COVID-19); and who decides whether we are *not yet in an unlivable extreme* (given the ravages of global warming).

Setting aside such seemingly overwhelming issues for the moment, the processes in question are much more pervasive, and thereby pertain

not just to the *Anthropocene*, but to just about *every scene*. Agents, entities, and events are constantly being graded by an enormous range of gatekeepers: their intensities, or degrees, of specific dimensions and capacities are assayed and assessed. As a function of where they sit relative to certain standards or thresholds (and when), various possible futures for those agents or entities are opened or foreclosed, delayed or hastened. Such assessments are grounded in various rules and rationales, interests and instincts, assumptions and values; and they are regimented by other agents, including infrastructures, environments, and other organisms. And such practices thereby usher in a range of repercussions, while solidifying a range of presuppositions, however unintended, illogical, destructive, or unjust.

As assayers of intensity and purveyors of patterns, such gatekeepers include not just ticket-takers, but also traps and tests, filters and sieves, natural and artificial selection, immune systems and flu masks, enclosures and attachments, laws and logic gates, prices and prohibitions, algorithms and parasites, thermometers and face scans, criminal profiles and commodity advertisements. They are thus both ordered and ordering agents: imposed on by orders from one or more worlds, if only their understanding of a stock's price or an afterlife, they attempt to impose order on their own and others' worlds.

Affect and Intensity, Matter and Energy

But before we begin, a few words of warning. In contrast to moves made by scholars working at the headwaters of the affective turn (see, in particular, Massumi's [1995] incredibly fun and influential essay), we will not conflate intensity with affect (for it includes so much more in its scope); and we will not reduce intensity – or affect for that matter – to effect (for it is so often the causal agent *par excellence*).³ It is so much

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more than ‘strength and duration’; and it is no less present in language and cognition than it is in affect and motion. Intensity, and affect while we’re at it, is allo-gnomic, not autonomic.

As should be clear from the foregoing discussion, intensity is particularly important because it scopes over, and often slips under, just about everything. It is not something ontologically bound like a substance or quality, thing or qualia. (Though it can be made so, or at least be made to seem so; languages, and their speakers, are certainly deft enough to do so.) It is, rather, a *potentially projected potentiality* – itself multidimensional and metarelational – of anything. It is therefore radically indifferent to the usual distinctions: entity or event, value or quantity, affect or sign, cause or effect, place or time, subject or object, intuition or analysis, prehension or apprehension, relation or relatum, nature or culture, collectivity or world. Indeed, intensity is often projected onto (and/or ingresses into) potentiality per se: that’s not *very likely* to have happened; she’s *more capable* than he is; this behavior is *slightly more permissible* (or *slightly less reprehensible*) than that; it *would be virtually impossible* to pull off; *if only they weren’t so oblivious*; and so forth.

While intensity sometimes appears as a nonquantified degree of a particular dimension (e.g., that is *very* hot), it usually only emerges in complex connections between changing degrees of disparate dimensions. Indeed, even in the simplest cases, the intensity (or degree) of one dimension is typically coupled to, and thereby affecting of, the intensity of another dimension.

For example, the tension in a stretched-out wire and the pitch produced by that wire when plucked (not to mention all the channeling and channeled tensions in the hand and ear, guitar and air). The degree to which he’s drunk and the extent to which he staggers (or swaggers). The narrowness of one’s escape and the depth of one’s relief.

More generally, changes in the intensity of one or more dimensions across space and/or over time are affecting of (and affected by) changes in the intensity of one or more other dimensions. Indeed, changes in intensity don't just occur over time (as a kind of independent variable), the intensive – and tensored – movement of matter and energy (not to mention that of entropy and information, meaning and value) simultaneously reconfigures space-time (as a dependent variable); thereby rechanneling the matter and energy that originally channeled it. And on it goes . . .

For example, the coupling of electric and magnetic fields in electromagnetic radiation; and hence the propagation of light across space and time; and, reciprocally, transformations in space-time – not to mention the depth of our knowledge about space-time itself, and the possibility of other worlds – through the movement (and capture) of such photons. Closer to home, perhaps, yet distinctly connected, and in the tradition of Stern (1985), a parent's evinced attunement to a child's exuberance (including their attempts to discipline – or tune – what they 'see' as underdevelopment or overexuberance); and the child's reciprocal attunement – if only their resistance – to what the parent evinces. (For nothing connects disparate scales, or rescales disparate connections – from the cosmos to the nursery – quite like intensity.)

(Needless to say, all this is opposed to the idea – once quaint, but now cultish – that affect, materiality, experience, and the like are somehow beyond semiotics, or prior to semiosis. They are no more, and no less, beyond it than anything else in the world.)

Indeed, as will be seen in the chapters that follow, insofar as our imaginaries and theories of such coupled intensities are intensely coupled to the coupled intensities so imagined and theorized, our analysis of them – and intuitions about them – quickly become intensely complex (and complexly intense).

So we will do our best to ramp up slowly.

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Notes to Introduction

- ¹ On the notion of natural history, see Bacon's *New Organon*, the essays in Silverstein and Urban (1996), and the scholarship of Harold Conklin.
- ² For more about speakers of Q'eqchi' (and their language, history, and culture), see Wilson (1972), Stewart (1980), Berinstein (1985), Wilk (1991), Wilson (1995), Kahn (2006), Grandia (2012), Kistler (2014), and Kockelman (2010a, 2016a, 2020b). My own approach to language, culture, and cognition among the Maya is in the tradition of Lucy (1992), Haviland (1977), Hanks (1990), and Norman McQuown.
- ³ For an account of affect, in a pragmatist tradition, that resonates with this book's approach to intensity, see Kockelman (2013, 2016a). On other approaches to affect, see the wonderful essay by Urban and Urban (2020), and other chapters in the same volume (Pritzker, Fenigsen, and Wilce 2020).

Part I

Grounds

ONE



Comparative Grounds

A Small-Scale Landslide

The Mayan village where I carried out my fieldwork frequently suffered landslides. For example, around eleven o'clock at night, in August 2000, after six hours of intense rain, the ground beneath a corn field, which was planted on a steep hill above a family's housing site, gave way. The flowing mud, water, and rocks demolished the family's thatch-roofed home, strewing its pieces along the steep, 100-meter stretch of hillside below. The family had a second house, a newer building with a metal roof, that the river of mud missed by only a few meters. They had managed to get inside it just before the other building, where they normally slept, was destroyed – along with a large supply of corn, much of their clothing, and most of their chickens.

I was staying in the mayor's house at the time, and so in a similar housing site, on the same hillside – but much closer to the valley below, and so in a place that was lower in elevation, and much more gradual in slope. The mayor spent the night caring for that family, trying to save their remaining domestic animals, and then alerting other families to keep safe while requesting their assistance.

By seven o'clock the next morning, the rains had stopped and all the men in the village, and most of the women with relatively strong kinship ties to the family, had arrived at the site of the landslide. Within the

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space of a day, they had salvaged as much as they could from the mud, built that family a replacement (*eeqaj*) for their old home in a much safer spot, and dismantled and rebuilt the remaining house right next to it.

All this occurred two years after Hurricane Mitch, which swept through Central America in November 1998, killing almost eleven thousand people, and causing billions of dollars in damage to homes, crops, and infrastructure. The mayor himself had been trained to be a hurricane safety ‘promoter’ by an ecologically minded NGO that had been at work in this village for almost a decade; and so he had been trained to teach other villagers how to terrace their cornfields in order to avoid such mudslides (Kockelman 2016a). Villagers were therefore well-aware of the possible dangers and their causal triggers – most obviously, heavy rains and steep slopes, but also the planting of corn where there used to be cloud forest – and thus the effects of severe weather on exposed hillsides.

The four chapters that follow examine some of the consequences of, and conditions of possibility for, this landslide – including competing assessments of its relative severity.

Introduction to Comparative Judgments

To understand grading as a communicative practice, it is helpful to begin with a simple example. An explicitly comparative utterance like ‘this hillside is a little steeper than that hillside’ has five key components: a dimension of comparison (steepness); a figure of comparison (this hillside); a ground of comparison (that hillside); a direction of comparison (greater than); and a magnitude of comparison (a little). See Figure 1.1. Such an utterance presumes that the figure and ground are *commensurate*, in the sense that the predicate (steep) is applicable to both of them, even if they differ in regard to their respective degrees of the dimension denoted by that predicate. And such an utterance asserts

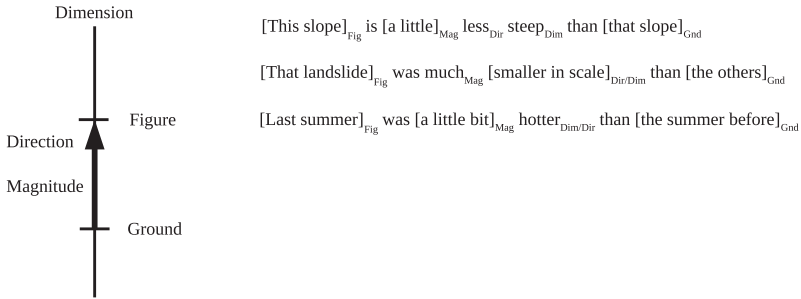


Figure 1.1 Key components of explicit comparative constructions

that, relative to the ground, the figure has a slightly greater degree of the dimension in question.

Each of these five components can vary independently within certain limits. For example, the dimension could be changed from steepness to muddiness, to exposedness or expensiveness, to barrenness or beauty. Indeed, it could be changed to most other gradable predicates in the language, insofar as they can apply to the figure and ground in question. If the utterance was about people rather than hillsides, for instance, the dimension might be strength, wealth, courage, dexterity, stealth, solvency – or any other quality (or relation) imaginable. See Lee (2021), for example, on the affective dynamics of (multidimensional and metarelational) dimensions like ‘volatility’. Indeed, the predicate *degradation* is gradable (‘this environment is more degraded than that one’), as is the predicate *graceful* (‘her dance was less graceful than his’); so there is a recursive applicability of the categories dealt with in these chapters.

Relatively speaking, the figure is that entity whose degree (along some dimension) is being graded; and the ground is that entity whose degree (along the same dimension) is being used to grade. Any two entities, events, or ideas could fill these slots depending on the dimension in question (‘John is taller than Michael Jordan’, ‘my mother’s brother is stronger than your mother’s brother’, ‘this is more expensive than that’, ‘yesterday’s landslide was less severe than the last one’, and so forth).

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What often matters is that the ground's degree of the dimension in question (say, steepness or height) is being taken for granted (constituting relatively old information, or immediate knowledge, that the speaker can assume the addressee already has access to); whereas the figure's degree of the dimension in question is being proposed (constituting new information, or mediate knowledge, that the speaker is informing the addressee of). Complications concerning this issue will be discussed below.

In this example, the direction of comparison is marked using the comparative morpheme (*-er*), indicating that the figure exhibits a greater degree of the dimension than the ground. While this is probably the unmarked situation, there is a range of other possibilities. Not just 'more steep' versus 'less steep' (where the latter construction inverts the direction of comparison), but also constructions which indicate similarity in grade ('as steep as'), and much else besides.¹ Without an explicitly expressed magnitude, all we learn from such an utterance is that the figure has a greater degree of the dimension than the ground; but how much more is left relatively unspecified. For example, the judgment 'this is heavier than that' is true if the figure and ground weigh 10,000 pounds and 1 pound, respectively; or if they weigh 1.001 pounds and 1.000 pounds; or if they weigh 10 micrograms and 1 microgram. Comparative constructions tend to be *scale-independent*, like most grammatical categories (Talmy 2000). Later chapters will explore some of the tensions in this tendency.

In this utterance, the magnitude of comparison is marked by the differential operator *a little*, which also serves as an indefinite quantity: 'we drank a little wine'. In comparative constructions, such a form specifies the difference in degree between the figure and the ground in an imprecise, or relative, way. Other forms with similar functions include: *much* and *a lot*, as well as the somewhat colloquial form *way*, and even the reduplicated form *much, much*. As will be taken up below, the magnitudes indicated by such forms are typically not just dimension-specific, but also figure- and ground-dependent. For

example, our sense of what counts as ‘a little more’ not only depends on whether we are talking about money or mass, but also on whether we are comparing the masses of planets or the masses of people, the value of companies or the debts of families.

That said, depending on the dimension at issue, we can often indicate the magnitude of difference in a relatively precise manner if needed: ‘this is 100 pounds heavier than that’; ‘your horse is three times faster than mine’; and so forth. In particular, for a wide range of dimensions (time, length, temperature, and so forth), a relatively standardized *metric* may be imposed, such that one can explicitly quantify the extent to which some figure exceeds some ground. See Figure 1.2. As is well known, if only because it is so often bemoaned by critical theorists, more and more dimensions, across an ever-increasing range of domains, have been metricalized in this way: not just information and pitch, but also intelligence and risk.

I will follow Sapir (1985 [1944]), for the moment, in assuming that quantification of this more stereotypical variety (e.g., ‘this weighs 12 pounds’) presupposes a mode of comparative reason he called *grading*. Such a comparative mode of reasoning – however tacit, embodied, distributed, or affective – undergirds not just the explicit comparative judgments just discussed (e.g., ‘this is a little heavier than that’), but also the implicit modes of comparison that will be discussed below (e.g., ‘this is very heavy’). That said, when we look at the history of such practices in

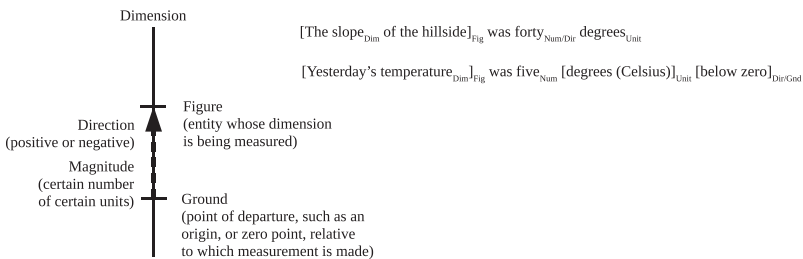


Figure 1.2 Key components of explicit quantification constructions

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Part II, we will see that, just as explicit quantities so often emerge from comparative judgments, comparative judgments are so often grounded in explicit metrics. Such differential modes of assaying intensity, or assessing degree, are recursively built upon each other.

In particular, and quite critically for what follows, even when a dimension has been subject to explicit measurement, implicit grading still takes over. For example, it matters less that some football player weighs 300 pounds than the fact that such a player is *really heavy* (in comparison to the average weight of football players). Similarly, it matters less that some hillside has a slope of 20 degrees, than the fact that such a slope is *too steep* (given the risks of landslides).

To return to our discussion of relatively large-scale landslides in the introduction of this monograph, while some might argue that certain numbers – say, 220 bodies recovered from the mud, or 350 people still missing in the wake of a disaster – are inherently impressive (or, indeed, ABSOLUTELY HORRIFIC), others might argue that what really matters to a *comparative public*, with its particular imaginary of salient intensities, is what counts as ‘a lot’ of bodies, or ‘too many’ missing people, for that public. Such inherently comparative judgments are socially and historically grounded in particular *thresholds* of intensity (however labile, tacit, or fractious); and it is usually only in reference to such thresholds that issues like causal reckoning, affective relating, narrative recounting, and moral accounting proceed.

The Comparative Construction in Q’eqchi’

Although the foregoing examples were taken from English, this general framework applies to a wide range of grammatical constructions, in a wide range of languages, so long as one takes into account the different kinds of linguistic resources that are available for encoding the components in question. Take, for example, a canonical comparative utterance in Q’eqchi’, the Mayan language that will be the focus of our attention.

- (1) q'es-q'es l-in ch'iich'
 sharp-sharp DM-E1S machete
 'My machete is very sharp . . .
 chi-r-u l-aa ch'iich'
 PREP-E3S-face DM-E2S machete
 in comparison to your machete.'

Like our English example, this utterance also involves a figure of comparison (my machete), a ground of comparison (your machete), a dimension of comparison (sharpness), a direction of comparison (greater), and a magnitude of comparison (very). The direction of comparison, however, is marked not by a comparative morpheme like *-er*, but rather through the relative positioning of the arguments in the construction itself. In particular, the noun phrase that serves as the figure of comparison is the argument of a reduplicated adjectival predicate (*q'es-q'es*); whereas the noun phrase that serves as the ground of comparison is the argument of an adposition (*chiru*).

Indeed, Q'eqchi' has no direct equivalent of English 'less than'. To encode such a direction, one must switch the relative positioning of the arguments (figure $\Rightarrow$ ground), or use an antonym of the comparative dimension (sharp $\Rightarrow$ dull). And, as in English, both such strategies have semantic entailments and pragmatic implications that the original sentence does not have; and so they are decidedly non-equivalent, even if they might count as possible translations in a pinch.

Moreover, the magnitude of comparison is marked not by an indefinite quantity like English 'a little', but rather through the reduplication of the predicate (*q'es*) that denotes the dimension of comparison (sharpness). To be sure, speakers of Q'eqchi' have such resources available to them. For example, they can use *mas* (<Spanish *más* 'more') as opposed to reduplication to encode a meaning similar to English 'very' (or Spanish *muy*). They can use *jwal*, as opposed to *mas*, to encode a meaning similar to English 'very, very'. And, as will be shown in

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Chapter 5, they have a wide range of other intensifiers, with both unsettled and unsettling meanings and histories, as well.

Crucially, when we examine the form that marks the ground of comparison, we find that it is not constituted by a single morpheme (like English ‘than’), but is rather an adposition composed of the preposition *chi*, a possessive prefix, and the possessed relational noun *-u*. The possessive prefix cross-references the noun phrase that constitutes the ground of comparison. And the relational noun comes from the inalienable possession *uhej*, which means face, eyes, or front surface. While the entire adposition usually serves a spatial or temporal function (indicating that one entity is *in front of*, *before*, or *prior to* another entity), in comparative constructions it indicates that, *relative to the ground* (literally, ‘in the face of the ground’), the figure has a significant degree of the dimension in question.

Finally, just as the comparative clause in English is usually nonobligatory (one can say, ‘this hill is steeper’), so too is the adpositional phrase in Q’eqchi’. In particular, one can simply say, *q’esq’es lin ch’iich*, or ‘my machete is very sharp’. In such an utterance, the comparative ground remains implicit; and so must be inferred from other aspects of the utterance’s content, or the context in which that content is uttered. However, unlike the English construction, which presupposes a relatively concrete and context-specific referent as its ground (in particular, the other hill that this hill is steeper than), the Q’eqchi’ implicit comparative construction merely indicates that one’s machete, as a figure, is very sharp. Whether it is very sharp in comparison to a recently mentioned or wielded machete, or simply very sharp in comparison to a typical machete (around here, nowadays, in the speaker’s experience), is left unsaid.

The Context-Sensitivity of Comparative Grounds

We will return to the semantics and pragmatics of explicit comparative constructions in Q’eqchi’, as well as their rich and wily history, in Part

II. We now highlight the ways such implicit comparative grounds shift across contexts, the manner in which they are reflexively gauged, the social relations that get mediated through their usage, the relatively shared assumptions they both evince and establish, and speakers' understandings of their use and meaning.

In a famous passage about comparison, Aristotle contrasted *quantity* with *relation*, which were two important predicates within his larger system of categories:

Things are not great or small absolutely, they are so called rather as the result of an act of comparison. For instance, a mountain is called small, a grain large, in virtue of the fact that the latter is greater than others of its kind, the former less. Thus there is a reference here to an external standard, for if the terms 'great' and 'small' were used absolutely, a mountain would never be called small or a grain large. Again, we say that there are many people in a village, and few in Athens, although those in the city are many times as numerous as those in the village; or we say that a house has many in it, and a theatre few, though those in the theatre far outnumber those in the house. The terms 'two cubits long', 'three cubits long', and so on indicate quantity, the terms 'great' and 'small' indicate relation, for they have reference to an external standard. (Aristotle 2001a:6)

As is well known, Aristotle's category of quality relates to his category of substance as predicates relate to subjects, or adjectives relate to nouns. Such categories are on display not just in utterances like 'Socrates is wise' and 'the stove is black', but also in utterances like 'the rains were heavy' and 'the ravine was deep'. For Aristotle, a key feature of most qualities and many relations, as opposed to substances, is that they admit of degrees, or variations in intensity, and hence are relatively gradable. As he put it, 'that which is beautiful may be more or less beautiful than some other beautiful object' (and similarly for words like 'large' and 'small', 'many' and 'few', 'deep' and 'heavy', 'risky' and 'complicated').

Given the kinds of evidence that Aristotle used to justify his system of categories, which seems to have been based on his intuitions as to the

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relative grammaticality of various construction types in ancient Greek, it may be argued that he was unconsciously projecting the relatively *covert* grammatical categories of his native language onto the world itself as a kind of fundamental ontology. Such an ontology has long bedeviled philosophers, so many of whom seem to have been unaware of its linguistic origins, or its semiotic and social implications (Benveniste 1971 [1958]; Sapir 1985 [1944]; Whorf 1993 [1939]). Note, then, that we don't want to read too much off of the superficial formal structure of our English examples, nor make too much of Aristotle's ontology (however prescient it was). As we saw above, the differences between Q'eqchi' and English are just as interesting as the similarities.

Such philosophical issues aside, what is of immediate interest in the foregoing passage is Aristotle's discussion of the content-specificity of comparative grounds, insofar as they 'make reference to an external standard' and 'admit of various degrees'. In particular, while grounds of comparison can be relatively explicit ('Socrates is wiser *than Plato*', 'the rains were heavier *than they had been in years*'), most such grounds are relatively implicit. For example, when I say, 'this is steep' (as opposed to 'this is steeper than that'), what I am really saying is something like 'this has more degrees of the dimension in question than *the typical member of the class of entities with which it is being compared*'. Moreover, what counts as steep in the context of rock-climbing is different than what is steep in the context of hiking, or steep in the context of house building (not to mention what is steep in the context of price).

These key ideas, inaugurated by Aristotle, echoed by Kant (2000 [1790]), radically extended by the linguistic anthropologist Edward Sapir (1984 [1944]), who called them 'points of departure', and theoretically developed by modern work in the semantics of grading (Bollinger 1972; Cresswell 1977; Klein 1980; Kennedy and McNally 2005; Schwarzschild 2008; Rett 2018; *inter alia*), have many implications for anthropology and social theory more generally. See the particularly important work of Carruthers (2016, 2017a, 2017b, 2019).

Whenever we project a dimension onto a figure, we are not just presuming a class of relatively commensurable entities with which that figure can be compared (insofar as such entities may be said to partake of, or evince, the same dimension), we are also presuming a normal, average, or stereotypical degree of the dimension associated with the class of entities in question (however fuzzy or imprecise).

In other words, simply to describe something as ‘steep’, ‘risky’, ‘small-scale’, or ‘horrific’ (not to mention ‘great’ or ‘numerous’, ‘hot’ or ‘heavy’) usually presumes something like an aggregate or class, as well as something like an average or norm. The folk notion, dear to so many social scientists of an ethnographic persuasion, that quality is prior to quantity, or that the individual case is prior to the general class, is radically misleading. Rather, implicit comparative grounds, and/or inherently relational standards of intensity, are no less fundamental to ‘quality’ than they are to ‘quantity’.

Aristotle himself emphasized the *content*-specificity of comparative grounds: what is heavy for a star may be very different than what is heavy for a train, or heavy for a cell phone. While unremarked upon by Aristotle, such contents are themselves often *context*-specific. For example, when I say, ‘the rains were heavy’, you don’t just need to know that I am talking about rains (as opposed to cell phones, stars, or trains); you also need to know what counts as a heavy rain around here, for people like us, engaged in an activity like this, dependent on conditions like these, given recent events and future plans as much as past experience. For without such information it can be difficult to establish the comparison class, and thus difficult to ascertain the degree of the figure, and thus difficult to appropriately act on, or be properly affected by, the claim in question. In some sense, then, words like ‘heavy’ and ‘horrific’ are *shifters* no less than words like ‘here’, ‘us’, and ‘this’.² Such context-specificity means that comparative grounds are only sometimes constituted by what Aristotle referred to as ‘standards of reference’. All that really matters is that they may be taken for granted in some communicative encounter, if

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only performatively so, insofar as they are treated as being (more or less) shared among members of a (larger or smaller) collectivity for (longer or shorter) stretches of time. Such relatively shared grounds may be *grounded in* phenomenal knowledge (what we both have experiential access to in our ongoing encounter), discursive knowledge (what we both know from earlier utterances, or prior conversations), cultural knowledge (what people like us, who grew up around here, can take for granted), and so forth. See Figure 1.3. Such grounds thereby constitute a kind of commons that is oriented to by a particular collectivity.

Example utterance

q'es-q'es l-in ch'iich' chi-r-u l-aa ch'iich'
sharp-sharp DM-E1S machete PREP-E3S-RN DM-E2S machete
'My machete is very sharp in comparison to your machete.'

Fig = Figure of comparison (my machete, NP)

Gnd = Ground of comparison (your machete, NP)

Dim = Dimension of comparison (sharpness, Adj)

Dir = Direction of comparison (greater, Adposition)

Mag = Magnitude of comparison (very, Reduplication)

Relation to tense and aspect

Fig $\Rightarrow$ Eⁿ (qua narrated entity)

Gnd $\Rightarrow$ E^r (qua reference entity, or Sapir's 'point of departure')

Dim, Dir, Mag $\Rightarrow$ / (qua relation between Eⁿ and E^r)

Where, in the tradition of Bull (1960), E^r can be identified via entities in speech event (E^s), other narrated events (E^{n'}), conventional knowledge about entities (E^c), and so forth.

Note, then, that just as the Eⁿ/E^r relation is critical, so too is the E^r/E^s relation—that is, how E^r gets established in terms of E^s, or establishes the terms of E^s.

Figure 1.3 Relation to Jakobson's sense of *shifter*

That said, given the contingencies of such context-dependencies, a comparative ground might only be shared by two intimate friends, as salient for a single afternoon, insofar as they partook of the same experience; or it might be known by all citizens of a nation-state, for more than a century, insofar as they learned the same history, or lived in the same country.

In other words, such comparative grounds are not only context- and content-specific in these ways, they are also experientially and historically specific. What counted as fast for my parents may count as slow for me. What counted as very entertaining for my grandparents may count as barely entertaining for me. What counted as sad when I was depressed may count as funny when I'm elated. Such comparative grounds – which turn on the habits, capacities, and experiences of personal bodies as much as the standards and conventions of body politics – are key tools for teasing out the grounds of experience and, in particular, transformations in such grounds over time, as well as their cognitive effects and affective repercussions.

As will be shown in Chapter 3, what counts as the comparative ground in such cases (relative to which another experience is figured as evincing more or less of some dimension) is often the intensity of the experience where we just were (so to speak). For example, as I moved, a process which occurs in time, I went from a place with one intensity to a place with another intensity, and I may only notice the second intensity relative to the ground of the first intensity. What I am experiencing now is more (or less) intense than what I was experiencing before; and so I should retreat (for it is too intense), stay (for it seems just right), push further (to increase it even more), and so forth. Recursively, the intensity experienced at the second place and time can go on to become the ground of comparison for the intensity to be experienced at a later place and time. Grounds of comparison, then, are often best understood processionally (Whitehead) and/or durationally (Bergson), as subjective and intersubjective flows, which are always – to some degree – out of

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phase with one's current experience, but thereby guide it or govern it all the same.

That said, we are not always, or even perhaps all that often, updating our grounds of experience. We may have relatively unshakable memories of, or habits grounded in, the intensities of particular experiences; and it is these we 'ever after' make reference to in judging the relative intensities of new experiences – it's just so bland, painful, spicy, yucky, or silky (in comparison to some grounding experience). Just as there are some experiences we just cannot 'shake', there are some grounds we just cannot 'sweep'.

In short, contra some of the claims that seem to be present in that passage by Aristotle, many 'external standards' – or, rather, implicit grounds of comparison – are not standardized at all, and so may turn on singular grounds as much as typical ones, fuzzy grounds as much as rigid ones, private grounds as much as public ones, fleeting grounds as much as lasting ones, contentious grounds as much as uncontroversial ones – and even watery, dangerous, and fast-moving grounds (such as landslides, floods, and mud) as much as dry, stable, and safe ones.

Risk Assessment in Comparative Contexts

Many of these issues may be carefully examined by returning to that thesis on small-scale landslides that we discussed in the introduction:

The purpose of this research is to develop a landslide-risk-rating-system (LRRS) that can be used by trained residents to better understand their risk . . . The focus of this LRRS is only on small-scale landslides (typically the size of a house or less) because evaluating the risk of large-scale landslides is too complicated to be done by trained non-technical experts. The LRRS asks questions related to landslide risk that can be used to calculate a landslide risk score to indicate the relative level of risk. The LRRS was created by reviewing published literature documenting other landslide rating systems and incorporating similar factors correlated with landslide risk. . . . These factors include slope angle, slope height, strength

of slope material or material type, aperture of cracks, spatial impact, largest probable landslide volume, largest probable percentage of the living area that could be impacted from a landslide, and total person-hours a living area is occupied per day. (Faber 2016:iii)

This passage enumerates various dimensions (or ‘factors’) whose relative intensity contribute to the probability and severity of landslides: slope angle, landslide volume, and so forth. It so doing, it also describes, in gradable terms, various metadimensions of its own framework – for example, the relative complicatedness of such a landslide rating system. To return to Aristotle, some of these dimensions seem highly relational. For example, at issue is not just what counts as a ‘small-scale’ landslide (as opposed to one that is ‘large-scale’), but also what form of risk assessment counts as ‘too complicated’ (to be undertaken by someone who resides in a landscape subject to such risks). In contrast, other dimensions seem readily quantified (such as the aperture of cracks, or the angle of slopes), even if they may often have their degrees assessed in relational ways: ‘that slope is 31.2 degrees’ $\Rightarrow$ ‘that’s a very steep slope’.

Note how the author pauses to make explicit the comparative ground he is using in regard to the first dimension: small-scale equals “the size of a house or less.” Here the comparative ground in question could not be presumed, and so had to be proposed.

In contrast, the comparative ground of a graded dimension like “too complicated” is left implicit by the author, and so is presumed to be more or less known to, or readily imagined by, the readers of such a thesis. As will be shown in Chapter 12, degree operators like *enough* and *too* are inherently modal: they indicate that the degree of a dimension is within or outside some acceptable range, such that some kind of action can, or cannot, be undertaken (or such that some kind of affect or expectation is, or is not, warranted).

Note, then, how important such grounds are for teasing out key features of various comparative publics – in particular, their understandings of various intensities for various dimensions; as well as their

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understandings of the significance of such intensities for various actions, affects, and outcomes; including their understandings of the sensitivities of others to such intensities, and the conditions and consequences of such differences in sensitivity.

The study at issue is designed to quantify, or at least grade in relatively precise ways (e.g., through a “landslide risk score”), two highly mediate dimensions: the probability of a landslide (or ‘hazard’) and the severity of a landslide (or ‘consequent’); and thus, ultimately, the risk of a landslide (= hazard $\times$ consequent). Such a mode of risk is explicitly defined as the “annual probability of loss of life to an individual” (Faber 2016:9), and is parameterized as a percentage.

While it might seem as if the entire effort is designed to ontologically translate a member of the Aristotelian category of ‘relation’ into the Aristotelian category of ‘quantity’ (and thereby return a value that is relatively context-independent and quantitative), it is really an attempt to generate a carefully gauged set of discrete intensities, or ‘severity categories’. As the author puts it, “the calculated risk scores have no absolute quantitative meaning and should only be compared to other slopes evaluated by the Final LRRS. Severity categories of Low, Medium, High, and Severe Risk have been developed to help aid in applying the scores” (Faber 2016:52).

Such highly mediate dimensions are themselves framed as composite dimensions, consisting of an aggregated set of relatively immediate, concrete, and easy-to-quantify dimensions: not just slope height and crack aperture, but also largest probable landslide volume and total person-hours a living area is occupied per day. That is, while the most mediate, or upstream, dimension turns on relation (in particular, risk), most of the immediate, or downstream, dimensions turn on quantity. In some sense, then, the thesis is really designed to translate an aggregate set of relatively immediate and quantitative dimensions into a single relatively mediate and relational dimension. See Figure 1.4. Such a dimension, and its various degrees, can then be publicized as a sign,

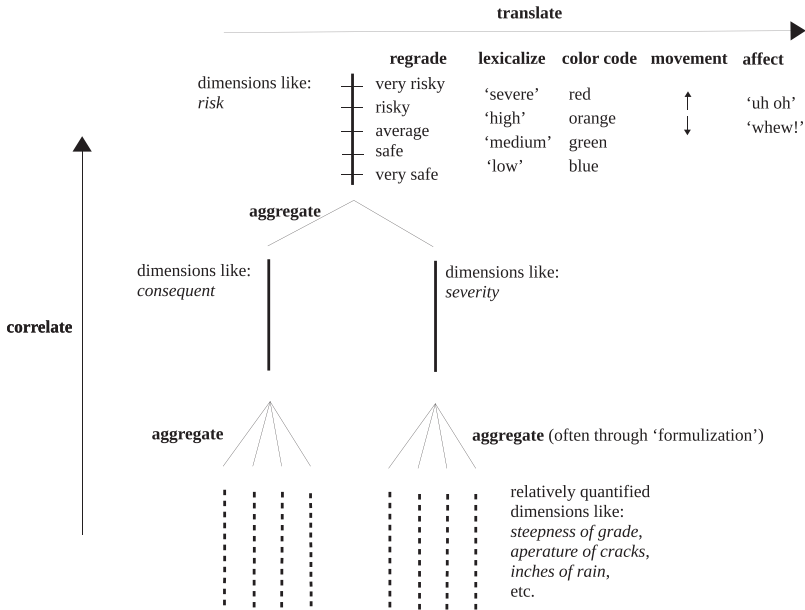


Figure 1.4 Aggregation, correlation, and translation of dimensions (and degrees)

or index, of current conditions. Indeed, they can be color coded, or iconized. For example, red = severe, orange = moderate, and so forth. Moreover, a person attentive to such signs might become desensitized to them, and only focus on their changes, or movements, with attendant unfoldings of affect: from moderate to severe (or orange to red); and hence from concerned to anxious (if not from blasé to concerned, or from anxious to terrified).

Such immediate dimensions, in their various degrees, become salient precisely because they are posited to causally correlate with such an important effect – landslide risk, or the loss of life. The author not only wants to make such immediate dimensions experientially salient, but also to make such a mediate dimension easily graded, or ‘rated’. And he wants to make this system known by, and user-friendly to, ‘non-technical experts’ – in particular, the people so at risk. In short, the author is not

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only making explicit, or figuring, a particular comparative ground, he is also trying to make salient a whole set of causally interrelated dimensions, standardize their measurement, and spread this standard – all for the sake of minimizing the disastrous effects of such causes on a particularly vulnerable public.

The Comparative Grounds of Sartorial Status and Shame

Lest the reader think that such issues are particular to expert registers, pertinent only to physical processes, or salient only when the stakes are so obviously high, we now turn to the figuring of comparative grounds in a more stereotypical ethnographic context. A year or so before the mudslide occurred, a local man described the causes of *xuutan*, or ‘shame’, in the following terms.

- (2a) qa-ye'-aq-Ø mare q'axal tiqtoo-k-Ø a'an
 E1P-say-NS-A3S perhaps exceedingly dressed.up-PRES-A3S DEM
 ‘Let’s say perhaps (someone) is exceedingly dressed up . . .
 naq sa' iglesya, sa' li sant-il iglesya,
 COMP PREP church PREP DM saint-ABS church
 when at church, at the holy church.
- (2b) ha'-ut l-aa'in tiqtoo-k-in,
 TOP-CONJ DM-A1S dressed.up-PRES-A1S
 And I am (simply) dressed up.
- (2c) wan-Ø-Ø in-xutaan x-b'aan li w-amig,
 exist-PRES-A3S E1S-shame E3S-because DM E1S-friend
 I am ashamed because of my friend . . .
- (2d) solo juntaq'eet-o' li qa-chihab',
 only same-A1P DM E1P-year
 only (if) we are the same (in) our years.
- (2e) moko cheq ta qa-ye'-aq-Ø,
 NEG old IRR E1P-say-NS-A3S
 He is not old, let's say.

(2f) li aj cheq na-Ø-r-aj b'ay-aq chi-w-u,
 DM SD old PRES-A3S-E3S-want/need a.little-NS PREP-E1S-face
 The old man requires a little bit more in comparison to me.

(2g) mare mas junxil na-Ø-'ok chaq
 perhaps very before PRES-A3S-begin DEIC
 Perhaps very long ago he began . . .

x-t'am-b'al li-x tumin,
 E3S-collect-NOM DM-E3S money
 to collect (or save) his money.

(2h) moko t-Ø-ruu-q ta
 NEG FUT-A3S-able-NS IRR
 It is not possible . . .

t-Ø-in-b'is w-ib' r-ik'in l-aa'in
 FUT-A3S-E1S-measure E1S-RFLX E3S-RN DM-A1S
 (that) I measure myself with (respect to) him.'

This example is illustrative of many relevant points. First, a mode of affect, lexically specified as something like an emotion, is being discussed; in particular, how one may become ashamed by the fact that another has a larger degree of something (such as fineness of dress) when the two people in question are of the same age (and thus relatively comparable). Indeed, they are explicitly characterized as friends, and age-mates, in lines (c) and (d). That is, a *difference* in degrees along a particular dimension (well-dressedness) causes an effect (shame) only when the social actors who possess the graded dimensions in question are (more or less) the *same* in status, or age. This shows that grading is not just about a relation between two entities (e.g., a figure and ground of comparison). Rather, it often turns on the relation between two entities in relation to a relation between two agents (e.g., speaker and addressee, or speaker and topic). Only as such does grading generate a force, and thereby affect them. See Figure 1.5. In this way, negative emotions, no less than disastrous landslides, may be

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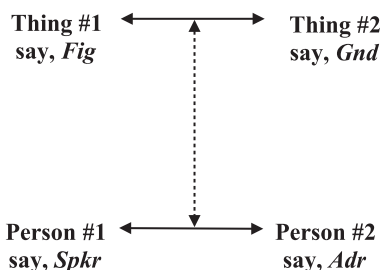


Figure 1.5 Relations between relations

caused by differences in quantities of qualities, and thus *gradients* in degrees along particular dimensions.

While this example shows an explicit comparative *construction* (line (f)), it also shows an implicit mode of comparison, or comparative *strategy*, as evinced in discourse parallelism. In lines (a) and (b), for example, we learn that while the speaker's friend is exceedingly dressed up, the speaker is only dressed up (the implication being that the friend is much better dressed than the speaker). This was the preferred way of making comparisons among speakers in this community: two syntactically parallel constructions, each predicating the same feature of a different referent, in which one referent's predicate is graded upwards or downwards from the other. Framed another way, rather than put two entities in explicit comparison with each other, use discourse parallelism to put each of them in comparison with a third entity (often an average, normative, or typical degree of some quality or dimension), such that they are implicitly compared with each other. See Figure 1.6.

In this way, the comparison turns on a discursive strategy as opposed to a grammatical construction. Moreover, contra Aristotle's attention to *relation* (as opposed to quality or quantity), we see that grading turns on *relations between relations*. Indeed, while this comparison involves parallel constructions by the same speaker, similar comparisons may also involve parallel constructions by different speakers: after you assess

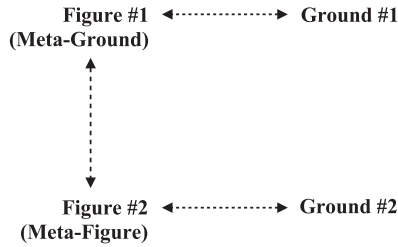


Figure 1.6 Figures and grounds in parallel constructions

the relative degree of some dimension, I assess the relative degree of the same dimension in relation to your assessment (say, by upgrading or downgrading it), and such a relation between our respective utterances both reflects and regiments our social relation.

Turning to linguistic constructions, line (a) shows the degree modifier *q'axal*. As will be seen in Part II, this word is related to the verb *q'axok*, which means 'to pass' or 'to cross', and so the operative metaphor is arguably one of passing a certain normative or expected degree. In both glosses and usage, this word often functions like a conditional superlative, akin to the suffix *-issimo* in Italian. For example, this word may be paired with the adjective *us* 'good', and the entire phrase is glossed as 'excellent'. The predicate being modified (*tiqto*) usually means well-dressed or 'dressed up', as opposed to simply dressed; and so it should be clear that simple lexical distinctions have implications for differences in grade. Arguably, then, there is a double gradation taking place: the friend is not just dressed up (relative to other people, or relative to his normal, everyday dress); rather, with *q'axal*, he is exceedingly dressed up, and thus dressed up even relative to other dressed-up people (such as the speaker).

Line (a) suggests that even nouns may be graded and, indeed, upgraded in a single utterance. At first a church (*iglesya*) is introduced, and then it is introduced again, but now as a particularly *holy* church (*santil iglesya*). It is also likely that the speaker is making sure to indicate that he is being sufficiently *respectful* of such a setting; and

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hence that that he is exhibiting a high enough degree of this morally important dimension.

Finally, line (h), which in some sense sums up the entire exchange, shows that there are local theories of grade and measure as much as local practices of grading and measurement. Thus, while grading is a relatively ubiquitous and tacit practice, it may also be articulated and valorized as a process. Indeed, looking ahead to Chapter 2, the speaker is not only sharing a comparative ground with the anthropologist, he is also sharing a causal ground: a comparative encounter leads to a discomfiting affect.

Ontology, Identity, and Performativity

In regard to the communicative practices that turn on such comparative grounds, a few important points should be kept in mind, each of which will be further developed in the chapters that follow.

Grounds need not stay in the background; they may also be brought to the foreground, or figured, through semiotic processes (like utterances, interviews, and essays) that make them relatively public, unambiguous, or explicit.

Such a figuring can serve to performatively constitute the ground so communicated. That thesis on landslides, for example, was meant to establish various gradations of risk, and hence determine what counts as *risky* (as well as *very risky*, *somewhat risky*, and so forth). Indeed, even an everyday utterance like ‘this is too steep’ or ‘that is not safe’ may function not so much to communicate that the entity in question is steep or unsafe (given some preexisting, or mutually presumed, ground of comparison), as to establish what should be considered steep or safe in the first place (as a comparative ground, for some class of entities, given some set of concerns, to some collectivity of agents).

The figure of one communicative practice, or comparative strategy, can go on to become the ground of a subsequent communicative

practice. If *this* is shameful, steep, or complicated (relative to *that*), something else can be shameful, steep, or complicated (relative to *this*), and so on, down the line. How high, or ‘upstream’, an entity is in such a calibration cascade is a good indicator of its centrality to a collectivity, as a kind of standard, touchstone, or exemplar.³ If the thesis on risk assessment is successful, for example, subsequent assessments, as well as systems of assessment, including actions and infrastructures guided by such systems, will make reference to it.⁴

One is always implicitly *cograding* oneself whenever one grades something else. For example, when I say that something is *heavy* or *light*, I am, in part, saying that it seems heavy or light *to me*, and thus that I am relatively weak or strong, sensitive or insensitive, impressionable or indifferent. Indeed, one is just as often grading others. For example, when I tell you that something is *very heavy*, I may, to some degree, be implying that you are not strong enough to lift it. As we saw above, to state that certain systems of risk assessment are *too complicated* is to invite the inference that certain people are *not educated enough* to understand them.⁵

Dimensions might be initially defined as whatever admits of variations in degree, or differences in intensity. As we saw in the discussion of risk assessment, notwithstanding their name, most dimensions are actually multidimensional and metarelational (when examined more closely and/or from multiple perspectives). It’s not just that one and the same thing can have multiple dimensions projected onto it (or found within it); it is also that one and the same dimension can have multiple dimensions resolvable within it. Intensities are elective no less than affinities. And, of course, salient swatches of dimensions can be subdivided (as well as united): for example, the hot part of a hot–cold spectrum can itself be resolved into hotter and colder parts, and so on, often to infinite degrees of resolution. Dimensionality is itself a continuously redimensionalizable dimension. Indeed, insofar as dimensions might best be understood as ‘degrees of freedom’ (Kockelman 2017), intensity might even be understood as *the degreing of freedom*.

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While dimensions might first seem to be akin to ‘qualities’ (or, worse yet, *qualia*), they are far wider: not just any possible predicate of a subject, ingression into an event, or attribute of a substance (position, time, action, affect, affordance, identity, mode, relation, world, etc.), but any value more generally (and hence whatever could be stood for by a sign or striven for by an agent, which includes whatever can be incorporated into a sign or created by an agent). As will be shown in the next two chapters, most are not the result of relatively static, subjective perceptions as grounded in neo-Kantian subject–predicate ontologies (‘the stove is black’), but rather emerge at the dynamic intersection of sensation and instigation, and hence are the precipitates of affect and agency as much as causality and intensity (not to mention society and history).

A key issue is not just that certain kinds of people engage in certain kinds of grading practices, but that such practices can become indicative of their identities. In other words, in some group’s *imaginary* (ontology, register, ideology, etc.), qua relatively shared understanding of patterns and/or relatively collective system of categories (however tacit or intuitive, erroneous or evil), grading practices can constitute signs of, or evidence for, particular social relations and kinds: gender, race, class, ethnicity, nationality, occupation, mood, personality, expertise, and so forth. To return to Aristotle, it is not just that we categorize entities via our grading practices (e.g., that is a very risky environment, or a somewhat shameful event); it is that we get categorized by others because of our grading practices (e.g., we are the kind of people who would grade that environment as very risky, or I am the kind of person who would grade that interaction as somewhat shameful, and so forth).

There are also meta-signs of these index–identity relations that get mediated and manufactured in well-known ways and, through their expression and circulation, thereby contribute to the perdurance and pervasiveness of such imaginaries. There are movies, books, jokes,

gossip, and advertisements, for example, that portray members of particular identities as more or less sensitive to certain intensities of certain dimensions, for particular reasons, and with particular repercussions. Extending the important insights of Agha (1995) on the phenomenon of enregisterment in sociolinguistic practices (e.g., conditions of possibility for the emergence of relatively shared understandings regarding the relation between class position and accent pattern), we might refer to such processes as the enregisterment of intensity; and we might dub the emergent precipitates of such processes, when they become relatively widespread or stable, as *intensity registers*.

Particularly important for present concerns, insofar as it is recursively constituted, is the fact that we don't usually categorize categorically (in all-or-nothing terms), but rather do so in graduated ways, and hence *by degrees*: someone belongs – more or less – to some category, depending on the intensity with which they evince certain salient dimensions. For example, the frequency with which they engage in certain grading practices, or the degree of certainty with which they espouse certain comparative judgments. For, contra Aristotle, 'substances' (or ontological kinds more generally) admit of degrees as much as 'qualities', even if they might only do so in relatively surreptitious and shifty ways.

Finally, it cannot be emphasized enough that grading does not just reflect, or represent, gradients in the world, it also transforms them. It does this, in part, by transforming the habits and values of the people who reckon with them, as well as their beliefs, desires, moods, and social relations (for these, too, are part of the world). And it does this, in part, by changing their sensibilities to and assumptions about the world, in ways that cause them to act and be affected differently, all of which may bring the world more or less (!) in line with their sensibilities and assumptions.

To be sure, all this was written as if there was a single, relatively definite world (*the* world). As laid out in the introduction to this monograph, and as will be developed at length in later chapters, grading

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is not just closely coupled to temporality, it is also deeply implicated in modality. This means that it is not just possible, but also necessary, to frame grading practices in terms of modal operators and virtual relations: and thus to study not just our residence in, but also our regimentation of, possible, actual, and alternative worlds.

Notes to Chapter 1

- 1 For reasons of space, I am not taking up several key questions here: the existence of different classes of predicates (or different domains of qualities) which: have upper and lower bounds on their dimensions; project extreme degrees; have discretized as opposed to continuous dimensions; are not open to grading in the first place; and so forth.
- 2 For more on shifters, and their centrality to linguistics, anthropology, and philosophy, see Jakobson (1990a), Lee (1997), Lucy (1993), and Silverstein (1976).
- 3 And who controls it often has a kind of unearthly power. See, for example, Kripke (1980) on indexical chains, Silverstein (2004) and Gumperz (2009) on centers of emanation, and Kockelman and Bernstein (2012) on the portability of calibration.
- 4 Kockelman (2005; especially pages 298–99) surveys the vast literature on common grounds, intersubjective attitudes, and semiotic commons. See, in particular, Stalnaker (2002).
- 5 For particularly insightful work on the relation between assessments, asymmetries, social relations, action, and ontology, see Sidnell (2012) and Enfield and Sidnell (2017).

TWO



Causal Grounds

Landslides and Loss

Let us return to that landslide. While villagers tended to focus on its proximal causes in their day-to-day conversations (heavy rain, in particular), many would also describe less proximate causes: the destruction of cloud forests for corn fields, the overplanting of corn fields, and farming at high altitudes on steep and exposed hillsides. These causes, in turn, were understood to be the effects of even more distal causes – in particular, overpopulation and land scarcity. Moreover, some villagers – especially those heavily involved with NGOs and various government agencies – would see these causes as effects of still further causes (as might many anthropologists): the unavailability of cheap contraception or health education; the occupation of huge quantities of high-yield land at lower elevations, more suitable for farming, by a small number of wealthy landowners, who focused on export crops like coffee. And, of course, these causes may themselves even be seen as the effects of more distant, and perhaps more subtle and diffuse, and even more malignant causes: the civil war, global markets, colonialism, capitalism, racism, neoliberalism, poverty, a weak and corrupt state, the legacy of conquest, the Anthropocene, the nature of man, and so on. The causes one posits, and the effects one attempts to explain through the positing of such

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causes, reveal as much about one's identity and interests as they reveal about the underlying causal fabric of nature, history, or society per se.

Before explicating the relation between comparative and causal grounds, let me highlight one interaction that occurred the morning after the mudslide – an interaction that is at the opposite extreme of example (2) from Chapter 1, with its lengthy discussion of shame and sartorial status. Later that morning, the mayor returned to his home to drink coffee and catch his breath, before going back out to help rebuild the family's home. He looked absolutely exhausted – eyes bloodshot, hair and clothing caked with mud, his body steaming – as he sat on a stool by the hearth fire, everyone now silent around him, the men and women stopping their work to watch him.

After a little while he lifted the lapels of his shirt over his eyes and began to cry, saying *maak'a' chik lix wex*, or 'he has no more pants' (equivalently: 'he no longer has pants'), speaking of the man who had just lost his home. While the mayor had been a rock of resolve and action all night, and while a single item of clothing might have now seemed like the least of that family's worries, this was the only time I saw a Q'eqchi' man cry, and I couldn't help but start to cry across from him. That family had lost the entirety of their possessions: home and field, crops and land, animals and clothing. And they had narrowly missed losing their lives.

I don't have the eloquence to do more for this experience than this, so I'll merely indicate the hopefully obvious ways it bears on the larger concerns of Part I: the degradation of landscape and livelihood; the loss of one's lowest sign of status; the support of an entire village to build a new home; affective resonance, and the coupling of otherwise disparate intensities; the simplest sharing of sympathies, or grace; and all this in the midst of gradients and grading gone awry, and the intertwining of comparative and causal grounds.

Introduction to Gradients

I use the term *gradient* in two related senses. In an unmarked sense, it means the way relative degrees of relevant dimensions vary over space, in time, or across individuals. As we saw in Chapter 1, such relatively gradable dimensions might include income, age, and anxiety as much as temperature, status, and complexity. In a marked sense, this term captures the technical definition employed by physicists or mathematicians: the derivative of a function in one or more dimensions; and hence the slope, or ‘grade’, of the function at every point.

This latter definition should be familiar to anyone who has ever examined a contour map: altitude is a function of position; contour lines show points of equal altitude; and gradients are vectors that lie perpendicular to contours. See Figure 2.1. Such vectors not only indicate the direction of greatest increase (or steepest grade) by their arrows, they also indicate the magnitude of that increase (or how steep) by their lengths.

Such an idea should also be intuitive to anyone who has ever experienced such a terrain. For example, if you walk along your local contour

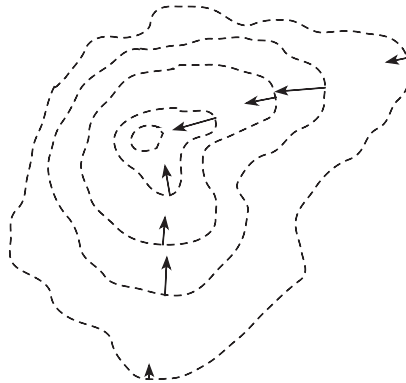


Figure 2.1 Gradients and contours

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line you do not change elevation. If you walk in the direction of your local gradient, you increase your elevation at the fastest rate (insofar as it indicates the steepest path at any point). Conversely, if you move in the opposite direction, you decrease your elevation at the fastest rate. Such facts are well known – not just to mountaineers and engineers, but also to those who hike trails or carry firewood, grow crops on steep hillsides or suffer the effects of landslides.

For physicists, an extremely important function is the potential energy in some region. This is because the negative gradient of such a function specifies the forces acting on a body at any point in that region; and this force determines the amount of work (if not labor) required to move a body through a distance against that force. To continue with our example, a particularly relevant kind of potential energy arises through an entity's interaction with the Earth's gravitational field in some relatively hilly terrain. For many situations, this potential energy is proportional to the entity's altitude, or height above sea level. And it is approximated by the following function: $mgh(x,y)$, or mass (m) of entity times gravitational constant (g) times height (h), itself a function of position (x,y). Any object placed in such a terrain will be acted on by a force pointing in the opposite direction of, and proportional to, the gradient of this function (in particular, a force whose x - and y -components are $-mg\partial h/\partial x$ and $-mg\partial h/\partial y$, respectively). It is, with many caveats, precisely this force that pulls water, dirt, and rocks downhill.

Gradients as Grounds for Interpretation

Such is the stuff of high school physics, not to mention the science and aesthetics of cartography, as well as everyday experience and embodied intuitions. But it is also essential to anthropology. For to really know a terrain is, in part, to know its contours and gradients, and hence its *forcefields*. And to know its forcefields is to know the virtual trajectory of any body embedded in such a terrain: where it is likely to go (or where it

has been) as a function of where it currently is; conversely, where it cannot possibly go (or could not have been) without the presence of laboring agents or unlikely events.

More carefully, any such body, against the ground of such a terrain (understood in terms of its forcefields, and hence its gradients) is potentially a figure to an interpreting agent (who has such embodied intuitions, or such a physical theory). The body's current configuration (say, where it is, and how fast it is moving in some direction) becomes a *sign*, for that interpreter, of its subsequent (or prior) configurations. And hence both its destiny and its history, or *duration* (so to speak), can become *objects* (in the semiotic sense) for such an agent. That is, an agent can infer (or intuit) such configurations, and come to act on such inferences (and intuitions), if only by stepping out of the way of sliding rocks, or planting one's cornfield in a more suitable place; or simply by being aware, if not wary, of such possibilities in the first place. Such inferences and intuitions, actions and affects, thereby constitute *interpretants* of such sign-object relations. See Figure 2.2.

There are thus very good reasons to be attentive to gradients. They are important not just because they play a role in determining whether one will do more or less work, expend more or less energy, require more or less power; but also because they play a role in determining whether a landslide will occur sooner or later, move faster or slower, impact harder

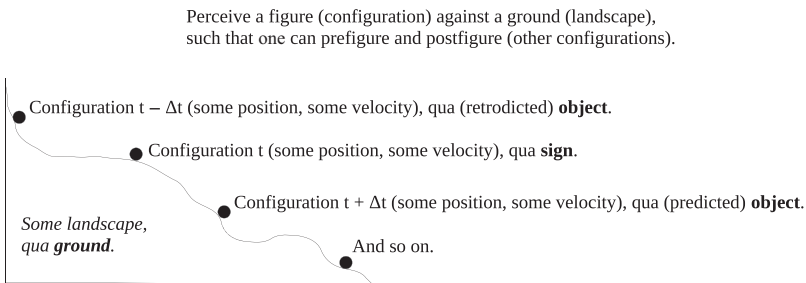


Figure 2.2 Gradients and semiotic grounds

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or softer, cause a lot of damage or only a little; and thus, ultimately, be more or less intense along a multiplicity of different dimensions. It is for these reasons that so many decisions are based on them: not just where to build a home or whether to terrace a hill, but also what should be feared and what can be hoped.

Forcefields and Flows

Such facts are not just true of terrains in the stereotypical sense (i.e., landscapes subject to gravitational fields). They are also true of forcefields in the physical sense and, as we will now see, flows that are enabled and constrained by such forces. In particular, for a certain kind of force, there is a physical *flow* or 'flux' – a movement of not just one entity, but a collection of entities and/or an ensemble of intensities. And this flow not only moves because of the gradient, it often removes the gradient through its movements.

For example, just as an altitude gradient specifies a forcefield which may channel the flow of rocks, dirt, and debris along certain paths; a temperature gradient specifies a forcefield which may channel the flow of heat along certain paths; and a concentration gradient specifies a forcefield which may channel the flow of air (and other gases) along certain paths. Each such gradient establishes a forcefield which causes a flow (in particular, heat transfer, landslides, and wind). Concomitantly, such flows lead to the degradation of the gradient, and hence to the loss of the forcefield, and ultimately to the cessation of flow (Kondepudi and Prigogine 1998). See Figure 2.3, which is adopted from Kleiden (2010).

That said, it should be emphasized that other kinds of systems have other kinds of dynamics, many of which seem to counteract degradation (at least locally), while simultaneously acting as conditions of possibility for grace and extreme forms of agency (at least over the very, very *longue durée*). For example, we can always use the energy released by depleting one gradient as a means to create another gradient as an end.

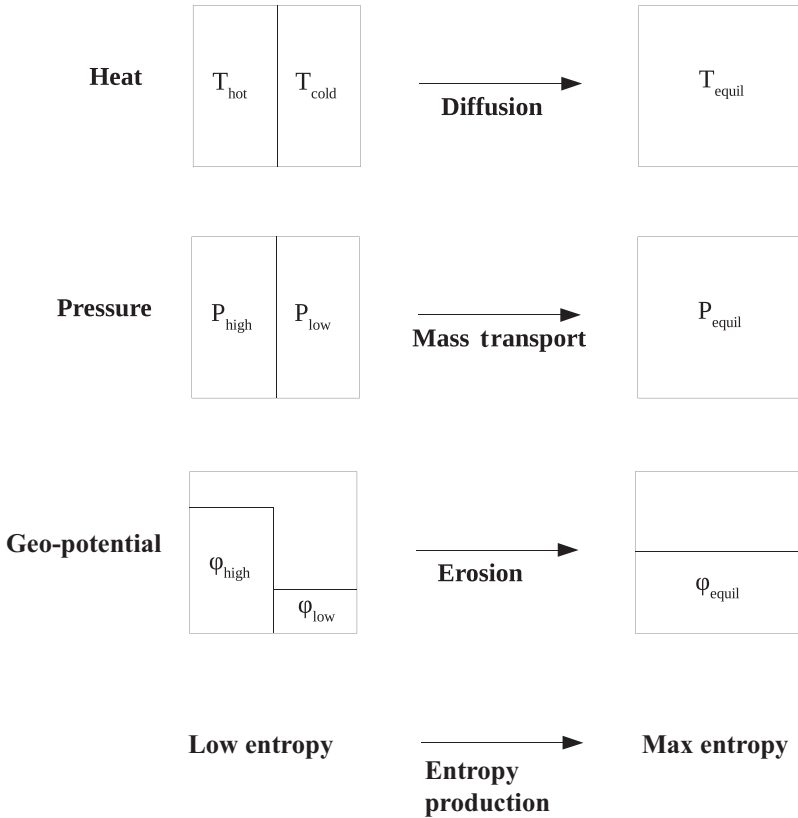


Figure 2.3 Gradient, flow, degradation

Moreover, so long as a system is relatively open, such that it can exchange fluxes of heat or matter with its surrounding context, it can maintain – or even increase – its gradients, so long as it can capture such fluxes.

Similar processes are fundamental to living systems. Schrödinger, for example, argued that organisms are particularly good at capturing negative entropy (which he also referred to as “orderliness”). This is how they compensate for the entropy they create by living, and thereby maintain themselves at relatively low entropy levels. He referred to this

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capacity to capture free energy, or relatively nondegraded energy, as the “organism’s astonishing gift” (1994:75).

Indeed, it seems that some agents are incredibly good – or at least better than their competitors – at capturing fluxes (or dissipating external gradients), and thereby increasing their own order at the expense of the order (and to the detriment of others) around them. Some have even suggested that there is a fourth law of thermodynamics. Loosely speaking, systems don’t just maximize entropy (or dissipate free energy), they do so in the fastest possible manner given the available constraints (Kleidon 2010, 2012; Martyushev and Seleznev 2006; Swenson 1997; *inter alia*).

Swenson (1997) also made the provocative claim that the evolutionary move towards complexity (and, hence, against entropy) makes sense – and, indeed, might even be expected – once we realize that what highly complex systems (in particular, living organisms) are really good at is detecting and tapping gradients, and hence dissipating free energy as fast as possible. In a very real sense, there is no faster path to power.

It should also be emphasized that organisms do not just grade and degrade their environments, they are also graded by their environments. At the heart of evolution are sieving processes that turn on gradients: organisms, to some degree, are graded better or worse, more fit or less fit, as a function of how good they are at sussing out, forging up, communicating about, and tapping out gradients.

Just as agents can make inferences – or have intuitions – about earlier and later configurations of individual particles, they can also make inferences about directions and intensities of physical flows, and come to act on such inferences. Indeed, just as we can to some extent *escape* such flows, we can to some extent *scape* such flows (Langdon 2007). For example, we can to a certain degree channel such flows – directing them or deflecting them, tapping them or capping them. Indeed, no small part of infrastructure is designed with precisely such functions in mind: not just the terracing of cornfields, but also the damming of water, the channeling of signals, the harnessing of wind, the cooping of chickens, the capture of

photons, and the transmission of payments (Edwards and Brentari 2020; Elyachar 2010; Kockelman 2010b, 2016a; Maurer, Nelms, and Rea 2013).

Agents often understand, if only to a certain degree and along particular dimensions, not just the causes of such flows, but also their consequences. They are also attentive to degradation, and hence to the self-canceling aspects of many channels. In particular, just as many agents know that sliding rocks can come to a stop (assuming the ground levels out and there is enough friction), they also know that, if enough rocks have slid, such that there has already been significant degradation, such that the grade is no longer very steep, no more rocks will slide; such that it is safe enough to walk the grounds again, if only in a limited space, or for a little while.

Parasitic Forces

One can have a better or worse understanding of a terrain, and so have a better or worse sense of how events will unfold, or in which direction flows will go, and hence of which modes of degradation will arise and why. Indeed, perhaps more often than not, our inferential thinking and instrumental acting, our intuitions and affects, are out of touch with a terrain.

Framed another way, when forces, and hence flows, are relatively predictable, a simple metaphor is often in order: in the context of a forcefield as a kind of ‘path’, certain events, as ‘origins’, lead to other events, as ‘destinations’. But when parasites abound, every point along a path between an origin and a destination can itself be an origin to other destinations, or a destination from other origins (Peirce 1955b; Serres 2007 [1980]; Shannon 1948; Kockelman 2010b). This means that the most important forces are *parasitic forces* – those which upset the unfolding of events, or redirect the movement of flows, in unpredictable ways; so that our inferences are incorrect, our intuitions are unfounded, our actions go awry, and/or our affects are ungrounded. See Figure 2.4.

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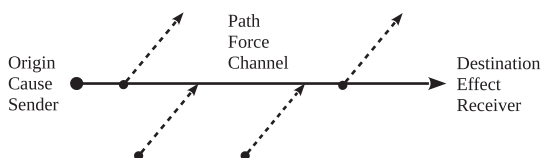


Figure 2.4 Force as path or channel (plus parasites)

A key function of infrastructure (and, arguably, institutions and imaginaries) is not just to distribute intended forcefields, such that causal processes become reliable and predictable; it is also to keep out, or contain as much as possible, all the unintended or unexpected forces, all the parasitic processes. Simondon (2016 [1958]), for example, seems to have equated this containment with ‘objectivity’; and, at the very least, it is an important aspect of *enclosure* as a more general concept.

That said, many kinds of infrastructure, while keeping out parasitic processes as just defined, are themselves instances of parasites in more conventional terms: that which takes without giving; that which lives on by living off; that which *upgrades* itself by *downgrading* others. These latter kinds of parasites, so far as they lead to irreversibility, bear a family resemblance to enemies, parasites, and noise; as that which increases entropy; as that which underlies degradation and dissipation. The trick, as always, is to be agentive enough to discover and direct flows, to scape and escape them, as opposed to suffering their consequences or being oblivious to their conditions.

To be sure, such a trick is rarely achieved, however much tricksters abound.

Communicating Causality

We have so far been focused on a relatively narrow range of causal processes, those well known to students of classical dynamics and linear nonequilibrium thermodynamics. We have also been focused on two interrelated themes: the ways that gradients lead to flows; and the way

that agents, who are attentive to such gradients, can have intuitions about such flows, and come to act on such intuitions. In some sense, we have been tacking between not just analysis and intuition, but also between the physics and the phenomenology of forces. Before continuing, it is worth widening the range of causal processes we are interested in.

Speakers of Q'eqchi' often communicate their understanding of causal grounds using two conditionally conjoined clauses. There is an antecedent clause, headed by the particle *wi* 'if', that describes a condition or cause; and there is a consequent clause, usually occurring right after the antecedent, that describes the effect that will be brought about if such a condition is met. Here are three examples from my fieldwork in this village.

- (1) *wi wan-Ø-Ø naab'al in-kok'-al,*
 if exist-PRES-A3S many E1S-small.PL-PLR-child
 'If I have many babies,
 mas neb'a'-q-o
 very poor-NS-A1P
 we will be very poor.'
- (2) *wi ka'ajwi' li winq t-Ø-k'anjelaq,*
 if only DM man FUT-A3S-work
 'If only the man works,
 li tumin moko na-Ø-tz'aqlok ta
 DM money NEG PRES-A3S-suffice IRR
 the money is not enough . . .
 cho'q r-e li jun kab'-al
 PREP E3S-RN DM one house-ABS
 for one household.'
- (3) *wi t-Ø-in-ket li arroz,*
 if FUT-A3S-E1S-consume DM rice
 'If I eat rice (while I am planting),
 ti-Ø-x-ket ajwi' l-in k'al li li motzo'
 FUT-A3S-E3S-consume also DM-E1S milpa DM DM worms
 the worms will eat my cornfields as well.'

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The first two statements were uttered by young women, each with several children. Both women were describing causal relations of a relatively mundane, but starkly important, variety: the domestic economy, and its conditions of production and reproduction. Note how the first speaker switches from a first-person singular subject (when describing the condition) to a first-person plural subject (when describing the consequent). She is positioned as having control over, or being accountable for, the condition (having babies); while she and her husband, if not her entire family, are positioned as mutually suffering the consequences (being poor). As may also be seen in example (1), both the antecedent and the consequent turn on relatively implicit comparative grounds: what counts as ‘many’ (*naab’al*) babies; and what counts as ‘very’ (*mas*) poor. The standards such grounds were associated with were in transition during my fieldwork, and highly contentious, and so frequently thematized in these ways.

This entwining of comparative and causal grounds is very frequent. Recall, for example, our discussion of shame in Chapter 1. It is also evinced in example (2), which involves a particularly important comparative ground: what counts as ‘enough’ (or not enough), in regard to some resource (insofar as that resource is a necessary means for a valuable end). Here the resource in question was money, and the end was provisioning a household. But sufficiency of degree, or ‘enoughness’, was a key issue in this village across a wide range of dimensions: not just money, but also strength, know-how, age, and wage. We will return to this operator, and these issues, in Part III.

In this same example, the antecedent clause involves a delimiting operator *ka’ajwi* ‘only’. As will be shown in Chapter 8, this grammatical category is sensitive to context-specific presuppositions that are similar to those we saw in our discussion of Aristotle. In particular, to say *only X* did something is not just to presuppose that X did something, it is also to assert that there is no other Y (within some relatively

taken-for-granted and context-specific domain), that also did that something. Here the domain in question is the family or household, and so there is a relatively implicit claim that rides along with the explicit claim: if only the man works, *and not his wife* ... Note, then, that in both example (1) and example (2) there is a tension between the actions of one member of a married couple and the economic repercussions of those actions for the entire family; and much of this gendered tension is revealed in a grammatically triggered presupposition.

Example (3) comes from an ethnographic interview in which a man was discussing *awas*, which is the local equivalent of taboo. Here the man is asserting that if one eats rice, a decidedly non-Mayan food, while engaged in the distinctly Mayan practice of planting corn, then one's corn, when it blossoms, will also be maggoty (i.e., rice-like), and thus impossible to eat. These kinds of causal linkages run throughout Mayan thought, and are also highly gendered (and specied). In particular, what the man does while planting has effects on the corn so planted; what the woman does while pregnant (or while her hen is brooding) will have effects on her children (or on her hen's chicks). As discussed in Kockelman (2016a), for example, drinking coffee while planting corn causes the ears of corn to be black like coffee (and so inedible) because 'coffee is very black in comparison to corncobs' (*q'eq-q'eq li kape' chi-r-u li hal*). Recall our discussion of the relative sharpness of machetes in Chapter 1. A similar construction is being used here, where the reduplicated color predicate (*q'eq-q'eq*), glossed as 'very black', indicates the magnitude of intensity. Like our example of shame in that same chapter, a substantial difference in degrees along a salient dimension (and hence a gradient) licenses a causal connection, and hence a variety of inferences, actions, and affects. We will return to such issues in Chapter 8.

Here is another example of a causal construction that turns on a comparative ground.

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- (4) mas sa x-o-wark
 very good PERF-A1P-sleep
 'We slept very well . . .
 x-b'aan naq maak'a' chik li hab'
 E3S-because COMP NEG.exist more DM rain
 because there was no more rain.' (Or 'no longer rain')

This utterance was said by the man who owned the house that was destroyed by the mudslide. It was three days after that terrible night, and his family hadn't yet moved into their newly built house, preferring to remain in the mayor's home, where they had initially sought shelter. As may be seen by the two conjoined clauses, the intensity of one event (quality of sleep) is causally tied to the intensity of another event (quantity of rain); and, in particular, to the transformation, or diminishing movement, of that other event over time. The man makes explicit, or states, a causal connection between sleep and rain (while acting as the spokesperson for his entire family). Simultaneously he makes implicit, or shows, a causal connection between rain and landslides. That is, the family's sleep was troubled not by rain per se, but by the effect of rain in a given terrain; and it was this effect that would have troubled their sleep. Finally, note the relation between the aspectual construction in the second line ('no more rain' or 'no longer rain') and a similar utterance that was said by the mayor when he broke down from exhaustion and grief: 'no more pants'. In both utterances, change in intensity over time, and hence transformation in degree, is key. We will return to such constructions, and hence to the relation between temporality, affect, and intensity, in later chapters.

The causal connection is made explicit via the relational noun *-b'aan*, which means 'because of'. Such an utterance could be paraphrased using the conditional constructions exemplified in (1)–(3): 'if there is no more rain, we will sleep well'. When not used as a relational noun, the same word (*b'aan*) means 'medicine'. The relational noun *-maak* is also used to mark causal relations, and so is also best translated as 'because of'.

It also often highlights the moral culpability of the causal agent in question. When not used as a relational noun, the same word (*maak*) means ‘sin’. Note, then, the semantic relations that causality has to notions like moral culpability and illness remedy (and, of course, to notions like personhood and agency). Both relational nouns can also be used to mark demoted, or otherwise missing, agents in passive constructions: ‘I drank the water’ $\Rightarrow$ ‘the water was drunk *by* me’. As will be further discussed in Chapter 4, when we analyze grace, to express thanks in Q’eqchi’, one says *b’a(a)ntyox*, or ‘because of God’ (*tyox* < Spanish *díos*). In this way, speakers of Q’eqchi’ habitually make reference to (one of) the most powerful of causal agents.

The notion of *awas*, or ‘taboo’, as discussed above, is closely tied to both modes of agency: just as a moral failing can constitute a cause (of an illness), proper medicine, or a felicitous ritual, can mitigate the effect. As will be shown in Chapter 4, a key agent mediating the causal processes generated by the breaking of taboos is not the (somewhat) Catholic deity just discussed, but the local ‘earth god’, or *Tzuultaq’a*. As an early anthropologist put it, this agent is “the prime source of all mysterious powers” (Burkitt 1902:450). In a somewhat hermeneutically overdetermined fashion, the name of this god is a compound construction, consisting of the words *tzuul* ‘mountain/hill’ and *taq’a* ‘valley’, whose respective referents are the highest and lowest points in a graded terrain. As should be clear from the foregoing discussion, to the thermodynamically minded such attributions of agency are not at all misplaced, or fetish-like: gradients are indeed the ultimate source of power (and degradation).

Action and Inference, Affect and Intuition

One could go into the ethnography of causal grounds, and into the linguistics of causal constructions, in much greater detail. For the moment, it is instructive to abstract from such details, in order to

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highlight a few overarching principles. As seen from the foregoing examples, a relatively stereotypical causal process goes as follows: one event (E1) leads to another event (E2) in the context of a field of forces. Just as heavy rains lead to poor sleep and eating rice leads to wormy corn, flicking a switch leads to sudden illumination, a thrown rock leads to a broken window, and rising temperatures lead to melting icebergs. To return to our path metaphor, if you start off from a given origin (E1) in the context of a certain path (the forcefield), you end up at a given destination (E2). A change in the degree of one dimension leads to a change in the degree of another; the degradation of a gradient over there (or then) leads to the aggradation of a gradient over here (or now); one mode of affect arises, through resonance or resistance, from another; these intensities are transduced into those intensities; and so it goes, reciprocally and indefinitely.

For readers familiar with Whitehead's (1920) work, such *events* may also be understood as larger or smaller swatches of space-time, along with all their *ingressing* happenings; likewise, such relations between events may be understood as processes unfolding through *prehensions*.

To be sure, such causes have radically different natures, cultures, and histories. For example, certain forcefields only hold among members of a collectivity who recognize certain conventions (and regiment each other's behavior accordingly); others only hold in environments that incorporate a certain infrastructure (such as a network of channels that dictates patterns of flow). Some forcefields may be relatively widespread and timeless; others relatively singular and idiosyncratic. While some seem to be based in Peircean *secondness* (fire causes smoke) and others in Peircean *thirdness* (people stop at stop signs because of an interpretable indexical rule), most causal pathways don't fall neatly into one category or the other. To return to certain readings of Aristotle, some are relatively efficient (billiard-ball-like, or physical), others are relative telic (and so psychological, if not theological). Some are relatively teleonomic (such as those grounded in natural selection); while many

are radically gnomic (mysterious and unfathomable). Some are relatively direct; others are relatively indirect, or ‘systemic’ (Lakoff 2012). Almost all depend on vast ensembles of backgrounded causal processes, which surreptitiously – and often serendipitously – structure the terrain in which the focal causal process proceeds. A collectivity’s assumptions about and sensitivities to such forcefields are often hidebound with interest and ideology, conflict and contention, witchful thinking as much as wishful thinking.

Our focus here is not on the diverse forcefields per se, for there is no end to the ways that one event’s happening may be channeled into, or coupled with, another event’s happening, and hence no end to the kinds of knowledge needed to understand such relations. We are, rather, interested in the ways such forcefields, so far as they constitute interpretive grounds, are caught up in inferences, actions, and affect.

Suppose, for example, that an agent is more or less aware of a causal relation between two such events; and suppose that an agent is more or less able to sense and/or instigate such events. Such an agent might instigate E1 as a means to bring about E2 as an end, or staunch E1 in order to forestall E2. And such an agent might predict E2 (having sensed E1), or retrodict E1 (having sensed E2). In other words, to such an agent, E1 and E2 relate not just as cause and effect, but also, at least potentially, as means to end, signal to source, affect to resonance, object to sign, throttle to flow. See Figure 2.5.

Whenever we act or infer, affect or intuit, we evince our causal understandings of the world (as well as our causal *mis*understandings of the world), and hence our sense of the various pathways along which causal processes flow (whether or not they actually do). Insofar as such causal grounds are conditions of possibility for inference, action, and affect, they are caught up in *agency* – and hence not just our capacity to flexibly channel causality, but also our accountability for such a capacity (and hence, often, our blamability and shamability for the consequences).

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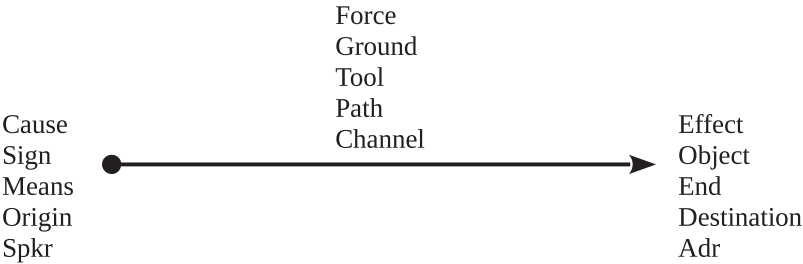


Figure 2.5 Cause-effect, sign-object, means-end, etc.

Phrased another way, in each example of causality offered above there is a relation between two events (entities, experiences, etc.) that is the result of a particular *causal ground* (terrain, gradient, forcefield, convention, channel, potential, process, etc.). So long as one is aware of the ground, and of the kinds of correlations it enables and constrains, so long as parasites are held in check, so long as one has certain capacities of sensation and instigation, and so long as one has not been blinded or bound (so to speak), one can perceive one event and predict the other event, or even instigate one event in order to bring about the other event. Insofar as we understand such grounds we can predict and partake of flows, inferring when and where they will happen, or instigating their happening. Such causal grounds thereby constitute interpretive grounds, which license inferential thinking as much as instrumental action, intuitions as much as analyses, intervention as much as affect, and so enable the discovery of new causes (qua knowledge) as much as the directing of old ones (qua power).

Reframing Causality

It should be stressed that, for most situations and to many agents, any particular event is caught up in a myriad of forcefields and so is (partially) *causal of* many other events, and (partially) *caused by* many other events. Moreover, any causal process may be reframed, by a

particular agent, as one link in a longer causal process; or as a longer causal process which is made up of many links, each of which is a smaller causal process. See Figure 2.6.

Which specific events, forcefields, and scales an agent attends to are, in part, a function of what events that agent can sense and instigate, what forcefields that agent is aware of (that might link such events), and what fields are pertinent in a given environment, or relevant to a given collectivity. They are also, in part, a function of what some agent is currently engaged in, or affected by. That is to say, our sensibility to forcefields is frame-dependent, and hence context-specific as much as collectivity-specific, environment-specific as much as organism-specific, scale-specific as much as media-specific, matter-specific as much as mood-specific.

A particularly important question is how we come to know, or become familiar with, such causal processes, such that we can take them for granted as interpretive grounds, such that they can guide our actions, license our inferences, and ground our intuitions. In certain cases, we are already familiar with the ground, and so can make such connections. In other cases, we see such a connection, and thereby come to know the ground. In other cases, we can readily perceive the ground through the ruts, or effects, of past relations. In still other cases, there are particular kinds of signs indicating the presence of such a ground: ‘slippery when wet’; ‘light switch’ (if not ‘on’ and ‘off’, or simply *up* and *down*), ‘if I have many children, we will be very poor’, $F_x = -mg\partial h/\partial x$, and the like. See Figure 2.7. Indeed, in many cases – like those illustrated through the extended example of a landslide risk rating system in Chapter 1 – there are entire institutions designed not just to understand such causal processes and intervene in them, but also to educate others about them, and thereby help others to both scape and escape them.

Consider Parmentier’s (1994) example of a golfer using thrown grass to make visible the wind. This is equivalent to shaking iron filings around a magnet: the pattern diagrams (however fleetingly)

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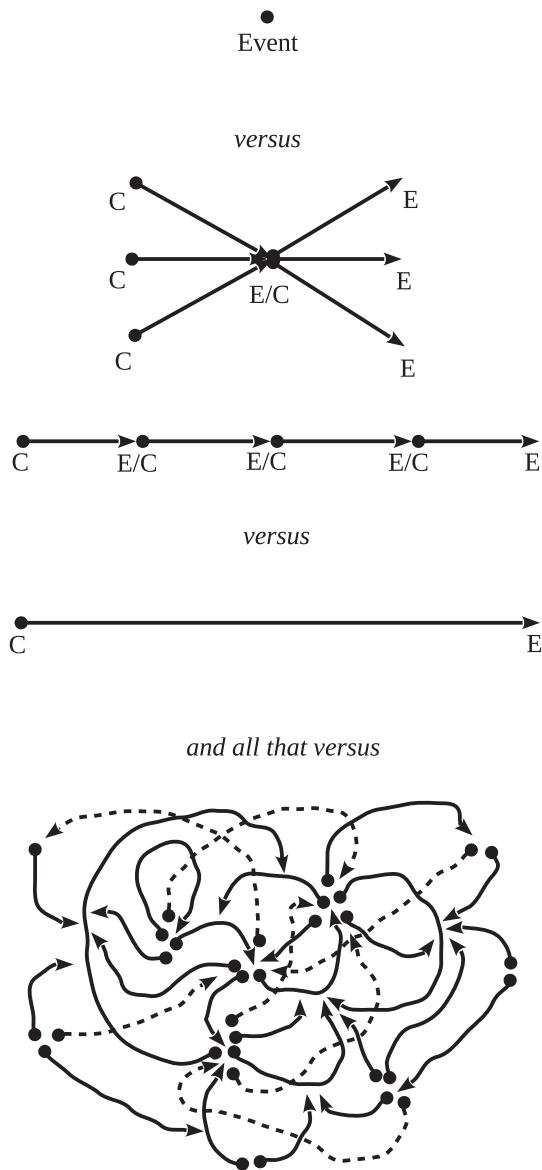


Figure 2.6 Reframing of causal processes

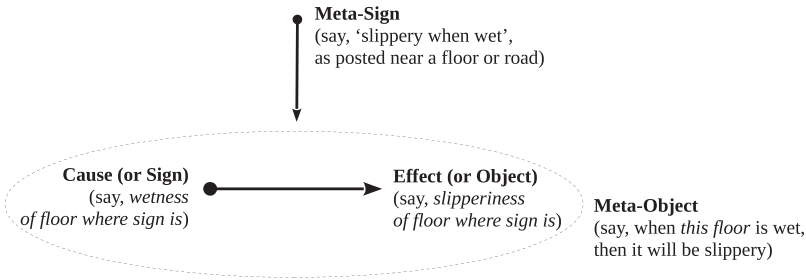


Figure 2.7 Meta-signs of cause–effect relations

a vector field to a semiotic agent attendant to a particular ground, or aware (however partially) of the effects of a particular forcefield. And once the causal ground has been ‘imaged’ in this way, such an agent can – to some degree – predict and manipulate the trajectories of golf balls, grass blades, and whatever else ‘inherits’ the wind. Or, radically repurposing Whitehead, the patterning of tossed grass blades is one way the wind ‘ingresses’ into, and thereby constitutes an ingredient of, our experience.

A particularly important kind of effect (E2) is the setting up, removing, or rechanneling of a forcefield that links two other events (E3 and E4). In particular, an agent who instigates E1 in order to cause E2, which is itself a relation between E3 and E4, may thereby govern the inferences, actions, and affects of other agents, insofar as they are caught up in, or attentive to, the relation between E3 and E4. See Figure 2.8.

Indeed, an even more important (and insidious) process is one that has, as its effect, the transformation of a causal ground per se. In particular, an agent either transforms a world of forces that agents can attend to (whether or not agents are actually attending to them); or an agent transforms a world of agents who are attentive to particular forces (whether or not such forces actually exist). Causing causality is closely linked to conducting conduct, in the tradition of Weber and Foucault, and hence a key mode of power or governance. It is also closely linked

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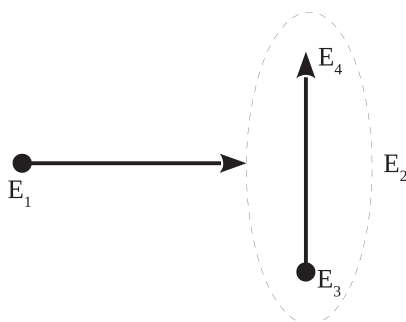


Figure 2.8 Causing causality

to channeling channels (Kockelman 2010b, Edwards 2018; Russell 2020), a key feature of communicative practice, itself also a key technique in the art of governance.

Even our decrees embody our sensibilities regarding comparative and causal grounds. What counts as a harsh punishment or a light sentence, a just decision or a timely intervention, turns on *if/then* and *more/less* relations, however implicit. This means that protocols, codes, and laws, in addition to weights and measures per se, express our understanding and evaluation of dimensions and degrees, forces and flows.

It cannot be emphasized enough that only a small subset of these caused flows and causal forcefields are of the stereotypically physical variety. A vast number of salient causal flows and forces in a given agent-inhabited terrain are communicative and collectivity-specific in origin: in particular, signs standing for objects and giving rise to interpretants (insofar as the agents who sense such signs, and instigate such interpretants, are beholden to particular interpretive grounds which, recursively, may turn on their understandings of causal processes).

Indeed, one way to understand an ethnographic *field-site* is that it is any swatch of space-time (however distributed, multi-sited, relativistic, or virtual), whose inhabitants' practices and relations, understandings and affects, are organized by various fields. To do *field-work*, as it were, is to undertake the labor necessary to come to some understanding of

such an organization. Focusing, for the moment, on the core topics of these last two chapters, is an attempt to understand the assumptions and sensibilities, qua causal and comparative grounds, that underlie particular understandings of a world (especially as they give rise to such a world); and it is an attempt to understand the particular worlds lived in (especially as they give rise to such understandings). Such comparative and causal grounds constitute a large part of the shared understandings necessary for the sharing of understandings, and hence a large part of what may be called *culture*.

THREE



Grounding Experience

Channeling Intensity

In the days following the mudslide, the mayor's home was used by women as a place to prepare food to feed the men who were rebuilding the unfortunate family's house. To this end, they had enlisted village boys to collect dry branches so that they would have a steady source of fuel for the hearth fire. At one point a lone boy dragged part of a tree trunk through the front door, almost 10 inches in diameter. When the mayor's wife saw it, she said:

- (1) *ay* *dios*, *at-in-yuwa'*
 INTERJ god A2S-E1S-father
 'Oh god, you are my father!' (Or, more idiomatically, 'Oh my goodness!')

She and the other women stared at the log, until one woman repurposed it as a *k'ub*' (one of several large stones that are placed around a hearth fire). Throughout the rest of the day it served not just to hold up the griddle, but also as a source of fuel – the women slowly pushing it toward the center of the fire until it was finally consumed.

The interjection at the beginning of this utterance was the morphologically longest member of a set of three frequently used interjections (*ay* < *ay dios* < *ay dios atinyuwa'*), all of which incorporate the Spanish loan interjection *ay*. As shown in this example, a very frequent function of these interjections is to indicate impressive intensities, typically a

marked degree of a significant dimension of a recently revealed entity or event. Such interjections not only indexed a marked degree of a salient dimension, they also functioned to direct the attention of others to the object (dimension or degree) in question, often with the effect of enlisting their help or inviting their commentary. In short, and looking slightly ahead, one could use this interjection to grab the attention of others, and thereby direct them to whatever grabbed one's attention – thereby creating intersubjective awareness of something *grabby* in experience.

In this example, the dimension was left implicit. In other examples of usage, however, the dimension in question, and its marked degree, could be made explicit. For example, when a five-year-old boy asked his mother for a tortilla to soak up the rest of his broth, his mother handed him a whole tortilla, and he replied with the following utterance.

- (2) ay, mas nim
 INTERJ very big
 'Goodness, that's very big!'

She then retracted her hand, tore off half the tortilla for herself, and gave her son the remainder. Here the boy used the morphologically shortest member of the set. His usage alerted his mother to his sense of the markedness of the magnitude in question; and, to remedy the situation, she simply reduced the magnitude of the figure's dimension by half, so to speak.

Frequently salient dimensions that were made explicit in this way included price (*terto*), size (*nim*), weight (*aal*), quantity (*naab'al*), and goodness (*us*). But any gradable adjective would do, as would most state-change predicates. For example, after putting up with her misbehaving kids long enough, a woman uttered the following sentence.

- (3) ay dios, mas x-in-titz'
 INTERJ god very PERF-A1S-become.exasperated
 'My goodness, I have become very fed up!'

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As will be seen below, when we discuss speakers' projections of causality onto interjections, such an event would usually be framed as follows: the child's misbehavior causes the parent's change in state (from less than very fed up to very fed up); and the parent's change in state (especially the marked degree of the final state) causes their (re)action of uttering the interjection. Note again the causal relation between movement (change), affect (exasperation), and degree (intensity).

As evinced in these last two examples, in many of the tokens I collected, the adjective or state-change predicate in question was modified by the particle *mas* (<Spanish *más*). As discussed in Chapter 1, this loanword functions as a degree modifier, similarly to English 'very', or as an indefinite quantity, similar to English 'much/many', rather than as a comparative (similar to English 'more' or Spanish *más*). Apropos of that discussion, there is some evidence that, just as saying something is 'big' means that it is bigger than the typical member of the class with which it is being compared, to say something is 'very big' is to say it is bigger than the typically big members of that class. In other words, and very (!) loosely speaking, to call something 'big' is to say it is bigger than average; whereas to call something 'very big' is to say that it is bigger than one standard deviation above average. While not equivalent, to be sure, grading and statistics are arguably linked to each other in weird and wily ways: each can radically influence our understandings of the other. That said, most dimensions of experience (for most comparison classes) are probably not so easily 'normalized'.¹ The boy and the mother, for example, clearly did not agree on what counted as a 'very big' tortilla (but the mother was willing to accommodate the boy's assessment, and perhaps even update her own). In any case, such usage of these interjections correlated (so far as the lexical evidence attests) with very marked degrees, not just marked degrees.

Another relevant characteristic of these interjections is that, as a form class, they constitute an intensity cline: the relative 'morphological length' of the interjection uttered (*ay* < *ay dios* < *ay dios atinyuwa*)

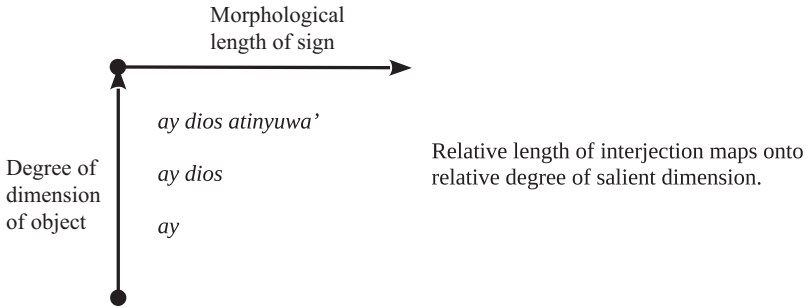


Figure 3.1 Intensity and iconicity

maps onto the relative degree of the dimension in question, and perhaps even onto the relative affectedness of the speaker by that degree. See Figure 3.1.

This is a form of diagrammatic iconicity, as opposed to imagistic iconicity, that is pervasive throughout language (Peirce 1955b; Friedrich 1979; *inter alia*): it is not that a sign has a quality in common with its object; it is that the relation between signs has a quality in common with the relation between objects. Recall our discussion of the ‘reduplication’ of predicates as an alternative strategy to indicate marked degrees. Such an intensity cline is relatively discrete and should be compared with a range of more canonical intensity clines, or scales, from language studies which are relatively continuous in well-known ways (Labov 1984): pitch, amplitude, rate of speaking, and so forth.² Needless to say, any of the three forms just discussed may also have its degrees changed along any one of these continuous dimensions, more or less easily, or consciously. For example, one may utter an interjection more or less loudly, a variation that arguably correlates with a range of other dimensions: proximity to addressees (or overhearers), publicness of speech event, size of speaker, amount of background noise, and so forth. And, of course, one may even hear another’s interjection as more or less loud, depending on one’s mood, social relation to the speaker, habituation to a certain voice, and so forth.

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Let us now turn from comparative grounds to causal grounds. In the following example, a speaker describes the conditions under which one might utter the interjection *ay*.

- (4) naq x-Ø-aa-yok aaw-ib'
 COMP PERF-A3S-E2S-cut E2S-RFLX
 'When you cut yourself . . .
 ay chan-k-at x-b'aan aa-rahilal
 INTERJ say-PRES-A2S E3S-RN E2S-pain
 you go "ay" because of your pain.'

As may be seen, the speaker is describing an enchaining of causal processes: *when* one cuts oneself, one feels pain; and *because of* one's pain, one utters the interjection. Such a construction may be compared with the causal constructions described in Chapter 2. Note, for example, the use of a *when*-particle (*naq*) instead of an *if*-particle (*wi*) to mark the antecedent clause. Note also the use of a *because*-construction in the consequent clause, which is often used in replies to *why*-questions. As may also be seen from this example, interjections were typically characterized as nonintentional signs; and thus as relatively direct affective reactions to experience, rather than as communicative signs, or speech acts, about experience. Moreover, speakers typically characterized interjections involving *ay* as if they indexed physical pain, even though very few tokens of usage seemed to correlate with such obviously somatic events. Finally, for many speakers, such interjections also indexed the age and gender of the speaker – indicating that they were the sort of person who was easily affected by intense experiences or painful events (Kockelman 2010a).

Crucially, in a tradition that runs from Aristotle to Jakobson, interjections are often treated as exemplary of the 'expressive function' of language (calling attention to the speaker's reaction to an event), rather than the 'referential function' (calling attention to the event per se). As seen, however, with the application of an adjectival phrase, interjections can be used to both 'point to' and 'predicate features

about' various objects and events (so to speak). Their most frequent function, however, was relatively *phatic* (Jakobson 1990b; Smith and Barad 2018; *inter alia*), and thus foregrounded the communicative medium or *channel*, understood as something like the psychological connection and physical contact between a speaker and an addressee. By noticing something in such an exaggerated way, a speaker could topicalize that something, call another's attention to it, and simultaneously take the floor: using the interjection to performatively recruit another into the role of addressee within the interaction, and thereby establish a channel with them.

(They are also radically poetic [Baumann and Briggs 1990; Jakobson 1990b; Friedrich 1986; Webster 2015; *inter alia*], as should be clear from Chapter 2. In particular, Jakobson's classic definition of poetry resonates with Hume's classic account of causality, both of which resonate with practices of grading: the repetition of tokens of common types, the habitual grounds of experience and inference, and the (a)metricality of worlds, and worlding, more generally.)

Moreover, in their most frequent function, such interjections didn't directly index an object or event exhibiting a marked degree of some dimension; rather, they indexed a sign (said by another speaker) that referred to, or predicated a feature about, such an object or event. For example, if someone were talking about the high price of a machete they saw in town, another person could say, *ay dios*, *mas terto*, or 'goodness, how very expensive'.

Such usage, then, was metalinguistic (indexing a relatively immediate sign whose relatively distal object, qua referent, was a marked degree of some salient dimension) as well as relatively phatic (functioning as a back-channel cue). In effect, such usage did not just let another know that one was listening to them, it also let that other know that one was absorbed in, or affected by, the relatively remarkable intensity of whatever dimension they had just described.

The Grounds of Experience

The last two chapters focused, in part, on various linguistic constructions that make explicit comparative and causal grounds. Such constructions can involve linguistic signs whose denoted objects are entities and events, and their dimensions and relations: *this entity is larger than that entity; if this event occurs, then that event will occur*; and so forth. We paid particular attention to constructions that interrelate both grounds: ‘when it rains a lot, we don’t sleep very well’. We also saw that the entities and events referred to by such signs may themselves be signs: in perceiving the relative intensity of one event, we infer the relative intensity of another event. We saw that such interrelations may ground action as much as inference: I manipulate the intensity of one event in order to manipulate the intensity of another event. And we saw that such comparative and causal grounds typically remain in the background: we are always evincing such grounds through our residence in the world, even if we don’t always announce such grounds through our representations of the world.

We now want to focus on these issues more fully by theorizing situations in which signs, objects, and interpretants: (a) are relatively continuous, as opposed to discrete, phenomena; (b) correlate with each other, not just as continuous phenomena, but also as immediately coupled phenomena (or rather ‘tripled’ phenomena); and (c) as coupled and continuous phenomena potentially constitute the object-signs of meta-signs (which could make them relatively explicit in the foregoing kinds of ways). As we just saw, interjections evince all these dimensions to some degree: the correlation between object and sign, or sign and interpretant, is relatively immediate (as opposed to displaced); as the object varies in intensity, so may the sign (and perhaps even the interpretant); they are object-signs and meta-signs as much as signs. In some sense, they lie halfway between the representations of the world discussed

above and the modes of residence in the world to which we now turn (Edwards 2018).

Whenever we interact with the world, we are simultaneously sensing and instigating, perceiving and acting, feeling and moving, being affected and affecting, interpreting and signifying. At any moment, in any place, through different sensory modalities, one perceives a huge range of different dimensions of different degrees. And as one moves and acts, these intensities can change: certain dimensions may no longer be sensible; others may become newly sensible; others stay sensible, but fade or grow in degree. Noises get louder or softer, smells get more or less pronounced, objects seem to move more or less slowly, or occlude more or less of a background. Every time we tilt our head or turn a key, take a step or take a sip, grab a handle or hold onto a hand, we experience a change in the intensities of various dimensions: more or less pain, heat, resistance, softness, illumination, noisiness, warmth, and so forth.

In some sense, then, the world (in our relation to it) *channels* our instigations into sensations just as we (in our relation to the world) *channel* our sensations into instigations. Some of these modes of channeling are basic facts about perception that have long been studied: for example, as I move closer to an object, it takes up more of my optical field. Others are particular facts about complicated mechanisms: if I push this key on the typewriter with more or less force, I will feel more or less resistance against my fingertip, hear a particular clack that is more or less loud, and see the letter 'b' appear more or less darkly.

As scientists and philosophers of perception have long argued (Gibson 1979; Neisser 1988; Palmer 1999; O'Regan and Noë 2001; O'Regan 2010; *inter alia*), we make sense of the perceived world by attending to these relatively regular relations between our instigations and our sensations, understanding how each affects the other. To perceive the world (and one's place in it), one must understand *the relatively invariant way variations covary in one's sensorimotor*

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interactions. That is, sensations are correlated with instigations, and these correlations are often relatively invariant in a particular environment and to a particular agent: as one varies in its relative intensities of various dimensions, so does the other, and in relatively regular ways. In short, not only do physical gradients constitute force fields, but force fields themselves may be experienced as phenomenological gradients, and hence as *experiential grounds*.

Semiotic Practices as Continuous Processes

We will now reframe and extend such observations from a semiotic stance. Suppose that some dimension (like temperature, altitude, concentration, or price) varies as a function of some other dimension (like position, time, or item). In particular, changes in the degree of one dimension correlate with changes in the degree of the other dimension. See Figure 3.2.

For example, the closer one gets to the hearth fire, the warmer one becomes. The steeper the slope, the more arduous the climb. The heavier the rain, the more we worry (and the less we sleep). And so forth. Note, then, the entwining of various dimensions through both *if/then* and *more/less* relations, and hence through both causal and comparative grounds.

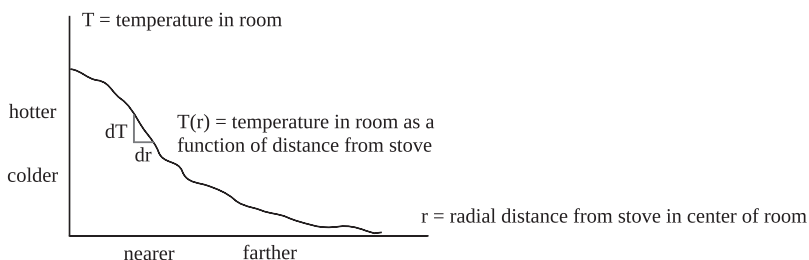


Figure 3.2 Correlation of degrees of dimensions

Let us assume that the agent can ‘move’ along at least one dimension (and thereby change its degree of that dimension), and ‘sense’ its movements along both dimensions (and thereby sense its changes in degrees of those dimensions). Or, the agent can move something along one dimension, and sense that something’s movements along both dimensions. For example, I move myself closer to or further from the fire, and not only feel myself closer or further, but also feel myself hotter or colder. And I can move something closer to or further from the fire, and not only sense that it is closer or further, but also sense that it is hotter or colder.

Such an agent can learn of the position and movement of the entity along one dimension by knowing the position and movement of the entity along the other dimension (and perhaps vice versa). That is, the T - r (temperature–radial distance) relation can constitute a sign–object or an object–sign relation. And such an agent can indirectly manipulate the position and movement of the entity along one dimension by directly manipulating the position and movement of the entity along the other correlated dimension. That is, the r - T relation can constitute a means–ends (or ends–means) relation. In short, the function $T(r)$ is a ground, and not just a semiotic ground, nor just a causal and comparative ground, but a *ground of sensorimotor interaction*, and hence a ground of experience, affect, and agency.

Crucially, one and the same dimension can be used as sign and interpretant, as something sensed and something instigated. I perceive where I am, and I change where I am; and I perceive changes in where I am as I change where I am. I perceive how hot I am, and I change how hot I am (by changing where I am); and I perceive changes in how hot I am as I change where I am. In this regard, one variable (say, T , or its relative degree) can constitute a sign; a change in that variable (say, dT) can constitute an object (understood as a goal of an action, as much as the correlate of a sign); and a change in the coupled variable (say, dr) can constitute an interpretant. For example, sensing how hot it is (where I am), I move in order to change how hot it is.

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To a certain extent, then, we are simply within the cause–effect, sign–object, means–ends, experience–affect world described in the last two chapters. The difference here is that the cause and effect are not discrete events, but rather continuously gradable degrees along immediately correlated dimensions; and hence so are the sign and object, as well as the means (interpretant) and the end (object). In this framing, there are three kinds of (ideal-typic) semiotic processes, whereby signs stand for objects and give rise to interpretants. See Figures 3.3–3.5.

Figure 3.3 shows examples of such processes when the components in question are framed as relatively discrete events. Figure 3.4 shows examples of such processes when the components are framed as discretely graduated events, as per our interjection example. And Figure 3.5 shows examples of such processes when the components in question are

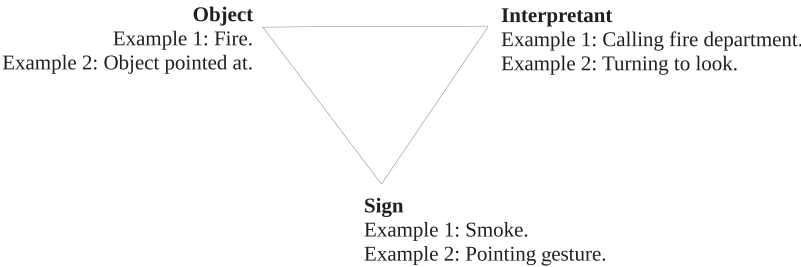


Figure 3.3 Components framed as discrete events

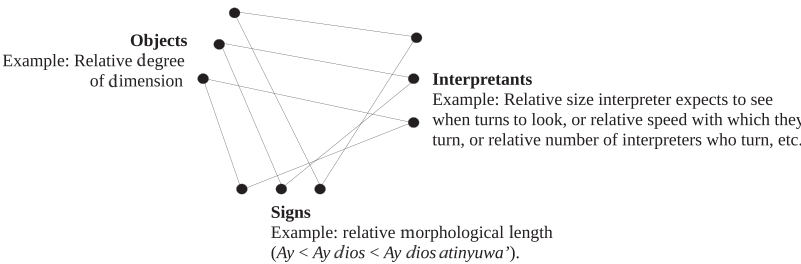


Figure 3.4 Components framed as discontinuously graduated events

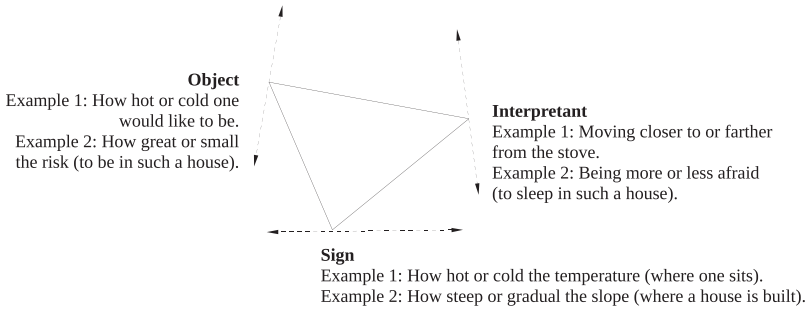


Figure 3.5 Components framed as continuously graduated events

framed as continuously graduated events. As may be seen, the object is often a value (or directly correlated with such a value), and the interpretant is a behavior that serves to intensify or de-intensify that value. In some sense, then, each of the three components of a semiotic process may be framed as a function, with relatively continuously covarying domains and ranges, themselves highly sensitive to context- and culture-specific parameters (all the while being besieged by parasites and unsettled by perturbations, *and essentially so*, as per our extended discussion of such issues in Chapter 2).

Crucially again, because the two dimensions are so closely coupled, as one moves (dr), one directly changes one's temperature (dT), and one can directly sense that change. In effect, one is getting (relatively) continuous and instantaneous feedback in regard to the efficacy of one's actions through that very action. Moreover, one is also getting relatively instantaneous feedback as to the usefulness (or truthfulness) of the ground through that very action (and its invocation of such a ground). A key value is feedback, or rather *feel back/touch forward*, a kind of phatic function with respect to both phenomenology and physics: namely, the degree to which the world tells you, more or less immediately and transparently, what effect your behavior just had on it. In some sense, it tells you it was listening, and that it understood (or didn't) what you were trying to say. Indeed, it doesn't just tell you that

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it was suitably impressed by what you just said, but also that it speaks your language (or at least intuits your mood).

The Secret Heliotropism of Flowers

It is worth exploring some of the entailments (and caveats) of the foregoing claims. Any ground can, to some degree, be figured. That is, an agent can ‘pull into consciousness’ or ‘put into communication’ these relations. They can be aware of them, think about them, and talk about them, to some degree; and not just while they are engaged in them or experiencing them, but also ‘at a distance’ (as it were). That is, the entirety of the $T-r$ relation can constitute the object (sign, or interpretant) of another semiotic process. Phrased another way, one can have – to a certain degree, along various dimensions – representational agency over one’s residential agency.

Such an agent can learn of the correlation through the organization of its sensorimotor interactions (in moving around the room, one notices how degrees in temperature vary with distance from the stove); and it can organize its sensorimotor interactions in reference to the correlation (I move closer to the stove in order to be warmer). And it could have been informed about the correlation by some other agent who directly experienced it (or was itself informed about it, and so forth). To some degree, it may be caught up in all these processes simultaneously. In any case, such relations tend to be agent- and environment-specific, as well as collectivity-specific and context-dependent.

An understanding of such a relation and such value-organized behavior (in light of such a relation) can be enminded (in beliefs), encoded (in utterances, laws, protocols, etc.), embodied (in habits, practices), embedded (in tools, infrastructure), engonomed (in a species), and so forth.

Objects, like environments, enable and constrain $T(r)$ -like relations. And many environments are filled with signs of such relations:

thermometers, odometers, price tags, safety rails, grip-tape, and the like. Recall our discussion of landslide risk assessments in Chapter 1.

We have been assuming that such a correlation is relatively stable (given the qualities of some environment) and relatively understandable (given the capacities of some agent). For example, a function like temperature in room versus distance from hearth fire, or $T(r)$, is reliably evinced and easily intuited, at least in a certain context, to a certain consciousness, and to a certain approximation. It should be emphasized, however, that many such relations are singularities rather than replicas, and thus difficult to understand (nonlinear, discontinuous, parameter-sensitive, chaotic, etc.) rather than easy. Moreover, all the hedges about parasitic forces and framing, as introduced in Chapter 2, apply here as well.

That said, even if the overall phenomenon is outside of the understanding and experience of some agent, there is often a small swatch that it is sensitive to via a good enough approximation: *a locally linear way to relate to a function that is radically nonlinear (nonlocally)*.

There can be all sorts of couplings between the existence of the correlation (as a fact about an environment) and an understanding of the correlation (as a fact about an agent), with all sorts of performative dynamics channeled through such couplings: an understanding of such a relation may follow from, or lead to, the existence of such a relation; or lead to its going out of existence; and so forth. Such facts, of course, make certain distinctions, such as where to draw the line between agent and environment, or individual agent and collectivity of agents, highly frame-dependent, contentious, and reflexively consequential.

Crucially, a function like $T(r)$ is never really $T(r)$, but rather $T(r, t, A, W, C, P, O, I, 'T(r)', \text{etc.})$. That is, a variable like temperature may look (locally) like it is a function of r , but it is also a function of time, of agent, of world, of collectivity, of politics, of others, of imaginaries, and so forth. Indeed, as can be seen by the quoted embedding of $T(r)$ into

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itself, the range–domain relation is often itself a function of how the range–domain relation is understood.

Signs, as much as environments per se, exhibit such relations. In some sense, a sign is a forcefield, channeling roots into fruits, or objects into interpretants. As I change my signs, the world (of interpreters) changes its interpretants. As the world changes, the grounds for my interpretants change as well (however belatedly or inauspiciously).

All animals, and probably all life-forms more generally, are attendant to such relations to some degree – recall Walter Benjamin’s (1968) account of the secret heliotropism of flowers (and see Schulthies 2019). Simply by moving toward the light, away from the cold, closer to the source of a smell, or farther from the stench, an organism is typically moving toward or away from the source of some sensation; a sensation whose intensity increases or decreases as that organism moves toward or away from it. And so an organism can assess how far it is from something, and which way to move to get even closer or farther, simply by assessing a gradient in the marked sense. This is because most entities that are sources of sensations (food and smell, light and sight, temperature and feeling) create energy gradients around them. Fire, for instance, radiates light, heat, and odor. And, setting aside such crucial issues as wind and walls, and infrastructure more generally (as that which channels such fields, fluxes, and flows), that light, heat, and odor are most intense near the fire, equally intense along any circle around the fire, and diminish in intensity as a function of one’s distance from the fire. An organism can orient to any, or all three, of these gradients in sensory intensity, by changing its trajectory.

Apropos of this last claim, one common stereotype of infrastructure is that it is ‘materiality that enables the movement of materiality’. This is unfortunate, as even the most trivial forms of infrastructure (roads, wires, channels, etc.) don’t fit such a stereotype. Rather, they constrain movement as much as enable it (e.g., a pipe tells water where not to go,

as much as where to go). They enable and constrain the movement of ‘nonmaterial’ entities (people, signs, ideas, affect, intentionalities, etc.) as much as material entities. (Indeed, the distinction between ‘materiality’ and ‘nonmateriality’ is ridiculous – infrastructure, rather, plays a key role mediating local understandings of where materiality ends and nonmateriality begins.) Finally, movement (translation across space) is not essential: translation across time (preservation), translation across modality (realization/virtualization), translation across form/substance (metamorphosis), and translation across form of energy (transduction) are just as important. (Not to mention translation proper!) Refrigerators, thermoses, and graves are modes of infrastructure, Kockelman (2012), no less than roads and dams. Indeed, the ground itself – as a quintessential *ground* – is one of the foundational modes of infrastructure, insofar as so much else is built upon it.

Moving on, algorithms, as much as organisms, chase gradients. So-called ‘deep learning’, for example, involves an optimization process called gradient descent (Kockelman 2020b). And economists have been chasing gradients for years, as well as insisting that the rest of us chase them too. To be sure, gradients also chase organisms, which are sieved on the basis of their ability to attend to, act on, and alter gradients (Kockelman 2011).

Just as most signs turn on sources of energy which are too faint to be used as energy sources per se (Swenson 1997), most signs are best understood as gradient flows rather than discrete units. Their significance *is* their changing intensity; and we interpret them, in large part, by covarying our trajectories, or simply by resonating with them. Looking back to our invocation of the Anthropocene, as well as forward to our discussion of heat engines and solar power, one would do well to reframe much of semiotics (which has spent way too much energy studying discrete signs of the stereotypic sort), taking as a canonical semiotic process that game we used to play as children: *you’re getting warmer . . .*

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Grounding Materiality

If the foregoing claims hold, then our residence in the world is organized by comparative and causal grounds no less than our representations of the world. One evinces a sensitivity to comparative and causal grounds whenever one attends to the relative degree of some dimension (often by covarying, or reflexively resonating, the intensities of other dimensions); insofar as one's behavior takes that degree into account; and insofar as that intensity (or a change in it) either directly constitutes, or indirectly correlates with, a value.

What's often crucial are not just modes of behavior, but also traces of such behavior in the form of tools, artwork, infrastructure, built environments, and the like. This is because agents incorporate substances into their creations (tools, goods, idols, artwork) as a function of the degrees of the dimensions embodied in those substances, insofar as such gradated dimensions enable or constrain cause-effect, sign-object, experience-affect, or means-ends relations: for example, their relative degree of malleability, durability, density, heft, conductance, specific heat, color, rareness, luster, traction, desirability, or price. The 'objective world' around us evinces not just our past assessments of causal and comparative grounds, but also those of our ancestors and other forms of life.

Substance and Affordance Reframed

While most objects are radically multidimensional *in potentia*, only a few of these dimensions come to the fore in any particular activity. Recall this chapter's opening example of the impractically large log, and the way it was simultaneously repurposed as hearthstone and firewood. On the one hand, it was high enough (and stable enough) to serve as one of several large stones that could hold up a griddle. On the other hand, it very slowly got shorter, as it was consumed by the flames, while

its biochemical energy was converted into thermal energy, which itself caused tortillas to change – by degrees and over time – from ‘raw’ to ‘cooked’. And, all the while, the women cooking attended to these changing degrees along various dimensions – not only setting down raw cornmeal patties and picking up cooked tortillas at regular intervals (judging doneness by touch, rather than sight: a sufficiently cooked tortilla doesn’t stick to one’s fingers when patted), but also slowly pushing the log toward the center of the flame, such that it provided a relatively continuous source of heat. Note, then, the manifold relations not just between dimensions and degrees, but also between sensation and instigation, energy and entropy, work and temperature, time and space, ontology and transformation, experience and affordance, continuity and enclosure, feedback and flow.

For Aristotle (2001a), and many other philosophers, substances were identified through their qualities, if not identical to them. From some of its qualities, I infer it’s fire; and, having inferred it’s fire, I predict it has further qualities that would be in keeping with its ‘fieriness’ (given some system of categories, or ontology more generally). Such an understanding of substance (and things more generally), as that which stands beneath, or bundles together, qualities, isn’t particularly compelling; and scholars like Locke, Whitehead, and Kripke have poked fun at it while blasting holes in it.³

At the very least, as was shown in Chapter 1, Aristotle’s qualities should be understood as semantically significant dimensions of experience in sufficient degrees, such that they can be predicated of the referents from which they seem to emanate (under certain conditions) by agents committed to particular ontologies (which are themselves often frame-dependent). A ‘substance’ doesn’t possess the ‘quality’ of *hotness* per se; rather, a referent exhibits high enough degrees along certain dimensions to count as ‘hot’ to a speaker normatively attendant to certain dimensions in certain degrees, and thereby primed to lexically

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interpret and/or conceptually enclose their experience in such a way (all the while often tricking themselves into thinking that they might be getting to the essence of some elusive, and so often fetishized, modality of 'materiality', or even the 'qualia' of experience, rather than simply projecting lexical categories, like adjectives, onto whatever happens to grab their attention).

But more importantly, most qualities are not really single dimensions (above certain thresholded degrees). Something doesn't have a specific heat, conductance, or resistance per se. Rather, when put to certain by-degrees, dimension-specific tests, that something responds in certain by-degrees, dimension-specific ways. (Especially when all the other dimensions it is also evincing have been pushed out of the picture.) Qualities, and dimensions more generally, do not just depend on comparative grounds; they also depend on causal grounds. That is, insofar as something has a certain dimension to a certain degree, it enables and constrains certain trade-offs, and relations more generally, between degrees of other dimensions. Recall our discussion of the relatively invariant covariance of variations.

Some of these dimensions are lab-specific; but most are really experience-specific. To say a slide is slippery, or sticky, is to subject it to certain dimension- and degree-specific tests insofar as it responds in dimension- and degree-specific ways. For example, how do I know that some slide is too slippery? I slid down too quickly for my own comfort. How do I know that another slide is not slippery enough? Because I slid down too slowly for my own enjoyment. One literally puts some body (such as a slide) to the test by seeing how it channels the potential dimensions and degrees of another body – including, *the body*. Such tests involves dimensions and degrees as much as forces and flows, and hence both comparative and causal grounds.

But all that said, and as will be shown in detail in later chapters, to focus on qualities (or qualia) and substances is to focus on predicates and subjects, however unconsciously, and hence the most limited (and

fetishized) moments of material existence: propositions grounded in subject–predicate relations. To really understand time, intensity, and materiality (at least from a semiotic point of view), one must analyze the operators (institutions, media, and practices) that scope over such constituents, and sit outside and in between such propositions (all the while modally undermining them). Qualities, and the qualia to which they are so often posited to couple, are simply halted, reified, reduced, and referentialized moments of complex, causally entangled, hard-to-enclose movements of multidimensional and massively affecting tensors of intensity. Mere ‘materiality’ (and/or simplistic ‘ideologies’ of it) is what you get when you focus on qualities; whereas realities, processes, potentialities, scientific knowledge, adequately imaginative theories, and worlds emerge from the relations between relations that channel and transduce intensity.

Machetes, Corncobs, and Mountains

Several of our earlier examples turned on Q’eqchi’-specific practices surrounding corn at the stages of sowing and growing: for example, taboos around planting, reactions to milpa-induced landslides, and the like. It should be emphasized, however, that dekerneled corncobs (*b’aj-laq*), and hence post-consumption corncobs, were also caught up in a wide range of practices. In part, this was because such corncobs were no longer caught up in moral taboos or nutritional needs, and so could be repurposed to any imagined end; and, in part, this was because such slowly degrading corncobs were so prevalent, handy, and durable. More generally, they incorporated (or, from them, seemed to emanate) a range of locally salient dimensions, in sufficient degrees, that they were able to serve as causes for a variety of effects, means for a variety of ends, sites for a variety of affects, and signs of a variety of objects.

Because of their shape, for example, they were often used by children as toy vehicles – typically buses, but also cars, ships, and

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airplanes. Those with kernels still on them, but otherwise too dry or rotten to eat, could be used to dekernel other corncobs – that is, one could use the harder, still-intact kernels of one corncob to remove the softer kernels of another corncob, all the while protecting one's hands. They functioned as relatively harmless projectiles – not just in children's games, but also to shoo dogs and chickens. They were gnawed on by hungry dogs and often eaten by pigs. They could even be burned as fuel in a pinch – usually to create smoke that would be wafted across wet corncobs, or roof-thatch, that were otherwise in danger of rotting. And they could be used as insulators – in particular, as pot-holders to prevent a person from burning their hands while they lifted a pot or griddle off the fire.

Corncoobs could be used for all these purposes, could afford such a wide range of actions, not because they have particular qualities, but because they had particular dimensions (or values) in peculiar degrees (or intensities): from relatively low specific heat to a relatively handy diameter, from a relatively soft exterior to a relatively dense core. Such dimensions were not, of course, values 'in themselves', but rather values that incorporated, complemented, and helped create the dimensions and degrees of other entities and agents. In particular, rather than think about them as instruments that could be wielded insofar as they served functions (which they were designed and built to have), it is better to think of them as affordances that could be heeded insofar as they provided purchase (given the capacities and characteristics of people and things, or all the agents and entities more generally, that they mediated between). As we saw above, for example, a corncob could 'stand between' a man's hand and a dog's head, a pig's snout (or senses) and its stomach (or size), a child's imagination and a key mode of transportation, a woman's hand and a hot pot.

Following Gibson (1979), people usually talk about affordances as possibilities for action that are latent in an environment and open to an organism (given its capacities, drives, goals, and so forth). It should

be emphasized that such possibilities are not ‘qualities’, but, rather, salient dimensions in significant degrees (which, again, stand at that latent/open intersection), themselves grounded in relatively invariant relations between instigations and sensations. For example, different regions in one and the same rock face may be more or less steep, crumbly, wet, pockmarked, or traveled; and thereby make different kinds of actions (and affects) more or less possible – fearing and swearing as much as slipping and climbing.

We might thereby amend von Uexküll’s (1982) famous claim: Just like a spider’s web is fly-like as much as spider-like (not to mention wind-like and rain-like), *in terms of its dimensions and degrees, as much as its forces and flows*, a dekerneled corncob is hand-like as much as pot-like (and hot-like), imagination-like as much as transportation-like, snout-like as much as stomach-like, and so forth.

Indeed, a key affordance of corncobs was their highly cylindrical symmetry, with their slowly tapering radius, such that they could serve as a wedge, or lever, that simplest (and most sublime and widespread) of the simple machines. See Figure 3.6. In particular, dekerneled corncobs were frequently used to plug holes in the walls of houses, to hold open doors, to create space between stacked planks of wood, and to level beds, desks, and workbenches.

Now one might not think that a corncob has much to do with gradients, but this key affordance of corncobs has a very similar physics to hillsides (not to mention machetes). In particular, a force applied in the axial direction translates into a force applied in the radial direction. And, depending on the tapering of the corncob (or the sharpness of the machete, or the grade of the hillside), there is an ‘exchange’ between the amount of force exerted and the distance pushed (by the agent doing the wedging), and the amount of force applied to, and the distance moved by, the entity being wedged. In the case of corncobs, these facts, combined with their relatively soft exterior and hard interior, meant that they could hold up under wedging, and stay put once wedged.

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An axial displacement (Δ axial) “translates” into a radial displacement (Δ radial), such that a force exerted in the axial direction is applied in the radial direction, where the slope (gradient) of the corncob determines the “trade-off.” In particular,

Δ axial $\times$ force axial = Δ radial $\times$ force radial, so that:

Δ radial / Δ axial = force axial / force radial = $2 \times$ slope.

Phrased another way, an agent can exert a relatively small force over a relatively long distance (in the axial direction), and the corncob will translate this work (= force $\times$ distance) into a relatively large force exerted over a relatively small distance (in the radial direction).

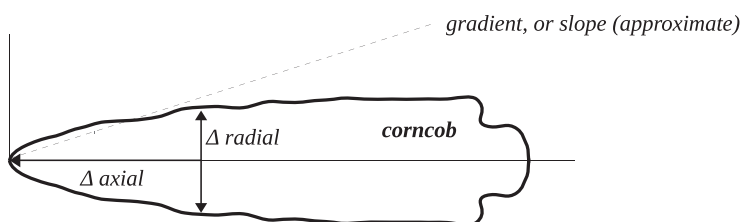


Figure 3.6 Corncob, like machete blade, or mountain face, as wedge

(Note, by the way, the role of modal operators like ‘could’ and ‘enough’ in this framing of affordances, a connection that will be more fully explored in Part III.)

For some readers, all this should be reminiscent of Aristotle’s (2001b) discussion of justice, and Marx’s ([1867] 1967) discussion of value: not a relation between people mediated by a relation between things, but a relation between forces mediated by a relation between distances (mediating between a person and a thing, and hence mediating between people [and their things], and hence between agents and events more generally).

Note, then, how we make sense of instruments and interfaces and infrastructure, and perhaps even signs and ideas and imaginaries: by understanding how they change the ratios and dimensions of our experience, of our sensation-instigation relations, through both *more/*

less and *if/then* relations, and hence both comparative and causal grounds. To really understand an instrument, including semiotic instruments like media and speech acts, as well as social instruments like the division of labor, requires that we understand (*inter alia*) the kinds of trade-offs (or *mutual sacrifices*) such an instrument allows, trade-offs that interrelate degrees of various dimensions, or intensities of various experiences – from what we do to what we induce or effect, from what we experience to how we react or affect, from what we see or hear to what we interject.

The Grabbiness and Slipperiness of Experience

O'Regan (2010) has been at the forefront of recent attempts to understand conscious experience in sensorimotor terms. He argues that to understand consciousness, we need to take seriously the fact that our sensory systems are *grabby*. As he defines it:

Grabbiness is the fact that sensory systems in humans and animals are hard-wired in such a way as to be able to peremptorily interfere with cognitive processing and automatically cause an orienting response. When there is a sudden flash or loud noise, hard-wired detectors in the nervous system detect these “transients,” and automatically orient attention towards the source of interruption. Pungent smells and persistent pains are detected by specialized detectors that incontrovertibly monopolize our attention and cause avoidance reactions. (2010:17)

O'Regan's claims are interesting and important. For our purposes, however, several complementary claims are in order, based on the foregoing analysis of causal and comparative grounds. Entities and events grab our attention not just because of a bunch of species-specific, hard-wired detectors, but because those entities and events are at odds with our grounds. There are events that are not expected or intended by an agent given that agent's understanding of the ground (as a set of

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forces pertinent to a particular terrain, forces that lead to event-sequencings of particular sorts, as oriented to through the inferences, affects, and actions of those agents who are aware of them). For example, when I push this button, the door does not shut (but it should). There are also those entities and events that have the wrong dimension or the wrong degree (of some dimension) for an agent, given that agent's understanding of the ground (as an ensemble of sensibilities and assumptions regarding what kinds of entities there are in the world, what dimensions those entities typically possess, and what intensities those dimensions usually evince). For example, this rain is too heavy or this season is too hot (given *the climate*, that *ur-ground of interpretation*, to which we are – or, at least used to be – accustomed). Note, then, that many entities and events grab our attention because they conflict with such grounds, and so easily stand out as figures.

As should be clear from the preceding arguments and examples, both kinds of grounds are just as likely to be 'subjective' (qua relatively individual-specific) and 'intersubjective' (qua relatively collectivity-specific) as they are 'objective' or 'universal' (qua relatively species-, or taxon-specific). That is, one's expectations about event-sequencing, or about the dimensions and degrees pertinent to particular entities, are largely a function of what environments one has grown up in, whom one has talked to, what stories one has heard, what sensorimotor experiences one has had, what media one uses or has access to, and so forth. They are a function of particular environments, particular eras, particular organisms, and particular collections of organisms, and their mediated relations among themselves and with the world. To be sure, such grounds are also a function of relatively fixed, species-specific sensory systems, and the environments such systems evolved in; but that is only one small part of the story.

Just because an entity or event is at odds with our grounds does not mean it must grab our attention. There are any number of ways of dealing with ungrounded experiences, anomalous events, or parasitic forces more

generally. Douglas ([1966] 2002), in a different register and on a different topic, handled many of these: reinterpretation, control, avoidance, symbolization, and so forth. And, more generally, the literature on how humans take up *anomalies* is enormous – from Heidegger to Kuhn, to name just two. For example, we may simply not notice that which would have been anomalous because our grounds are not attuned to them. A lot of forces are not easily sensed or instigated in the first place; and so a lot of event-sequencing is not oriented to in our inferences, actions, and affects. This may simply be due to the fact that the distinctive dimensions and degrees of the event-sequencings they condition are outside of our ken (without particular media): too faint, too far, too fragile, too rare, or too rarified for our scales of experience. Or we may simply overlook, even out, or simply discount, the ways they are at odd with our grounds, thereby assimilating their rough edges and unlikely outcomes. We may not have adequate predicates to describe the world (or their conceptual structure is not up to the task); or our sense of intensity, of gradation, may be out of scale. That is, the world is conceptually-symbolically insubordinate (and discursively-interactionally insubordinate), as much as it is insubordinate in sensorimotor terms.

More generally, certain phenomena are simply difficult to figure in the first place without a range of auxiliary beliefs (such as theories) or particular equipment (such as technologies), and so difficult to represent or transform. Indeed, perhaps the phenomenon in question is just not predictable: the world is full of outliers, black swans, serendipity, singularities, parasites, abnormalities, and the like. Finally, to return to Douglas, instead of minimizing the distinctiveness of particular events or event-sequencings, we may treat them as figurations (tropes, omens, encounters, symbols, etc.), rather than as figures, or even treat them as figments of our own or another's imagination. As our extended example of landslides should attest, the world, in our wranglings with it, is just as slippery as it is grabby.

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Notes to Chapter 3

- 1 Two radically important non-normalized dimensions are income and connectivity (Taleb 2010), both of which are key modalities of power.
- 2 For superb studies of related issues, see Urban (1988) and Shayan, Özgë, and Sicoli (2011).
- 3 For particularly inspired and semiotically sophisticated approaches to materiality and the lived/denoted/ingested/sacralized environment, see Tambiah (1968) and Munn (1986), Lucy (1992) and Hanks (1990), Manning (2012) and Ball (2018). And see Cepek (2018) for a brilliant ethnography of oil, environmental degradation, and cultural survival.

FOUR



Grounding the Anthropocene

Cosmologies

The term *grace* has a variety of meanings in English, many of which have been touched on in the foregoing chapters: divine and unmerited assistance (think ‘free gift’); fluidity of movement (gracefulness); the capacity to bring honor, value, or renown upon a person, institution, or occasion (to grace); and a brief speech act, or prayer, that gives thanks (to say grace).¹ Given the overarching concerns of Part I, of particular interest is the way that grace relates to grading, gradients, and degradation, as well as the way it relates to comparative and causal grounds more generally.

The first part of this chapter focuses on grace in the sense of giving thanks, insofar as such prayers cosmologically bind together speakers of Q’eqchi’, the mountainous terrain that surrounds their village, and the divine (and sublime) origins of space-time.² The second part of this chapter reviews the core terms of Part I from the standpoint of heat flows (as opposed to landslides). It reframes a few universal thermodynamic variables as (soon to be, if not already) global sociocultural values: energy, entropy, work, and temperature. And it details some of the key features of our own nineteenth-century *causemology* in regard to the origins (and destination) of the Anthropocene, as well as the discipline of anthropology.

Grounds

Grace

As was noted in Chapter 2, the usual way to thank someone in Q'eqchi' is by saying *b'a(a)ntyox*, or 'because (of) God'. Such a construction turns on the relational noun *-b'aan*, which has multiple functions. For example, it is used to mark demoted agents in passive constructions (the house was destroyed *by* the mudslide); it is used to head *because*-clauses (often as answers to *why*-questions); and, as a nonrelational noun, it is used to refer to medicine and other illness-remedies. In some sense, it is the (unmarked) agentive marker par excellence – indicating the source of causation, as much as the target of benefaction.

While speakers of Q'eqchi' have a range of distinctly Catholic prayers that can be used to give thanks to god (as well as to directly petition him for assistance), they also have several genres of prayer that they use to address the various *Tzuultaq'a*, or 'earth deities', that surround their homes in the mountainous regions of Alta Verapaz, usually in the context of cave sacrifices and similar ceremonies. As we saw, the word *Tzuultaq'a* is composed of two morphemes, *tzuul* 'mountain/hill' and *taq'a* 'valley', and is thus a compound construction that refers to a god by making reference to the highest and lowest points in a landscape. These deities can be male or female and, as such, have distinctive qualities and causal powers:

Male *tzuultaq'*as have sharper contours, more dramatic peaks, and, frequently, a white cliff face. From their caves, male *tzuultaq'*as throw lightning bolts, blast out thunder, and shake the ground to cause earthquakes. Female *tzuultaq'*as are no less destructive than males, but they devastate through deluges and landslides. (Wilson 1995:54)

Kockelman (2010a) analyzes an early twentieth-century Q'eqchi' myth that describes how Moon, the daughter of a male *Tzuultaq'a* (portrayed in the myth as the only *Tzuultaq'a*), eloped with the Sun, and how her father's violent revenge on the unfortunate couple (themselves portrayed as the original parents of us all), came to structure the

entirety of the cosmos: not just space and time, but ontology and ontogeny, quality and quantity, substance and form, relation and reference, gender and power. In some sense, then, *Tzuultaq'a* – and his intense desire to hold onto his wayward daughter, while fighting off her wily companion, such that she could continue ‘to care’ (*ch'oolanink*) for him – was the original and ultimate cause of it all.³

Note, then, how affect – and, in particular, its ‘relative’ intensity – is not just effect, but also cause; and not even so much cause and effect, as forcefield or propensity: that which channels and transforms tensions and intensities.

The prayers, or modes of grace, that Q'eqchi' speakers use to address the various *Tzuultaq'a* that surround their communities can be quite varied in content, depending on the needs and preoccupations of the one saying the prayer. But they very often begin and end with some variant of the longest interjection (*ay dios atinyuwa*, or ‘oh god, you are my father’) that was discussed in Chapter 3. Here is the beginning of such a prayer.⁴

- (1) at-in-tyox at-loq'laj-tzuul-taq'a
 A2S-E1S-god A2S-precious-mountain-valley
 ‘You (are) my god, you (are my) precious mountain-valley.’
 (Estrada Monroy 1990:25–26)

In the prayer, but not in the interjection, the loanword for ‘god’ (*tyox* < Spanish *dios*) is assimilated to Q'eqchi' phonology – the /d/ undergoing devoicing to /t/, and the /s/ undergoing palatization to /x/. There is an upgrading of *Tzuultaq'a* via the predicate *loq'laj* ‘precious’, which is similar to the upgrading of *iglesia* ‘church’ via the predicate *santil* ‘saintly’ that we saw in example (3) of Chapter 1. Finally, there is not just a lexical parallelism, and hence the poetic function, via the compound construction (*tzuultaq'a*, qua ‘mountain-valley’), but also a phrasal parallelism, via the two conjoined clauses: ‘you are my God, you are my precious mountain-valley’. Such parallelisms undergird many of the examples in the chapters that follow.

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Another frequent variant of these prayers swaps out the second part ('you are my precious mountain-valley'), and replaces it with a different instance of parallelism, this one turning on kinship relations, all the while maintaining the same syllable count and closely related syntax.

- (2) at-in-tyox at-in-na' at-in-yuwa'
 A2S-E1S-god A2S-E1S-mother A2S-E1S-father
 'You (are) my god, you (are) my mother, you (are) my father.'

Such prayers usually continue by indicating the speaker's relation to the landscape, this time not by using inalienable possessions that turn on kinship relations, but by using inalienable possessions that turn on body parts, and related items, usually in the form of relational nouns headed by prepositions (Kockelman 2010a; and see Ball 2011). They thereby locate the speaker relative to the landscape, or in relation to the body, power or prowess of the *Tzuultaq'a*, via both a part-whole and figure-ground relation. Here is an example of such a spatial locating, and such a deictic grounding.

- (3) k'a'jo' r-us-il wan-k-Ø arin
 how.much E3S-good-NOM exist-PRES-A3S DEIC
 'How much goodness there is here ...
- sa' l-aa saq-oo-naq pek
 PREP DM-E2S white-BECOME-PART rock
 inside your whitened cave,
- r-ub'el l-aa mu
 E3S-RN DM-E2S shadow
 beneath your shadow,
- ch-aaw-e ch-aaw-u
 PREP-E2S-mouth PREP-E2S-face
 before your mouth, before your face.'

Note the double use of the adposition *chi -u* in the last line which, as was shown in Chapter 1, can also be used to mark the ground of comparison, insofar as it has a range of interrelated meanings: 'before',

‘in the face of’, ‘in comparison to’, and even perhaps ‘in confrontation with’. Here the speaker is being placed in front of the *Tzuultaq’a* (addressed as ‘you’), and not just before its face (or gaze), but also before its mouth (or voice); and not just before these more stereotypical body parts, but also beneath its shadow.

Note how thoroughly we are within Aristotle’s underappreciated category of *relation*, albeit radically transformed, as opposed to his overrated categories of *quality* and *substance*: inalienable possessions and the relational nouns and adpositions (into which they so often derive).

Relation was the key category that structured Aristotle’s understanding of both comparison and causality. As will be shown in Chapter 9, this category was itself a key source of inspiration for Heidegger’s notion of ‘references’ (*die Verweisungen*) as opposed to ‘representations’ (a distinction which centered his discussion of worldliness, and much of the subsequent literature on ‘embodiment’, ‘affect’, and ‘embeddedness’). As will also be discussed in that chapter, the distinction between references and representations is analogous to Jakobson’s (1990b) somewhat implicit distinction between being ‘in reference to’ (qua indexed ground) and ‘referring to’ (qua denoted figure), which underlay his celebrated account of shifters. For example, pronouns like ‘I’ and ‘you’ *refer to* participants in the narrated event (as figures) by *making reference to* participants in the speech event (as grounds).⁵

In the following example of this genre, which was collected by Wilson (1995), the interjection *ay* is present. There is explicit thanking of the *Tzuultaq’a*. There is apologizing (using the other key agentive relational noun, *-maak*, itself negatively valenced as per its lexical meaning of ‘sin’). There is explicit reference to the intensity of spatial and temporal duration that was overcome (so many mountains and valleys, so many nights and days). And there is a flurry of modal operators (that will be discussed at length in Chapter 11).

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- (4a) ay tiox ay tzuul-taq'a
 INTERJ god INTERJ mountain-valley
 'Oh God, oh Tzuultaq'a!

ex in-na' in-yuwa',
 A2P E1S-mother E1S-father
 You (plr) are my mother, my father.

- (4b) arin wan-k-in r-ub'el aaw-oq,
 DEIC exist-PRES-A1S E3S-RN E2S-feet
 Here I am beneath your feet,

 r-ub'el aaw-uq' at wa'.
 E3S-RN E2S-hands A2S ?
 beneath your hands.

- (4c) ch-Ø-aa-kuy taxaq in-maak.
 OPT-A3S-E2S-endure OPT E1S-sin
 If only you would forgive my sins!

- (4d) b'an-tiox aaw-e
 because-god E2S-DAT
 Thanks to you ...

x-in-ru x-in-chal
 PERF-A1S-be.able PERF-A1S-come
 I was able to (over)come ...

jarub' chi tzuul, jarub' chi taq'a,
 how.many PREP mountain how.many PREP valley
 so many mountains, so many valleys,

jarub' chi leeg, chi kutan.
 how.many PREP ? PREP day
 so many nights, so many days.'

In some sense, then, every intense interjection is a radically profaned and truncated prayer – something uttered when in the face of (confronted by, compared to) something larger than oneself, and yet an inalienable part of oneself. Moreover, every interjection of this sort might even be seen as an attempt to grab a god's attention, to

establish a channel with them. A markedly intense, or affectively overwhelming experience ‘causes’ you to establish a channel with that ultimate cause.

In short, there is a locally motivated relation between gradients (high and low), degradation (landslides), and grace (prayers to the earth god, the highest and lowest places in a landscape, the source of landslides and everything else under the sun [and moon]). We grace it with our prayers and sacrifices; it graces us with its presence – and sometimes with its presents. *Or else . . .* Note, then, the relation not just between precarity and prayer, but between precarity and imprecations – qua interjections and exclamations, especially in the form of cuss words and curses.

That said, one cannot help point out the irony of a *Tzuultaq’a* causing landslides – precisely a leveling out of low and high grades, almost a negating, or simultaneously an upgrading and a degrading, of the *Tzuultaq’a* itself.

But, lest we get carried away, it should be emphasized that in the aftermath of the landslide discussed in the foregoing chapters, I heard no causal explanations of this kind. (Though, given such well-attested ethnographic and historical details, I assume such beliefs were in ‘the background’, at least among elders.) As we saw in Chapter 2, villagers I spoke to usually referred to causes like heavy rains, steep slopes, and overplanting. Moreover, I witnessed no otherworldly petitions of this sort (though I heard quite a few interjections, among members of the younger age grades, of the *oh-my-#!@%-god* variety). Rather, the family whose house was destroyed, along with the mayor who organized the labor pool, individually thanked each and every person who – in that *MASSIVE SIGN OF SOLIDARITY AND SYMPATHY* – came to dig out the pieces of their old house and build them a new one. This time on more stable, though perhaps no less shifting, grounds.

You're Getting Warmer

Let me offer one last relevant example of gradients and degradation – in part, to illustrate the key terms of these first four chapters; in part, to show their relevance to the core concerns of anthropology and the Anthropocene, at least at their origins; and, in part, to sketch the key features of one *countercosmology*.⁶ Such a nineteenth-century interpretive ground not only succeeded in reframing space and time, intensity and causality, quality and relation, it also introduced four interrelated dimensions that will soon be global cultural values as much as universal thermodynamic variables: energy, entropy, work, and temperature.

Temperature exhibits gradients: we may note its increase or decrease in passing from one point, or moment, to another. It is thus a dimension that varies in degree. We grade temperature not only when we explicitly measure it (*the thermometer says it's 34 degrees Celsius*), but also when we implicitly compare the temperature of one place or period with another (*it's hot here [in comparison to there], it's hotter now [than it was then]*).

Whenever there is a spatial gradient in temperature, and an appropriate conduit or channel across the space, heat can flow from the hotter regions to the colder regions, a process which will eventually bring all points to the same temperature. That is, a temperature gradient causes a flow of heat which eventually cancels out the temperature gradation which caused it. This is an example of degradation – the loss of a gradient, resulting in the homogeneity of grade: *it's as warm here as it is there*.

Heat engines exploit such facts by taking in temperature gradients and turning out *work* (understood as the application of a force through a distance – say, lifting a mass, compressing a spring, accelerating a car, climbing a hill, or driving a wedge). Conversely, a refrigerator takes in work (or energy) and turns out a temperature gradient. And so just as

gradients can be exploited to do work, work can be used to establish gradients. Indeed, we often use the energy released, or work performed, in leveling one gradient to establish another: for example, using a heat engine to pump water into a cistern.

Crucially, in taking in heat from a higher temperature region and putting out heat into a lower temperature region, such an engine eventually makes both regions the same temperature – such that no more work can be done. While an ideal engine can be reversed, such that the same amount of work done *by* the engine can be done *on* the engine, and thereby return the two regions to their original temperatures, no heat engines are actually ideal. And so while energy is always conserved, as per the first law of thermodynamics, useful energy – and hence energy one can readily direct to desirable ends – is lost. This is another way to understand the second law of thermodynamics, the idea that entropy is always increasing – or, equivalently, that energy is always degrading.

Degradation is a key way to figure such loss, a loss that is inherently irreversible, a loss that grounds the inexorable directionality of time. What does it mean to live in such a world? Grace – to live, live well, and struggle so that all can live and live well, despite degradation. As if there was a point beyond life itself and its ceaseless cessation. Hope in the face of nope.

Thermodynamic Anthropology

The fact that these four dimensions (energy, work, entropy, temperature) are universal variables and global values does not mean they are the same everywhere, just locally salient everywhere (and globally significant). They must then be studied, in their local salience (and global significance), through all the techniques offered in the foregoing chapters – in particular, through ‘field-work’ as it was theorized in Chapter 2, as one key component of fieldwork (in its more traditional sense).

Carnot Knowledge (and Power)

The French engineer Sadi Carnot was one of the first to understand heat engines in regard to both their abstract potential and their historical particularity. As he saw it (Carnot [1824] 1897), such engines were radically open, insofar as they could replace all other sources of power (animals, rivers, wind, etc.). They were radically portable, insofar as they could be used to produce power at any time, in any place, on any scale (so long as one can produce a heat gradient there, which is as easy as burning coal). Like the other ‘mechanical arts’, their key factors of production were iron and coal. But unlike the other mechanical arts, heat engines were recursively central to acquiring more iron and coal – through mining practices, in particular. Moreover, when employed in the form of steam engines on ships and trains, Carnot argued that such devices enabled communication, “the penetration of savage lands,” the introduction of civilization, and the shortening of distance. (All the changes, incidentally, that McLuhan ([1964] 1994) would later argue, albeit with a relatively negative valence, that *media* helped to introduce.) Indeed, the steamship that Marlowe took upriver in *Heart of Darkness* ([1899] 2007) was precisely such a vehicle. And Conrad’s story, itself the foil for so much anthropological thought, is filled with images of thermodynamic degradation amidst colonial expansion and capitalist exploitation: boilers, rusty rails, detonations, decaying machinery, smoke-filled landscapes, noisy soundscapes, and parasites (such as Europeans, mosquitoes, and *Plasmodium* species).

After making these claims, Carnot asked himself whether the motive power of heat was unbounded. And he compelled himself to think about this question in a completely general way (“independent of any particular agent”), and thus without regard to the specific details of the technology employed. He understood that you cannot get work out of heat, no matter how hot the source, unless there is something cold: a temperature differential is essential. He thought that, in addition to a

heat source (say, a boiler) and sink, you need an “intermediary substance,” something that changes size with temperature, such that it can push or pull, and thereby do work. And he argued that the motive power of such a device does not depend on the nature of this intermediate substance, but only on the temperature difference between the source (a region at a hotter temperature, Th) and the sink (a region at a colder temperature, Tc). He calculated the maximum efficiency of such an engine, equal to the work done (as output) divided by the heat absorbed (as input), showing it to be equal to $(Th - Tc)/Th$. In other words, so long as you have a temperature gradient, you have a source of power. In short, in offering his theory of thermodynamic mediation, Carnot described both the physical nature and the cultural ramifications of one of the most powerful and portable ‘agents’ in world history.

The Heat Engine as Time Machine

Such a vision of temperature gradients, as generative of work and civilization, was the inverse imaginary of degradation and death, or the end of time, that was highlighted in 1854 by the German physicist Helmholtz (quoted in Sethna 2006:81; and see Thomson 1862), who suggested that all forms of energy would degrade into heat, and all temperatures would become equal, such that everything existing would “be condemned to a state of eternal rest.” This idea was later foregrounded by H. G. Wells in *The Time Machine*. Here is how Wells – whom Joseph Conrad referred to as the ‘realist of the fantastic’ – imagined the state of the Earth in the not-too-distant future, when all readily available energy gradients had been tapped:

The sun, red and very large, halted motionless upon the horizon, a vast dome . . . glowing with a dull heat. . . . The earth had come to rest with one face to the sun, even as in our own time the moon faces the earth. . . . There were no breakers and no waves, for not a breadth of wind was stirring. Only a slight oily swell rose and fell like a gentle breathing, and showed that the

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eternal sea was still moving and living . . . the life of the old earth ebb[s] away . . . ([1895] 2005:66–67)

According to such nineteenth-century cosmologies, then, the heat engine was the original time machine – taking us all, ever faster, into this future.

Notes to Chapter 4

- 1 Hobbes ([1668] 1994:82) notably equated gift, free-gift, and grace; and contrasted all of these with contract.
- 2 See Sivaramakrishnan (2015) for a particularly important account of the relation between morality, affect, religion, landscape, and nature. See Hebdon (2020) for an ethnography of energy transitions, power, history, and landscape.
- 3 The verb ‘to care’ (*ch’oolanink*) is derived from the noun *ch’ool-ej*, an inalienable possession that refers to one’s heart (Kockelman 2010a).
- 4 See Burkitt (1902) and Wilson (1995:323–24) for similar examples.
- 5 See, in particular, the classic work by Buehler (1990) and Hanks (1990) on deictic grounding, as well as the superb essay by Enfield and Sidnell (2012).
- 6 See the stimulating work of Chakrabarty (2009), Smail (2008), and Tomlinson (2015).

Part II

Tensors

FIVE



Intensifiers

Die Form ist flüssig, der “Sinn” ist es aber noch mehr . . .

Nietzsche, *On the Genealogy of Morals*

Intimacy and Intensity

Recall examples (3) and (4) from the introduction to this monograph: women and their chickens, assholes and their arsenals. Such utterances showcased many of the issues that were discussed in Part I. We saw the core components of comparative constructions: figures, grounds, dimensions, directions, and magnitudes. We saw the ways that comparative grounds are not just content-dependent and context-specific, but also subject to performative dynamics. We saw the way that figures of comparison may go on to become grounds of comparison (and vice versa). We saw the role that culture and history play in modulating local understandings of salient dimensions and significant degrees. We saw the way that social relations between speakers and addressees, as semi-otic agents, are mediated by their respective assessments of the relative intensities of various experiences. Finally, we saw the life and death stakes of intensity, so far as it is so intimately coupled to causality and accountability, affect and vitality.

This chapter offers an analysis of intensifiers in Q’eqchi’, as one particularly important array of context-sensitive and culturally salient values for registering intensity and regimenting tension. It begins with

an extended discussion of *mas*, ‘very’ or ‘much/many’, showing the wide range of predicates this Spanish loan word may modify. The next section surveys the form, meaning, and function of the most frequently used intensifiers in Q’eqchi’ besides *mas*. The following section focuses on the comparative grounds presupposed by such intensifiers, and the relative elasticity – or stretchiness when subject to strain – of the magnitudes they indicate. The relative degrees, or comparative magnitudes, encoded by such intensifiers are then analyzed and ranked, in order to show the ways they remain relatively invariant under variation. The history of one of these forms, *jwal* or ‘very, very’, is examined carefully, showing the relation between sovereignty, inalienability, and intensity. Finally, we return to that heated exchange between Donald Trump and Kim Jong-un, and offer a natural history of its conditions of intelligibility.

The Many Functions of *Mas*

In comparison to other intensifiers in Q’eqchi’, *mas* modifies the widest range of word classes: adjectives, adverbs, noun phrases (NP), verb phrases (VP), and indefinite quantities.

- (1) pero naq ha-a’at aj guatemala,
 but COMP TOP-A2S SD Guatemala
 ‘But when you are Guatemalan (as opposed to Mexican),
- t-at-num-e’-q chijunil mexico,
 FUT-A2S-PASS-PSV-NS all Mexico
 you will (have to) pass through all of Mexico (to get to the US).
- mas ch’a’aj
 very difficult
 It is very difficult.’

In this example, *mas* modifies an adjective, indicating the harshness of a migrant’s journey from Guatemala, through Mexico, to the United

States. While such an utterance is implicitly comparative (as the speaker had just been describing the journey that someone from Mexico has to undertake to get to the US), the form *mas* is not itself functioning as an explicit comparative (qua Spanish *más*, or English ‘more’), but rather as an intensifier (qua Spanish *muy*, or English ‘very’). If the journey for a Mexican is harsh, the journey for a Guatemalan is very harsh – and thus (implicitly) even harsher.

- (2) el gallo, mas junpaat t-at-oooh
 DM rooster very quickly FUT-A2S-INTERJ
 ‘With Gallo (a Guatemalan beer), very quickly you become ‘ooh’ (i.e., drunk or buzzed).’

Here *mas* modifies an adverb, indicating the speed with which one becomes tipsy (and thus the potency of the beverage being drunk). The verb that this adverb modifies was formed by treating an interjection as an intransitive verb (and thereby inflecting it for tense and number). This utterance also involved an implicit comparison: the speaker had just been describing the fact that Corona, a Mexican beer, is relatively weak, such that – unlike its Guatemalan counterpart – one can drink it without fear of getting drunk too quickly.

- (3) maak’a’ mas in-tumin x-loq’-b’al chaab’il concentrado
 NEG.exist a.lot E1S-money E3S-buy-NOM quality animal.chow
 ‘I don’t have a lot of money to buy high-quality dog food.’

Here *mas* is modifying a possessed noun phrase (*in-tumin* ‘my money’), which is itself the argument of a negated existence predicate (indicating lack of possession of the referent in question). The construction functions a rueful understatement, as the speaker didn’t have much money at all, never mind enough for luxury dog food.

- (4) mas nek-Ø-e’r-oksi pues li junxil kristyan,
 much PRES-A3S-E3P-use well DM early people
 ‘The early people used it (a particular word) a lot.’

pero aa'o ink'a' chik mas na-Ø-q-oksi
 but A1P NEG more much PRES-A3S-E1P-use
 But we (present-day speakers) no longer use it a lot.'

Here *mas* modifies a transitive activity predicate in two parallel utterances, the second of which is negated. Note the implicit comparison between the relative frequency of past and present usage (of a particular linguistic expression), and hence between past and present speakers of Q'eqchi'. Such a comparative strategy, which involves parallel utterances (with different intensifiers, and/or positive and negative valences), as opposed to an explicit comparative construction, such as the one evinced in the exchange between Donald Trump and Kim Jong-un in the introduction to this monograph, occurs in many of the examples that follow. Finally, note the role that *chik* 'more' plays in the second line of this utterance: with *ink'a'*, which marks wide-scope negation, it serves a temporal function. That is, while 'we' (speakers of Q'eqchi') used to use a certain expression a lot, we *no longer* do.

- (5) arin maak'a', maak'a',
 here NEG.exist NEG.exist
 'Here there are none, there are none (of a particularly bothersome insect).

sa' w-ochoch si wan-Ø-Ø,
 PREP E1S-home yes exist-PRES-A3S
 At my home, yes there are (some) ...

x-maak naq mas xiikil li pim
 E3S-RN COMP very very.many DM vegetation/underbrush
 Because the vegetation is very excessive (there).'

Here *mas* modifies the indefinite quantity *xiikil* 'very much/many', which itself modifies a noun phrase (*li pim* 'the vegetation'). The entire construction is used to describe why a certain bothersome

insect is found around his home, but not in the place where he is speaking.

As intimated by these examples, and as will be carefully analyzed in Chapter 6, while *mas* came from Spanish (<*más* ‘more’), it is not used as an explicit comparative in Q’eqchi’, but only as a degree modifier and indefinite quantity. In particular, it functions like Spanish *muy* ‘very’ when it occurs with adjectives, adverbs, and indefinite quantities; and like Spanish *mucho(s)* ‘much/many’ when it occurs with NPs and VPs. As suggested by example (4), and as will be the focus of Chapter 8, Q’eqchi’ *chik* ‘more/longer/other/else’, as opposed to Q’eqchi’ *mas*, is the nearest equivalent to Spanish *más*.

The Larger System

Table 5.1 offers a synoptic overview of intensifiers in Q’eqchi’ (as listed down the leftmost column). The top row indicates the type of argument taken by each intensifier: adjectives, adverbs, indefinite quantities, NPs, and VPs. The rightmost column lists other forms such intensifiers are related to (via derivational processes and/or diachronic change). Aside from *mas*, the intensifiers tend to cleave into two groups: those that predominately modify adjectives (and also adverbs and quantities); and those that predominately modify noun phrases (and also verb phrases, and even clauses). As indicated by the darkened background, the forms *naab’al* and *b’ayaq*, along with *mas* and *tz’aqal*, are the most frequently used intensifiers (besides reduplication) in my corpus.

This section offers examples of all the intensifiers surveyed in this table. As will be seen, such intensifiers frequently co-occur with each other (within and across turns) in ways that reciprocally mediate the very intensities they indicate (transduce or channel).

Table 5.1 *Frequently used intensifiers*

Intensifier (loose gloss)	Modify Adj/Adv*	Modify VP**	Modify NP	Modify Quantity	Relation to other predicates
Those that mainly modify adjectives (loosely scaled by relative intensity)					
<i>q'axal</i> (exceedingly)	Yes				< <i>q'axok</i> (to cross)
<i>num</i> (over-, excessively, too)	Yes				< <i>nume'k</i> (to pass)
<i>tz'aqal</i> (sufficiently, completely)	Yes		Yes		< <i>tz'aq</i> (price)
<i>jwal</i> (very very, very much/many)	Yes	Yes	Yes	Yes	See Table 5.2.
<i>mas</i> (very, much/many)	Yes	Yes	Yes	Yes	< (Spanish) <i>más</i> (more)
<i>reduplication</i> (very)	Yes	Yes (!)		Yes	< lexical processes most predicates can undergo
<i>b'ayaq</i> (a little, somewhat)	Yes	Yes	Yes		< <i>b'ay</i> (little) + <i>-aq</i> (nonspecific, some/plural)
Those that mainly modify noun phrases (loosely scaled by relative intensity)					
<i>numtajuanaq</i> (how much/many)		Yes	Yes		< <i>numtaak</i> (to surpass, exaggerate) + <i>-jenaq</i> (participle)
<i>xitkil</i> (much/many)			Yes		< (Nahuatl) <i>xiquipilli</i> (8,000 = 20 ³ , sack of cacao beans)
<i>k'ajo</i> (how much/many)		Yes	Yes		< <i>k'ajo</i> (how much) + <i>naq</i> (complementizer)
<i>tz'aqal</i> (sufficiently, completely)	Yes		Yes		< <i>tz'aq</i> (price)
<i>naab'al</i> (much/many)		?	Yes		< ?
<i>b'ab'ay</i> , <i>b'ayaq</i> (a little, a few)	Yes	Yes	Yes		< <i>b'ay</i> (little) + <i>-aq</i> (nonspecific, some/plural)

* Modifies adjectives (gradable stative predicates), adverbs, achievements (become state), and accomplishments (cause to become state).

** Modifies activities and two-place state predicates.

< Originally meant, derived from, incorporating of, or otherwise related to.

- (6) mayo, aah, tz'aqal li ke,
 May INTERJ sufficient DM cold
 'In May, aah, there is coldness enough.
- anaqwan, ooo, jwal ke
 now INTERJ very.very cold
 Now (in January), ooh, it is very, very cold.'

These two utterances evince parallel constructions, and so have a kind of poetic resonance. Each involves a time (the month of May, or the time of speaking, which itself occurred during the month of January); an interjection (*aah*, a floor-holder, or a very stressed *ooo* – said while displaying a shiver); and an intensifier (*tz'aqal* 'enough' or *jwal* 'very, very'). Together, the two utterances serve a comparative function: while May was cold enough, January is very, very cold (and thus much colder). As may be seen, *tz'aqal* modifies the root *ke* in its noun form; whereas *jwal* modifies the same root in its adjectival form. As will be discussed in Chapter 12, the form *tz'aqal* is closely related to the word for price (*tz'aq*); it often indicates that the degree of some dimension is or is not sufficient (for some event to be possible, or some action to be permissible). Though quite different from *mas* in regard to the magnitude it encodes, *jwal* takes a similar range of arguments – which, looking ahead to Chapter 6, is one reason it is frequently called on to substitute for *mas* in attempts to purify the language of Spanish influence.

- (7) eeh, kaw b'ayaq, kaw b'ayaq, kaw kaw ink'a',
 INTERJ strong a.little strong a.little strong strong NEG
 'Um, a little strong, a little strong. Really strong, no.
- pero si kaw, na-Ø-b'eeek, na-Ø-k'anjelak,
 but yes strong, PRES-A3S-walk PRES-A3S-work
 But yes, strong. He walks. He works.'

A man is describing how strong (or healthy and active) his father is: while he is strong (as opposed to weak), he is not very strong, but only somewhat strong. Here the upgrading is done via reduplication of the predicate in question: *kaw kaw* 'strong, strong', or 'very strong'.

Predicate reduplication is a pervasive process in Q'eqchi', and was a key means of indicating relative intensities in the past. Present-day speakers often paraphrase such reduplicated constructions using *mas*. For example, *kaw kaw* 'strong, strong' would be glossed as *mas kaw* 'very strong'. Downgrading, in contrast, is done via the form *b'ayaq* 'a little/a few', which often contrasts with the intensifier *naab'al* 'a lot/many'. The man continues not by quantifying how strong his father is, but rather by enumerating some of the activities his father can engage in as evidence for such a degree of strength: walking and working, for example. As will be seen, intensifiers often precede or follow such lists.

- (8) x-Ø-chal yib'yib'al s-aa ch'ool x-b'aan a'an
 PERF-A3S-COME nausea PREP-E2S heart E3S-RN DEM
 'You became nauseous because of that . . .

 x-b'aan naq moko q'axal sa ta=na x-Ø-aa-ket
 E3S-RN COMP NEG surpassingly good IRR=AF PERF-A3S-E2S-eat
 Because what you ate was not incredibly good perhaps.'

This example shows a token of the intensifier *q'axal*, which indicates an extremely high degree of the dimension in question (typically stronger than *mas*, reduplication, and even *jwal*). This word is closely related to the verb *q'axok* (*ru*) 'to surpass', 'beat', or 'stand out relative to'. As will be shown in Chapter 7, this verb forms part of a comparative construction: e.g., the largeness of X *surpasses* the largeness of Y. The intensifier *q'axal* can be used in contexts in which one person's degree of some dimension far surpasses another person's, giving rise to feelings of rivalry or jealousy. Recall example (2) in Chapter 1, in which a token of this form occurred in the context of invidious comparison (itself quite tempered because of the social relation in question). In this utterance, *q'axal* occurs with negation, and is followed by the afactive form *na* 'perhaps/probably'. It seems to be functioning as an extreme case of understatement, serving to state a somewhat obvious fact while not insulting whoever prepared the food in question, and/or not

demeaning the nauseous person (so far as his taste buds must not have been particularly discriminating).

- (9) wan-Ø-Ø x-tumin,
 exist-PRES-A3S E3S-money
 ‘He has money,

 ab’an toj maaji’ naab’al
 but still not.yet a.lot
 but still not yet a lot (of it).’

Along with *mas*, the form *naab’al* (a lot, many) is one of the most frequently used intensifiers in my corpus. The noun phrases it modifies are often elided insofar as their referents are easily recoverable through prior discourse (as in this example) or the immediate context. Here *naab’al* occurs with two temporal adverbs: *toj* ‘still’ and *maaji* ‘not yet’. Given the semantics of such adverbs, which will be analyzed in Chapter 10, such an utterance presupposes that the man did not have a lot of money *before* the speech event; it asserts that he did not have a lot of money *at* the speech event; it (defeasibly) implies that he will have a lot of money at some point *after* the speech event; and it may even indicate that [the speaker believes that] the man is currently engaged in some activity that pays well. (Indeed, given the doubling of these operators, such that *toj* ‘still’ occurs with *maaji* ‘not yet’, it may also indicate that the money has been a long time in coming, or hard-earned more generally.) Such temporal adverbs, along with quantifiers such as *chik* ‘more’ and *ajwi* ‘only’, frequently occur with intensifiers. Recall example (4), which involved a token of the operator *ink’a’ chik*, or ‘no longer’. They reveal some of the ways that intensity is inherently caught up in temporal movements in addition to affective dynamics, as first noted by Sapir (1985 [1944]), a connection that will be further explored in Part III.

- (10) xiikil li kristyan na-Ø-num-e’,
 very.many DM people PRES-A3S-pass-PSV
 ‘Very many people pass (though Mexico en route to the United States).

Tensors

naab'al naab'al
 many many
 Many, many.'

The first line of this example, which occurred after the stretch of talk discussed in example (1), involves the intensifier *xiikil*. This form indicates not only a very large amount (of the NP it modifies), but often an excessive amount, insofar as it tends to be used to describe indefinite quantities that are oppressive, frightening, or saddening to the speaker in some way. As shown in Kockelman (2020b), it probably comes from a Nahuatl word (*xiquipilli*), that referred to the number 8,000 (= $20 \times 20 \times 20$) and/or a large sack of cocoa beans; and hence not just to a large and significant number in the Mesoamerican vigesimal counting system, but also to an important – and probably oppressive – unit of value in the taxation and/or tribute economy. In a form of parallelism that frequently occurs, the speaker spontaneously interprets the number of people that *xiikil* refers to using a reduplicated construction, this time employing the intensifier discussed in example (9): *naab'al naab'al*, or ‘many, many’, as in ‘very many’. As will be seen, the meaning of intensifiers – their relative intensities – are often mutually regimented (or resonated) in such a way.

- (11) t-Ø-chunlaa b'ay-aq x-b'aan li-x lub'-ik
 FUT-A3S-sit.down a.little-NS E3S-because DM-E3S tire-NOM
 ‘He will sit down (or rest) a little, because of his tiredness.’

Here *b'ayaq* ‘a little’ modifies an intransitive verb. In example (7), above, it modified an adjective. As may be seen, it is a composite form that incorporates a root (*b'ay*), which nowadays rarely occurs alone (but was probably an adjective with a meaning like ‘small’), and the non-specific suffix *-aq*, which can occur with numbers, and some indefinite quantities. This suffix usually indicates a nonspecific referent, and tends to occur in irrealis contexts: optatives, imperatives, and the like. In

specific, or unmarked contexts, *b'ay* often appears in its reduplicated form *b'ab'ay*, which also functions as an adjective (meaning 'small') and a noun (meaning 'baby'). These two closely related forms, *b'ab'ay* and *b'ayaq*, are the only frequently used intensifiers in my corpus that indicate small, as opposed to large, amounts.

- (12a) *uyatyos*, *ma* *yaal* *naq* *x-Ø-kamk*,
 INTERJ QUES true COMP PERF-A3S-die
 'My goodness, is it true that he died!
- k'a-jo'* *naq* *x-in-xiwak*
 what-how COMP PERF-A1S-become.scared
 How much I became scared!

The first line shows the speaker paraphrasing her past thoughts (when she learned about the death of her husband's uncle). She uses the interjection *uyatyos*, which derives from the interjection *uy* (typically indicating frightening referents or difficult transitions), and the expression *at-tyox*, literally 'you (are my) god'. Recall our discussion of the relation between interjections and grace in Chapter 4. In the second line, she uses the intensifier *k'ajo'*, which often functions as a secondary interjection, to describe how much this news frightened her. (It was the second death in that family, due to the same illness, within a short period.) Here the intensifier takes a full-clause ('I became scared') as its argument, indicating that she was frightened to a great degree.

- (12b) *k'a-jo'* *x-cham-il* *li* *nima'*
 what-how E3S-deep-NOM DM river
 'How deep the river is!' (literally, 'how much is the deepness of the river')

As may be seen, the same intensifier can also take a noun phrase as its argument. Here the NP in question is derived from a gradable adjective: *cham* 'deep' $\Rightarrow$ *chamil* 'deepness' or 'depth'. As may be seen in the following example, a similar construction type serves to question the degree of a salient dimension.

Tensors

- (12c) jo' nim-al li-x tz'aq
 how big-NOM DM-E3S price
 'How much does it cost?' (literally, 'how much is the bigness of its price')

Note, then, the relation between the interrogative function of *jo'* in example (12c), and the exclamatory function of *k'ajo'* in examples (12a) and (12b). If the former is used to question the degree of various dimensions, the latter is used to indicate markedly intense degrees, and one's reaction to them. As will be shown in Chapter 7, the form *jo'* has long played a key role in the equality construction, which indicates that one argument has the same degree of a salient dimension as another argument. All this is yet another example of the close coupling between interjections and degree-markers, or affect and comparison.

- (13) ajwi' li xul na-Ø-b'aanu(n) r-e,
 also DM animal PRES-A3S-do E3S-RN
 'Also the (wild) animals do it (that is, eat the family's *milpa*, or corn fields)...

mare li tz'oq, mare li pich', mare ch'ejej,
 perhaps DM grackle perhaps DM w.p. perhaps xara
 Perhaps the grackle, perhaps the woodpecker, perhaps the *xara*
 (a local bird species)...

mare halaw, mare yak, mare k'iche' aaq,
 perhaps tepezquintle perhaps fox perhaps forest pig
 Perhaps the tepezquintle (or lowland paca), perhaps the fox, perhaps the wild pig...

aay, numta-jenaq li xul arin
 INTERJ surpass-PART DM animal here
 Ay, (there is) a huge amount of animals here!

This example shows the form *numtajenaq*, which literally means 'surpassed' (being the participle form of the verb *numtaak* 'to surpass/

exceed'). It is often translated into Spanish using expressions like *un montón de* ('a heap/pile of'). As will be discussed in Chapter 12, the form *num*, from which it derives, used to be a productive modifier that meant something like English 'too' or 'over-', for example, *num atz'am* 'over-salted' and *numwa'ak* 'to overeat'. In this role, it contrasts with the intensifier *tz'aqal*, discussed above, as English *too* contrasts with *enough*: (not) *too soft* / (not) *soft enough*. As will be shown in Chapter 7, the predicate, *nume'k* 'to be passed (over)', which derives from the same root (*num*), played a key role in the colonial comparative construction: by a lot/little *is passed* his belt over mine.

As seen here, in its role as an indefinite quantity *numtajenaq* usually takes an NP as its argument, and indicates that there is a very large, indeed excessive, amount of the referent of that NP. In this example, the first sentence introduces the noun phrase in question (*xul*, or 'nondomesticated animals'), indicating that they are the ones eating the family's *milpa*. The speaker continues by listing various species that fall within that category: three types of birds and three types of mammals. Recall example (7), which involved a similar listing.

The speaker finishes with the intensifier *numtajenaq*, which occurs after the interjection *aay* (which often precedes indefinite quantities and degree modifiers). In such a role, it serves an exclamatory function, indicating not only a large amount of the NP, but also a large degree of the speaker's surprise, sadness, or affectedness more generally (in relation to that NP). As with other interjections, such an exclamatory function often occurs alongside, if not in the service of, a particular discursive function: speakers use such forms to take the floor, to point out objects and/or introduce topics, and to indicate they are listening to, and/or affected by, what is being said. As we saw in Part I, they are a key site where simplistic distinctions, like the phatic versus affective function, or expressive versus referential orientations, dissolve.

Comparison Classes

An important characteristic of intensifiers is that the intensities they indicate – however imprecise or indefinite – are not just sensitive to the figure, dimension and ground in question, but also to the experiences and attitudes of the speaker, the stances and statuses of their interlocutors, the standards of their speech collectivity, and so forth. The next three examples showcase such content-sensitivity and context-specificity for the intensifier *naab'al* ‘much/many’ (itself often modified by *mas*). This form frequently occurs alongside a definite quantity, which makes explicit the amount in question, making it relatively easy to assess how labile and shifting such intensities can be.

- (14) nek-e'-pleetik l-aj tzo'
 PRES-A3P-fight DM-SD male.fowl
 ‘The roosters fight ...
 naq mas naab'al=eb',
 COMP very many=PLR
 when (there are) very many (of them).
 wi wan-Ø-Ø ka'ib' o malaj oxib' li tzo' kaxlan,
 if exist-PRES-A3S two or or three DM male.fowl chick.
 If there are two or three roosters,
 mas nek-e'-pleetik
 much PRES-A3P-fight
 they fight a lot.'

This example shows *naab'al*, itself upgraded with *mas*, characterizing the number of roosters in a family's flock. In such a discursive context, and for such a figure (roosters) and dimension (quantity), this construction can reference a number as small as two or three.

- (15) S1: jarub' x-e'-kam
 how.many PERF-A3P-die
 ‘How many died?’

S2: mas naab'al,
 very many
 'Very many.'

ma(re) nek-e'-kam jun-aq li, sinkwent kok' kaxlan
 perhaps PRES-A3P-die one-NS DM fifty small.PL chick.
 Perhaps some fifty chicks died.'

Here we see that the same construction, *mas naab'al* 'very many', can reference a number as large as fifty when speaking about chicks (lost to heavy rains, predators, and sickness).

If the last two examples show how somewhat similar topics can receive the same intensified intensifier (*mas naab'al*, or 'very many'), while referencing very different definite quantities (fifty versus two or three), the next example shows the same intensifier with a different figure (or topic), belonging to a different comparative class, and referencing an even larger quantity.

(16) S1: jarub' li, li x-jul-el li kam-enaq aran
 how.many DM DM E3S-hole-ABS DM die-PART there
 'How many graves (lit. 'holes of the dead') are there (in the
 cemetery)?'

S2: aay, naab'al
 INTERJ many
 'Ay, many!'

S1: ma oxib' syen
 QUES three hundred
 'Three hundred?'

S2: aay, wan-Ø-Ø naab'al,
 INTERJ exist-PRES-A3S many
 'Ay, there are many!

num-enaq na oxib' syen,
 pass-PART AF three hundred
 It has probably passed three hundred.

Tensors

numta-jenaq li jul
surpass-PART DM hole
There is an excessive amount of graves!’

The speakers are talking about the number of graves in the village cemetery. As seen in the last four lines, and apropos of the preceding discussion regarding the relation between affect and degree, intensifiers not only frequently occur with interjections (as *naab'al* does), they also frequently function as interjections (as *numtajenaq* does). As seen in the third line, the number referenced by *naab'al* is at least three hundred (and probably much higher). This should be contrasted with the number of roosters (two or three) and chicks (fifty) from the last two examples, quantities which were referenced using *naab'al*, itself further intensified with *mas*. That is, and not at all paradoxically given the framework laid out in Chapter 1, so long as the figure of comparison changes (from chicks and/or roosters to graves), and/or other salient aspects of the context are adjusted, ‘many’ (*naab'al*) can index a number that is (much) larger than the one indexed by ‘very many’ (*mas naab'al*).

In each of these last three examples, an actual number (however imprecise or estimate-based) followed the intensifier in question. This underscores the claim that indefinite quantities, and intensifiers more generally, are used not so much to inform others of specific amounts, as to indicate to others the relative significance of an amount (for the speaker, in relation to the addressee, in a given situation, and so forth). To return to a claim that was made in Chapter 1, intensifiers often express (channel, index, or transduce) subjective impacts of hard-to-enclose intensities in relatively shared terms (as opposed to encoding precise amounts of quantifiable kinds in relatively objective units).

In the following example, the speaker nationalizes (and/or *classifies*) the subjectivities in question.

- (17) S1: mare nak-e'-hulak chi-r-u li guatemala,
perhaps PRES-A3P-arrive PREP-E3S-RN DM Guatemala
'Perhaps they like Guatemala.'

o mare mas kub'-enaq li wank guatemala
or perhaps very cheap-PART DM exist Guatemala
Or perhaps living is very cheap (lit. 'lowered') in Guatemala.'

- S2: mare, mas kub'-enaq
perhaps very lower-PART
'Perhaps (it is) very cheap.'

- S1: porke t-Ø-aa-k'am chaq syen euros,
because FUT-A3S-E2S-carry DIR 100 euros
'Because if you bring one hundred euros (from Germany to Guatemala),

naab'al l-aa tumin
much DM-E2S money
you have a lot of money.'

- S2: yaal, yaal
true true
'It's true. It's true.'

- S1: ut kach'in ajwi' li syento euros anchal (laughter)
and little only DM 100 euros it.seems
'And one hundred euros is only a little bit (or a small amount) it seems.

pero najt t-at-k'ulun guatemala,
but far FUT-A2S-arrive Guatemala
But you will go far (with it) in Guatemala.

ooh, b'iom-in arin
INTERJ rich-A1S here
"Ooh, I am rich here."

A man is explaining why Germans (and expats more generally) might come to Guatemala to live. As may be seen, while 100 euros is 'only a

little' (*kach'in ajwi'*) money in Germany, it is a lot (*naab'al*) of money in Guatemala. This shows that it is not just the topic (money per se), but also the context (money for whom, where, to what end, and according to whom), that matters in determining the applicability of intensifiers to particular quantities.

The next example shows how the magnitude indicated by *naab'al* changes in comparative contexts, as a function of the ground in question.

- (18) *naab'al in-kok'-al* *chi-r-u* *aa-kok'-al*,
 many E1S-small.PLR-NOM PREP-E3S-RN E2S-small.PLR-NOM
 'I have many kids in comparison to you.
- ab'an moko naab'al ta in-kok'-al*
 but NEG many IRR E1S-small.PLR-NOM
 But I don't have many kids (per se).'

Speakers judged this example grammatical (and highly appropriate) in contexts in which the hypothetical speaker has five kids and the hypothetical addressee has two. In both utterances, *naab'al* indicates the magnitude of the difference between the degree of the figure and the degree of the ground (along the dimension). In the first line, the comparative ground is explicit and singular: the number of children that you have. In the second utterance, the comparative ground is implicit and general: the typical number of children a family might have (around here, nowadays, in the speaker's experience, and so forth). As may be seen, for such a topic, *naab'al* can reference a number as low as three when the ground is explicit and singular; whereas its reference to a number as high as five can be denied when the ground is implicit and general. The ground, then, sets the origo relative to which the magnitude is assessed; and, as it shifts, so does the assessment of the magnitude.

We have just seen how an intensifier like *naab'al* can implicitly 'make reference to' (without explicitly *referring to*) very different amounts,

depending on a range of content-specific and context-dependent factors. We have also seen how intensifiers can co-occur with definite quantities (in the same utterance, conversation, or turn of talk); and the ways they indicate the speaker's somewhat subjective assessment of not just the intensity in question, but also its relative significance to them, the effect it has on them, and/or the affect it stirs in them. While we focused on such issues for *naab'al*, which typically modifies NPs, similar claims can be made about most of the other intensifiers shown in Table 5.1, as other examples have shown. Such facts further justify the claims made in earlier chapters regarding the shifting semantics and subtle pragmatics of such forms, as well as their relative scale-independence and/or topological nature.

Scaling Intensity

Example (7) showed utterances in which the degree indicated by a bare adjective (*kaw* 'strong') was contrasted not only with the degree indicated by a reduplicated adjective (*kaw kaw* 'strong strong', or 'very strong'), but also with the degree indicated by an adjective *b'ayaq* construction (*kaw b'ayaq* 'strong a little' or 'somewhat strong'). Such contrasts seemed to show that a reduplicated adjective encodes a higher intensity than a bare adjective, which encodes a higher intensity than an adjective modified by *b'ayaq*. That is, in contrastive contexts, $ADJ\ ADJ > ADJ > ADJ\ b'ayaq$. Here the greater-than-sign ($>$) denotes that the expression on the left encodes a greater degree of the dimension specified by the adjective than the expression on the right (*ceteris paribus*).

As may be seen in Figure 5.1, this ranking is just a small swatch of a larger continuum or scale. In particular, in the realm of adjectival modification, the magnitude indicated by *mas* is judged to be (more or less) equal to the magnitude indicated by reduplication. The magnitude indicated by *jwal* is judged to be greater than the magnitude indicated by *mas* or reduplication. And the magnitudes indicated by

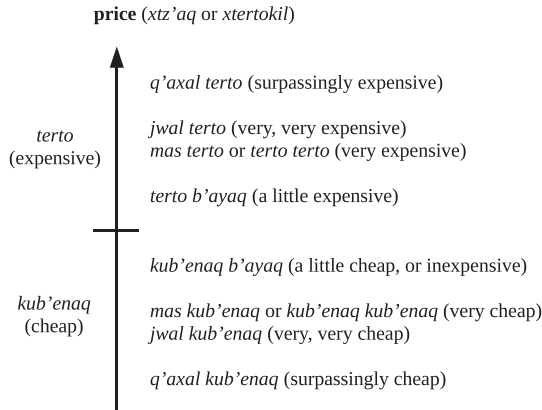


Figure 5.1 Ranking of relative magnitudes (modifiers of adjectives)

q'axal and *num* are judged to be greater than the magnitude indicated by *jwal*. (As may be seen in the bottom half of the figure, antonyms typically maintain the dimension and invert the ranking.)

The rest of this section provides further evidence for the existence of such ranking hierarchies, or intensity scales, by showcasing speakers' *meta-comparative strategies*. Such strategies are important because, rather than simply comparing the intensity evinced by two referents (e.g., 'this is larger than that'), they also compare the intensity encoded by two words (e.g., '*enormous* indicates a larger size than *large*'). As will be seen, such intensity scales are as content-specific and context-dependent (and hence as 'elastic' or topological) as the intensifiers themselves. While the relative rankings can remain invariant (across dimensions), the distance between ranks can vary enormously (within the same dimension).

- (19) ink'a' mas xiwxiw, quetzaltenango chiru, ke chiru guatemala,
NEG very scary Quetzaltenango AP COMP AP Guatemala
'Quetzaltenango isn't very scary (or dangerous) in comparison to Guatemala City.
- guatemala nim, wan-Ø-Ø chijunil, ab'anan, xiwxiw,
Guatemala big exist-PRES-A3S everything however scary
Guatemala is big. There is everything. However, it is scary (or dangerous).

xiwxiw b'ayaq,
 scary a.little
 It's a little scary.

ink'a' xiwxiw xiwxiw
 NEG scary scary
 It's not very scary.'

Two cities are being compared in regard to their degree of a particular dimension: scariness and/or dangerousness. The adjective in question is *xiwxiw* 'scary/dangerous', which is itself the artifact of an earlier process of reduplication that probably also served to derive an adjective from a noun: *xiw* 'fear' $\Rightarrow$ *xiwxiw* 'fearsome/scary'. (So while this utterance might seem like it involves quadruplication, *xiwxiw* does not itself function as a reduplicated adjective among present-day speakers.) Just as Quetzaltenango is judged to be 'not very scary' (*ink'a' mas xiwxiw*) in explicit comparison to Guatemala City, Guatemala City is judged to be only 'somewhat scary' (*xiwxiw b'ayaq*), and not 'very scary' (*xiwxiw xiwxiw*), relative to some implicit ground (such as the scariness of cities in general). In short, we don't just learn (explicitly) about the relative scariness of Guatemala City and Quetzaltenango, we also learn (implicitly) about the relative intensity encoded by constructions like *xiwxiw*, *mas xiwxiw*, *xiwxiw xiwxiw*, and *xiwxiw b'ayaq*.

The next example shows a different way of making a similar distinction, while bringing an antonym into the mix.

- (20) lunes, myerkoles, byernes,
 Monday Wednesday Friday
 '(The market takes place on) Monday, Wednesday and Friday.

lunes ut byernes, nim, nim nim,
 Monday CONJ Friday big big big
 Monday and Friday, it is big. Very big.

myerkoles, kach'in b'ay-aq
 Wednesday small a.little-NS
 Wednesday, it is somewhat small.'

This example differs from the previous example insofar as *b'ayaq* modifies the antonym of the adjective involved in the reduplicated construction. That is, if example (19) is based on the model, *X is not very scary*, *X is (only) somewhat scary*; example (20) is based on the model *Y is very large*, (*whereas*) *Z is somewhat small*.

The next two examples involve utterances in which speakers explicitly – and spontaneously – glossed the meaning, and thereby ranked the degree, of one intensifier using another. They also show where *mas* and *jwal* rank on the intensity scale (relative not just to each other, but also relative to reduplication).

- (21) *mas* *tiiq* *in-jolom*,
 very *hot* *E1S-head*
 ‘My head is very hot.’
- o_sea* *tiiq* *tiiq* *in-jolom*
 in.other.words *hot* *hot* *E1S-head*
 In other words, my head is hot hot.’

This example occurred during an ethnographic interview in which the speaker was explaining various illnesses and their symptoms. Here he glosses a *mas* adjective construction using a reduplicated adjective construction.

- (22) *jwal* *t-Ø-in-raahi* *raj* *li* *tzekemq*,
 very.very *FUT-A3S-E1S-want* *CF* *DM* *food*
 ‘I would really like the food.’
- o_sea*, *mas* *mas* *t-Ø-in-raahi* *raj* *li* *tzekemq*
 in.other.words *much* *much* *FUT-A3S-E1S-want* *CF* *DM* *food*
 In other words, I would very much like the food.’

The speaker was explaining the meaning of the predicate *rahink* ‘to desire or covet’. She glosses a *jwal* predicate construction with a reduplicated *mas* predicate construction. As will be shown in Chapter 6, the fact that *jwal* usually indicates a larger magnitude than *mas* (at least in contrastive contexts), and yet is often used as a substitute for *mas*

(by language purists), has some complicated ramifications for language change.

- (23a) junxil moko mas k'ih=eb' ta
 long.ago NEG very many=PLR IRR
 'Hace tiempo no eran muchos.'
 ('Long ago there were not many.')

- (23b) junxil moko jwal k'ih=eb' ta
 long.ago NEG very.very many=PLR IRR
 'Hace tiempo no eran muchísimos.'
 ('Long ago there were not very many.')

A bilingual speaker was contrasting the meaning of two otherwise identical constructions. As may be seen, the speaker is saying that, when modifying the intensifier *ki'=heb'* (many=PLR), *jwal* is to *mas* as Spanish *muchísimos* 'very many' is to Spanish *muchos* 'many' (where the first Spanish construction is the absolute superlative form of the second).

The foregoing examples show how *mas* contrasts, in its encoding of intensity, with the two forms (*jwal* and reduplication) it is otherwise most similar to. They also show various meta-comparative practices that speakers of Q'eqchi' engage in (however spontaneously). As may be seen, while a *mas* adjective construction is judged to be of the same intensity as a reduplicated adjective construction, a *jwal* adjective construction is judged to be of the same intensity as a reduplicated *mas* adjective construction. Loosely speaking, *jwal* ADJ = *mas mas* ADJ > *mas* ADJ = ADJ ADJ > ADJ > ADJ *b'ayaq*.

Similar results hold for those intensifiers that predominantly modify noun phrases, as the next set of examples will show. That said, I have far fewer tokens of such meta-comparative constructions in this domain, so the rankings illustrated below are relatively tentative and partial.

- (24) kaw,
 harsh
 'It was harsh.'

Tensors

kaw	kaw	li	ke,
harsh	harsh	DM	cold

The cold was very harsh.

xiikil	li	ke
excessive	DM	cold

There was an extreme amount of cold!

A man is describing the extreme cold he confronted early one morning while on his way to work. He begins with an assessment that is relatively unmarked. He then progressively upgrades his assessment, using more and more marked terms, indicating higher and higher intensities.

- (25) xiikil li-x chaab'il-al,
 excessive DM-E3S quality-NOM
 'He has an excessive amount of "high-quality-ness".

mas	us,	mas	chaab'il
very	good	very	high-quality

(He is) very good, very high-quality.

a'an	chaab'il	chaab'il	chaab'il	chaab'il
DEM	high.quality	high.quality	high.quality	high.quality

He is extremely, extremely high-quality.'

The last line of this example shows the only token in my corpus of genuine quadruplication. The speaker was describing the naive adulation that surrounded Jimmy Morales, the former comedian who became President of Guatemala (2016–20), in the weeks before the election. Given its placement at the end of a sequence of intensifying utterances, such a quadruplicated adjective construction seems to be expressing an intensity (however hyperbolic) that is at least as great as a *xiikil* noun phrase construction. (Where the noun heading the phrase is itself the nominalization of the adjective in question: *chaabil* '(high)-quality' ⇒ *chaab'ilal* '(high)-quality-ness'.) This is one way that the noun phrase scale may be related to the adjective scale, such that otherwise seemingly incommensurate intensifiers can be ranked and compared. We can

thereby see some of the ways that such intensity scales remain relatively invariant across word classes, and not just across figures and dimensions (within the same word class).

In short, not only are the degrees of various dimensions (of various figures) ranked using intensifiers, but intensifiers are themselves ranked (as to the relative intensities they express). Such rankings occur not just through explicit metalinguistic practices, but also implicitly, through comparative strategies that arise in spontaneous usage. Indeed, given the overall importance of parallel constructions among speakers of Q'eqchi', it is as if meta-comparison (of intensifiers, and the magnitudes they express) is both coupled to, and dependent on, comparison along more quotidian dimensions (such as number and temperature, danger and quality, price and desire). In the absence of the relatively explicit and precise standards for quantification that are available to actors employing definite numbers and units (which speakers of Q'eqchi' also employ, as discussed in Kockelman 2016a), the assessment of intensity is not just inherently, but also constantly – and, to some degree, self-consciously – metarelational.

The History of *Jwal*

Returning to the rightmost column of Table 5.1, we see that most of the intensifiers have rather interesting (and somewhat transparent) relations to other words and word classes through grammatical processes like derivation and compounding. While all of these intensifiers have interesting histories, two stand out in particular: *mas* and *jwal*. This is not just because of all the twists and turns involved in their historical transformation, but also because of their dueling relation in the present – as intimated in the introduction to this monograph, regarding which ‘leader’ had the biggest button. We will deal with the history of *mas* in Chapter 6, and so focus on the history of *jwal* in what follows.

Table 5.2 *The history of jwal*

<i>wal(e)-b'ej</i> (leader-1P; originally an inalienable possession, meaning lord, king, or leader)
<i>aj</i> (SD; originally a status designator, indicating a (prototypically) male, human agent)
<i>aj wal</i> (SD lord) > <i>ajwal</i> (lord, king) via reanalysis
<i>-ajwal</i> (lord, king) > <i>-ajwal</i> (power, might) via semantic abstraction
<i>r-ajwal noun</i> (E3S-power noun) > <i>rajwal noun</i> (powerful noun) via reanalysis
<i>rajwal</i> (powerful) > <i>rajwal</i> (very, very very) via semantic abstraction
<i>raj(a)wal</i> (very, very very) > <i>jwal</i> (very, very very) via phonological reduction

This history is particularly fascinating because, in effect, the word for ‘king’ or ‘ruler’ became the word for ‘power’ or ‘might’, which became the word for ‘very, very’; and, along the way, an inalienable possession (and an agent-marking classifier) became an adverbial intensifier. Table 5.2 summarizes this process.

Evidence suggests that there used to be an inalienable possession *waleb'ej*, which meant lord, king, or leader. In a sixteenth century will, for example, we get the expression *aj gwaleb'j*, which Burkitt (1905:275, 288) translated as “person of worship or authority, headman, etc.” And, in a modern dictionary (Sam Juárez et al. 1997:20), we find the form *awab'ej*, which is glossed as president, governor, leader, or king. As discussed in Kockelman (2010a), the suffix *-(b')ej* occurs on inalienable possessions (which include most kinship terms, many body parts, and words like shadow, name, and breath). Such inalienable possessions lose this suffix when they are possessed (as they usually are). The form *aj* has long functioned as a status designator, or agent classifier: marking agents who are prototypically male (and human). I suspect that this inalienable possession (without its suffix), along with this status designator, was reanalyzed as *ajwal*.

In a seventeenth-century petition analyzed by Freeze (1980:120), for example, it looks like *ajwal* (spelled ‘ahual’) was functioning as a noun (or perhaps as an attributive adjective in a marked position).

- (26) Dios ca-nim-ahual
 god E1P-big-lord
 ‘God, our great lord.’

It seems like this same form could also be used as an attributive adjective which meant ‘lordly’, ‘divine’, or ‘great’. Estrada Monroy (1979:200) contains a copy of a manuscript (that seems to have been written in 1545) in which this form (spelled ‘ajqual’) occurs alongside the adjective *nim* (large).

- (27) chi-r-uch li ka-nim-ajqual Dios ka-nim-ajqual Rey
 PREP-E3S-RN DM E1P-big-great god E1P-big-great king
 ‘a nuestro gran Dios y a nuestro gran Rey’ (Estrada Monroy’s gloss)
 ‘Before our big-great god, our big-great king.’

Indeed, the form *nimajwal tyos* is still in use, as a relatively fixed form in a Catholic religious register, and is usually translated into Spanish as *díos todopoderoso*, or ‘all powerful god’. Here is another token, from a mythic text (Burkitt 1902:448), in which *ajwal* functions as an attributive adjective all by itself.

- (28) txi-r-u jun tx’ ajgwal palaw
 PREP-E3S-RN one PREP great sea
 ‘Before/on a great sea.’ (Burkitt’s translation: ‘over a mighty sea’)

It looks like *-aj(a)wal* then became an obligatorily possessed noun meaning something like power or greatness. In Sedat’s dictionary (1976 [1955]:20), which was compiled in the 1930s and 1940s, we find the possessed form *-ajacual*. This form could occur before a noun, itself cross-referenced by the possessive (ergative, third-person, singular) prefix *r-*. For example, *r-ajacual cuinq* (his-powerfulness man, or ‘hombre poderoso’). This form also seemed to function as a degree-marking adverb in front of adjectives. In the same dictionary, we find the construction *rajacual us*, translated as ‘muy bueno’ (very good). Sam Juárez et al. (1997:292) also attests to this form, translating it as *dema-siado* (too much, a lot) and *muy* (very), and offering examples of it

modifying adjectives like *kaw* (hard, harsh) and *chaab'il* (good, high-quality). This last function was carried over into the present form, *jwal*, which looks like it is a phonological reduction of the longer construction, and which was just shown to encode a greater magnitude than *mas*. Note, then, in this somewhat tense and unsettled history, the genealogical linkage between sovereignty, inalienability, masculinity, and intensity (not to mention colonialism and Christianity).

As Nietzsche said, regarding genealogical processes more generally, while the form is fluid, the meaning is even more so.

A Natural History of Assholery

In light of this genealogy, Figure 5.2 revisits the exchange between Donald Trump and Kim Jong-un, as described in the introduction to this monograph, in order to show the relationship between the semantic content encoded by the utterances and the social relations figured by the encounter.

As may be seen, Kim's utterance is figured as a response to, or interpretant of, Trump's utterance (as sign). As such, the social relation between Trump and Kim Jong-un, qua signifying and interpreting agents, maps onto the semantic content (and discursive function) of their respective utterances (qua sign and interpretant). Concomitantly, the relative size of each man's button maps onto the relative size of each man's arsenal (and, if Freud is to be believed, the relative potency of their manhood, if only in their mind's eye). Finally, at least as recounted by a speaker of Q'eqchi', all this maps onto their relative discursive power: because, in the exchange as described, Kim one-upped, or bested, Trump. Their relative positioning, or differential degree, is thus easily transposed across multiple scales, and/or distinct dimensions.

To be sure, this diagram shows how the exchange was figured by a speaker of Q'eqchi' a week or so after it happened. If we examine how the same event was figured through other sources of information, such

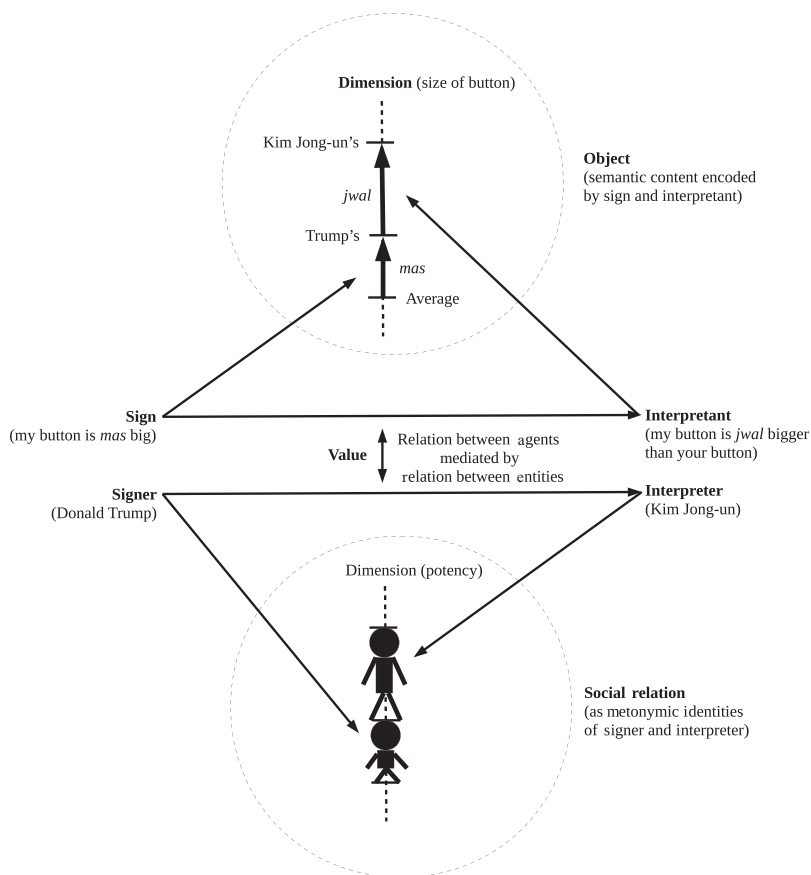


Figure 5.2 Semantic content encoded and social relations expressed

as newspapers that reported on the encounter right after it occurred, a different set of relations emerges. See Figure 5.3.

As reported by relatively mainstream, American and European presses, the exchange between Kim and Trump was quite different. Rather than a real-time conversation between two leaders, Trump was tweeting (rather than speaking) in response to, and shortly after, Kim's New Year address. Only Trump was comparing the size of buttons. Kim, rather, was describing the range of North Korea's nuclear missiles.

Tensors

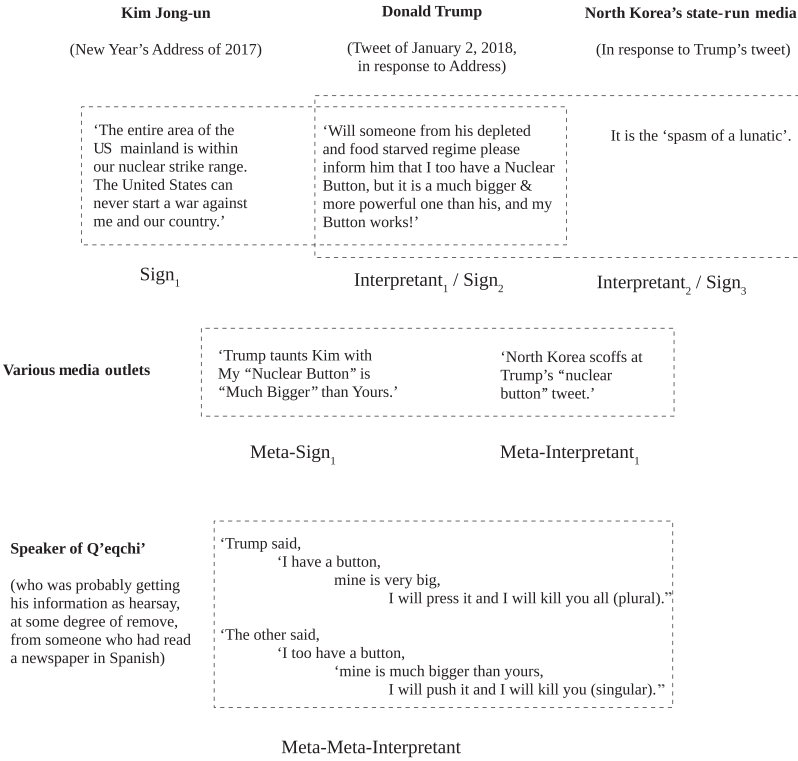


Figure 5.3 What really happened between Trump and Kim

Moreover, rather than Kim responding to Trump, North Korea's state-run media was responding to Trump's response to Kim's address.

To be sure, this three-part exchange (sign₁ ⇒ interpretant₁/sign₂ ⇒ interpretant₂) was quickly reinterpreted by media outlets as a two-part exchange, involving reported speech verbs that portrayed the exchange as a certain kind of confrontation, or debate, implicitly evaluating who got the better of whom: 'Trump *taunts* Kim' and 'North Korea *scoffs at* Trump'.

The speaker of Q'eqchi', who was probably acquiring his information as hearsay from a friend who heard the news on the radio or read a

newspaper in Spanish, subsequently reinterpreted such reinterpretations of the exchange as a two-part dialog in which both men were talking about the size of their buttons, and who could kill whom. Indeed, as we just saw, in the speaker's framing, this final dialog was initiated by Trump and finished by Kim, the former *discursively losing* to the latter.

Looking ahead to Part III, it might be noted that Kim, in effect, was originally saying that his country's missiles could finally go *far enough* (to hit targets in the United States, should North Korea be attacked), whereas Trump was reacting to the fact that North Korea's missiles could thus go *too far*. The relative size of each man's button, then, was in part due to their differing assessments of one and the same range: a finally acceptable threshold for one was a newly unacceptable threshold for the other.

To be sure, insofar as these leaders seemed to be playing a childish game of chicken (shielded from personal harm by the bodies of the citizens in their care), both leaders were widely lambasted as going 'way too far' in terms of their mutual provocations toward nuclear confrontation, insofar as they had gone outside the boundaries of acceptable presidential decorum, or even rational discourse.

Indeed, to return to the other opening example from the introduction to this monograph, regarding women and their chickens, it might be argued that such an exchange had broken a kind of discursive taboo regarding the dialog of sovereigns. Just as women shouldn't go too far, lest their chickens do too, sovereigns shouldn't go too far, lest counter-sovereigns do too – their respective citizenries being potentially subject to intense degrees of suffering in their stead.



The History of *Mas*

Más about *Mas*

We have seen that Q'eqchi' *mas* functions as a degree modifier when it operates on adjectives and adverbs (similar to Spanish *muy* 'very'), and an indefinite quantity when it operates on NPs and VPs (similar to Spanish *mucho/muchos* 'much/many'). In keeping with its role as an intensifier, *mas* is not an obligatory component of the Q'eqchi' comparative construction; and, when it does occur in such a construction, it marks magnitude as opposed to direction. The following examples should make these claims clear.

- (1a) aal li pek
 heavy DM rock
 'The rock is heavy.'

- (1b) mas aal li pek
 very heavy DM rock
 'The rock is very heavy.'

- (1c) aal li pek chi-r-u li che'
 heavy DM rock PREP-E3S-RN DM tree/branch
 'The rock is heavy relative to the branch.'

- (1d) mas aal li pek chi-r-u li che'
 very heavy DM rock PREP-E3S-RN DM tree/branch
 'The rock is very heavy relative to the branch.'

Each of these examples involves the same figure and dimension of comparison (the rock and heaviness); whereas they differ in regard to their magnitudes and grounds of comparison. As the contrast between example (1a) and example (1b) shows, if a simple predication, such as ‘the rock is heavy’, indicates that the rock’s degree of heaviness meets or exceeds the standard degree of heaviness for rocks (of its type), the same predication modified by *mas* indicates that the rock’s heaviness exceeds that standard by a relatively large amount (where, as always, what counts as a relatively large amount, or significant degree, is dependent on the figure, ground, and dimension of comparison, as well as a variety of context-dependent factors). As the contrast between example (1a) and example (1c) shows, by adding the adposition *chiru* (in the face of, or relative to), with a noun phrase as its argument, the ground of comparison is shifted from some relatively general standard (associated with the figure in question, in some context) to the specific heaviness of the argument denoted by the noun phrase. Finally, as the contrast between example (1c) and example (1d) shows, *mas* does not play an obligatory role in the comparative construction; and, when it does occur, it serves the same function that it did in example (1b), indicating that the figure’s degree of the dimension exceeds the ground’s degree by a relatively large amount.¹

Spanish *más*, from which Q’eqchi’ *mas* derives, serves a very different set of functions. It plays a key role in both comparative constructions (e.g., *la hacha es más cara que el machete*, or ‘the axe is more expensive than the machete’) and superlative constructions (e.g., *eso es el más caro*, or ‘that is the most expensive’), where it contrasts with *menos* ‘less/least’. In other words, unlike Q’eqchi’ *mas*, Spanish *más* marks direction (*more* versus *less*), as opposed to magnitude (*very* versus *somewhat*, *a lot* versus *a little*). As Table 6.1 shows, besides its well-known role in comparative and superlative constructions, Spanish *más* serves a wide range of other functions as well.²

Spanish *más* plays a role similar not just to English *more* and *most*, but also to English *(no) longer*, *else*, *plus*, and *other*. An important

Tensors

Table 6.1 *The role of Spanish más (foregrounding its presuppositions)*

(i)	él es más alto [que ella] (comparative adjective, and similarly for adverbs) 'he is taller/more tall [than her]' (presupposing someone he is taller than)
(ii)	¿quién es el más alto [en la escuela]? (superlative adjective, and similarly for adverbs) 'who is the tallest/most tall [in the school]' (presupposing a set of tall people)
(iii)	¿quién más quiere una cerveza? 'who else wants a beer' (presupposing others who want a beer)
(iv)	él no lo hace más 'he doesn't do it anymore' (presupposing he used to do it)
(v)	tres más dos es igual a cinco 'three plus two is equal to five' (presupposing an initial number to be added to)
(vi)	necesito dos pollitos más 'I need two more chicks' (presupposing some number of already needed, or possessed, chicks)
(vii)	¿quieres más ? 'do you want more?' (presupposing some amount already wanted or had)
(viii)	ella tiene sus más y sus menos (functioning as a noun) 'she has her good and bad points'
(ix)	¡es más bueno! (functioning in an interjection, with a meaning similar to 'very') 'it is so good!' ¡qué niña más traviesa! 'what a naughty girl!'
(x)	además 'furthermore' (presupposing a prior claim, topic, or comment)
(xi)	quise hacerlo, más no pude (functioning as conjunction) 'I wanted to it, but I could not' (presupposing claim it is conjoined to)
(xii)	ayer no más 'just/only yesterday' (indicating that something occurred relatively recently, and not too long ago)
(xiii)	él es más hombre (functioning as an adjective; or projecting adj-ness onto noun) 'he is more (of a) man'
(xiv)	los hombres mas los niños (unstressed <i>mas</i> , functioning as conjunction) 'the men and the boys'

characteristic that almost all of these constructions have in common is the fact that they carry a strong presupposition. For example, to say he ‘no longer’ does it, is to presume he used to do it. To say ‘no one else does it’, is to presume that someone does it. To say that something is ‘more expensive’, is to presume that something else is less expensive. And so forth. As should be evident from the examples analyzed so far, not only does Q’eqchi’ *mas* mark magnitude rather than direction, it lacks this presupposition. Only as a component in secondary interjections (line ix), in what are often affect-laden situations, does Spanish *más* function as an intensifier, similar to Q’eqchi’ *mas*. To return to Nietzsche’s genealogy, while the form (*más* $\Rightarrow$ *mas*) remained relatively fixed, the function (comparative $\Rightarrow$ intensifier) was quite fluid.

If Q’eqchi’ *mas* so clearly comes from Spanish *más*, and yet differs so much in function, was it originally borrowed with the Spanish meaning, changing gradually over time? Was it borrowed and used with the new meaning right from the start? Or did some other kind of transformation occur? What were the conditions of possibility for such a transformation? And what have been some of the consequences?

This chapter surveys twentieth-century grammars, dictionaries, and texts to sketch the history of *mas*, and the modern comparative construction, in Q’eqchi’. The first section reviews linguistic accounts of the widespread borrowing of *mas*, and the Spanish comparative construction, by indigenous languages in Latin America. The next section discusses the usage and analysis of *mas*, and the modern comparative construction, in the twentieth century, the period for which we have the most data. Comparative strategies, as they were showcased in Chapter 5, are then analyzed. The following section discusses the usage and analysis of *mas*, and the comparative construction, in the late nineteenth century, focusing on the work of the linguist Otto Stoll. The next two sections offer an account of the original borrowing of Spanish *más*, focusing on the apperception of this form by speakers and linguists of

Q'eqchi'. Finally, the conclusion anticipates the future of *mas*, as mediated by its somewhat antagonistic relation to the intensifier *jwal* (very, very) in the present.

Loans and Calques

In his survey of the literature on comparative constructions in the world's languages, Dixon (2012:371–72) makes several points that are salient in regard to the history of *mas*. First, it is often easy to trace the history of comparative forms and standard markers, indicating their relatively recent origin. Second, the forms that make up comparative constructions are frequently borrowed, and the constructions themselves are often calques (in the sense of a word-for-word translation of the original language's construction). Finally, many indigenous languages that were in contact with Spanish borrowed its comparative form *más* 'more', but not *menos* 'less'.

In line with Dixon's claims, Q'eqchi' *mas* was certainly borrowed from Spanish, and probably quite recently; *mas* can play a role in the comparative construction; and *menos* does not seem to have been borrowed. These parallels aside, we have seen that, unlike Spanish *más*, Q'eqchi' *mas* is not a comparative; so the role it plays is not the role expected. Indeed, as just reviewed, the Q'eqchi' comparative construction does not actually involve *mas*. This means that the Q'eqchi' construction (*mas . . . chiru*) only seems to be a direct borrowing, or calque, of the Spanish comparative construction (*más . . . que*) if one misconstrues its meaning (by apperceiving it through a Spanish or English lens). While the two constructions might look very similar, their underlying semantics are quite different. Furthermore, it cannot be stressed enough that Spanish *más* does so much more than comparison per se, as should be clear by our summary of its multiple functions in Table 6.1. It is unlikely that all those indigenous languages borrowed *más* to serve all those functions. And, if they did, such functions are just as important to investigate as

comparison per se. Finally, as will be shown in Chapter 7, Q'eqchi' has long had other comparative constructions, not to mention a wealth of comparative strategies, so its borrowing of Spanish *más* is certainly not an indication that it needed one.

The tensions between Dixon's account and the facts of Q'eqchi' are worth exploring further. While a distinction between something like direction (more/less) and magnitude (very/much) organizes two distinct but interrelated domains in both Q'eqchi' and Spanish (and probably many other languages), it is often overlooked in typological accounts of comparative constructions, which tend to conflate both these components into a single analytic category. In Ultan's (1972) and Dixon's (2012) well-known frameworks for analyzing comparative constructions, a single category covers not only comparative morphemes like English *-er*, but also intensifying adverbs like *very*, *too*, and *extremely* (as well as verbs like *surpass*). Ultan calls this category the "degree marker," and Dixon calls it the "index." Table 6.2 compares the frameworks of these authors with the one used here (as introduced in Chapter 1), as well as with the one used by Stolz and Stolz (1995; and see Stassen 1985 and Suárez 1983) in their landmark study of the borrowing of the Spanish comparative construction by indigenous languages in the Americas.

As should now be apparent, this analytic collapse (the shaded region in Table 6.2) of a hugely important distinction (as shown in the bottom half of this table) is especially debilitating in accounts of language contact and linguistic borrowing, insofar as it primes language typologists to misconstrue the original function of such forms, as well as the subsequent changes they went through. Insofar as the Spanish comparative construction has influenced many other indigenous languages in the Americas, its meaning in those languages cannot be treated as a simple borrowing or calque of the original construction, but should instead be subject to careful investigation.

To be sure, the analysis offered in earlier chapters is just an account of what *mas* currently means, and how the comparative construction is

Table 6.2 *Components of comparative constructions*

Example of comparative construction: ‘the woman is much heavier than the man’				
Ultan (1972)	Stolz & Stolz (1995)	Dixon (2012)	Used here	Components
Item	Topik	Comparee	<i>Figure</i>	the woman
Standard	Standard	Standard	<i>Ground</i>	the man
Quality or quantity	Kommentar	Parameter of comparison	<i>Dimension</i>	heavy
Marker of standard	Relator	Mark of grammatical function of standard	<i>Relation</i>	than
Degree marker	Grad	Index	<i>Direction</i>	– <i>er</i> (more/less)
			<i>Magnitude</i>	much (a little)
Types of magnitude (evinced in the use of Q’eqchi’ <i>mas</i>, or Spanish <i>muy</i> and <i>mucho</i>):				
(1) degree marker (e.g., he is <i>very</i> tall)				
(2) indefinite quantity (e.g., she ran <i>a lot</i> , there are <i>many</i> children)				
(3) differential operator (e.g., he is <i>much</i> bigger than she is)				
Types of direction (evinced in the use of Q’eqchi’ <i>chik</i>, or Spanish <i>más</i>):				
(1) comparative more (e.g., this is <i>more</i> expensive/taller than that)				
(2) aspectual more (e.g., he doesn’t do it anymore, he no <i>longer</i> does it, he did it <i>again</i>)				
(3) quantity more (e.g., I’ll have three <i>more</i> beers, no <i>more</i> is left)				
(4) constituent more (e.g., who <i>else</i> went, nowhere <i>else</i>)				

currently used, at least in the area where I have worked over the past twenty years. Q'eqchi' might be odd with respect to other indigenous languages in the Americas, which themselves might be more in line with Dixon's account. Alternatively, the Q'eqchi' comparative construction could indeed have originally been a direct borrowing from Spanish (with *mas* serving more or less the same function as *más*; and *chiru* serving more or less the same function as *que*); and it just so happens that the language has changed substantially since it was first borrowed. Several other linguists working in the 1970s, and as far back as the 1890s, did indeed analyze the Q'eqchi' comparative construction as a direct borrowing of its Spanish counterpart. It is therefore worth tracing the history of the modern comparative construction, and the role of *mas*, as well as the analysis of such forms by linguists, as far back as we can.

Usage in the Twentieth Century

In his ground-breaking grammar of Q'eqchi', Stewart (1980) glossed the *mas* ... *chiru* construction on the Spanish model (*más* ... *que*), while treating Q'eqchi' *mas* as Spanish *más* in one interlinear translation and as Spanish *muy* in another.

- (2a) mas nim aaw-oq chi w-u
 más grande tu-pie a mi-comparativo (Stewart's analysis)
 very big E2S-leg PREP E1S-RN (my analysis)
 'tú eres más alto que yo' (Stewart's gloss)
 'You are very tall in comparison to me.' (my gloss)
 (Stewart 1980:119)
- (2b) mas sa na-Ø-wa7ak chi w-u
 muy sabroso él-come (*sic*) a mi-comparativo
 (Stewart's analysis)
 very good/well PRES-A3S-eat PREP E1S-RN (my analysis)
 'él come más que yo' (Stewart's gloss)
 'He eats very well in comparison to me.' (my gloss)
 (Stewart 1980:120)

While these examples might reveal a genuine difference in dialects, or points in language history (when Q'eqchi' *mas* served a function similar to Spanish *más*), these glosses were probably due to a quick or simply indecisive analysis, as may be seen by my alternative translations. Moreover, one probably shouldn't fault speakers, or linguists, for translating *mas* ... *chiru* as *más* ... *que*, as the latter construction is often a good enough gloss of the former; and arguably more accurate translations (such as, *muy ADJ en comparación con*, or 'very adjective in comparison to') would sound quite marked. That said, systematically analyzing a form that marks magnitude as a form that marks direction, or simply conflating such disparate functions, is a major oversight insofar as it elides the difference – in Spanish as well as Q'eqchi' – between magnitude and direction, two form-functional domains that are highly distinct in regard to the semantic features they encode and the pragmatic functions they serve.

My reanalysis of Stewart's examples is not just based on my own work on the same forms as used in the same area twenty years later (Kockelman 2019); it is also grounded in other work in the same area around the same time that Stewart was working, as well as even earlier work. For example, in a dictionary compiled between 1975 and 1986 (Sam Juárez et al. 1997), for which Stewart is credited as a technical adviser, there are examples of Q'eqchi' *mas* functioning as Spanish *muy* (p. 204). There are examples of the adposition *chiru* (without *mas*) doing the comparative work of Spanish *más* ... *que* (p. 24). Finally, *mas* itself is glossed as *muy* and *mucho*, as opposed to *más*.

Eachus and Carlson (1980), working around the same time as Stewart, and near the same place, say this about *mas*: "It indicates comparison ... [and] is taken from Spanish. It represents an idiomatic perversion (*perversión idiomática*), but is frequently used in popular conversations" (p. 207). While they offer one example of a comparative construction (involving *mas* ... *chiru*) that they translate as *más* ... *que* (p. 208), in line with Stewart's analysis, the many other examples and

glosses they offer are in line with my analysis. They give three examples of Q'eqchi' comparative constructions (involving just *chiru*, and no *mas*) that they also translate as *más . . . que* (p. 165); and they give one example of a comparative construction (involving *q'axal . . . chiru*) that they translate as *mucho mejor que* 'much better than' (p. 207). In the rest of their grammar, they consistently gloss *mas* as *muy* or *mucho* (as opposed to *más*), depending on whether it modifies an adjective/adverb or an NP/VP. To be sure, theirs was a prescriptive grammar, and they were not professional linguists; but they lived and worked in the area for many years, and were clearly very fluent speakers and quite competent linguists.

Both *mas* and *chiru* served very similar functions to their present-day functions throughout the twentieth century, and even in the late nineteenth century, as may be seen by an analysis of the available literature. In particular, the adposition *chiru*, along with a predicate adjective (but no *mas*), is glossed as Spanish *más ... que* in this literature. The adposition *chiru*, along with a predicate adjective and an intensifier like *rajwal* or *q'axal* is glossed as *mucho más ... que* (or English 'much more than'). Q'eqchi' *mas*, along with a predicate adjective (and no adposition *chiru*) is glossed as *muy*; and when it modifies an NP or VP (which occurs much less frequently), it is glossed as *mucho*. Here are some examples of such constructions from this literature.

- (3a) li winq a'in najt r-oq ch-aaw-u l-aa'at
DM man DEM far E3S-leg PREP-E2S-RN DM-A2S
'este hombre es más alto que usted' (Eachus and Carlson's translation)
'This man is tall relative to you.' (my translation)
(Eachus and Carlson 1980:165)
- (3b) l-ix Juana ch'ana'-us ch-aaw-u
DM-SD Juana small-good PREP-E2S-RN
'Juana is more beautiful than you.' (Pinkerton's translation)
(Pinkerton 1976:158)

- (3c) chaab'il a'in chi-r-u a'an
 good DEM PREP-E3S-RN DEM
 'mejor esto que aquello' (Sedat's translation)
 'This is good relative to that.' (my translation)
 (Sedat 1976 [1955]:64)

As may be seen, three of the comparative constructions were translated into Spanish using a *más ... que* construction, and one of the constructions was translated into English using a *more ... than* construction. None of these constructions involved Q'eqchi' *mas*, or even another intensifier like *jwal*. This shows that the Q'eqchi' comparative construction did not require *mas*, but only the adposition *chiru* (to mark the ground of comparison).

There is evidence that *chiru* could also be used as a subjective comparative, indicating that the degree of the figure's dimension exceeds the speaker's personal threshold for the adposition's argument. Freeze offers two examples of predicate adjective constructions in which *chiru* introduces what he calls "a dative phrase or an affected object" (1976:118).

- (4a) chaab'il chi-w-u
 high.quality PREP-E1S-RN
 'She is good/high-quality to me.'
 (Freeze's gloss: 'I like her.')
- (4b) us ch-aaw-u
 good PREP-E2S-RN
 'It is good to you.'
 (Freeze's gloss: 'It is good for you.')

While I have no tokens of such constructions from spontaneous discourse, speakers agreed that similar constructions can still be used in such ways, as exemplified by the following utterance offered by a native speaker, who was speaking about a hypothetical radio found in a market.

- (5) wi neb'a'-at ut b'iom-in,
 if poor-A2S CONJ rich-A1S
 'If you are poor and I am rich,

 mare terto ch-aaw-u
 perhaps expensive PREP-E2S-RN
 it may be expensive for you,

 ut ab'anan kub'enaq chi-w-u
 CONJ CONJ cheap PREP-E1S-RN
 but cheap for me.'

Here the argument of the adposition *chiru* is a person; but the speaker is not saying that some good is cheap relative to a rich person and expensive relative to a poor person (in the sense of cheaper than a rich person, or poorer than a poor person); rather, they are saying that a good that is inexpensive for a rich person may be expensive for a poor person. Recall our discussion of related phenomena in Chapter 5: 'while 100 euros is not a lot of money in Europe, it would take one far in Guatemala'. My sense is that this subjective reading of *chiru* is possible, and particularly salient, when its argument is not just a person (or at least framed as highly animate, or person-like), but also unlikely to have a salient degree of the dimension at issue (for example, cost). While it is easy to hypothesize that the objective reading of *chiru* emerges from such a subjective reading, there is not enough information on early usage. Intuitively, however, the connection seems motivated, at least for certain dimensions. For example, if he is (objectively) big relative to me, he should (subjectively) seem big to me.

We now turn to examples from the twentieth century in which *mas* occurs without the adposition *chiru*.

- (6a) mas aal li b'on
 very heavy DM paint
 'The painting is very heavy.'
 (Pinkerton 1976:89)

Tensors

- (6b) mas kach'in li ch'ina ixq
 very small DM small woman
 'The young woman (or maiden) is very small.'
 (Shaw 1971:396)

These examples show *mas* *adjective* constructions being glossed as 'very adjective', as opposed to 'more adjective', indicating the absence of a presupposed ground. The painting is not *heavier* (than some other painting); it is simply *very* heavy.

The following examples involve intensifiers other than *mas* (indicating relative magnitude), along with an adposition (marking the ground of comparison).

- (7a) li hu a'in q'axal chaab'il chi-r-u a'an
 DM book DEM exceedingly good PREP-E3S-RN DEM
 'este libro es mucho mejor que ese otro' (Eachus and Carlson's
 translation)
 'This book is exceedingly good in comparison to that one.'
 (my translation)
 (Eachus & Carlson 1980:207)

- (7b) ye-om-aq-Ø r-e a'an naq
 say-IMP-NS-A3S E3S-RN DEM COMP
 'Say to him that ...

rajawal us kamk chi xerim-b'il
 very good die PREP cut-PART
 it is very much better to die cut in pieces ...

chi-r-u x-q'axtesink-il
 PREP-E3S-RN E3S-hand.over-NOM
 than to deliver up [or hand over] ...

li ki-Ø-x-k'e ch(i) in-k'ul-a'
 DM INF-A3S-E3S-give PREP E1S-receive-PSV
 what he put into my keeping.' (Burkitt and Kaál's translation)
 (Burkitt & Kaál 1920:211)

Here the intensifiers *q'axal* and *rajawal* are modifying adjectives, in conjunction with the adposition *chiru* (marking the ground of comparison). Such constructions were glossed using comparative forms like Spanish *mejor* and English 'better', in conjunction with a differential operator like Spanish *mucho* or English 'much'. In such a setting, and just like *mas* in examples (1d) and (2a), these intensifiers indicate the large difference in degree (or magnitude) between the figure of comparison and the ground.

In short, just like the twenty-first-century usage described above, and exemplified in prior chapters, Q'eqchi' *mas* usually occurred in non-comparative contexts (functioning as a degree marker, indefinite quantity, or differential operator like Spanish *muy* or *mucho*). It was not obligatory in comparative constructions; and, when it did occur in such constructions, it continued to mark magnitude rather than direction.

As we go back to the nineteenth century, tokens of *mas* disappear altogether, aside from the handful that appear in Stoll's grammar, as will be discussed below. In the extensive Q'eqchi' dictionary compiled by Sedat (1976 [1955]), comparison is done using only the adposition *chiru*, which Sedat uniquely glosses as *en comparación con* 'in comparison with' (p. 64). Indeed, *mas* itself does not receive an entry in this dictionary, nor does it occur in any of the Q'eqchi' utterances used to exemplify other entries. (Sedat includes many other Spanish loan words, so its absence was probably not due to linguistic purism.) In Burkitt's essay, *Notes on the Q'eqchi' Language* (1902), there are no tokens of *mas*, nor of the modern comparative construction. There are, however, many utterances involving reduplication, and many tokens of *jwal* 'very, very' doing work similar to Spanish *muy* 'very'. In a lengthy Q'eqchi' myth (Estrada Monroy 1990; Kockelman 2010a), that was recounted in 1904, there are no tokens of *mas*, nor of the comparative construction. Finally, in the few manuscripts we have from the sixteenth, seventeenth, and eighteenth centuries, such as those analyzed by Freeze (1980), Burkitt

(1905), Estrada Monroy (1979), and Berendt (1875), there are no tokens of *mas* (even though there is otherwise an abundance of Spanish loan words). Instead, we see reduplication, and forms like *naab'al*, *q'axal*, – *ajwal*, and *k'ajo' naq*, doing the work of intensification.

In short, while the functioning of *mas* seems to have been quite similar to current usage, albeit more constrained in regard to the classes of words it could modify, tokens of *mas* become less and less frequent as we move back to the nineteenth century. It has long functioned as a degree modifier and indefinite quantity, indicating intensity and/or magnitude. Nevertheless, while scholars provided implicit evidence that the two comparative constructions were very different, they often glossed Q'eqchi' *mas* ... *chiru* constructions as Spanish *más* ... *que* constructions. And while the late twentieth-century linguist Stephen Stewart seemed only mildly committed to analyzing Q'eqchi' *mas* on the model of Spanish *más* (and hence as marking comparison, rather than magnitude), the late nineteenth-century linguist Otto Stoll was strongly committed to such an analysis. His claims will be analyzed shortly – after a brief but essential digression on the importance of comparative strategies.

Comparative Strategies

All that said, it cannot be stressed enough that comparative constructions involving the adposition *chiru* are relatively rare in actual discourse. As we saw in Chapter 5, a far more frequent strategy for comparing two entities is through discourse parallelism. For example, the first utterance asserts some topic is big; the next utterance asserts some other topic is very big (or small, or not (very) big, and so forth); and together the two utterances implicitly compare the size of the first topic with the size of the second topic. In some sense, this too is a type of implicit comparison (e.g., 'the dog is big', meaning 'the dog is big for

a dog [of its age and type]’), but one involving multiple clauses for its construction, thereby enabling the speaker to further specify the comparative ground in question. Given the Mayan emphasis on *difrasismo* (when two separate words are put together to form a single, metaphoric unit), as well as on couplets, poetic parallelism, and the like, this strategy may be particularly pertinent to Mayan speech communities in Mexico and Guatemala, and to Mesoamerican speech communities more generally.³

Here is another example of comparison-through-discourse-parallelism, which will be further discussed in Chapter 9.

- (8) li ch’iich’ k’il
DM metal griddle
‘The metal griddle,

moko mas ta li xam na-Ø-r-aj
NEG very IRR DM fire PRES-A3S-E3S-want
it does not require a lot of fire (because the flame is very low).

pero li ch’och’ k’il,
but DM earth griddle
But the earthenware griddle,

a’an naab’al li xam na-Ø-r-aj
DEM much DM fire PRES-A3S-E3S-want
that requires a lot of fire.’

(Kockelman 2016a)

This example involves two parallel utterances, which differ in regard to the type of griddle in question (metal versus earthenware), and the amount of fire (or heat) necessary for cooking. Taken together, they imply that the earthenware griddle requires a lot of fire relative to the metal griddle, and hence more fire than the metal griddle.

Another way to achieve comparison, without using the adposition *chiru*, is through contrastive focus constructions.

Tensors

- (9a) ha' li winq a'an nim x-teram
 TOP DM man DEM big E3S-size
 'That man (as opposed to the others) is tall.'
 (SG: *ese hombre es más alto [que los otros]*)
- (9b) ha' li winq a'an jwal nim x-teram
 TOP DM man DEM very.very big E3S-size
 'That man (as opposed to the others) is very, very tall.'
 (SG: *ese hombre es el más alto [de todos]*)

As shown in these examples, by putting a figure in the preverbal focus position, marked with the emphatic particle *ha'* (and an optional demonstrative), the comparative ground becomes the entity, or set of entities, that the focus is currently contrasting with (in the context of the speech event). Such constructions may thereby function comparatively. Indeed, the construction in example (9b), which involves the degree modifier *jwal* 'very, very', when contrasting with the construction in example (9a), can even function like a superlative, as seen by a bilingual speaker's Spanish gloss.

In short, it is always good to remember that, in spite of all our attention to the comparative construction – in both the preceding section and the next – comparative strategies are, and probably were, a far more frequently employed means of achieving comparison. It is all too easy for linguists, trained in a particular line of thought, to fetishize the structure over the strategy.

Usage in the Late Nineteenth Century

My earliest examples of the modern Q'eqchi' comparative construction come from the work of Otto Stoll, the great Swiss linguist and ethnologist, who carried out research in Guatemala from 1878 to 1883. He argued that this construction was a direct borrowing from Spanish – not just of form, but also of function. He went so far as to suggest that, for speakers of Q'eqchi', the idea of comparison with other things

having the same quality was originally absent. His discussion of *mas*, and related constructions, is worth quoting at length:

Although ... the concept of intensification [Steigerung] is not alien to the K'e'kchi [sic], but is achieved through reduplication of the root syllable (*sak-sak* completely white [ganz weiss], *rax-rax* completely green [ganz gruen], and so forth), *the idea of comparison with other things of the same quality is completely lacking*. And all representations related to it are taken from Spanish: the comparative is thus replaced by Spanish *mas* [sic] and the conjunction 'as' [als] by the synthesis of the preposition *chi* with the noun *u* and its pronoun. (Stoll 1896:121–22, my translation, italics added)

To support this analysis, Stoll provided one example of a comparative construction, and one example of something akin to a superlative construction.

- (10a) ha' kab' a'in mas nim
TOP house DEM very big
- chi-r-u li wan-Ø-Ø le'
PREP-E3S-RN DM exist-PRES-A3S DEIC
- 'dieses Haus ist grösser als jenes' (Stoll's translation)
'This house is bigger than that (one).' (my translation of Stoll's translation)
'This house is very big relative to that one over there.' (my translation of Q'eqchi')
- (Stoll 1896:121)

- (10b) ha' kab' a'in mas nim
TOP house DEM very big
- chi-r-u li wan-k-eb' le'
PREP-E3S-RN DM exist-PRES-A3P DEIC
- ‘dieses Haus ist das groesste von allen’ (Stoll’s translation)
‘This house is the biggest of all.’ (my translation of Stoll’s translation)
‘This house is very big relative to those over there.’ (my translation of
Q’eqchi’)
- (Stoll 1896:121)

Both of these examples involve *mas*, along with the adposition *chiru*, and a figure of comparison in focus position (recall our discussion of similar constructions in the preceding section). Stoll glossed such constructions using standard comparative and superlative constructions in German, as a function of the relative singularity or plurality of the comparative ground: *that house* versus *those houses*.

Stoll also claimed that *mas* was beginning to replace reduplication as the preferred means for indicating magnitude, or intensification, even when no comparison was being made. Here are two of the examples he offered as justification.

- (11a) jun winq mas nim r-oq
 one man very big E3S-leg
 ‘en sehr grosser Mann’ (Stoll’s translation)
 ‘a very big man’ (my translation of Stoll’s translation)
 ‘a very tall man’ (my translation of Q’eqchi’)
 (Stoll 1896:121)

- (11b) mas ha’ li uq’un
 very watery DM gruel
 ‘ganze waesserig ist der Atole’ (Stoll’s translation)
 ‘The atole is completely watery.’ (my translation of Stoll’s translation)
 ‘The atole (a corn-based drink) is very watery.’ (my translation of
 Q’eqchi’)
 (Stoll 1896:121)

As may be seen from these examples, contrary to his main claim (that *mas* functioned as a comparative, marking something like direction), Stoll glossed *mas* adjective constructions (without the adposition *chiru*) using German *sehr* or *ganz*, and hence as ‘very’ or ‘completely’, as opposed to ‘more’. In other words, he analyzed them as indicating something like magnitude, intensity, or extent, and carrying no presupposition. Consonant with such an analysis, in other places in his grammar (1896:52, 160), Stoll translated reduplicated adjectives using either *ganz* (quite, completely) or *sehr* (very). For example, he glossed

moy as ‘truebe’ (cloudy), and *moy moy* as ‘sehr trueube’ (very cloudy). And he glossed *sak* as ‘weiss’ (white), and *sak sak* as ‘ganz weiss’ (completely white).

In short, Stoll argued that: (1) intensity or magnitude was originally handled in Q’eqchi’ by means of reduplication; (2) Q’eqchi’ *mas* originally served as a comparative (akin to German *-er* and Spanish *más*), in conjunction with the already available adposition *chiru* (akin to German *als* and Spanish *que*); and (3) *mas* came to replace reduplication as the preferred means to indicate magnitude. In effect, while Q’eqchi’ *mas* originally meant ‘more’ (like Spanish *más*), and still did (in the comparative construction) at the time Stoll was writing, it also came to mean ‘very’ (*mu*y) in noncomparative constructions.

Note how well Stoll’s analysis conforms with modern accounts of the borrowing of the Spanish comparative construction by indigenous languages in Latin America, as per our review of Dixon (2012:371–72) and the literature he cites. Nonetheless, as inspired and prescient as Stoll’s analysis is, I think it is wrong for a variety of reasons. First, there have long been many ways of indicating magnitude (or intensity) besides reduplication. Recall our discussion of intensifiers like *jwal* and *q’axal* in Chapter 5.

As discussed in the last section, there have probably always existed comparative strategies; and so it is very unlikely that “die Idee des Vergleiches mit andern Dingen derselben Qualitaet” (the idea of comparison with other things of the same quality) was unknown to speakers of Q’eqchi’. Indeed, as we saw in earlier chapters, even a bare adjective involves comparison with respect to an implicit ground, or tacit standard. Moreover, and as will be discussed in the next chapter, while unbeknownst to Stoll himself, there had long been at least one other comparative construction in Q’eqchi’, which was still in use at the time he conducted his research.

As will be shown in Chapter 8, Q’eqchi’ has long had the particle *chik*, which is very close to Spanish *más* in many respects (such as indicating

direction, carrying a presupposition, and serving as a quantifier). Insofar as the borrowing of *mas* did not affect the functioning of *chik*, which continues to be used in nearly identical ways, speakers certainly didn't borrow the former to duplicate the functions of the latter.

I suspect that Stoll, as the associate and friend of recent immigrants and plantation owners, spent a lot of time among bilingual speakers of Q'eqchi' and Spanish. So he might have been conducting linguistic fieldwork among a very particular group of speakers.

As noted at the end of the last section, in all the texts we have from this period, as well as before, there are no other tokens of *mas* besides the ones that Stoll provides, nor of the modern comparative construction per se. By virtue of the kinds of speakers he did his fieldwork with, he may have been overemphasizing the role of *mas* in the Q'eqchi' of his day.

There is no evidence that Q'eqchi' *mas* ever indicated direction or carried a presupposition; and so the idea that it was borrowed with its original function (qua direction), and then came to serve as a degree marker (qua magnitude), is not very likely. In the next section, I argue that it served as a degree marker, or intensifier, from the very beginning.

Finally, like other linguists after him, I think Stoll apperceived the Q'eqchi' construction through a Spanish (or German) lens, and so failed to see the salient differences in meaning. Like Dixon, he collapsed the distinction between magnitude and direction. The next section will offer hypotheses as to why it is so easy to overlook this distinction, and as to how such an oversight, or elision, might help motivate the original borrowing.

The Genealogy of *Mas*

As should now be clear, aside from the fact that linguists such as Stewart and Stoll analyzed the Q'eqchi' comparative construction on the Spanish model, and the fact that speakers of Q'eqchi' sometimes gloss

mas . . . *chiru* constructions as *más* . . . *que* constructions, nothing about past or present usage provides evidence that Q'eqchi' *mas* has ever functioned like Spanish *más* (at least in its comparative function): it has long marked magnitude, as opposed to direction, and it has never carried a strong presupposition.

Given these facts, as well as discourse frequency more generally, I strongly suspect that *mas* was not originally borrowed as part of a construction involving an *explicit* comparative ground (*mas* . . . *chiru*), itself based on the Spanish model (*más* . . . *que*). Rather, it was originally borrowed as part of a construction involving an *implicit* comparative ground. (And so if Q'eqchi' *mas* inherited a meaning from Spanish *más*, it was more akin to the latter's intensifying function in interjection-like utterances. Recall function (ix) in Table 6.1). We might hypothesize that the reanalysis of a direction marker (Spanish *más*) as a magnitude marker (Q'eqchi' *mas*) came about in the context of the near synonymy of the following sorts of constructions:

This is big, but that is bigger. (as per the Spanish model)
This is big, but that is very big. (as per the Q'eqchi' model)

As may be seen, direction (–er, more) is relatively easy to assimilate to magnitude (very). In particular, it would have been easy for speakers to overlook the presupposition and increase the magnitude with relatively minimal effects on shared comprehension. For example, a construction like 'bigger [than some specific referent]' could be interpreted as 'very big [relative to the typical member of the class in question]'.

Given the fact that Q'eqchi' comparative strategies typically involved parallel utterances ('that is big, but this is very big' ⇒ 'this is bigger than that'), the translation of *mas* as *más* is even more felicitous, insofar as the presupposed content would often have existed via the previous utterance, or surrounding context.

Moreover, the change in magnitude would not only be interactionally contingent and hard to notice, but also relatively inconsequential to

subsequent truth conditions. As discussed in Chapter 1, this is because increases in magnitude, or regradings of degree, are very often:

- (a) *Person-specific, and/or affect-indicative*
(when I say, “it’s very big,” I am often foregrounding my subjective experience of it);
- (b) *Performative*
(utterances help create, and don’t simply evince, comparative grounds);
- (c) *Alignment-dependent, and/or social-relation-specific*
(in turn-taking, second pair-parts of assessments often align with first pair-parts).

Given the fact that speakers of Q’eqchi’ can add the adposition *chiru* to most any predication, and thereby create a comparative construction (this is [very] big $\Rightarrow$ this is [very] big relative to *some explicit comparative ground*), the use of *mas* to indicate magnitude carried over to constructions involving explicit comparative grounds without strain. So *mas* could easily be seen as similar in function to reduplication, or modification by an intensifier like *jwal* or *q’axal*.

This function of *mas* could easily spread so as to modify other word classes. Indeed, it is quite possible that Q’eqchi’ *mas* came to modify not only adjectives and adverbs (serving a function akin to Spanish *muy*), but also NPs and VPs (serving a function akin to Spanish *mucho*), because Spanish *más* could already function in conjunction with such types. For example, this is more expensive $\Rightarrow$ this is very expensive; he ran more quickly $\Rightarrow$ he ran very quickly; he ate more ice cream $\Rightarrow$ he ate a lot of ice cream; he ran more $\Rightarrow$ he ran a lot; and so forth.

To be sure, Q’eqchi’ *mas*, at some times, for some speakers, may have been used with a meaning similar to Spanish *más* – thereby indicating direction rather than magnitude, and carrying a strong presupposition. One might imagine, for example, that highly bilingual speakers, or speakers who were dominant in Spanish, might have originally construed

the meaning of the Q'eqchi' construction on the Spanish model (*mas* as 'more', *chiru* as 'than'); whereas monolingual speakers of Q'eqchi', or simply speakers dominant in Q'eqchi', of whom there were many more, would have construed the meaning of the Q'eqchi' construction on the Q'eqchi' model (*mas* as 'very', *chiru* as 'in comparison to').

We might also take note of the deep power asymmetries among such speakers, such that speakers dominant in Spanish might impose a formal equivalence on the Spanish and Q'eqchi' constructions; while speakers dominant in Q'eqchi' might maintain, or even exploit, a functional difference.

Given all these other considerations, however, including the fact that *chik* was never displaced by *mas*, I suspect this function was unstable, and so tended to be assimilated to *mas* as magnitude (qua 'very' or 'much').

In short, a form (Spanish *más*) that indicates direction (more versus less), is indifferent to magnitude (*a little more* versus *a lot more*), and has a strong contextual presupposition (*more than* some X), maintained its form (Q'eqchi' *mas*) and changed its function. In particular, it lost the presupposition; it no longer indicated direction (*very much more* or *very much less*); it came to specify magnitude (*much more* and *much less* versus *more* and *less*); and it came to modify most other word classes in such a way: not just adjectives and adverbs, but also NPs, VPs, and indefinite quantities.

Resonating with these facts, it is likely that Stoll was working at the spatial and temporal origins of *mas* usage. In part, this is because he conducted most of his research in Cobán, the capital city of Alta Verapaz, and surrounding towns like San Juan Chamelco, where the so-called prestige dialect of Q'eqchi' is spoken. This area was also the center of foreign immigration and economic liberalization in Alta Verapaz during the end of the nineteenth century when Stoll conducted his fieldwork. Around this same time many Q'eqchi' speakers were kicked off their land (which was appropriated for coffee cultivation)

and forced to work on coffee plantations, or on government projects such as building roads. This initiated 100 years or so of displacement, strategic evasion, and flight, as speakers of Q'eqchi' moved north, into the less populated lowlands of Alta Verapaz, and then into the Petén, and neighboring countries like Belize. This movement was amplified by the Guatemalan civil war (1960–96), and the radical dislocation of indigenous people that it brought about.

Stoll, then, was undertaking his analysis at the beginning of a large-scale linguistic trend, his own scholarly presence in Guatemala being an omen of the tragic century to come.

The Apperception of *Mas*

While the semantic and pragmatic differences between the Spanish and Q'eqchi' comparative constructions, and between Q'eqchi' *mas* and Spanish *más* per se, are quite substantial, they are difficult to notice, or articulate, for several reasons.

First, linguists and speakers are primed to see the two constructions as semantically equivalent given their superficial formal equivalence. In some sense, an iconicity between two signs, one of which is an interpretant of the other, primes speakers to see the constructions as having similar objects. The Q'eqchi' construction is apperceived (Boas 1889; and see Silverstein 1981 and Lucy 1992) on the model of the Spanish construction, and so appears to those who are beholden to the Spanish model as a calque of that construction.

Second, as discussed above, the differences in meaning are small enough, and the kind of meaning is slippery enough, for the false equivalence to be overlooked by speakers in actual discourse.

Third, while one might expect this false equivalence to give rise to semantic change, leading to real equivalence over time, this did not happen because, language-internally, the key forms are mediated by radically different grammatical patterns. In some sense, the mediating

force of discursive practices was not enough to overcome the mediating inertia of grammatical structures.

Finally, this formal resemblance between the two otherwise distinct comparative constructions enabled an important point of passage between the two languages, one particularly useful in the inherently comparative and contrastive, which is to say *confrontational*, world of contact: different languages, religions, values, technologies, social relations, items of exchange, identities, and so forth. Recall the etymology of the Q'eqchi' comparative adposition *chi -u*: before, in the face of, in confrontation with.

Because of the morphosyntax, semantics, and pragmatics of such constructions, it was not just easy for speakers of Q'eqchi' to borrow Spanish *más* (more) as *mas* (very, much), and thereby transform a form that indicated direction into one that indicated magnitude, it was also easy for speakers to overlook, ignore, or even exploit, the difference.

There was, then, a radical indigenous reappraisal of an (erstwhile) colonial imposition.

Linguistic Purism and the Purging of *Mas*

Having analyzed the past history and present usage of *mas* (in the preceding sections), as well as the history and meaning of *jwal* (in the last chapter), it is worthwhile saying a few words about the future of these dueling forms.

While the function of *mas* is frequently misunderstood, its origin as a foreign imposition seems to be readily apparent. In his detailed grammar of Q'eqchi', Haeserijn (1966:101) wrote that the Q'eqchi' comparative construction, insofar as it involved *mas*, was an “imitación” of Spanish, and therefore illegitimate. We already saw how Eachus and Carlson, in their prescriptive grammar of the Q'eqchi' language (1980), referred to *mas* as a “perversion idiomática.” And, as recently as 2017 and 2019, two speakers of Q'eqchi', who were also bilingual

language teachers, told me not to use *mas* when I spoke (and to substitute *jwal* instead, as opposed to reduplication), even though they overwhelmingly (and quite consciously) used *mas* in their own speech. In other words, probably because of its high token frequency, as well as its somewhat obvious relation to Spanish *más* (however much its meaning has shifted), Q'eqchi' *mas* has long been disparaged by linguists and is frequently targeted by language purists.

In the context of such language ideologies (Heath 1977; Kroskrity 1993; Errington 1999; Makiyara & Schieffelin 2007) regarding a particularly salient, and somewhat schizophrenic, linguistic form, we may end by taking note of an emergent trend, however faint or incipient: the replacement of *mas* with *jwal*, for reasons of linguistic purism; and, concomitantly, the downgrading of *jwal* in magnitude or intensity.

A recent dictionary (Tema Bautista & Cuz Mucú 2004), itself quite extensive and well-researched, doesn't include *mas* among its entries, but includes dozens of example sentences that involve *jwal* (themselves usually translated into Spanish using *muy* 'very'). As demonstrated in the last two chapters, such a description of Q'eqchi' is completely out of accord with naturally occurring discourse, in which *mas* is not only far more frequent than *jwal*, but is also used to indicate smaller magnitudes and/or lesser intensities (at least in contrastive contexts). I suspect, then, that the authors removed all tokens of *mas* (very) and replaced them with *jwal* (very, very), which would be the closest equivalent, however imperfect.

In attempting to make the language less like Spanish, such processes of language purification are potentially – and quite unintentionally – making all instances of implicitly comparative constructions, whatever the dimension, more intense.

Given the contrastive intensities of *jwal* and *mas*, such examples also seem to portray speakers of Q'eqchi' as overly sensitive (to the degree of the dimensions at issue). Moreover, if such an attempt at purification succeeds, such that *jwal* becomes the standard indicator of magnitude, the relative magnitude it denotes may become less intense in subsequent

usage. In this way, and to return to Sapir, language purity and linguistic standardization, those semiotic sieves of ideology, discourse, and grammar, are intimately connected to affect (sensitivity), intensity (or grade), and movement (here understood as semantic change).

With all this in mind, we might return to example (3) from the introduction to this monograph, which described the logic behind a particular taboo. Just as women should watch their actions in order to protect their flocks, speakers should watch their utterances in order to protect their languages. That is, languages, like flocks, are entities, if not quasi-agents, to be cared for. They should be protected from negative, value-siphoning processes like degradation (from colonizers) and predation (from chicken hawks).

Needless to say, in the context of a complicated colonial history, this sentiment is not without its own ambiguities:

- (a) protect the loan bird (*kaxlan* [< Sp. *Castillan* ‘Spain’]), which denotes chickens and connotes nonindigenous alterity;
- (b) prohibit the loan word (*mas* [< Sp. *más* ‘more’]), which reveals the tensions in the (post)colonial encounter no less than it registers intensity.

In short, the history of intensifiers, like *mas* and *jwal*, is not just quite complex, and somewhat contradictory, it is also *very, very, very* far from over.

Notes to Chapter 6

- 1 Kockelman (2019) undertakes a much more detailed semantic analysis of such constructions to justify these claims.
- 2 It is difficult to know for certain how Spanish *más* was used in Alta Verapaz during the late nineteenth century. Textual evidence attests to (at least) the functions shown in lines i–iv, vi–vii, and x of Table 6.1.
- 3 See, for example, the edited volume by Hull and Carrasco (2012).

SEVEN



The Comparative Complex

Complexes, Constructions, Strategies

This chapter analyzes the comparative complex in Q'eqchi': a cluster of labile and overlapping constructions, serving both comparative and noncomparative functions, that were in use over a five-hundred-year period.

There are at least four such constructions (each of which has several variants). Besides their comparative function, most of these constructions also marked spatial relations, and had easily motivated metaphorical meanings as well. While intensifiers and quantities could be used with such constructions (to specify the magnitude of comparison), they do not seem to have been obligatory. Two of these constructions employed verbs to mark the relation and/or direction of comparison; and such verbs have derived forms that are currently used as intensifiers. While all such constructions seem closely related to each other, it is difficult to show with certainty that any one of them was prior to, or derived from, the others. Such constructions seem to have been relatively circumscribed in terms of the dimensions of comparison they could modify, and in terms of the registers in which they were used.

The following examples highlight their salient features.

The ‘Modern’ Construction

- (1) (mas/q’axal) aal li winq
(very/exceedingly) heavy DM man
‘The man is (very/exceedingly) heavy ...

chi-r-u li ixq
PREP-E3S-RN DM woman
in the face of, or relative to, the woman.’

The ‘Pass-Before’ Construction

- (2) li r-aal-al li winq
DM E3S-heavy-NOM DM man
‘The heaviness of the man ...

na-Ø-x-q’ax r-u li r-aal-al li ixq
PRES-A3S-E3S-CROSS E3S-RN DM E3S-heavy-NOM DM woman
passes before, or exceeds, the heaviness of the woman.’

The ‘Pass-Above’ Construction

- (3) (b’ab’ay/ox-moqoj)
(a.little/three-arm.length)
‘(By a little/three arm-lengths) ...

na-Ø-num-e’k in-che’ chi x-b’een aa-che’
PRES-A3S-pass-PSV E1S-tree/branch PREP E3S-over E2S-tree
my branch is passed over, or surpasses, your branch.’

The ‘Multiples-of’ Construction

- (4) ka-wa’ in-xaqam
two-multiple E1S-stature
‘Two times is my stature ...

chi (jo’) i-xaqam Pedro
PREP as E3S-stature PN
relative to Peter’s stature.’

The constructions are very loosely ordered from newest to oldest. As shown in Chapter 6, the construction in example (1) is currently used, and we have evidence of its usage back to the late nineteenth century. The construction in example (2) is still used, albeit much less frequently.

We have evidence of its use in the mid-twentieth century, but most of my tokens come from what is obviously Christian liturgy. Whether it was used outside of such liturgy, or prior to that time, is unclear; but I strongly suspect it was. The constructions in examples (3) and (4) seem to have been in use from at least the early 1700s to the late 1800s, and probably both before and after that period as well. While they are recognized and understood by present-day speakers, most of my tokens come from a single colonial-era grammar.

Given its relative frequency, both in present-day discourse and throughout the twentieth century, example (1) might best be termed the modern comparative construction. As discussed in the last chapter, its dimension of comparison is typically marked by an adjective; and its ground of comparison is marked by the adposition *chi -u* ‘in the face of’. The constructions shown in examples (2) and (3) contrast with the modern construction in that they use verbal predicates to mark the relation of comparison; and insofar as their dimension of comparison is typically marked by a noun (often a nominalized adjective) rather than an adjective. Their verbal predicates also function, in their derived forms, as intensifiers: *q’axal* ‘surpassingly’ and *numtajenaq* ‘exceedingly’. Recall our discussion of such operators in Chapter 5. As may be seen, they too mark grounds of comparison using spatial adpositions and/or relational nouns, usually *chi -b’een* ‘above’ or *-u* ‘face/before’. The construction shown in example (4) is particularly interesting in that it uses the ground of comparison as a unit, and describes the size or extent of the figure as a multiple of that unit. Like the construction in example (3), most of my tokens involve relatively easy-to-measure dimensions, such as length, height, or distance. In contrast, the construction in example (2), especially in liturgical contexts, is often used to compare somewhat abstract, and difficult to measure dimensions, like ‘the straightness of one’s heart’ (qua faithfulness, or integrity). As shown in earlier chapters, the modern comparative construction not only uses

adjectives to mark its dimension of comparison (among many other forms), it also seems to allow a much wider range of dimensions (whatever is specifiable by a gradable predicate). Whether the earlier constructions were restricted to relatively measurable dimensions, or whether the lack of variation is simply due to the paucity of available tokens, is an open question.

All that said, it should be remembered that, notwithstanding the amount of attention given to comparative constructions, both in this chapter and the last, present-day speakers of Q'eqchi' use comparative strategies much more frequently than comparative constructions. And I suspect that this was true in the past as well. Linguists tend to emphasize constructions (qua grammatical structures) over strategies (qua discursive practices), insofar as the former are far more amenable to their usual methods, analytics, and metrics. As we saw in the case of linguists like Otto Stoll, this may cause them to overlook, if not undervalue, the utterances, capacities, and imaginaries of others.

The following section summarizes key features of the modern comparative construction, insofar as such features are relevant to the history of the comparative construction. The next section discusses the 'Pass-Before' construction and compares it to the modern construction. A colonial grammar, entitled 'The Art of Q'eqchi' for Speaking Well', is then introduced. The following three sections analyze various construction types that appear in this grammar: the 'Pass-Over' construction; a few tokens of superlative and equalitive constructions; and the 'Multiples-of' construction. The conclusion returns to the modern comparative construction in order to highlight an emergent trend: the complementizer *que* (which marks the ground of comparison in the Spanish comparative construction) is beginning to occur alongside the Q'eqchi' adposition *chi -u*. This offers yet another twist – however incipient and unresolved – in our history of the Q'eqchi' comparative complex, and the genealogy of intensity more generally.

The Modern Construction Revisited

Chapter 6 offered many examples of the modern comparative construction, from twentieth-century sources, typically with an adjective marking the dimension of comparison. What follows are tokens from present-day speakers, showing the wide range of predicates this construction may modify.

- (5) nim r-oq li winq chi-r-u li ixq
 big E3S-leg DM man PREP-E3S-RN DM woman
 ‘The man’s legs are big in comparison to the woman’s.’

A possessed noun phrase serves as the figure of comparison. Possessed body parts, and other relational nouns, are frequently used to further specify the dimension of comparison: ‘the man’s legs are big’ ⇒ ‘the man is tall’ versus ‘the man’s stomach is big’ ⇒ ‘the man is fat’.

- (6) kaw x-in-aalinak ch-aaw-u
 hard/strong PERF-A1S-run PREP-E2S-RN
 ‘I ran fast in comparison to you.’

Here the dimension of comparison is specified by an adverb (or an adverb-verb combination) as opposed to an adjective.

- (7) anaqwan ra chi-r-u ewer
 today painful PREP-E3S-RN yesterday
 ‘(My headache) is painful today in comparison to yesterday.’

Here the figure and ground of comparison are specified by temporal adverbs rather than noun phrases.

- (8) wan-Ø-Ø x-tumin chi-w-u
 exist-PRES-A3S E3S-money PREP-E1S-RN
 ‘He has money in comparison to me.’

Here the dimension of comparison is specified by an existential predicate and a possessed noun, rather than an adjective or adverb.

All of the utterances in examples (5)–(8) would be perfectly acceptable without the adposition *chiru* and its cross-referenced argument. They would thereby constitute simple predications: *the man is tall*; *I ran fast*; *it is painful today*; *he has money*. And, as discussed in Chapter 1, they would usually be implicitly comparative. The adposition *chiru* is, in some sense, simply making explicit the comparative relation, while its cross-referenced argument targets a relatively specific ground of comparison (typically a unique and easily identified referent).

We saw that, in noncomparative contexts, the adposition *chiru* typically marks spatial and temporal relations, similar to English ‘before’ or ‘in front of’. (Recall that the relational noun at the center of this adposition comes from an inalienable possession that means face, eye, or front surface.) As the following examples show, this adposition served a similar spatial function in the colonial period, and had a metaphorical use as well (at least in the context of Catholic liturgy).

- (9) chiruch p^o
 chi–r–uch Pedro
 PREP–E3S–RN PN
 ‘delante de Pedro’
 ‘In front of Peter.’

(Berendt 1875:9)

- (10) uzin=ta chi ruaE nauah
 us–in=ta chi–r–u–aq na–Ø–w–aj
 good–A1S=IRR PREP–E3S–RN–NS PRES–A3S–E1S–want
 ‘I would like to be good before him.’

(Berendt 1875:14)

These examples come from the colonial grammar that will be discussed below; and so the usage shown is from the 1700s, if not before. As example (9) shows, the adposition is almost identical to its modern variant, except that the relational noun is the older form for ‘face’ or ‘front surface’ (–*uch*), instead of the modern form (–*u*). Example (10)

occurs in a section discussing modal constructions, such as optatives and imperatives. Given other examples from that part of the grammar, the ‘him’ in question is probably the Christian god, or perhaps Jesus. But that said, Chapter 4 showed how this same adposition could be used to indicate the position, if not mode of submission, that one might assume ‘before’ a *Tzuultaq’a* (the local earth god).

One might speculate, then, that ‘to be good before him’ meant something like: to be judged good, or seen as good, by him (rather than to be good relative to him, in the sense of being better than him). Recall the subjective use, or dative function, of this adposition, as was shown in example (4) of Chapter 6. For example, *us ch-aaw-u* (good PREP-E2S-RN), or ‘it is good to you’ (that is, good according to you, as judged by you, and/or ‘in your eyes’). As discussed in that chapter, this is one possible route to the comparative function of this adposition: *you are tall before him* (that is, you seem tall to him) $\Rightarrow$ *you are tall relative to him* (that is, you are taller than him).

The ‘Pass-Before’ Construction

In Haeserijn’s grammar of Q’eqchi’ (1966), there are many examples of comparative constructions. While most of these turn on the modern comparative construction, a few turn on an alternative, and somewhat overlapping, construction. Because Haeserijn used many sentences from the New Testament, as translated by the Summer Institute of Linguistics, they have a very particular character, and will lead to a number of qualifications. Indeed, while Haeserijn writes as if he were translating Q’eqchi’ into Spanish, the process was probably reversed.

- (11) Ab’an li q’axal kach’in sa’ li choxa,
 but DM surpassingly small PREP DM sky
 ‘But the exceedingly small one in the sky ...’

a'an nim x-wank-il chi-r-u.
 DEM large E3S-exist-NOM PREP-E3S-RN
 he has a lot of power relative to Him.'

Haeserijn glosses this example using Spanish superlative and comparative constructions: *Pero el más pequeño en el cielo, esto es más grande que él* ('But the smallest one in Heaven, this one is greater than him'). As may be seen, according to Haeserijn's gloss, *q'axal* 'surpassingly' is being used as a superlative in the first clause: *el más pequeño*, or 'the smallest'. The second clause involves the modern comparative construction, not with a possessed body part, as per example (5), but with a possessed nominalization of the existence predicate *wank*, which is being used to refer to the possessor's power or greatness.

- (12) A'-ut li ta-Ø-chal-q chaq chi-w-ix,
 TOP-and DM FUT-A3S-COME-NS DIR PREP-E1S-RN
 'And the one that comes after me ...
- q'axal nim x-wank-il chi-w-ix.
 surpassingly large E3S-exist-NOM PREP-E1S-RN
 his power is surpassingly large in comparison to mine.'

Haeserijn glosses this example using the Spanish comparative construction: *Pero él (que) viene tras de mí es más poderoso que yo* ('But he that comes after me is more powerful than I'). As may be seen in the second clause, *q'axal* is again being used as an intensifier, but Haeserijn now translates its meaning as a comparative (*más poderoso*, or 'more powerful') rather than a superlative (*el más poderoso*, or 'the most powerful'). This is probably because it now occurs with an explicit comparative ground. Instead of using the adposition *chiru* 'in front of' to mark such a ground, the construction occurs with the adposition *chirix* 'in back of' (perhaps to retain the parallelism with the preceeding clause). One might think that this would invert the direction of comparison; but, at least according to Haeserijn's gloss (and my sense of the

biblical meaning of the sentence), it does not. As will be seen, this happens quite frequently: different adpositions are used to mark the ground of comparison, in what is otherwise the same construction, with more or less equivalent meanings. It also shows that, notwithstanding our discussion of the well-motivated spatial role of this adposition, its main function in such contexts is to license an argument to serve as the ground of comparison.

- (13) Wi li x-tiikil-al l-ee ch'ool
 if DM E3S-straight-NOM DM-E2S heart
 'If the straightness of your (plural) hearts . . .
- ink'a' ti-Ø-x-q'ax r-u
 NEG FUT-A3S-E3S-pass E3S-RN
 does not pass before, or beat . . .
- x-tiikil-al x-ch'ool=eb' l-aj tz'iib',
 E3S-straight-NOM E3S-heart=PLR DM-SD writer
 the straightness of the hearts of the scribes,
- ink'a' t-eex'-ok sa' choxa.
 NEG FUT-A2P-enter PREP sky
 you (plural) will not enter heaven.'

Haeserijn glosses this example as follows: *Si la justicia de vuestros corazones no gana a (no es mayor) la justicia de los escribas, no entraréis en el cielo* ('If the justice of your hearts does not win (is not greater than) the justice of the scribes, you will not enter heaven'). Here the verb *q'axok*, along with the relational noun *-u*, is used to compare the 'straightness' of hearts. As may be seen, the dimension of comparison is indicated by a nominalized adjective (*x-tiikilal* 'its straightness'), along with its possessor (the hearts of the scribes), such that the entire phrase has a somewhat abstract, and register-specific meaning.

Here is another example of the same construction, from around the same time (but from a different source), used in a nonreligious register, but still in a relatively comparative way.

- (14) a'an na-Ø-x-q'ax r-u li patrón
DEM PRES-A3S-E3S-pass E3S-RN DM boss
Aquél ganó al patrón. Aquél se hace más que el patrón. (Sedat's Spanish glosses)
'That one beats (or does more than) the boss.'
(Sedat 1976 [1955]:93)

This example contrasts with example (13), as well as with examples (11) and (12), in that the dimension of comparison is constituted by the basic meaning of the verbal predicate (to pass before, or beat), and is thus not altered by additional arguments (like straightness of hearts, or largeness of powers).

Without the relational noun *-u*, the predicate *q'axok* is usually glossed as Spanish *ganar* 'to beat' and *sobresalir* 'to stand out relative to' (Sedat 1976 [1955]:93). With the relational noun, in noncomparative contexts, *q'axok -u* is glossed as Spanish *pasar* 'to pass' and *dejar uno atrás* 'to leave someone behind' (ibid.). This predicate has the same root as the intensifier *q'axal* 'surpassingly', which can also be used in the modern comparative construction, as example (11) showed. In comparative contexts, this construction uses the relational noun *-u* 'face/front surface' (as the object of the predicate, rather than as part of an adposition), to mark the ground of comparison.

In short, as different as the modern comparative construction and the ‘Pass-Before’ construction are, they have the relational noun *-u*, and sometimes (the root of) the intensifier *q’axal*, in common. That said, just as we have variants of the modern construction with *chirix* instead of *chiru*, we also have variants of the ‘Pass-Before’ construction without *-u*. Each construction in the complex has several overlapping variants, with metaphorical variations, such that it can be difficult to pinpoint a single, relatively fixed form or stable function.

We also saw how both constructions functioned in the context of Christian liturgy. It is possible, of course, that such constructions arose, or at least flourished, in such contexts. It is certainly the case that many

early dictionaries and grammars of Q'eqchi' were written by people with strong ties to religious organizations (Haeserijn, Eachus and Carlson, Sedat and, as will be discussed in the next section, Fray Joseph Ruiz). Prior to the 1980s or so, many of our tokens of such constructions are therefore shaped by such contexts given the kinds of historical evidence that was available. It may also mean that the constructions themselves, as types, were shaped by such contexts – via the act of rendering Christian texts into Q'eqchi', disseminating Christian ideas in religious contexts, and attempting to replace beliefs and rites concerning local gods (such as the *Tzuultaq'a*) with commitments to the biblical god. To pursue this question would require a separate study, to be sure; but it is worth pointing out the quite probable possibility.

The Art of the Q'eqchi' Language

Many examples of both the 'Pass-Over' and 'Multiples-of' constructions (along with one token of an equality construction, and two tokens of an absolute superlative construction) may be found in the Berendt-Brinton Manuscript, which is housed in the University of Pennsylvania Library as part of its Brinton collection (Weeks 2000). Called the *Arte de Lengua CaEchi para Bien comun*, or 'The Art of the Q'eqchi' Language for Communicating Well', this text was carefully copied in 1875 (and slightly amended) by Hermann C. Berendt, a German-American explorer, collector, and scholar. With the help of Pedro Torres (described as "un mestizo Cobanero," and hence as a person of both Ladino and Indigenous parentage from the city of Cobán, probably to emphasize his bilingualism and regional expertise), Berendt added many notes, both in the margins and above the main text. These notes not only gloss various Q'eqchi' constructions (as they are found in the original text, as written in a slightly augmented Spanish script), they also show the 'same' construction as it would have been expressed around 1875 in both Cobán and San Juan Chamelco (a nearby town in which the

so-called prestige dialect of Q'eqchi' is also spoken). The original text was itself a copy (made in 1741, by Juan De Morales, the “maestro fiscal” of San Juan Chamelco) of an earlier document said to belong to one Fray Joseph Ruiz (presumably a Dominican Friar). In short, this manuscript contains examples of Q'eqchi' as it was spoken 1875, both in Cobán and San Juan Chamelco, and as it was spoken prior to 1741 (presumably also in Chamelco). How much earlier, we don't know; but possibly during the 1600s, or even earlier.

Curiously, while Stoll and Berendt were working on Q'eqchi' in the same place and around the same time, Stoll noticed the modern comparative construction (as we saw in Chapter 6), but did not seem to be aware of the ‘Multiples-of’ construction. While he offered an example of the ‘Pass-Over’ construction in the vocabulary at the end of his grammar, it was an example of its noncomparative function. Berendt, in contrast, documented the use of the ‘Pass-Over’ and ‘Multiples-of’ constructions, but did not seem to be aware of the modern construction). And neither scholar mentions the ‘Pass-Before’ construction.

While the colonial manuscript offers a description of many key parts of Q'eqchi' grammar, and is about 96 pages in length, the focus here is on a section entitled, *De Comparativos y Superlativos en Cantidad Discreta*, or “Of Comparatives and Superlatives in Discrete Quantity” (Berendt 1875:78–79). There are about ten extended examples offered in total, showcasing a range of interrelated constructions.

As will be seen, in almost all of the examples of comparative constructions from this document, the dimension in question is length (usually height, but sometimes girth or distance). This dimension could be partly specified by the type of unit; partially specified by the figure and ground in question (as entities that have a characteristic or salient dimension); and, at least in certain examples, partially specified by the adposition and predicate. Only in the case of the so-called superlative construction is the dimension specified by an adjectival predicate. And hence only this last construction type is similar to the modern

comparative construction in regard to its (ostensible) capacity to compare the relative intensities of somewhat abstract dimensions.

Moreover, almost all the examples of comparative constructions in this document involve definite quantities (of the dimension in question): two handspans; three multiples; and so forth. In other words, this colonial manuscript make it seem as if comparison primarily applied to easily quantified dimensions, such as length (as opposed to redness or happiness), using relatively quantified magnitudes (e.g., ‘my belt passes over your belt by *two handspans*’).

That said, I suspect such examples were not representative of actual usage; and so this pattern is probably not characteristic of how the constructions were really used. Moreover, the section we will be examining was entitled, “Of comparatives and superlatives in discrete quantity.” This title suggests that the original author may have been focusing on number–unit or number–multiple combinations, qua ‘discrete quantities’, as opposed to graded degrees and/or difficult-to-quantify intensities.

It should also be remembered that many adjectives can be nominalized (*us* ‘good’ $\Rightarrow$ *usilal* ‘goodness’), and thus potentially used in such constructions. This means that a much wider variety of constructions, apart from the ones exemplified, were very likely possible. As such, there is no reason such colonial comparative constructions couldn’t have been used with a much wider range of dimensions, as specified by nominalized adjectives, both with and without explicit quantities. For these reasons, then, the colonial comparative constructions that follow might be even more like the modern construction, and the ‘Pass-Before’ construction, than they initially appear.

The ‘Pass-Over’ Construction

The key components of this construction are as follows: *by Quantity is (Passed) a Figure Over a Ground*. Recall example (3). In such constructions, the figure is the argument of the verbal predicate *nume’k* (to be passed). In

the margins, Berendt glosses this verb as *traspasar* (to exceed, transgress). As will be seen, this predicate is nonobligatory: other predicates are sometimes used. The ground is the argument of the adposition *chi* –*b'een* (on top of, over). This adposition is still in use, and the relational noun –*b'een* that it incorporates has long functioned as a (possessed) ordinal number, with a meaning similar to English ‘first’. This relational noun also seems to be nonobligatory: the form *jo*’ (how, like, as) sometimes replaces it. The direction of comparison (and, to some degree, the dimension of comparison) is specified by the figure–ground relation: the figure is passed *over* the ground, and hence is greater in quantity or intensity. The dimension of comparison is further specified by the figure and ground, which often involve a possessed body-part term or a deverbalized noun, indicating the kind of attribute being compared (which is almost always length). Finally, the magnitude is specified by the quantity, which is either an intensifier (e.g., a little) or, more frequently, a number–unit combination (e.g., one arm-length), itself often followed by the particle *chik* (more). As will be shown in Chapter 8, *chik* is the closest Q’eqchi’ equivalent to Spanish *más*, at least in its noncomparative functions.

Here are three examples from Berendt (1875:79).¹

- (15) babay na num=ec in che chi behen ache
 b’ab’ay na-Ø-num-e’k in-che’ chi (i)-b’een aa-che’
 little PRES-A3S-pass-PSV E1S-tree PREP E3S-RN E2S-tree
 ‘un poquito es mas largo mi palo que no (*sic*) el tuyo’
 ‘My branch (or tree) passes over your branch a little.’
 ‘My stick is a little longer than yours.’

- (16) hun mo Eoh chic na nu mec y bacbal inza
 jun moqoj chik na-Ø-num-e’k i-b’ak’-b’al in-sa’
 one arm.length more PRES-A3S-pass-PSV E3S-tie-NOM E1S-stomach
 chi behen y bacbal aza
 chi-(i)-b’een i-b’ak’-b’al aa-sa’
 PREP-E3S-over E3S-tie-NOM E2S-stomach
 ‘mi cinta es una braza doblada que la tuya’
 ‘One arm-length more passes my stomach’s tie over your stomach’s tie.’
 ‘My belt is one arm-length longer than yours.’

Tensors

- (17) *ca cutub* *chic* *na numec* *in chahalche* *à cha-halche*
 ka-k'utub' *chik* *na-Ø-num-e'k* *in-chajal-che'* *aa-chajal-che'*
 two-palms more PRES-A3S-pass-PSV E1S-pine-tree E2S-pine-tree
 'dos palmos escede mi lanza á la tuya'
 'My pine tree surpasses your pine tree two palm-lengths more.'
 'My pine tree (branch, or lance) is two palm-lengths longer than yours.'

While each of these three examples is a token of the construction type just described (by Quantity is Passed a Figure Over a Ground), they differ in regard to their figures, grounds, and quantities. In examples (15) and (17), trees (lances or branches) are compared; in example (16), belts are compared. In examples (16) and (17), definite quantities are used to indicate the magnitude of comparison: one arm-length; two palm-lengths. In example (15), an indefinite quantity is used (*b'ab'ay* 'a little'), which should be familiar from our discussion of intensifiers in Chapter 5. In all three examples, the key dimension is length; and the figures and grounds involve possessed noun phrases (with pronominal possessors).

As may be seen, the particle *chik* (more) occurs in examples (16) and (17), following the magnitude of comparison. This particle, however, does not occur in example (15), in which an indefinite quantity, rather than a number-unit combination, indicates the magnitude. In Berendt's marginal notes, only example (17) appears with *chik*; in his rewriting (and perhaps updating) of examples (15) and (16), it is not present. In other historical texts, however, and in present-day Q'eqchi', this same form (which is arguably an enclitic) frequently follows both indefinite and definite quantities, as will be shown in Chapter 8. Examples (18) and (19), below, offer tokens of similar construction types, also involving definite quantities, but without the presence of *chik*. I therefore suspect that the use of *chik* in this construction type was nonobligatory.

The next two examples show similar constructions, but without the predicate *nume'k* (to be passed), showing that it too was nonobligatory in such contexts. Predicates like *chalk* (to come) and *k'amok* (to bring) are used instead; and their subject-role and object-role arguments,

respectively, constitute the figure of comparison (which was typically a nonspecific noun phrase). As will be seen, these predicates are not used to indicate that the figure 'comes over' or is 'brought over' the ground. Rather, they form part of optative and imperative constructions in which the speaker is requesting an object of a particular size (relative to some presupposed, and/or contextually present, comparative ground). Nonetheless, like the predicate *nume'k*, they denote actions that stereotypically involve movement through space.

- | | | | | | |
|------|---|--------|---------------|----------------|------|
| (18) | chi chal E | hunaE | y tzamba | homo Eoh | y |
| | chi-ø-chalq | jun-aq | i-tzamb'a | ho-moqoj | i |
| | OPT-A3S-COME | one-NS | E3S-BEAM | five-armlength | DM |
| | roE | chi | behenan | uz | chi |
| | r-oq | chi | (i)-b'een-'an | uz | chi |
| | E3S-LEG | PREP | E3S-RN-DEIC | OR | PREP |
| | 'traigas una viga que sea cinco varas ([^] brazadas [^]) ² mayor que esta ó como esta' | | | | |
| | 'Could a beam come whose length is five <i>varas</i> (arm-lengths) above this or as this.' | | | | |
| | 'Could you bring a beam five arm-lengths longer than this or as this.' | | | | |
| | (Berendt 1875:79) | | | | |

- (19)
- | | | | | | | | |
|----------------|------|------|----|---------|-----------------|------|---------|
| camchaE | | hun | y | che | ox cutub | chi | hocan |
| k'am | chaq | jun | i | che' | ox-k'utub' | chi | jo'-kan |
| carry | DIR | one | DM | tree | three-hand.span | PREP | as-DEIC |
| | | | | | | | |
| oxuac | | chi | | hocan | | | |
| ox-wa' | | chi | | jo'-kan | | | |
| three-multiple | | PREP | | as-DEIC | | | |
- 'trae un palo tres tantos como este, tres palmos mas'
'Bring a branch three palm-lengths more than this (or) three times this.'
(Berendt 1875:78)

Both of these examples also showcase possible variations of otherwise identical constructions. In example (18), the use of Spanish *uz*, with a meaning similar to English ‘or’, seems to suggest that the comparative ground could be marked not just as the argument of the adposition *chi – b’een* (on top of), but also as the argument of the compound preposition *chi jo’* (as, like). Both of the comparative grounds that appear in example (19) turn on this latter form, thereby confirming this suggestion. Indeed, in the margins of the text, across from example (19),

Berendt wrote the following note: *txi jo ain ó txixbeen ain encima de este*, with a line tying both Q'eqchi' constructions (themselves separated by Spanish *ó* 'or') to the same Spanish construction (*encima de este*, or 'above this'). This seems to indicate that either construction (*chi jo' a'in*, 'like this' or *chixb'een a'in*, 'over this') could be used to indicate the ground of comparison, and that both constructions had more or less the same Spanish meaning. As may also be seen, the comparative grounds in both examples are specified with the form (*a*)'an (or, in the margins, *a'in*), and hence as the deictic/demonstrative forms 'that' (or 'this'). These last two examples, then, contrast with examples (15)–(17), which all incorporated explicit noun phrases as their grounds (and figures) of comparison.

In short, it looks like the compound preposition *chi jo'* could do similar work to the adposition *chi -b'een* (at least with deictic arguments), insofar as both constructions license an NP that could serve as a ground of comparison. This fact will prove to be important when we discuss the 'Multiples-of' construction below.

In example (19), the magnitude of comparison is specified in two distinct ways: first, as a relatively standardized length (three handspans); second, as a multiple of the ground in question (*ox-wa*, or 'three multiples'). While both variations involve number-unit combinations, the latter unit (*wa'*, time, instance or multiple) recruits the ground of comparison, however singular in quantity or amount, as a relatively unique unit of measurement, and characterizes the size of the figure as a multiple of it. This is yet another way that the 'Pass-Over' construction shades into the 'Multiples-of' construction.

The 'Pass-Over' construction is still active in Q'eqchi' today, albeit with several significant changes in meaning (and a different preposition heading the adposition: *sa'* as opposed to *chi*). For example, a modern dictionary (Sam Juárez et al. 1997:227), glosses *nume'k sa' -b'een* as 'to pass over something' (*pasar sobre algo*), 'to get ahead of' (*adelantarse*),

and ‘to take advantage of someone’ or ‘to have an advantage over someone’ (*llevar ventaja sobre alguien*). So while it still has its original spatial meaning, along with a more figurative meaning, its comparative function is not attested. That said, present-day speakers found the comparative function of the ‘Pass-Over’ construction readily intelligible, and easily constructed example sentences on the same model. So I strongly suspect it can still be used in a comparative sense.

Here are two examples from this dictionary.

- (20) x-in-num-e’ sa’ x-b’een li w-amiiw r-ik’in
 PERF-A1S-pass-PSV PREP E3S-RN DM E1S-friend E3S-RN
- naq anajwan wan-Ø-Ø chik in-kaar
 COMP now exist-PRES-A3S more E1S-car
- ‘le llevo ventaja a mi amigo porque ahora ya tengo carro’
 ‘I get ahead of (or ‘have an advantage over’) my friend because I now have a car.’
 (Sam Juárez et al. 1997:227)
- (21) naq yoo-k-in chi aalinak x-in-num-e’
 COMP do-PRES-A1S PREP run PERF-A1S-pass-PSV
- chi-r-u=heb’ in-komon
 PREP-E3S-RN=PLR E1S-community
- ‘cuando estábamos corriendo me adelanté a mis compañeros’
 ‘While I was running I got ahead of (or passed in front of) my companions.’
 (Sam Juárez et al. 1997:227)

Example (20) shows the construction with the adposition *sa’* –*b’een*, and a seemingly nonspatial use. Example (21) shows the construction with a spatial use, and the adposition *chi* –*u*, which of course plays a key role in the modern comparative construction. We see again how each of the constructions can shade into the others.

The verbal predicate *nume’k* (to be passed) is closely related to the verbal predicate *numtaak* (to exceed, to be greater, to surpass). The latter predicate can also be used as an auxiliary verb, where the entire construction has a meaning like ‘to over-verb’ (that is, to engage in the action denoted by the main verb in a manner that goes past

the desired, required, or acceptable amount). As will be shown in Chapter 12, the root *num* can be used as a verbal prefix, with a similar meaning. For example, *wa'ak* (to eat) $\Rightarrow$ *numwa'ak* (to overeat). The verb *numtaak* has a participle form: *numtajenaq* (exaggerated, excessive). As was shown in Chapter 5, this form is used as an intensifier in modern Q'eqchi', frequently functioning as a secondary interjection: *numtajenaq NP!*, or 'an excessive amount of NP!' While this last construction is quite old (we have tokens of it going back to the 1600s), it is still in use today. We see, then, the relation between the 'Pass-Over' construction, a modal intensifier (*too*, *excessive*), and a long-used interjection.

Superlative and Equality Constructions

Before turning to the 'Multiples-of' construction, it should be noted that there are two other examples of relevant constructions in this colonial grammar, ostensibly of a superlative construction and an equality construction.

- (22) chin chin yooE
 ch'in-ch'in y-oq
 small-small E3S-leg
 'muy pequeño es su pie ^o sus otras^ medidas'
 'Very small are his legs (or his other) measurements.'
 'He is very short (or small).'
- (Berendt 1875:78)

This example involves reduplication of a predicate adjective (*ch'in*, or 'small'), and functions as an implicit comparative, or absolute superlative. It is the only example in the Berendt manuscript in which the dimension of comparison is marked with an adjective (in addition to a body-part term).

The next example seems to involve an equality construction rather than a comparative (or superlative) construction.

- (23) hoc in xaEam y xaEam Pedro
 jo' in-xaqam y-xaqam Pedro
 as E1S-stature E3S-stature PN
 (No Spanish gloss given in the manuscript.)
 'As my stature (is) his stature, Pedro.'
 'Pedro is the same height as me.'

(Berendt 1875:78)

Here the dimension of comparison is not specified by an adjectival predicate, but rather by a possessed NP (*-xaqam*, or 'stature'). Recall example (4); and see example (26), below. This possessed NP appears twice, with different possessors: the first possessor (the speaker) constitutes the figure of comparison; and the second possessor (Pedro) constitutes the ground of comparison. Instead of the preposition *chi*, or the adposition *chi -b'een*, the form *jo'* (as, like) licenses the ground of comparison. While this example did not come with a Spanish gloss, I'm assuming it would be translated as an equality construction, indicating that the figure and ground have the same degree of the dimension in question. Present-day speakers glossed it this way; and it is similar in form to the modern equality construction shown in the following examples.

- (24) juntaq'eet li-x_i teram [l-in tz'i']_i jo' l-aa tz'i'
 same DM-E3S size DM-E1S dog as DM-E2S dog
 'The size of my dog is the same as (the size of) your dog.'
- (25) l-aj Lu' yoo-Ø-Ø chi x-yiib'ank-il jun r-ochoch
 DM-SD PN do-PRES-A3S PREP E3S-build-NOM one E3S-house
 'Peter is building a house ...

jo' x-nim-al r-e l-aj Xiwan
 as E3S-big-NOM E3S-DAT DM-SD PN
 as large as the one belonging to John.'

(Stewart 1980:115)

Example (24) is instructive in that the dimension of comparison is not specified by the predicate *per se* (*juntaq'eet*, or 'equal'), but rather by

the possessed NP that serves as the argument of this predicate (*li-xiteram*, or ‘its size’). As may be seen by the index notation, the cross-referenced possessor of this NP constitutes the figure of comparison (my dog). As may also be seen, the ground of comparison (your dog) is specified as the argument of the preposition *jo*’ (as, like). Example (25) shows a more complicated utterance involving an equality construction as part of a relative clause. Again, the form *jo*’ is used to indicate the ground of comparison; and the dimension of comparison is marked using a possessed NP (here a nominalized adjective: *-nimal*, or ‘bigness’).

The ‘Multiples-of’ Construction

Our last set of examples from the Berendt manuscript are tokens of a type that we caught a glimpse of in example (19): the ‘Multiples-of’ construction.

- (26) cauac in xaEam chi xaEam P.
 ka-wa' in-xaqam chi i-xaqam P(edro)
 two-multiple E1S-stature PREP E3S-stature PN
 'dos veces es mayor mi estatura qua la de Pedro'
 'Two times (is) my stature (relative) to Pedro's stature.'
 'I am twice as tall (or large) as Pedro.'
- (Berendt 1875:78)

As may be seen, the magnitude of comparison is constituted by a number-unit combination: *ka-wa* 'two-time/multiple', or 'twice'. This quantity seems to be functioning as the predicate in the construction, such that the noun phrase, *in-xaqam* (my stature), is its argument. Note that the comparative relation is not specified by an adposition like *chi - b'een* (on top of) or *chi jo* 'as, like', but rather by the preposition *chi* (all by itself). That said, the possessed noun in question, *-xaqam*, is sufficiently like a relational noun that it might be serving a function similar to *-b'een* 'first/head' and *-u* 'face/front'. Indeed, it is possible that the

adposition *chi* –*u*, in the modern comparative construction, might have originally emerged from a similar construction.

The last two examples in this section are the most difficult to interpret because of a relatively hard-to-parse construction (called an ‘adverb’ in the text): *chi chol*. The difficulty is compounded because these are actually the first examples presented in this section of the manuscript; and the adverb in question is used to define the comparative construction per se, as may be seen in the opening lines of the section:

The rule for this mode of speaking is to take the name *vac* (wa’), that means *vez* (time, instance, multiple), and to prepend the names for numbers. For example, *hunvac* (jun–wa’) ‘one time’, *cavac* (ka–wa’) ‘two times’, *oxvac* (ox–wa’) ‘three times’, *quilavac* (k’ila–wa’) ‘many times’. And, after all this, to add the adverb *chi chol*. (Berendt 1875:78)

But aside from this unresolved construction (to be discussed at length below), the two examples that follow this passage are otherwise relatively straightforward tokens of the type, insofar as they characterize the size of the figure as a multiple of the ground.

- (27) cauac chiu chol y tihbal San Juan ytihbal hun=ta amaE
 ka–wa’ chik jo’ i–tij–b’al San Juan i–tij–b’al jun–ta–amaq’
 two–time more as E3S–?–NOM San Juan E3S–?–NOM one–1RR–all
 ‘doblado ha sido emiñado (?) el pueblo de San Juan que los demas’
 ‘The X of San Juan (the town/people of Chamelco) is two times the X of all the others.’
 ‘San Juan is twice as X as the rest.’

(Berendt 1875:78)

- (28) cawaEquin chiu chol aho Eat
 ka–wa’–k–in chik jo’ a–jo’–at
 two–time–PRES–A1S more PREP TOP–PREP–A2S
 ‘yo soy dos veces mas que tu’
 ‘I am two times more than you.’
 ‘I am twice what you are.’

(Berendt 1875:78)

As may be seen, my current hypothesis is that *chi(u) chol* is best segmented as *chi(u)c hol*, which is best analyzed as either *chik jo’* (more

as) or *chi jo'* (like, as). That is, I suspect that *chik* is following the number-multiple combination (as it often does in other constructions), and *jo'* is marking the ground of comparison (which it often does, especially in equality constructions, as shown in the last section). Recall examples (16) and (17), in which *chik* follows a number-unit combination (e.g., 'two palms more'). Or, as an alternative analysis and segmentation, the preposition *chi* occurs before *jo'*, and this compound preposition indicates the ground of comparison (as it often does in other constructions). Recall examples (18) and (19), in which *chi jo'* (plus a deictic) marked the comparative ground (e.g., 'as/like this').

This analysis is not only justified by the Spanish glosses (offered in the manuscript itself), it is also justified by the judgments of current-day speakers. I worked through this section of the Berendt manuscript with a speaker of Q'eqchi' from San Juan Chamelco. Almost all the sentences were easily understood by him; and he translated them into Spanish in ways that were more or less equivalent to the glosses provided in the manuscript. Crucially, not only did he understand the 'Passes-Over' construction, as it was presented in examples (15)–(19), he also understood this last construction, and readily offered the following modernized token of it as a type.

- (29) li winq a'an wib' sut chik jo' ha'-at
 DM man DEM two times more as TOP-A2S
 'Ese hombre es dos veces más que tú.'
 'That man is two times greater than you.'

As may be seen, *wa'* (times, or multiples) is replaced by *sut* (times, multiples), its modern-day equivalent; and the determiner has also changed (*i* $\Rightarrow$ *li*). But otherwise the construction is very similar to examples (27) and (28), and so helps justify the above claim that *chi (u) chol* is plausibly analyzed as *chik jo'*.

Finally, in the section of the Brinton manuscript that follows directly after this one, entitled *Para hablar de distancia en Camino*, or 'how to

speak of distances along roads', there are several more examples of closely related constructions, one involving *chik jo'*, and the other involving *chi jo'*.

- (30) Oxvac chic hoc le Rabinal nalc Tactic
 ox-wa' chik jo' le' Rabinal na'-Ø-elk Tactic
 three-multiple more as there PN PRES-A3S-leave PN
 'será como tres veces de Tactic a Rabinal'
 'The distance (to somewhere) is three times (the distance) between Rabinal and Tactic.'
 'It's three times longer/further (away) than the distance from Tactic to Rabinal.'
 (Berendt 1875:79)

- (31) Cavac chi hoc Santa Cruz
 ka-wa' chi jo' Santa Cruz
 two-time PREP as PN
 'está dos veces como de aquí à Santa Cruz'
 '(The distance to somewhere) is two times (the distance) to Santa Cruz.'
 'It's twice the distance to Santa Cruz.'
 (Berendt 1875:79)

Both of these examples describe the distance to some unnamed place (from the place of speaking, presumably). Both seem to express that distance in terms of multiples of a known distance: either between Tactic and Rabinal, or between Santa Cruz and the place of speaking. Both involve the difficult to interpret 'adverbio' just discussed: *chi(c) hoc*. Finally, as may be seen, the presence of *chik* (more), as opposed to *chi* (PREP), doesn't seem to be salient in the Spanish glosses provided. These last two examples, then, provide even more justification for the two possible analyses of *chi(u) chol* just offered.

The Aggregation (and Degradation) of Grounds

We have just seen a wide range of comparative constructions from a colonial grammar, and their relation to somewhat similar constructions used by present-day speakers. While there are not enough examples to say anything absolutely definitive, the constructions were exemplified in such a way that we could find a series of contrastive variants, whereby

each construction shaded into the others, and into noncomparative and (seemingly) metaphorical constructions as well. That said, given so many interrelated, shifting and wily forms, and notwithstanding my simplistic attempt to regiment them into a logic of types, it is probably best to speak of an ensemble of shifting strategies, or a *comparative complex*, as opposed to a relatively finite and fixed set of constructions.

While there were many lessons to be learned from this analysis, several overarching patterns are particularly surprising. If we take the colonial grammar as a good indication of prior usage (which we almost definitely shouldn't do), then quantification was prior to qualification (at least in the realm of explicit comparison); the key quality being quantified was length (height, girth, or distance); and speakers compared themselves and their possessions in rather antagonistic and/or invidious ways (my lance is bigger than your lance, I am twice what you are, and so forth). My sense is that these tendencies were probably an artifact of the colonial encounter, the limited interests and imaginaries of grammar writers, and the arguably tense and exploitative social relations between grammarians and speakers. Recall examples (18) and (19), which request building materials in certain sizes. In any case, I wouldn't make too much of these tendencies except as (somewhat faint) evidence of such relations, limitations, and tensions. Indeed, the only present-day token I have of speakers using comparative constructions in such antagonistic and invidious ways is when that one man reported the speech of Donald Trump and Kim Jong-un regarding who had 'the bigger button'.

To conclude this chapter, I want to point out a somewhat emergent trend: the aggregation of Spanish and Q'eqchi' forms indicating grounds of comparison. In particular, the complementizer *que* (/ke/) which, as we saw in Chapter 6, marks the ground of comparison in Spanish, can sometimes occur in front of the Q'eqchi' adposition *chi -u*, and this aggregated form (*ke chi -u*) then serves to mark the ground of

comparison. The earliest token I have found of such an aggregated construction comes from a text that was collected in the late 1960s.

- (32) k'a' naq x-Ø-in-ye
 PART COMP PERF-A3S-E1S-say
 'Why did I say ...
- naq a' li kadeen mas tertō x-tz'aq
 COMP TOP DM chain very expensive E3S-price
 that the chain was very expensive ...
- ke chi r-u li w-u
 COMP PREP E3S-RN DM E1S-eye
 relative to my eyes!'

(Shaw 1971:401)

This example shows the self-reported speech of a man in a morality tale (Kockelman 2020b). He is asking himself why he judged the price of a gold chain to be much more expensive than his eyes (or, more literally, and to return to our discussion of example (10), 'very expensive in the face/eyes of his eyes'). As may be seen, the aggregated form (*ke chiru*) seems to mark the ground of comparison.

This strategy of 'doubling' Spanish and indigenous language forms is well documented in Latin America. See, for example, Hill and Hill (1986) on aggregation in Nahuatl, and Karttunen (2000) on 'paired forms' in Latin American Indigenous languages more generally. In Q'eqchi', it often occurs with conjunctions. For example, the Spanish form *pero* 'but' frequently precedes the Q'eqchi' form *ab'an* 'but/however', and the entire construction continues to function like 'but' or 'however'. While example (32) is the only token of such a doubled comparative construction that I could find in twentieth-century texts, and while I heard no tokens of this construction during my fieldwork in the late 1990s and early 2000s, I collected several tokens of it during recent fieldwork (2015–20) in the same area. I suspect, then, that it is a

frequently used construction, especially among younger speakers and/or bilingual speakers.

As may be seen from the two examples that follow, one of these recent tokens occurred without Q'eqchi' *mas* (and was translated as Spanish *más*); and the other token occurred with Q'eqchi' *mas* (and was translated as Spanish *mucho más*).

- (33) nim ke chi-r-u l-aj Jaime
 big COMP PREP-E3S-RN DM-SD PN
 'Él es más grande que Jaime.'
 'He is big relative to James.'

- (34) mas ch'ina-us ke chi-w-u
 very small-good COMP PREP-E1S-RN
 'Ella es mucho más bonita que yo.'
 'She is very beautiful relative to me.'

Notice, then, that *ke chiru* seems to be doing the same work as *chiru*. That is, the practice of doubling doesn't make *chiru* function like *que*, such that *mas* is needed (but now indicating direction, and/or functioning as a comparative, like Spanish *más*).

This aggregation does not occur with the adposition *chi -u* when it serves other functions, so it may be a way to highlight the comparative function of *chi -u* (in contrast to its more frequent spatial and temporal functions). Such tokens could also be indicating the disfluency of a bilingual speaker – launching into Spanish *que* after a *mas* adjective construction, just like they would normally do in Spanish, but then self-correcting. (And it might even indicate the incipient grammaticalization of such a disfluency, or the fact that the speaker's mental representation of the Q'eqchi' adposition is similar to their mental representation of the Spanish complementizer in regard to this function.)

To be sure, all this deserves a study in itself (and it may be too early to tell). Moreover, given their antipathy towards forms like *mas*, language

purists might come to find aggregation to be a species of degradation, if not an ‘idiomatic perversion’, and thus perhaps a fall from grace.

Notes to Chapter 7

- 1 The first line shows the Q’eqchi’ text as it was originally written in the manuscript. The second line shows the Q’eqchi’ text written in a modernized orthography. The third line provides a standard interlinear gloss. The fourth line shows the Spanish gloss of the Q’eqchi’ text, when available, as it was provided in the manuscript itself. The fifth line offers a relatively strict English translation of the Q’eqchi’ text; and the sixth line offers a relatively free English translation.
- 2 Content enclosed in upward arrows (^...^) was inserted into the colonial document (usually above, or in line with, the text) by Hermann C. Berendt when he copied it.

EIGHT



Sentences and their Shadows

The Many Functions of ‘More’

While Q’eqchi’ *mas* came from Spanish *más* ‘more’, it is nearer in function to Spanish *muy* ‘very’ and *mucho* ‘much/many’. It thereby serves as an intensifier, marking magnitude, rather than a comparative, marking direction. While Spanish *más* plays an important role in comparative and superlative constructions, it serves many other functions as well – making it similar not just to English ‘more’ and ‘most’, but also to English ‘else’, ‘other’, ‘(no) longer’, and ‘plus’. As was shown in Table 6.1, most of these functions turn on the fact that *más* carries a strong presupposition. For example, in asserting that someone does, or does not, want *more*, I take for granted that they wanted (or at least had) some amount to begin with.

Given such a multiplicity of functions, and such a strong presupposition, the nearest equivalent to Spanish *más* is not Q’eqchi’ *mas*, but rather Q’eqchi’ *chik*. This form can be found in the language (at least) as early as the 1500s, where it played a role very similar to its present-day function.¹ Indeed, as we saw in the last chapter, it even played a (nonobligatory) role in the colonial comparative construction. Recall examples like, ‘My branch is passed over your branch by two palm-lengths *more* (in addition, extra)’. That is, my branch *surpasses* your branch by two such units.

This chapter examines the multiple functions of *chik* (more, extra, else, other, again, [no] longer), as well as the complementary functions of (*ka'*)*ajwi'* (only, also, too). To introduce readers to the phenomena at issue, the following examples highlight this complementarity, and showcase these functions.

- (1) k'e b'ab'ay arin,
 give.IMP a.little here
 'Put a little here.
- ke' b'ab'ay chik aran ajwi'
 give.IMP a.little more there also
 Put a little more there as well.'
- (2) ka'ajwi' anaqwan t-Ø-wan-q li ixim,
 only today FUT-A3S-exist-NS DM corn
 'Only today will there be corn.
- hulaj maak'a' chik
 tomorrow NEG.exist more
 Tomorrow there will be no more.'

(Sam Juárez et al. 1997:137)

Example (1) shows that *chik* can have scope over indefinite quantities (*b'ab'ay chik*, or 'a little more'), and *ajwi'* can have scope over spatial deictics (*aran ajwi'*, or 'there too'). Just as the presence of *chik* presupposes a prior amount (of the same substance), the presence of *ajwi'* presupposes a prior site (of the same action). Example (2) shows that *ka'ajwi'* can have scope over temporal adverbs (*ka'ajwi' anaqwan*, or 'only today'), and *chik* can occur with existential negation (*maak'a' chik* 'there exists no more'). Loosely speaking, whereby forms like *chik* (without negation) and *ajwi'* 'also/too' presuppose some quantity or constituent while adding to it, forms like *chik* (with negation) and *ka'ajwi'* 'only' carry similar presuppositions while denying such additions.

The next three examples highlight additional functions of *chik*, and show that *mas* and *chik* can occur together.

Tensors

- (3) mas nek-Ø-e'r-oksi pues li junxil kristyan,
 much PRES-A3S-E3P-use well DM early people
 'The early people used it a lot.
- pero l-aa'o ink'a' chik mas na-Ø-q-oksi
 but DM-A1P NEG more much PRES-A3S-E1P-use
 But we no longer use it a lot.'

We saw this example in Chapter 5. A man is discussing the use of a particular word, explaining to the anthropologist that, while it used to be used a lot, it is no longer. As may be seen, both *mas* 'a lot' and *ink'a' chik* 'no longer' occur in the same clause. As may also be seen, the latter construction has scope over a verbal predicate and functions as a temporal operator. The second sentence presupposes that people used to use the word prior to some reference time (itself the speech event, or 'nowadays'); and it asserts that the same people do not use the word at the reference time. As may be seen, what is presupposed in the second sentence was proposed in the first – thereby creating continuity across, if not making a community of, the 'early people' and present-day speakers.

- (4) ki-Ø-b'ay chaq oxib' xaman
 INF-A3S-delay LOC three week
 'He delayed (coming back from there) three weeks.

[Several intervening utterances removed.]

 ut naq ki-Ø-b'ay chaq mas wi'chik li winq a'an
 CONJ COMP INF-A3S-delay LOC much again DM man DEM
 And when that man delayed a lot again . . .'
 (Shaw 1971:395)

Like the last example, the second sentence in this example presupposes the first. In particular, to say that the man delayed a lot 'again' (*wi'chik*), is to presuppose that he delayed a lot at some prior time. As may be seen, *mas* functions as an indefinite quantity in the second sentence. Its presence is parallel to, and a substitute for, the definite quantity *oxib' xaman* (or 'three weeks') that occurs in the first sentence.

- (5) (mas) *terto* *chik* *li-x* *tz'aq* *anaqwan*
 (very) expensive more DM-E3S price now
 'Its price is (very) expensive now [relative to how it was before].'

This example shows that *chik* can serve a stereotypically comparative function, so long as what is being compared is not one entity's degree of some dimension (like expensiveness) with another entity's degree of the same dimension, but rather one entity's degree of some dimension at some reference time (here the speech event) with the same entity's degree of the same dimension prior to that reference time. As indicated by the parentheses, while *mas* can occur with *chik* in such a construction (indicating that the price didn't just increase, but that it increased a large amount), its presence is nonobligatory.

These examples show that *chik* accepts a wide range of arguments: not just adjectives and quantities, but also NPs and VPs. It typically indicates that there is more (or no more) of the dimension specified by its argument than some contextually presupposed amount. Not only is *chik* unique in its function (in that no other forms can substitute for it), it is also deeply woven into the grammar of Q'eqchi' (in that many frequently used constructions have long depended on it). A form like Q'eqchi' *mas*, in contrast, has many substitutes with similar functions, and a relatively short history in the language itself.

This chapter is about *doppelgängers*: not just *chik* versus *mas* (or *más*), and 'more' versus 'only' (or 'also'), but also propositions and their presuppositions (implications and entailments), and thus sentences and their shadows. We will explore the ways such operators presuppose worlds in order to propose worlds, worlds that are mutually inhabited by speaker and addressee alike, if only performatively so. We will explore the ways such presupposed and proposed worlds are nearly identical to each other – different only by some additional detail (or its denial). We will explore the nature of such additions: the ways one entity or event can be framed as equivalent to, or in excess of, another. Finally, in the conclusion, we will explore the role such

doublings play in sympathetic magic – and hence the relation between *two*, *too*, and *taboo*.

Presupposed and Asserted Contents

Table 8.1 surveys the functions served by *chik* and *(ka')ajwi'* (with and without negation), as well as complementary functions served by several closely related operators. While the details of this table require the entire chapter to explicate, I introduce it now in order to give readers an overview of all the constructions at once.

For each such construction, this table shows the morphological form of the operator (in bold italics), as well as the types of arguments the operator may take (in parentheses). It then offers a loose English gloss of each construction (in quotes), followed by a more detailed account of the presupposed (P), asserted (A), and questioned (Q) contents of typical utterances incorporating such constructions, in the tradition of Horn (1969).

As may be seen, the main arguments of such operators are propositions (p), quantities (Qn), and constituents (Cn). The quantities are typically numbers, number–unit combinations, or indefinite quantities (a lot, a little, etc.). And the constituents are any focusable elements in a clause: noun phrases, verb phrases, adverbs, and wh-words. (Bracketed arguments are optional.) Such narrated constituents (Cn) and quantities (Qn) are to be contrasted with reference constituents (Cr), quantities (Qr), and times (Tr), building on the work of Sapir (1985 [1944]), Jakobson (1990a), Reichenbach (1947), and Bull (1960). Whereas the former are explicitly denoted, the later are only indexed, and thus mutually known through immediate context, co-occurring text, or cultural knowledge more generally – or at least performatively treated as such, in the tradition of scholars like Austin (2003), Stalnaker (1973), and Silverstein (1976).

In terms of large-scale organization, the constructions in the right-hand column of Table 8.1 are external negations of the constructions in

Table 8.1 *Presupposed and asserted contents*

ASPECT: <i>Already and Still</i>	
(1a) ak (p, Tr): ‘already p’ P: p not true before Tr A: p true at Tr	(1b) maajj ’ (p, Tr): ‘not yet p’ P: p not true before Tr A: p not true at Tr
(2a) toj (p, Tr): ‘still p’ P: p true before Tr A: p true at Tr	(2b) neg chik (p, Tr): ‘no longer p’ P: p true before Tr A: p not true at Tr
EXISTENCE AND ITERATION: <i>Exist More and Occur Again</i>	
(3a) exist chik ([Cn]): ‘there is more/another [of Cn]’ P: there exists some Qr [of Cn], and p true of Qr A: p true of some quantity (> Qr) [of Cn]	(3b) neg exist chik ([Cn]): ‘there is no more/not another [of Cn]’ P: there exists some Qr [of Cn], and p true of Qr A: p not true of any quantity (> Qr) [of Cn]
(4a) wi’chik (p, En): ‘p again’ P: there exists some Er (< En), and p true of Er A: p true of En	(4b) neg wi’chik (p, En): ‘again not p’ P: there exists some Er (< En), and p not true of Er A: p not true of En
QUANTITY: <i>More and Only</i>	
(5a) chik (Qn, [Cn], p): ‘p true of Qn more [of Cn]’ P: p true of Qr [of Cn] A: p true of Qn more than Qr [of Cn]	(5b) neg chik (Qn, [Cn], p): ‘p not true of Qn more [of Cn]’ P: p true of Qr [of Cn] A: p not true of Qn more than Qr [of Cn]
(6a) ajwi ’ (Qn, [Cn], p): ‘p true of only Qn [of Cn]’ P: p true of Qn [of Cn] A: p not true of any quantity more than Qn [of Cn]	(6b) neg ajwi ’ (Qn, [Cn], p): ‘p not true of only Qn [of Cn]’ P: p true of Qn [of Cn] A: p true of some quantity more than Qn [of Cn]

Table 8.1 (*cont.*)

CONSTITUENCY: <i>Also and Only</i>	
(7a) <i>ajwi'</i> ([Qn], Cn, p): 'p true of [Qn of] Cn also' P: p true of some [Qn of] Cr other/lesser than [Qn of] Cn A: p true of [Qn of] Cn	(7b) <i>neg ajwi'</i> ([Qn], Cn, p): 'p not true of [Qn of] Cn either' P: p not true of some [Qn of] Cr other/lesser than [Qn of] Cn A: p not true of [Qn of] Cn
(8a) <i>ka'ajwi'</i> ([Qn], Cn, p): 'p true of only [Qn of] Cn' P: p true of [Qn of] Cn A: p not true of any constituent other/greater than [Qn of] Cn	(8b) <i>neg ka'ajwi'</i> ([Qn], Cn, p): 'p not true of only [Qn of] Cn' P: p true of [Qn of] Cn A: p true of some constituent other/greater than [Qn of] Cn
QUESTIONING QUANTITY AND CONSTITUENCY: <i>How much/many More? and Who/what/where/how Else?</i>	
(9a) <i>jarub' chik</i> (Qq, [Cn], p): 'p true of how much more?' P: p true of Qr [of Cn] & p true of Qq more than Qr [of Cn] Q: value of Qq	(9b) <i>neg jarub' chik</i> (Qq, [Cn], p): 'p true of no amount more' P: p true of Qr [of Cn] A: p not true of any Qq more than Qr [of Cn]
(10a) <i>wh-word chik</i> (Cq, p): 'p true of wh-word else?' P: p true of Cr & p true of Cq other/greater than Cr Q: value of Cq	(10b) <i>neg wh-word chik</i> (Cq, p): 'p true of no wh-word else' P: p true of Cr A: p not true of any Cq other/greater than Cr
Conventions used	
P = presuppose, A = assert, Q = question, > greater than (in case of quantities) or later than (in case of times)	
Cn = narrated constituent, Qn = narrated quantity (meaning denoted, explicit, referred to, or proposed)	
Cr = reference constituent, Qr = reference quantity (meaning indexed, implicit, made reference to, or presupposed)	
Cq = questioned constituent, Qq = questioned quantity (some wh-word requesting unknown constituent or quantity)	
Tr = reference time (equivalent to t), En = narrated event, Er = reference event (equivalent to e)	
p = proposition, [Cn] = narrated constituent nonobligatory, [Qn] = narrated quantity nonobligatory	

the left-hand column, and transparently so. (The symbol *neg* indicates one of several negation types in Q'eqchi' that will be discussed in later sections.) In two cases, however, the negation is internal rather than external: in class (4b) we have 'again not' (as opposed to 'not again'); and in class (7b) we have 'also not' (as opposed to 'not also'). Finally, in the case of the aspectual forms (classes 1b and 2b), the negated construction involves a different form altogether: *maaji* 'not yet) versus *ak* (already); and *neg chik* (no longer) versus *toj* (still).

Moving from top to bottom, the first four constructions (rows 1a, 1b, 2a, 2b) typically take propositions as their main arguments, and are aspectual in nature. Loosely speaking, they indicate that the onset or offset of a narrated event (duration, state, or interval) is before or after some reference time. For example, to say that someone was 'still' (*toj*) singing (when dinner arrived) is to presuppose that they were singing before dinner arrived, and to assert that they were singing when dinner arrived, and continuously so in between. (In this example, the person's singing constitutes the narrated event; and the arrival of dinner constitutes the reference time.) Conversely, to say that someone was 'no longer' (*neg chik*) singing (when dinner arrived) is to presuppose that they were singing before dinner arrived, and to assert that they were not singing when dinner arrived. Recall example (3). As may be seen, an operator like *neg chik*, insofar as it is the external negation of an operator like *toj*, negates its assertion while maintaining its presupposition. Chapter 10 will analyze each of these first four constructions in depth, taking into account Q'eqchi' practices of replacement, and a broader understanding of time.

The next four constructions (rows 3a, 3b, 4a, 4b) have to do with the existence of entities, or the iteration of events. For example, to assert there is 'more' (*chik*) coffee, or 'no more' coffee is to presuppose there was some amount of coffee to begin with. Recall example (2). And to assert that some event happened 'again' (*wi'chik*) is to presuppose that it happened before. Recall example (4). Constructions of type (2b) 'no

longer’ also do the work of ‘not again’ (when the event in question is relatively perfective). That is, in asserting that some event did not happen (again), they presuppose that it happened before. Constructions of type (4b), in contrast, do the work of ‘again not’. That is, in asserting that some event *again* did not happen, they presuppose that it did not happen before.

The next four constructions (rows 5a, 5b, 6a, 6b) take quantities as their main arguments, and assert (or deny) that there is ‘quantity more’ or ‘only quantity’ of some constituent. Loosely speaking, they indicate that the quantity of some narrated entity (or the degree of some narrated dimension) does or does not extend past some presupposed reference quantity by some amount. While constructions (5a) and (5b) are similar to constructions (3a) and (3b), they take definite and indefinite quantities (of particular constituents) as their arguments, and they allow for a much wider range of predicates (besides simple existence). Note, then, that just as constructions (1) and (2) are intimately related to constructions (3) and (4), constructions (3) and (4) shade into constructions (5) and (6).

The next four constructions (rows 7a, 7b, 8a, 8b) typically take constituents as their main arguments, as opposed to quantities; but otherwise they functionally overlap with the last four constructions. Recall example (1). As may be seen, when *ajwi*’ occurs with quantities, it functions like English ‘only’; when it occurs with constituents, in contrast, it functions as English ‘also’. To say ‘only constituent’, as opposed to ‘only quantity’, the form *ka’ajwi*’ is used instead of *ajwi*’; and it comes before the constituent in its scope rather than after.

The last four constructions (rows 9a, 9b, 10a, 10b) involve the operator *chik* (more/else), and take *wh*-words as their main arguments. Construction types (9) and (5) might be contrasted with construction types (10) and (7), insofar as the first two have scope over quantities whereas the latter two have scope over constituents.

As may be seen from Table 8.1, the morpheme *chik* (more/else) occurs in eleven of the twenty construction types; and the composite form *(ka')ajwi'* (only, also) occurs in six of the twenty construction types. Such a formal overlap, along with such functional complementarity, allows us to treat these operators as a relatively bounded and coherent subsystem of the grammar. To be sure, this table only accounts for the most frequent functions of such forms. The following sections, and later chapters, will delve into their actual usage in much greater detail.

Moreness, Existence, Negation

This section focuses on the function of *chik* when it occurs with existential predicates, both with and without negation (classes 3a and 3b). As will be seen, the distinction between grade and aspect is neutralized in the context of negation. Loosely speaking, *there is more NP* is formally distinct from *there is still NP*; whereas *there is no more NP* is not formally distinct from *there is no longer NP*.

The intransitive stative predicate *wank* is used to predicate existence, location, or possession. To negate such constructions, the form *maak'a'* is used. In the following example, both this predicate and its external negation occur with the operator *chik*.

- (6) Q: ma wan-Ø-Ø chik li pix
 QUES exist-PRES-A3S more DM tomato
 'Are there more tomatoes?'

 A: li pix, maak'a' chik,
 DM tomato NEG.exist more
 'The tomatoes, there are no more.

 ink'a' chik ki-Ø-x-taw
 NEG MORE INF-A3S-E3S-find
 'No longer do they find them.'

This question was asked by a woman buying tomatoes in a market. She was speaking to another woman who usually sold her tomatoes, and other vegetables. As may be seen, the sentence involves the existential predicate *wank*, along with the operator *chik*, and a single noun phrase argument (which refers to the tomatoes in question). Such constructions presuppose the existence of some amount, or number, of their NP argument; and they assert that (or, as in this example, question whether) there is a greater amount, or larger number, of that argument. As may also be seen, the first clause of the seller's response involves the negative existential predicate *maak'a'*, along with the operator *chik*, and the same noun phrase argument (in topic position). Such constructions preserve the presupposition of their positive counterparts, while negating the assertion.² The second clause of the seller's response, in contrast, involves a negation *chik* construction with broad-scope negation (*ink'a'*), and closely related semantics.

Note, then, that whereas *ink'a' chik* is the external negation of *toj*, as will be argued in Chapter 10, *maak'a' chik* is the external negation of *wank chik*. The first two operators typically have sentential scope and project a phase transition in time (*still* versus *no longer*). The second two operators usually have scope over noun phrases, and project something like a phase transition in quantity (*more* versus *no more*). I say usually because, in the case of negative valence (*no longer* and *no more*), the distinction between time and quantity – or aspect and grade – is formally neutralized (even though it is often contextually salient).

The next several examples justify these claims.

- (7) x-e'-kana raj chi maak'a' chik x-na'
 PERF-A3P-stay CF PREP NEG.exist more E3S-mother
 'They would have ended up no longer having a mother ...

chi maak'a' chik x-yuwa'
 PREP NEG.exist more E3S-father
 no longer having a father.'

('Habrían quedado sin madre y sin padre.')

(Eachus and Carlson 1980:266)

The speaker is describing what would have happened to two children in a counterfactual scenario (if their parents hadn't survived). As may be seen, the example has two *maak'a' chik* constructions that necessarily have an aspectual reading as opposed to a quantity reading. That is, the claim is not that the children would have had no more (additional/other) parents; the claim is that they would no longer have (their original) parents.

- (8) Q: ut r-ik'in li ke'ek,
and E3S-with DM grind
'And with grinding (corn),

ma wan-Ø-Ø li r-awasink-il
QUES exist-PRES-A3S DM E3S-taboo.remove-NOM
are there ways to remove a taboo?'

- A: aaah, mare wan-k-Ø ajwi',
INTERJ maybe exist-PRES-A3S also
'Aah, perhaps there are as well,

ab'an ink'a' chik n-Ø-in-naw
but NEG more PRES-A3S-E1S-know
but I don't know any more.'

This example comes from an ethnographic interview about different 'taboos' (*awas*), and various ways to mitigate their harmful effects. At this point in the interview, the woman speaking had already described a wide range of such remedies. As may be seen in the second line of her response, the *ink'a' chik* construction has a quantity reading rather than its usual aspectual reading. That is, she was not asserting that she no longer knew such remedies (presupposing that she once knew them); she was asserting that she didn't know any other remedies (besides the ones she had just described).

The following example shows that the operators *toj* 'still' and *chik* 'more' can occur together with existential predicates.

- (9) *ma* *toj* *wan-Ø-Ø* *chik* *aa-pix*
 QUES *still* *exist-PRES-A3S* *more* *E2S-tomatoes*
 ‘Do you still have more/additional tomatoes?’
 (SG: todavía tiene más tomates?)

Here the presence of *chik* is used to question whether there are more tomatoes (over and above some presupposed amount); and the presence of *toj* presupposes that there were more tomatoes prior to the reference time (here the speech event), and questions whether this fact continues to be true at the reference time.

Table 8.2 summarizes the foregoing patterns. As captured by such semantics, whereas the difference between grade and aspect is formally neutralized with negative valence, both dimensions may be independently specified in the context of positive, or unmarked, valence. As also captured by such semantics, notwithstanding this formal neutralization, such constructions are arguably sensitive to different kinds of contextually present reference arguments: either a reference time (Tr), in the case of aspect; or a reference quantity (Qr), in the case of grade.

Table 8.2 *Interaction of chik and toj with existence predicates and negation*

	Unmarked valence	Negative valence
Grade	<i>wank chik</i> ([Cn], Qr): ‘there exists more [of Cn]’ P: there exists some Qr [of Cn] A: there exists some quantity [of Cn] more than Qr	<i>maak’a’ chik</i> ([Cn], Qr): ‘there does not exist more [of Cn]’ P: there exists some Qr [of Cn] A: there does not exist some quantity [of Cn] more than Qr
Aspect	<i>toj wank</i> (Cn, Tr): ‘there still exists Cn’ P: there exists Cn before Tr A: there exists Cn at Tr	<i>maak’a’ chik</i> (Cn, Tr): ‘there no longer exists Cn’ P: there exists Cn before Tr A: there does not exist Cn at Tr
Cn = narrated constituent (typically an NP)		
Qr = reference quantity		
Tr = reference time		

More and Else

The form *chik* often occurs with wh-words, where it is probably best translated as ‘else’ (class 10a). For example *ani chik* (who else), *joq’e chik* (when else), and so forth. In the case of wh-words requesting quantities, as opposed to constituents, it is probably best translated as ‘more’ (class 9a). For example, *jarub’ chik* (how much/many more). Such constructions have a double presupposition, as may be seen through the example of *b’ar chik*, or ‘where else’. Not only does this construction presuppose that some proposition is true of some reference constituent (e.g., something happened *somewhere*); it presupposes that the proposition is true of some additional constituent (e.g., that same something happened *somewhere else*), insofar as it questions the specific identity of that constituent (e.g., *where else* did it happen?). See Table 8.3 (rows 1 and 2, column 1). Typical responses to questions of this sort are simply answers specifying the questioned material. However, responses include negated constructions (e.g., *maa-b’ar chik*, or ‘nowhere else’) and ‘only’ constructions (e.g., *ka’ajwi’ aran*, or ‘only there’), both of which deny the second presupposition (but not the first).

The following example illustrates these claims.

- (10) S1: ut ani t-at-ix-tenq’a
 and who FUT-A2S-E3S-help
 ‘And who will help you?’
- S2: ha’ li-x Dominga,
 TOP DM-SD PN
 ‘That (would be) Dominga,
- li-x na’ l-aj Alejandro,
 DM-E3S mother DM-SD PN
 the mother of Alejandro,
- li-x Matilde, li-x Elvira,
 DM-SD PN DM-SD PN
 Matilde (and) Elvira.

Table 8.3 *The interaction of chik with wh-words*

Unmarked valence	Negative valence
<i>jarub'</i> chik (Qq, [Cn], p): 'p true of how much more?' P: p true of Qr [of Cn] & p true of Qq more than Qr [of Cn] Q: value of Qq	<i>maa-jarub'</i> chik (Qq, [Cn], p): 'p true of no amount more' P: p true of Qr [of Cn] A: p not true of any quantity more than Qr [of Cn]
<i>wh-word chik</i> (Cq, p): 'p true of wh-word else?' P: p true of Cr & p true of Cq other/greater than Cr Q: value of Cq	<i>maa-wh-word chik</i> (Cq, p): 'p true of no wh-word else' P: p true of Cr A: p not true of any Cq other/greater than Cr
when wh-word is <i>ani</i> 'who' $\Rightarrow$	<i>maa-ani chik</i> (NP = person, place, t): 'NP is no longer at place' P: someone at place before t A: someone not at place at t
when use <i>jun</i> 'one' instead of wh-word $\Rightarrow$ (typically occurring with countable constituents)	<i>maa-jun chik</i> (Qr, [Cn], p): 'p true of nobody/nothing else' P: p true of Qr [of Cn] A: p not (even) true of one more than Qr [of Cn]
when use <i>wa</i> 'instance' instead of a wh-word $\Rightarrow$	<i>maa-wa chik</i> (NP = thing, place, t): 'NP is no longer at place' P: something at place before t A: something not at place at t
p = proposition, t = reference time (equivalent to Tr) Cn = narrated constituent, Cr = reference constituent, Cq = questioned constituent Qq = questioned quantity, Qr = reference quantity P = presupposed content, A = asserted content, Q = questioned content	

mare li qa-na' Rosario,
 perhaps DM E1P-mother PN
 Perhaps "our mother" [the speaker's stepmother] Rosario

r-ik'in l-in yuwa',
 E3S-RN DM-E1S father
 along with my father.

mare li-x Map,
 perhaps DM-SD PN
 Perhaps Map,

li li x-ko' li w-ech'alal,
 DM DM E3S-daughter DM E1S-neighbor
 (who is) my neighbor's daughter.

ani=heb' chik
 who=PLR more
 Who else?'

S1: us, ani chik
 good, who more
 'Ah, who else?'

S2: ka'aj=eb'=wi'
 only₁=PLR=only₂
 'Only they.'

The second speaker is answering the first speaker's question: Who will help you (prepare food for the labor pool)? After enumerating a long list of people, she ends by posing the original question to herself, but now pluralized and followed by *chik*: *ani=heb' chik* (who=PLR more), or 'Who else?' Here the form *chik* indicates that there is already a presupposed 'who' (in particular, the people just listed). When the first speaker repeats her question, but now with the predicate elided and *chik* added (thereby maintaining the presupposition), the second speaker uses the complementary form: *ka'aj=eb'=wi'*, or 'only they'. This operator maintains the first presupposition of *ani chik* (that there are some

people that helped her, as just listed); but it effectively negates the second presupposition of this question (that there are others, in addition to those people, who helped her as well).

The following two examples show negative wh-word *chik* constructions. Without *chik*, negative wh-word constructions are usually best glossed as ‘no wh-word’. For example, *maa-b’ar* (NEG–where) is ‘nowhere’, *maa-joq’e* (NEG–when) is ‘never’, and so forth. Insofar as wh-word *chik* constructions involve two presuppositions, these negation wh-word *chik* constructions negate one of the presuppositions, but not the other. For example, if I ask, ‘where else (did it occur)’, I not only presuppose it occurred somewhere, I also presuppose that it occurred somewhere else. If you respond, ‘nowhere else’, you thereby deny the second of these presuppositions, but not the first.

- (11) *maa-jaruj chik t-at-k’ulunq arin*
 NEG–when more FUT–A2S–arrive DEIC
 ‘No more/longer will you come here.’
 (Eachus & Carlson 1980:202)

- (12) *maa-jarub’ chik xko’-eb’*
 NEG–how.many more go.PERF–A3P
 ‘No more went.’

These examples show negation wh-word *chik* constructions involving constituents and quantities. In example (11) the wh-word in question is *jaruj* (when), whose root (*jar*) is sometimes used alone, and which also forms part of the wh-word *jarub’* (how many), as may be seen in example (12). Note that such constructions typically have the illocutionary force of assertions, or wishes, as opposed to questions. See Table 8.3 (rows 1 and 2, column 2)

The key exception to the foregoing claims occurs when *chik* interacts with the wh-word *ani* ‘who’ in its negated form. In such contexts, it has an aspectual reading: someone is no longer in some location (presupposing they were there in the past).

- (13) n-Ø-a-r-il naq maa-ani chik li-x rab'in
PRES-A3S-E3S-see COMP NEG-who more DM-E3S daughter
'He saw that his daughter was no longer there.'
(Shaw 1971:392)

This example comes from a myth that recounts the eloping of the sun and the moon. It describes the behavior of the moon's father who, having just checked his daughter's bedroom (where he last saw her sleeping), discovers that she is no longer there (having run away with the sun in the night). Without *chik* the construction *maa-ani* (NEG-who) is usually used to assert that someone, a human agent, is not home, or not in some relevant place (Sam Juárez et al. 1997:201). As may be seen in this example, the same construction with *chik* has an aspectual reading, and behaves like the negation *chik* constructions analyzed in the introduction. See Table 8.3 (row 3).

To say ‘no one’ or ‘nobody’ proper, as well as ‘not a single’, the form *maa-jun* (NEG-one) is used, usually with an NP indicating the kind of agent in question. The next example shows how *chik* interacts with such a construction.

- (14) maa-jun chik (li kristyan) wan-Ø-Ø aran
 NEG-one more (DM person) exist-PRES-A3S DEIC
 'No one else (not another person) is there.'

Without *chik* this sentence would mean ‘no one (not a single person) is there’. With *chik*, it indicates that ‘no one else is there’ (besides some presupposed person, or number of people). Such a construction can be used to refer to human or nonhuman entities. See Table 8.3 (row 4). In contrast, the form *maa-ani* (*chik*) only refers to human, or human-like, agents. To predicate lack of location of nonhuman entities, the form *maa-wa* (*chik*) is used. See Table 8.3 (row 5). This form contrasts with *maak’a’* (*chik*), which is used to deny existence (or possession), as opposed to location.

In short, whereas *wank* is used to predicate existence, possession, and location, of both people and things, the construction *maak'a'* (*chik*) is used only for negated existence and negated possession. The form *maa-ani* (*chik*) is used for negated human location; and the form *maa-wa* (*chik*) is used for negated nonhuman location. And the form *maa-jun* (*chik*) is used for either human or nonhuman referents in both positional and nonpositional contexts, thereby serving the function ('no one (else)') that *maa-ani* (*chik*) might have otherwise been expected to serve. Such constructions thereby reveal the complex coupling of animacy, temporality, position, and quantity.

Quantity More Constructions

We have seen how *chik* interacts with existential predicates and wh-words, both with and without negation. We now turn to its interaction with definite and indefinite quantities, or intensifiers more generally.

- (15) oxib' sut,
three time
'(I've already done it) three times.

ab'an mare jun sut chik t-Ø-in-b'aanu hoon
but perhaps one time more FUT-A3S-E1S-do now
But perhaps I'll do it one more time now.'

When *chik* occurs with quantities, it may be understood as a two-place predicate, the first argument being the narrated quantity within its scope, and the second argument being a proposition that incorporates that argument. Here the narrated quantity is a number-unit combination (*jun sut*, or 'one time'); and the proposition describes the number of times an action will be undertaken. Such an utterance presupposes that the proposition is true of some (contextually salient) reference quantity; and it asserts that the proposition is true of the narrated

Table 8.4 *Constrasting functions of quantity chik constructions*

***chik* (Qn, [Cn], p):** ‘p true of Qn more [of Cn]’

P: p true of some Qr [of Cn]

A: p true of Qn more than Qr [of Cn]

***chik ma* (Qn, p):** ‘Qn more and p true’

P: p false at t (or p false in w)

A: p true at t + Qn (or p true in w + Qn)

p = proposition, t = reference time, w = reference world

Qn = narrated quantity, Qr = reference quantity

Cn = narrated constituent

quantity (in addition to the reference quantity). See Table 8.4 (row 1). While such constructions typically occur with existence predicates, this example shows a quantity *chik* construction functioning adverbially, indicating how often an event will occur.

The next example shows the interaction of quantity *chik* constructions with the aspectual operator *toj* ‘still’.

- (16) *toj* *wan*-Ø-Ø *b’ab’ay* *chik* *x-komun* *li* *iij*
 still exist-PRES-A3S a.little/few more E3S-common DM tree
 ‘There are still a few more trees similar to the *iij* (a species of tree).’

Here *toj* and *chik* are parts of the same existential predication. In contrast to example (9), the operator *chik* has scope over an indefinite quantity, *b’ab’ay* ‘a little/few’, as opposed to a noun phrase. Even when occurring with an explicit quantity, *chik* and *toj* continue to be independently specifiable operators within a single clause.

The next two examples show quantity *chik* constructions with scope over tensed clauses (headed by the yes/no question particle *ma*).

- (17) *kach’in* *chik* *ma* *x-e’-kamk*
 little more QUES PERF-A3P-die
 ‘A little more and they would have died.’
 (SG: por poco faltó que murieran)

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- (18) jun po' chik ma t-in-awk
 one month more QUES FUT-A1S-plant
 'A month more and I will plant.'
 (SG: un mes falta para sembrar)

In example (17), *chik* has scope over an indefinite quantity, and the verb is inflected for perfect aspect (or past tense). Such constructions are typically translated into Spanish using something like *por poco* 'by a little' or *casi* 'almost/nearly', and the event is understood to be counterfactual. In example (18), *chik* has scope over a number-unit combination, and the verb is inflected for prospective aspect (or future tense). Both constructions presuppose that the proposition is false (in this world, or at this time). They assert what (quantifiable) condition must be met for the proposition to be true: how much further before they *would have* died (a little bit); how much longer before I *will* plant (one month). Table 8.4 (row 2) sketches the presupposed and asserted contents of such constructions.

Temporal Comparatives

When *ink'a' chik* 'no longer' interacts with a stative predicate, it functions as the external negation of *toj* 'still'. As the next example shows, when *chik* interacts with a stative predicate (without negation), it often functions as a self-comparative: 'more adjective (than before)'.³

- (19) ut kub'-enaq li kape' arin, pe' yaal,
 CONJ lower-PART DM coffee DEIC F true
 'And coffee is inexpensive here, right?

entons nak-Ø-e'x-loq',
 SO PRES-A3S-E3P-buy
 So they buy it.

chi-r-ix a'an nek-Ø-e'x-chaqihob'resi li kape',
 PREP-E3S-RN DEM PRES-A3S-E3P-dry DM coffee
 After that, they dry the coffee.

ut naj nak-Ø-e'x-k'ay wi'chik, tertó chik,
 CONJ COMP PRES-A3S-E3P-sell again expensive more
 And when they resell it, it is more expensive (than before).

nak-Ø-e'x-log' chi jun quetzal,
 PRES-A3S-E3P-sell, PREP one quetzal
 They buy it for one quetzal.

ut naj chaqi chik nek-Ø-e'x-k'ayi chi wuqub' quetzal
 CONJ COMP dry more PRES-A3S-E3P-sell PREP seven quetzal
 And when it is drier (than before) they sell it for seven quetzals.'

The speaker is talking about a business that buys coffee from farmers, dries it, and then resells it for a steep profit. The particle *chik* twice occurs with scope over adjectives: *terto chik* 'more expensive (than before)' and *chaqi chik* 'more expensive (than before)'. It must be emphasized that these are not comparative constructions in the usual sense. That is, it is not that the coffee is more expensive than something else. It is that the coffee is more expensive than it was before (some reference time).

This reading of such constructions is most obviously triggered when there is a temporal adverbial, such as *anaqwan* 'now/today', in the clause.

- (20) x-Ø-terq'u li sebooy,
 PERF-A3S-become.expensive DM onion
 'Onions have become expensive.

x-Ø-terq'u li pix,
 PERF-A3S-become.expensive DM tomato
 Tomatoes have become expensive.

mas tertó chik li-x tz'aq anaqwan
 very expensive more DM-E3S price now
 Their price is much more expensive now [than it was before].'

The speaker is describing how everything is becoming expensive. As in the previous example, the stative predicate *terto* 'expensive' is used. Here, however, it is modified not just by *chik* 'more', but also by *mas* 'very/much' (< Spanish *más* 'more'). Such adjective *chik* constructions

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Table 8.5 *Adjective chik constructions*

Aspect: negation <i>chik</i> p (where p = adjective NP)	
<i>ink'a' chik tertó li ixim</i>	P: p true before t
'corn is no longer expensive'	A: p not true at t
Self-comparison: adjective <i>chik</i> NP	
<i>terto chik li ixim</i>	P: Fig has degree d' of dimension before t
'corn is more expensive [than before]'	A: Fig has degree d (> d') of dimension at t
Comparison: adjective NP₁ <i>chiru</i> NP₂	
<i>terto li ixim chiru li kenq</i>	P: Gnd has degree d' of dimension
'corn is expensive relative to beans'	A: Fig has degree d (> d') of dimension
p = proposition, t = reference time (equivalent to Tr)	
Fig = figure of comparison (argument of adjective)	
Gnd = ground of comparison (argument of adposition)	
d/d' = degree (of dimension at issue)	

are similar to quantity *chik* constructions in that they presume that a proposition is true of some (reference) quantity, and assert that the proposition is true of a larger quantity. However, in contrast to such quantity *chik* constructions, the quantity at issue in such constructions is the degree of the dimension specified by the adjective; and the reference quantity is the degree of the dimension before the reference time (here specified by the adverb *anaqwan* 'now'). Both of the adjective *chik* constructions in example (19) receive a similar reading, probably because of the explicit event-sequencing that occurs (as signaled by the complementizer *naj* 'that/when').

The foregoing construction types are summarized in Table 8.5.

Only Constructions

This section treats two interrelated operators: *quantity ajwi* 'only quantity' and *ka'ajwi* 'constituent' (only constituent). The following example shows their parallel functions.

- (21) sa' li asyent
 PREP DM finca
 'On the finca . . .

wan-Ø-Ø b'ab'ay b'ab'ay ajwi' li trabaj,
 exist-PRES-A3S a.little a.little only DM work
 there is only very little work.

ka'ajwi' li r-aq'ink-il li kape'
 only DM E3S-Weed-NOM DM coffee
 Only the weeding of the coffee.'

This example shows a token of the operator quantity *ajwi'* (only quantity), with a reduplicated intensifier as its argument. It also shows a token of the operator *ka'ajwi'* constituent (only constituent), with a possessed NP as its argument. Note the parallelism between the two constructions, and the roles they serve in this utterance. While the third line is an exemplification of the second line, the operator *ajwi'* has scope over a quantity (e.g., only a certain amount of work), whereas the operator *ka'ajwi'* has scope over a constituent (e.g., only a certain type of work).

In the tradition of Horn (1969), such operators may be understood as two-place predicates, the first argument being the quantity or constituent within their scope, and the second argument being a proposition that incorporates that argument. Utterances involving this operator presuppose that the proposition is true of the narrated quantity or constituent; and they assert that there is no quantity (larger than the narrated quantity), or no constituent (other than, and/or more than, the narrated constituent), of which the proposition is also true.

The following examples highlight the way these constructions contrast in regard to their focused elements.

- (22) jun ajwi' li chiin x-Ø-in-ket
 one only DM orange PERF-A3S-E1S-consume
 'I only ate one orange [and not more than one].'

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- (23) *ka'ajwi'* *jun* *li* *chiin* *x-Ø-in-ket*
 only one DM orange PERF-A3S-E1S-consume
 'I ate only an orange [and not something else in addition].'

Insofar as they have scope over a narrated quantity, quantity *ajwi'* constructions contrast this quantity with a greater quantity (of the same argument), whereas *ka'ajwi'* constituent constructions typically contrast their focused constituents with an additional constituent (in some relevant class).

The next example, which comes from an ethnographic interview, shows a *ka'ajwi'* constituent construction in which the focused element is an adposition rather than a noun phrase. It also shows how such *only* constructions (class 8a) relate to *also* constructions (class 7a).

- (24) S1: *joq'e* *t-Ø-aa-sii* *li* *maatan* *arin*
 when FUT-A3S-E2S-gift DM gift here
 'When you do give gifts here?'

 S2: *aah*, *es* *que*, *arin* *ka'ajwi'* *sa'* *li* *sumlaak*
 INTERJ is that here only PREP DM marriage
 'Aah, it's that, here (they are given) only during marriage.'

 S1: *ka'ajwi'* *sa'* *li* *sumlaak*
 only PREP DM marriage
 'Only during marriage?'

 S2: *hehe'*
 yes
 'Yes.'

 S1: *aah*
 INTERJ
 'Aah.'

 S2: *ut* *naa*, *na-Ø-k'e-mank* *ajwi'* *sa'* *li* *kub'ilha'*
 CONJ PRES PRES-A3S-give-PSV.HAB also PREP DM baptism
 'And they are also given during baptism.'

Here both *ka'ajwi'* 'only' and *ajwi'* 'also' have scope over adpositions. The referents of these adpositions, 'during marriage' and 'during

baptism', constitute salient contrasts within a shared domain: they are both ritual events in which gifts may be given.

The following example, from a ghost story, exhibits a similar contrast.

- (25) Pero ink'a' na-Ø-r-il r-u
 but NEG PRES-A3S-E3S-see E3S-RN
 'But they did not see . . .
- k'a' ta wi' r-u na-Ø-ch'ehok r-e.
 what IRR PART E3S-RN PRES-A3S-operate/touch E3S-RN
 whatever played it.
- Ka'ajwi' li x-yaab' na-Ø-r-ab'i.
 only DM E3S-cry PRES-A3S-E3S-hear
 They only heard the sound of it.'
- (Shaw 1971:410)

Here a *ka'ajwi'* constituent construction takes an NP as its argument (itself the object of a transitive predicate). As may be seen, *ka'ajwi'* is used to delimit evidential certainty (*only* the sound, and not the sight), as well as ontological partonomy (*only* the sound of the agent, not the agent per se). Just as the whole is framed as greater – if not better – than its parts, seeing is framed as greater – or at least more assuring of certainty – than hearing.

Besides indexing graduated hierarchies, which may be epistemic as much as ontological, such constructions often reveal modes of affect.

- (26) S1: ut jarub' aa-kaxlan anaqwan
 and how.many E2S-chicken now
 'And how many chickens (do you have) now?'
- S2: aaah, lajeb' ajwi'
 INTERJ ten only
 'Aah, only ten.'

Such operators can index the affect (attitude or feeling) of the speaker regarding the amount in question, often in response to the addressee's (presupposed) expectation. In particular, such an utterance invites the

inference that (the speaker feels that) the quantity is less than normal, expected, or desired. This example should be understood relative to the comparative grounds discussed in Chapter 5: what counts as *a lot* of chickens (given the average size of flocks in the village); and hence why a flock-size of ten might be qualified with an expression like *only*.

The following examples show that quantity *ajwi'* (only quantity) and quantity *chik* (quantity more) constructions can co-occur in the same clause.

- (27) kaahib' chik qa-sek'
 four more E1P-plates
 '(We have) four more plates.'
 (SG: 'cuatro más')

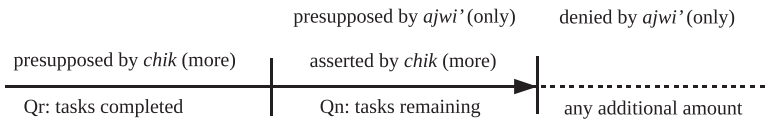
- (28) kaahib' ajwi' qa-sek'
 four only E1P-plates
 '(We have) only four plates.'
 (SG: 'solamente tenemos cuatro trastos')

- (29) kahib' aj chik qa-sek'
 four only more E1P-plates
 '(We have) only four more plates.' ('Only four more plates remain.')
 (SG: 'ya solo quedan cuatro')

Examples (27) and (28) show quantity *chik* and quantity *ajwi'* constructions, respectively. Example (29) shows how both constructions can co-occur with a partial elision of one of the forms and compositional semantics. Together, the forms *ajwi'* and *chik* become *aj chik*, and their meaning becomes 'only quantity more'. In the tradition of Sapir (1985 [1944]), but from a somewhat different angle, such jointly occurring operators often index a dwindling movement that may be positively or negative valorized and/or affecting: such as expectant (only four more to go, and then we are done!) or disappointed (only four more left, and then we're out . . .). See Figure 8.1.

Presupposed and asserted contents of the operators	
(5a) <i>chik</i> (Qn, [Cn], p):	'p true of Qn more [of Cn]'
Presuppose:	p true of Qr [of Cn]
Assert:	p true of Qn more than Qr [of Cn]
(6a) <i>ajwi</i> ' (Qn, [Cn], p):	'p true of only Qn [of Cn]'
Presuppose:	p true of Qn [of Cn]
Assert:	p not true of any quantity more than Qn [of Cn]

Qr = reference quantity, Qn = narrated quantity	
p = proposition, Cn = narrated constituent	



These operators project *dynamic movement* and *durative affect* onto process:

In the midst of some activity,
 having already completed Qn [of Cn],
 and having yet to complete Qn [of Cn]
 [but no more than that].

Depending on activity in question,
 and speaker's assessment of it,
 'only Qr [of Cn] to go' can index positive or negative affect:
 (a) Yay, this (unpleasant) task is almost finished!
 (b) Shoot, this (pleasant) experience is about to end...

Figure 8.1 Dynamic movement and durative affect

The following example shows a similar co-occurrence of operators, but this time with a *ka'ajwi*' constituent construction, instead of a quantity *ajwi*' construction (and arguably indifferent affect).

- (30) ak x-Ø-in-mich' r-ix l-aj tzo',
 already PERF-A3S-E1S-pluck E3S-RN DM-SD male.fowl
- ka'aj chik li tux
 only more DM female.fowl
- 'Ya desplumé al gallo, ya sólo la gallina falta por desplumar.'
 'I have already plucked the rooster. Only the hen remains (to be plucked).'
- (Sam Juárez et al. 1997:208)

Such constructions are often translated into Spanish using *faltar* (to lack) or *quedarse* (to remain). Again we see how such constructions presuppose, and/or project, ontologies: not only the male, but also the female.

Example (6) in Chapter 12 will offer a token of a relatively rare negated quantity *ajwi'* construction (class 6b). I have no tokens of negated *ka'ajwi'* constituent constructions (class 8b), but speakers said the following hypothetical exchange was grammatically acceptable and pragmatically felicitous.

- (31) S1: ma ka'ajwi' eq'ela yoo-Ø-Ø l-aa tiiq
 QUES only early do-PRES-A3S DM-E2S fever
 'Is your fever active only early (in the morning)?'
- S2: moko ka'ajwi' eq'ela ta,
 NEG only early IRR
 'Not only in the mornings.'
- ewu ajwi' yoo-Ø-Ø l-in tiiq
 afternoon also do-PRES-A3S DM-E1S fever
 'My fever is also active in the afternoons.'

All three of these sentences share the same presupposition: the patient's fever is active in the morning. The first line of the patient's reply asserts that mornings are not the only time it is active (using a negated *ka'ajwi'* constituent construction); and the second line describes when else it occurs (using a constituent *ajwi'* construction). The complementary semantics of these two constructions is spelled out in Table 8.1 (class 7a and class 8b).

Also Constructions

Many of the preceding examples involved constituent *ajwi'* constructions (class 7a): (1), (8), (24), and (31). Such operators may be understood as two-place predicates, the first argument being the constituent

within their scope; and the second argument being a proposition that incorporates that argument. Sentences incorporating this operator assert that the proposition applies to the constituent within their scope, and presuppose that the proposition applies to another constituent (of the same type). In many cases, the presupposed constituent forms part of a prior utterance. In effect, there is a substantial repetition of backgrounded content (something remains invariant) in conjunction with a salient change of focused content (something varies). They are usually best translated as ‘also’ or ‘too’ in English, and are routinely translated into Spanish using *también*.

The following two examples highlight this relation between variation and invariance.

- (32) li ixq x-Ø-k’ulun
 DM woman PERF-A3S-arrive
 ‘The woman arrived.
- ut li winq ajwi’ x-Ø-k’ulun
 and DM man also PERF-A3S-arrive
 And the man arrived as well.’

A constituent *ajwi’* construction has scope over a noun phrase (the man), that is itself the subject of an intransitive predicate. What is presupposed in the second clause (that someone other than the man arrived) is proposed in the first clause. As may also be seen, the two clauses are nearly identical except for the focused constituent and the operator.

- (33) x-Ø-in-loq’ naab’al li ixim
 PERF-A3S-E1S-buy many DM corn
 ‘I bought a lot of corn.
- ut naab’al ajwi’ li kenq
 and many also DM bean
 And also a lot of beans.’

A constituent *ajwi'* construction has scope over a quantified noun phrase: *naab'al li kenq*, or 'a lot of beans'. What is presupposed in the second clause (that the speaker bought a lot of something besides beans) is proposed in the first clause. Again, there is variation and invariance.

We will see further examples of this operator in the conclusion. For the moment, we may focus on its negation (class 7b).

- (34) *ink'a'* *x-Ø-aa-k'am* *chaq* *ewer*
 NEG PERF-A3S-E2S-take/carry LOC yesterday
 'You didn't bring it yesterday.
- ut* *ink'a'* *ajwi'* *nak-Ø-aa-k'am* *chaq* *hoon*
 and NEG also PRES-A3S-E2S-take/carry LOC today
 And you didn't bring it today either.'
 (SG: 'y tampoco lo trajiste ahora')

This example shows a negation constituent *ajwi'* construction, in which the entire clause is in focus, and *ajwi'* occurs directly after *ink'a'*, which marks broad-scope negation. As may be seen, the entire clause is repeated, with just a shift in tense or aspect: from an event that didn't happen yesterday to an event that didn't happen today *either*.

The next example shows a similar construction, but with existential negation.

- (35) *maak'a'* *in-rab'in*,
 NEG.exist E1S-daughter
 'I don't have a daughter.
- maak'a'* *ajwi'* *li* *w-alal*
 NEG.exist also DM E1S-son
 Nor do I have a son.'

Here *ajwi'* occurs with *maak'a'*, which indicates lack of possession when it takes a possessed NP as its argument. As may be seen, the second clause is a repetition of the first clause, with the kin-term changed and *ajwi'* added.

Two, Too, and Taboo

Speakers of Q'eqchi' often draw causal connections between their own actions and the health of their children, domestic animals, or corn fields. As we saw in the introduction to this monograph, if a women travels far from home while her hens are brooding, the chicks from those eggs will wander *very* far from the homestead – and so be easy prey for the chicken hawk. Similarly, if a man eats rice (a relatively foreign food) on the day he sows his milpa, the corn – when it blossoms – will be filled with maggots.

In other words, speakers of Q'eqchi' causally link events involving their own actions to the health of vulnerable others who are under their care, others who usually relate to them as part to whole, possession to possessor, or 'me' to 'I'. This sets up a space of prohibitions: what actions and experiences one should avoid, lest one subject one's loved ones, or affective belongings, to negative repercussions. As we saw, there is often a relation of resemblance licensing such causal sequences: the woman's prohibited actions resemble the risky movements of her chicks; the rice that the farmer eats resembles the worms that destroy his milpa. And it is, in part, precisely such a resemblance that motivates the causal connection – making it not just memorable, but also reasonable, intuitive, and actionable.

Part III will analyze the nature of prohibition and permission: what one can and cannot do, should or should not do, may or must not do, and so forth. And Part I analyzed local understandings of causality, in relation to inference and intensity. To conclude this chapter, I want to explore the relation between such taboos and the operators we have just been examining – in particular *ajwi*' (when it means something like 'also' or 'too', if not 'likewise'), and the role this operator plays in connecting the contents of two clauses in conditional constructions, insofar as such 'if-then' constructions are used by speakers of Q'eqchi' to understand and explain the relation between tabooed actions, ethical injunctions, and anxious undertakings.

Here is an example of such a construction, which we first saw in Chapter 2.

- (36) wi t-Ø-in-ket li arroz,
 if FUT-A3S-E1S-eat DM rice
 ‘If I eat rice,
- ti-Ø-x-ket ajwi’ l-in k’al li li motzo’
 FUT-A3S-E3S-eat also DM-E1S milpa DM DM worm
 worms (or maggots) will also (or likewise) eat my milpa.’

The first clause describes the tabooed behavior (eating rice on the day of planting); and the second clause describes the negative effect of this behavior (worms eating the crop so planted). A token of the operator *ajwi* ‘also/too’ occurs in the second clause (with scope over the verbal predicate). As discussed above, this operator takes two arguments (the constituent within its scope, and a proposition). Utterances in which it occurs assert that the proposition is true of the constituent, and presuppose that the proposition is true of another constituent of the same type. Assuming similar semantics apply in this utterance as well, we see how ‘my eating rice’ (the presupposed contents) and ‘worms eating my milpa’ (the proposed contents) are treated not just as interrelated events, but also as tokens of a common type. The part that remains invariant across the clauses is the predicate (eating): whereas the varying parts are the subject ($I \Rightarrow$ worms) and object (rice $\Rightarrow$ my milpa) of this predicate. Note, in particular, the tropes of metonymy and chiasmus. As the agent (I) relates to a foreign alter (rice), a malicious and similar other (worms) likewise relates to the agent’s vulnerable belongings (the cornfield).

While speakers of Q’eqchi’ use conditional constructions to describe a wide range of causal sequences, as we saw in Chapter 2, the antecedent and consequent clauses of such constructions, and hence the causes and effects so described, do not typically relate to each other as tokens of the same type (nor as overlapping events via similar tropes). Taboo

constructions showcase a very special mode of causality – one which involves a much greater degree of intimacy, resonance, (mutual) ingression, and (elective) affinity between the events in question.

In the next example, a woman is describing how, if she sees someone with a skin condition while she is pregnant, her newborn child can have that condition as well.

- (37) wi t-Ø-aaw-il jun-aq li kristyan jo'-kan,
 if FUT-A3S-E2S-see one-NS DM person like-DEIC
 'If you see some person like that,
- jo'-kan-aq ajwi' li k'ula'al
 like-DEIC-NS also DM child
 then like that (will be) your child too.'

Her description involves a bi-clausal construction, involving an antecedent (seeing the afflicted person) and a consequent (the child being similarly afflicted). The operator *ajwi'* occurs in the second clause, where it has scope over the deictic *jo'kan* 'like that' (a form that was analyzed in the last chapter, insofar as it could serve as the ground of comparison in the 'Pass-Over' construction). This deictic occurs in the first clause as well, where it is used to characterize the kind of person that the woman sees (one with a certain kind of condition). Again, then, there is invariance ('like that', or the condition itself, as previously described by the speaker) and variation: what a pregnant woman sees $\Rightarrow$ what her newborn baby suffers. While the mother's experience leads to the child's illness, as cause to effect, both are typically framed as dative agents, qua recipients of the given. What is presented to the mother as a visual sensation is passed on to the child as a surface affliction.

The following extended example involves tokens of *ajwi'* and its external negation, and hence exhibits forms with functions similar to English 'also' and 'neither'. In contrast to the last two examples, it comes from a folktale that espouses a particular moral injunction: give without

misgiving, or give with all your heart. As will be seen, the negated *ajwi'* construction occurs as part of a conditional construction, and describes the negative repercussions of not giving with all one's heart (Kockelman 2020a). The *ajwi'* construction, in contrast, links the world being narrated (where the morality tale unfolds) to the world of narration (where the same ethical injunction should also hold).

- (38) pues a'an jun ejemplo choq' q-e ajwi' l-aao
 well DEM one example for E1P-RN also DM-A1P
 'Well, that is an example (or moral) for us as well. (That is, give with all your heart.)
- porque wi ink'a' x-Ø-qa-k'e chi anchal li qa-ch'ool,
 because if NEG PERF-A3S-E1P-give PREP all DM E1P-heart
 Because if we don't give (a gift or offering) with all our heart,
- pues ink'a' ajwi' ti-Ø-x-k'ul li dios
 well NEG also FUT-A3S-E3S-receive DM god
 neither will god accept ...
- k'aru ta-Ø-qa-k'e r-e
 what FUT-A3S-E1P-give E3S-RN
 what we give to him.'

(Shaw 1971:402)

These utterances come at the end of the telling of the story, and constitute not just a summary of its moral (give without misgiving or machination), as a kind of ethical injunction, but also a porting of that moral from the world of the story to the world of the speaker and addressee. As may be seen in the first line, the first token of *ajwi'* does the porting in question: indicating that the story sets an example not just for the people in the story (qua presupposed contents), but for the people in the audience as well (qua proposed contents). Whatever should be done in *that* world should be done in *this* world *as well*.

As may be seen in the three lines that follow, the second token of *ajwi'*, which occurs with broad-scope negation (*ink'a'*), links a consequent event (God not accepting what we give to him [and thus not granting our prayers]) to an antecedent event (we not giving to others with all our hearts). Here, then, the speaker succinctly describes – and thereby prescribes – the behavior that should be done.

As in the last two examples, what is presupposed in the consequent clause is proposed in the antecedent clause. And, again, there is both variation (we giving with all our hearts $\Rightarrow$ God accepting what we give) and invariance (giving per se). Unlike those earlier examples, however, we are being told what to do, rather than what not to do. Moreover, we have moved from a stereotype of so-called primitive reason (sympathetic magic, or taboo) to a Judeo-Christian ethical stance and anthropological fetish object (the gift).

And hence not so much the 'otherwise', as will be taken up at the end of chapter 11, as the *likewise*.

Notes to Chapter 8

- 1 See Burkitt (1905:293). Insofar as it is also found in other Mayan languages, it is probably much older. A form like *chik* might have originated through a construction like *chi-kan* (PREP-DEM, or '(relative) to this/that'). That is, it originated as the marker of the comparative relation *chi*, plus a demonstrative or deictic (specifying a contextually presupposed, but otherwise implicit comparative ground). The form *chikan* is still attested (functioning similar to *chik*). And *kan* (*ka'an*, *a'an*, or *'an*) frequently occurs with other prepositions. This hypothesis would explain not just the form of *chik*, but also the fact that it always carries a context-specific presupposition.
- 2 When *chik* occurs with constructions involving destruction predicates (e.g., *k'atok li kanteel*, 'burn the candle'), it seems to mean 'cause to longer exist (by burning)', and thus something like 'burn it up' (as opposed to simply burning it).
- 3 Such self-comparative constructions interact with various subclasses of stative predicates in complicated ways. For example, with nongradable predicates, the use of *chik* seems to indicate a change of state (from not predicate to predicate). Similarly, with certain gradable stative predicates that are upper-bounded (or at least have an upper-bounded reading), the operator *chik* often indicates that the argument in question has become completely predicate. The phrase *naj chaqi chik* in example (19) could arguably have such a perfected reading.

Part III

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Temporality and Replacement

Being and Time

Among many speakers of Q'eqchi', the concept of replacement (*-eeqaj*) ties together an otherwise disparate set of entities and activities: civil elections, religious hierarchies, vengeful actions, illness cures, loan repayments, labor pooling, adulterous relations, namesakes, and substitutable goods. Such practices involve the replacement of one entity with another entity in some obligatory role, insofar as such entities evince similar intensities of shared capacities, and/or contain similar amounts of the same substance. For example, one man may substitute his labor for another man's labor insofar as both men have similar degrees of strength and skill, and insofar as a position in a labor pool must be filled.

This chapter explores the relation between replacement, as an idea and institution among speakers of Q'eqchi', and five *modes of temporality*. When one frames temporality in terms of metricality, or patterning, one focuses on the repetition of tokens of common types, as well as the interruption of such otherwise expected tokenings. Temporality as irreversibility (and reversibility) frames processes in terms of their inherent, and potentially alterable, directionality. A third way of understanding temporality foregrounds the roots and fruits of a given event: what other entities and events may be figured as

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leading to it, or following from it (causally, affectively, durationally, inferentially, performatively, and so forth). Temporality as reckoning focuses on the practices through which one determines when an event occurred or how long an event lasted; as well as the processes that regiment such reckoning practices. Finally, temporality as cosmology or worldview focuses on the ways a given community (genre, public, discipline, philosophy, ideology, religion, chronotope, or register) frames the nature of time – which includes particular ways of relating to each of the foregoing frames.

To understand the relation between replacement and temporality, it is useful to call into question the often proposed (yet highly simplistic) distinction between ‘lived time’ and ‘enunciated time’. Heidegger (1996 [1927]) famously distinguished between representations and references. Through the work of Brentano, and the many scholars who followed him, representations are well enough known: beliefs, assertions, promises, intentions, and the like. They are usually understood as something like a mental state or speech act, and thus something that is cognitive or linguistic in nature. Insofar as such representations have propositional contents (or satisfaction conditions), they can be true or false, fulfilled or unfulfilled, felicitous or infelicitous, veridical or illusory. Because they can just as easily be satisfied as not, representations are fundamental to widespread notions of subjectivity – the idea that a mind or self can be in error (and is, in part, constituted by its capacity to err).

References (*die Verweisungen*), in contrast, are the relations things have to each other by virtue of being caught up in practical concerns, modes of care, and networks of agents. For example, the way a nail only makes sense ‘in reference to’ a hammer, and the ways hammers and nails only make sense ‘in reference to’ wood and hands – not to mention chairs and tables, trees and carpenters, hammering and sitting (and many other kinds of entities, actions, and agents besides).¹ While representations are thus squarely within the Cartesian tradition that Heidegger was critiquing (so far as they are the modern-day equivalent of *res cogitans*), references, as somewhat strained and strange

entanglings of meaning and materiality, were not so much outside of that tradition as orthogonal to it – and thus ungraspable within its terms.

Or so Heidegger's proponents like to think. For, somewhat ironically, in his description of this category, which has long constituted a key text for thinking about residence in the world as opposed to representations of the world, and thus the 'lived' (concrete or embodied) as opposed to the 'enunciated' (abstract or conceived), Heidegger spent much of his time working through the prepositions of German. For example, one kind of reference (say, wood) is that 'out of which' a hammer is made. Another kind of reference (say, a nail) is that 'in terms of which' a hammer is used. Another kind of reference (say, a chair) is that 'for which' a hammer is wielded. Another kind of reference (say, a user) is that 'for the sake of which' a chair is built. And so on, and so forth. For Heidegger, the world was constituted by an ensemble of references; and *Dasein* was both oriented to, and a part of, that worlding and worlded ensemble. In introducing this category, Heidegger was arguably linking together Aristotle's account of causes (in the *Physics*) and his theorization of relations (in the *Categories*), redeploying them in phenomenology inspired and pragmatically oriented ways, and thereby critiquing subject–predicate, substance–quality, NP–adjective, and thing–qualia ontologies.

In short, the central text of post-Cartesian theory (at least after Peirce), as well as a key inspiration for critical theory's turn to affect, embodiment, the tacit, the material, actor-networks, and 'the lived', was unconsciously focused on a set of grammatical categories. To be sure, they weren't the usual grammatical categories – qua subject and predicate. Rather, they were a subset of the categories that Aristotle would have called relations, and hence a set of forms that mediate a range of linguistic phenomena that cannot be accounted for by simple copula-based connections. These include not just gradable predicates (like 'large' and 'many'), but also prepositions, adverbs, inalienable possessions, case markers, conjunctions,

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modal operators, and complementizers (and hence categories that link otherwise disparate entities and events, as well as predicates and propositions, together). Recall our discussion of the ways such categories organized prayers to the earth god in Chapter 4.

Heidegger's word for references, *die Verweisung*, is derived from the verb *verweisen*, which has, as one of its meanings, something like the act of citation: the way one text, or part of a text, refers to another; or the way a doctor refers a patient to a specialist. (This word also has meanings similar to expel and rebuke.) In some sense, Heidegger-inspired notions like worldliness and entanglement, which purport to move from the enunciated to the lived, from cognition to affect, and from meaning to materiality, have at their origins the most language-inspired and discourse-centric of metaphors Kockelman (2017:77-80) .

The first section of this chapter pushes off (and away) from Heidegger by focusing on the role of the relational noun *-eeqaj*, which not only refers to replacements (as a noun), but can also mean 'in place of' (as an adposition). It summarizes the wide range of practices that this word may refer to, and compares its meaning and function to other relational nouns in Q'eqchi' (many of which play an important role in this monograph). Replacements are then contrasted with singularities and commodities, insofar as such entities are central to political economy, and tightly coupled to distinct modes of temporality. Five sections then work through each of the modes of temporality in turn (metricity, irreversibility, roots and fruits, reckoning, and worldview), using them to better understand replacement as a relatively organized ensemble of interrelated practices. The conclusion shows how replacement itself, as a kind of interpretive ground, has changed over time.

As will be seen, thresholds are essential to understanding both temporality and replacement, and don't easily sit on either side of the 'lived' and 'enunciated' divide. This chapter, then, sets the stage for subsequent ideas and arguments, which will tack between temporality and modality,

materiality and intensity, causality and comparison, scarcity and excess, possibility and necessity, loss and replenishment.

Relations, References, Replacement

Table 9.1 shows all the adpositions (and many case markers) in Q'eqchi'. Such forms indicate the relation their cross-referenced arguments (typically a noun phrase) bear to the rest of the clause in which they occur. The second column presents the lexical form of each relational noun, and the first column shows which preposition (if any) typically occurs with that relational noun when it serves as an adposition. The third column shows the range of meanings each such adposition has. And the fourth column characterizes the meaning that the relational noun has when it functions as a simple noun, rather than as part of an adposition. The presence of the complementizer *naq* indicates that the adposition

Table 9.1 *Adpositions and relational nouns in Q'eqchi'*

Adposition		Various functions of adpositional usage	Gloss of noun in nonadpositional usage
Preposition	Noun		
–	– <i>eeqaj</i>	in place of	replacement, substitute
–	– <i>ik'in</i>	with	
–	– <i>uchb'een</i>	with (companionship)	companion
–	– <i>e (naq)</i>	in order to, dative, genitive	mouth (IP)
–	– <i>b'aan (naq)</i>	because of	
–	– <i>maak (naq)</i>	because of (culpability)	sin
–, <i>chi</i>	– <i>ub'el</i>	beneath	
<i>chi</i>	– <i>u</i>	in front of, before	face (IP)
<i>chi</i>	– <i>sa'</i>	inside of	stomach (IP)
<i>chi</i>	– <i>e</i>	at the side of	mouth (IP)
<i>chi</i>	– <i>ix</i>	in back of, after	back, fur, bark (IP)
<i>chi, sa'</i>	– <i>k'atq</i>	at side of, near	
<i>chi, sa'</i>	– <i>b'een</i>	on top of	first, top, roof, head
<i>sa'</i>	– <i>yanq</i>	in between	
<i>sa'</i>	– <i>yi'</i>	in the middle of	waist, tail (IP)
<i>sa'</i>	– <i>k'ab'a'</i>	in the name of	name (IP)

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can take a (non-nominalized) clause as its argument. The initials IP indicate that the noun is an inalienable possession (Kockelman 2010a), and hence belongs to a small class of nouns that are tightly coupled to personhood: not just body parts and kinship relations, but also words like shadow, leader, name, and community.

As may be seen, nearly all of these forms have appeared in particular examples that were examined in prior chapters; and several of them have already been carefully analyzed. Recall from Part I words like *-b'aan* (medicine) and *-maak* (sin), which indicate causal relations when they function as adpositions (because, since, by). Recall from Part II forms like *-u* (eye, face, front surface) and *-b'een* (first, roof, head) which, in their role as adpositions (*chi -u, sa' -b'een*), mark grounds of comparison.

As discussed in Chapter 1, Aristotle would probably classify such adpositions as 'relations' rather than 'qualities'. As discussed in the last section, they are closely related to Heidegger's notion of references. As will be discussed in later chapters, such forms not only mark grounds of comparison, causes of effects, and sources of affect, they often indicate the motivations for actions and the reasons for beliefs. They thereby constitute a crucial site for the disclosure of value.

As may be seen in Table 9.1, like many other relational nouns, *-eeqaj* functions not only as an adposition (in place of), but also as a relatively unmarked possessed noun (replacement, substitute). Kockelman (2016a) offers an ethnography of replacement and its relation to ecotourism, neoliberalism, conservation movements, and the domestic economy. In the rest of this section, I simply summarize the wide range of activities that were referred to with this word in the village where I worked. This will prepare the way for a detailed account of the relation between temporality and replacement, as will be undertaken in the sections that follow.

A newly elected village mayor was considered the replacement of the previous mayor. Elections – the institutional means for choosing

replacements – were held once a year, and any married men in the village could run.

In the religious hierarchy, or *cofradía*, a newly elected married couple was called the replacement of the previous couple. The *cofradía* consisted of six couples who were entrusted with caring for the church. Each year a new couple was elected for a six-year tenure, during which time they annually moved up one position in the hierarchy.

In cases where a boy is given the name of his father, he would be considered his father's replacement. This was the one form of replacement that was not frequently practiced – mainly because children were sometimes thought to inherit the negative traits of the people they were named for.

One man's vengeful action toward another man was considered the replacement of the other man's prior harmful action. In some sense, this form of replacement was the local equivalent of 'an eye for an eye', or justice-as-equivalence *per se*.²

One soccer team's tying goal was called the replacement of the other team's previous goal. Like vengeful actions, this involved a kind of settling of scores.

A man who took another man's place within a labor pool, or fulfilled another man's more solitary labor obligations, was called the latter man's replacement.³ For example, if one man was obligated to work for a second man (because they were reciprocating within a labor pool), but could not make it because of illness, or a prior obligation, he could send a third man 'in his place'. Labor pooling usually occurred with arduous or time-consuming practices such as the clearing and planting of agricultural fields, and house building.

The money returned to another as the settling of a loan was called the replacement of the originally loaned money. Loans were usually made between members of an extended family, were relatively small in size, and accrued no interest. For example, a man might lend his daughter-in-law money to buy household supplies while her husband was away working on a plantation.

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In cases where a person has suffered 'fright' (*xiwajenaq*, or Spanish *susto*), as brought on by a moral breach such as forgetting to pray or disparaging corn, they could bury a replacement, or effigy, of themselves in the place where they had been frightened. Only in this way would the person not fall ill, insofar as the agency which frightened them (often an earth god, or *Tzuultaq'a*) accepted the effigy as a replacement for their health or well-being. These effigies consisted of tree sap, formed in the shape of a body, and mixed with various inalienable possessions of the sick person: fingernails, hair, and clothing.

A man who slept with another man's wife was called 'his replacement'. This was a source of anxiety in the village, as many men worked seasonally on plantations, and so left their wives and families, sometimes for months at a time.

A newly built house was called the replacement of the previous house. After that family lost their home to the mudslide, for example, they referred to their new house as its replacement.

Finally, there was a large number of other more quotidian forms of replacement, which involved the equivalence of everyday objects of utility, rather than human actors and their activities per se. For example, after I knocked my coffee cup onto the floor, my host told her son to bring me 'its replacement'. Or, when the gas in their lamp was all used up, a man suggested to his wife that they go get 'its replacement'. In this way, the accidental loss or normal provisioning of a 'necessity' entailed a replacement. Such processes often involved the most stereotypical of use values: a pair of rubber boots, a machete, a set of AAA batteries or similarly graded commodities, and the like.

Neither Commodity Nor Singularity

Replacement may thereby involve: (1) replacing a person in some kind of office: mayor, *cofradía*, namesake, labor pools; (2) settling some kind of score: revenge, soccer goals, loans, illness cures; and (3) replenishing a

worn-out or used-up good: houses, batteries, and use values more generally. In all such cases, entities and actors within certain domains *must* have a replacement (lest their role go unfulfilled, their function stay unserved, or some imbalance be maintained); and other entities *may* substitute for such entities (insofar as they are judged relatively equivalent in regards to their degrees of particular dimensions).

As such, replacement involves the equivalence of values. In particular, it involves a mode of equivalence that sits between two more famous modes of equivalence: singularities and commodities. See Figure 9.1. In the case of singularities, we have questions like: are these instances of the same individual? For example, is this gun the same gun that was

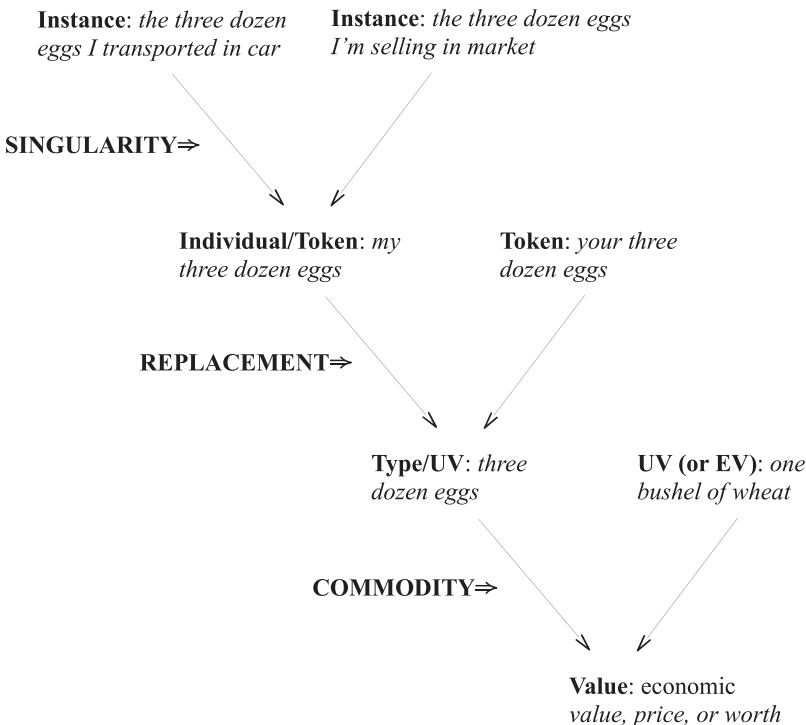


Figure 9.1 Singularities, replacements, commodities

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used to assassinate Lincoln? Is that painting the one that was actually painted by DaVinci, or merely a copy? Key concerns here are the nature of aura, and the value of entities and events that are one of a kind. In the case of commodities, we have questions like: are these two distinct use values (say, a bolt of cloth and a bushel of wheat) equivalent, and why? Key concerns here are the value of effort and time, the role of supply and demand (or surplus and exploitation), the relative utility of trade-offs, and the relation between exchange value and use value. Replacement, in contrast, while sometimes treated like commodities (e.g., loans) or singularities (i.e., namesakes), is usually somewhere outside or in between. Loosely speaking, rather than asking whether two entities are instances of the same individual, or use values with the same exchange value, we ask whether they are tokens of the same type (e.g., soccer goals), versions of the same use value (e.g., grade A eggs), or agents with the same virtues (e.g., able-bodied adult males); that is, does each one have more or less the same properties (abilities or capacities) with more or less the same intensities.

It should be stressed that these categories are not mutually exclusive: one and the same entity may be both a commodity and a replacement (or even a singularity). These are, rather, particular frames that may be projected onto an entity in a particular context, such that particular values – and temporalities – of that entity are made salient.

In other work (Kockelman 2016a), I have ethnographically examined such capacities and qualities, and such dimensions and degrees, showing how they are understood in local ontologies. In particular, whether or not one entity or agent can replace another can be a contentious issue, especially in the case of labor pooling. For example, when can a boy replace a man? Can a woman ever replace a man? What happens when men opt out of labor pooling in favor of cash payment? And what happens when some men are no longer considered replaceable, insofar as they have specialized skills that are not widely distributed? More generally, what dimensions do people attend to? And how do they

assess the relative intensity of such dimensions across such a wide range of domains?

I have also spent a lot of time on this question of *must* – the fact that houses *must* be rebuilt; loans *must* be paid; scores *must* be settled; labor *must* be returned. In many cases, such modes of obligation and necessity are a matter of course: they were relatively tacit requirements that nobody would ever dispute or even discuss. Indeed, like the units themselves, many of these needs were presupposed, and ultimately naturalized, by the domestic mode of production and its conditions of renewal: replacing a house, raising children, sowing corn, partaking in *cofradía* service, and electing mayors. In other cases, such as those we just discussed in the case of labor pooling, there were transformations underway in local understandings of what was obligatory or necessary.

In any case, it is useful to compare such modes of obligation with those discussed by Mauss in the case of gift-giving: the obligation to give, receive, and reciprocate. Or with those underlying contract (obliging one to undertake terms that were, or at least seemed to be, freely committed to). Or even with those underlying Weber's conception of the Protestant ethic: the obligation, or duty, to increase one's capital. In contrast, the key obligation underlying replacement was nothing other than *the systematic provisioning of social life*. The institution of replacement arguably constitutes an economy – in Karl Polanyi's sense – in which the underlying value is not riches, or even reciprocation, but rather *replenishment*.

Various kinds of replacement are thereby mediated by temporal and modal thresholds. Something *must* be replaced; and something else *may* serve as its replacement so far as it *already* has *enough* of a particular capacity or dimension. If it does *not yet* have enough, or will *never* have enough, then it *cannot* – and often *may not* – serve as a replacement. Recall our discussion of roller coasters and their gatekeepers in the introduction to this monograph. We will explore some

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of these issues in the sections below, and carefully examine their details in the chapters that follow.

Repetition and Interruption

The distinctive temporalities of singularities and commodities have long been studied (Benjamin 1968b; Marx 1967 [1867], *inter alia*). Just as singularities seem to trace individual biographies and collective histories, commodities have been linked to abstract labor time, and capitalist modes of temporality. That said, notwithstanding critical theory's fetishization of such categories, such a distinction (singularity versus commodity) not only mirrors the same logic but also has all the same flaws, as the distinction between the 'lived' and the 'enunciated' (not to mention the qualitative and the quantitative, concrete versus abstract, the affective and the cognitive, intuition versus analysis, and so on and so forth, *ad nauseum*).

In what follows, by way of contrast, we will focus on the temporality of replacement. In particular, our goal is to characterize five interrelated ways that events and experiences may be framed in temporal terms (Kockelman & Bernstein 2012); and to show how each of these frames comes to the fore in various modes of replacement. See Table 9.2. Such frames are not meant to be definitions of time, or restrictions on what temporality can encompass. They are simply ideal-typic ways of framing 'temporality', each of which may be used to better understand the distinctiveness (and generality) of replacement as a practice.

By *temporality as repetition (and interruption)*, I mean a mode of understanding, or way of being, that frames events as periodic instances of the same, and thus foregrounds the repetition of tokens of a common type. Not just the natural phenomena that undergird days, months, and years, but also rush hours, migrations, and migraines. Not just swings of pendula and ticks of clocks, but also drips of faucets and turns of screws.

Table 9.2 *Five ways of framing temporality*

Temporality as repetition (and interruption) A mode of understanding (practical or theoretical, affective or discursive, embodied or cognized) that frames entities and events as periodic instances of the same, and thus the repetition of tokens of a common type. From Hesiod to Jakobson (1990b). Temporality as irreversibility (and reversibility) A mode of understanding that frames processes in terms of their inherent directionality. From Boltzmann to Serres (2007 [1980]). Temporality as reckoning (and regimentation) A mode of understanding that frames processes in terms of their when and their how long, as well as their how fast, how powerful (dE/dt), and how often. From Newton and Einstein to Reichenbach (1947) and William Bull (1960), in particular. Temporality as roots and fruits A mode of understanding that frames an entity or event, world or agent, in terms of what leads to it, or follows from it (causally, affectively, inferentially, performatively, experientially, durationally, and so forth). From Augustine to James (1975), Bergson (1913), Husserl (1999), and Austin (2003). Temporality as cosmology or worldview A mode of understanding that is oriented to time as such. For example, what is time, what is the nature of temporality; how does time relate to space, substance, social relations, ritual actions, economic activities, and so forth; what kinds of people hold such views, why, and to what effect?

Crucially, interruption is the flip side of repetition: prior events create expectations that are not just sated through future events, but also frustrated. Anomalous events and atypical tokens are thus just as important as run-of-the-mill types. And so affective modalities like frustration and surprise, as much as satiation and expectation, are important ways such temporal orientations are experienced.

As we just saw, many modes of replacement involve the periodic renewal of particular goods: not just *cofradía* hierarchies, mayor elections, and namesaking; but also the replacement of any use value that wears out or is used up. Each kind of ‘good’, each entity or agent subject to replacement, whether it be a machete or a mayor, has its own

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characteristic time scale. Some of these scales are relatively preordained, precise, and predictable (for example, an annual election of a major, a six-year term of a *cofradía* couple). And some of these scales are relatively token-specific and fuzzy (for example, how long it takes for a certain type of house to wear out, or when a certain kind of machete can no longer be sharpened). Even the modes of replacement that involve score-settling have their own temporal scales. For example, within what time frame should an injustice be repaid? (Typically as soon as possible.) When should a labor obligation be fulfilled? (Usually within the same season.) How soon can an illness cure be undertaken? (When the requisite inalienable possessions have been collected.) And all such goods have their particular tensions in the interims. For example, there are worries about who will be elected next; ceremonies of leave-taking and inducting; questions of fairness and hanging obligations; worries about having waited too long; and so forth.

In short, there is a kind of temporal meter, or poetics, that organizes the periodic movement from a particular entity or agent to its replacement. Any such replacement or substitute may satisfy an expectation or frustrate it, with characteristic tensions, often experienced as particular kinds of affect. Different kinds of replacements involve not only different kinds of meters, but also different ways of violating meter: different ways of being too soon or not soon enough, overly repetitive or scarcely performed.

This mode of temporality will be of great concern in later chapters. For present purposes, a single extended example should suffice. As we saw in example (8) of Chapter 6, there are two kinds of griddles (*k'il*) that are used for making tortillas in the village: earthenware griddles (*ch'och'k'il*) and metal griddles (*ch'iich'k'il*). Such griddles might at first be considered 'substitutable goods' by economists (in the sense that one can replace the other in a given task, such that if the price of one increases the demand for the other increases). According to the Q'eqchi', however, earthenware griddles tend to consume more fuel

and produce tastier tortillas than metal griddles. Moreover, earthenware griddles are often passed down from mothers to daughters as heirloom items (and so, strictly speaking, are more like irreplaceable goods, or singularities). In contrast, metal griddles are bought in a store, and are easily and often replaced (usually after a year or two of use). In this way, both kinds of griddles have different temporal scales built into their circulation (earthenware, on the order of a generation; metal, on the order of a year). Both kinds of griddles involve different modes of ownership and transaction (earthenware are inherited, metal are purchased). And both kinds of goods are used on different time scales. Metal griddles might be used three times a day, to make tortillas for members of the immediate family, on relatively quotidian occasions. In contrast, the earthenware griddles are used much less frequently, and only for key festivals involving more distal kin (Christmas, saints' days, weddings, baptisms, and so forth).

In short, the temporal meters underlying the replacement of two ostensibly substitutable goods, in regards to use as much as replacement, were wildly divergent; yet both were attuned to key modes of village temporality. In effect, something analogous to the sacred and the profane (regarding the movement from the raw to the cooked); but now understood as graduated degrees along multiple dimensions rather than positions in a binary opposition. Recall our discussion, in Chapter 3, of women using a (metal) griddle to prepare food to feed the men who were working to replace the home that had been lost in the landslide.

Reversibility and Irreversibility

By *temporality as irreversibility (and reversibility)*, I mean a mode of understanding that frames processes in terms of their inherent directionality. For example, does one understand the future as relatively open to human intervention, and the past as closed? Does one foreground the

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impossibility of exact repetition, and the importance (and loss) of aura? Does one highlight the production of heat, disorder, or decay? Does one attend to the tapping out of potentials, the degradation of gradients, and the ways systems settle down to equilibria? When is one forced to contend with such thermodynamic realities? Conversely, under what conditions can one ignore such directionalities (for example, times of great surplus or eras of low population density)?

Crucially, as was highlighted in Chapter 4, such a temporal framing also foregrounds the agents that lead to such directionalities. For example, parasites, entropy, noise, friction, degradation, middle men. It foregrounds the various safeguards we have against such agencies. For example, refrigerating, lubricating, rejuvenation, shoring up, and rebuilding. And it foregrounds the various processes that seem to locally circumvent such tendencies, and thereby give rise to order: not just restocking and resupplying, but also evolution and emergence more generally. Recall Schroedinger's characterization of life's capacity to capture free energy, and thereby create or maintain its internal order, as the "organism's astonishing gift."

For example, the most common forms of replacement involve processes in which a stereotypic good, or 'use value', wears out due to entropic processes (say, the rotting of the walls and roof of a house), is used up through consumptive practices (for example, the periodic exhaustion of batteries, oil, salt, and sugar), or is taken by another agent (a predator that kills one's chickens, a thief that steals one's flashlight). And so there is an orientation to the inherent leveling of time, and to the rebuilding and resupplying of that which has been leveled down.

Recall our last example: earthenware griddles last much longer than metal griddles; in part, because metal griddles are used more often; and, in part, because they are subject to irreversible processes on much faster time scales. Some modes of replacement are even oriented to the decay of human life per se – the replacement of older people with younger people. Finally, other modes of replacement involve relatively reversible

processes – settling scores (soccer, justice), repaying debts (loans, labor pools), and zeroing accounts. In such cases, values – and, in particular, valuable resources – come to the fore: that which is consumed in use, and/or that which takes effort (labor, time, energy, and other resources) to restock, return, renew, or repay.

We will return to this important mode of temporality in the conclusion of this monograph. For present purposes, the following example should clarify the main concerns. Houses were one important site in which this mode of temporality came to the fore. In part, this was because older houses that had been abandoned (after their replacements had been built) became mnemonics of village history, as the following utterances involving ‘matter and memory’ show.

- (1) wili’ li oqech aran
 see.IMP DM post DEIC
 ‘Look at those posts there (which were part of the framing of a decaying house).

ki-Ø-wan li r-ochoch qawa’ Alejandro
 INF-A3S-exist DM E3S-home SD PN
 That was the home of Don Alejandro.

ki-Ø-kam
 INF-A3S-die
 He died.

ab’anan toj wan-Ø-Ø li r-ochoch li-x rab’in
 however still exist-PRES-A3S DM E3S-home DM-E3S daughter
 But his daughter’s home still sits . . .

chi-r-u li tzuul aran
 PREP-E3S-RN DM hill DEIC
 on (the face of) the hill over there.’ [said while pointing]

In part, this was because some villagers said they could judge the wealth and virtue of a house’s owner by its state of decay: the more money one had, the more frequently one would replace one’s house; and the more industrious one was, the more one would care for one’s house;

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and hence the less run-down one would let it become. (Other villagers, in contrast, and perhaps more charitably, used similar indices to infer that times were tough, or that a family was hard up.) In this way, just as an abandoned and decaying house became an index of village history, the relative decay of one's current home became a sign of social status, labor power, or economic difficulties.

To return to the concerns of Chapter 4, traces of entropic processes are just as important and pervasive as evidence of energetic pathways. And the degree to which one countered the second law of thermodynamics, and hence took issue with the inherent directionality of time, so to speak, constituted a local index of relative wealth and workmanship, as well as a sign of personal struggles and difficult circumstances.

Reckoning and Regimentation

By *temporality as reckoning (and regimentation)*, I mean a mode of understanding that frames processes in terms of their when and their how long – as well as their how fast and how often, not to mention their momentum (mdx/dt) and power (dE/dt). Here go forms of media like clocks and calendars, and grammatical categories like tense and aspect, not to mention metronomes and pacemakers, wattage monitors and speedometers. Reckoning typically presumes privileged points (the speech event, the birth of Christ, armistice) and privileged periods (day, second, swing). Such privileged points and periods are used as interpretive grounds relative to which the when and how long of other, less privileged points and periods are figured.

For example, when one says, 'he arrived three days ago' (*xk'ulun oxejer*), the speech event (or time of utterance) is the privileged point relative to which the when of his arrival is reckoned; and a day is the privileged period used to reckon how long before the privileged point his arrival occurred. As may be seen in Table 9.3, *oxejer* (three days ago)

Table 9.3 *Temporal adverbs turning on solar-centric periods*

hoon (today), anaqwan (now)	
ewer (one day ago, yesterday)	hulaj (in one day, tomorrow)
kab'ajer (two days ago)	kab'ej (in two days)
oxej (three days ago)	oxej (in three days)
kwehejer (four days ago)	kwehej (in four days)
hoob'ej (five days ago)	hoob'ej (in five days)

is just one temporal adverb in a much larger system of forms, any one of which can be used to relate a narrated event (interval or duration) to the speech event, or to another narrated event, via magnitude (how many days) and direction (before or after).

The following utterance shows a similar phenomenon.

- (2) x-Ø-kam chi-r-ix li-x kub'ilha' aj Lu'
 PERF-A3S-die PREP-E3S-RN DM-E3S baptism SD PD
 'She died after the baptism of Pedro.'

Here the boy's baptism is the privileged point relative to which the event of her death is reckoned. Note the role that adpositions like *chi -ix* (behind, after) can play in making reference to privileged points. And note that, in contrast to the last example, no privileged period is expressed: all we learn is that one event came *after* another; how much after is left unsaid. Compare an utterance like 'X is longer than Y' with an utterance like 'X is two feet longer than Y'.

Crucial here are the social scales that determine with whom, and in what context, one can presume a certain point or period as a privileged ground; as well as the social scales that come into being when a certain point or period gets publicly figured, and so can be subsequently used as a privileged ground by members of the public constituted by that figuring. For example, one can (typically) only use someone's baptism as a privileged point of reckoning with an interlocutor who already knows who that someone is and when their baptism occurred. Reciprocally, and as the next example shows, once the 'when' of some

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event (relative to such a privileged point) has been reckoned, that *when* can itself become a privileged point in subsequent interactions.

- (3) chi-r-ix li-x kam-ik
 PREP-E3S-RN DM-E3S die-NOM
 ‘After her death . . .
- mas ra x-Ø-x-k’ul li-x b’eelom
 very painful PERF-A3S-E3S-receive DM-E3S husband
 her husband suffered greatly.’

This was said after the utterance discussed in the preceding example. As may be seen, the backgrounded event in this example (her death) was the foregrounded event in the last example. To return to our discussion of Heidegger, just as the second line makes ‘reference to’ the first line (in order to *refer to*, or represent, a narrated event), the utterance in example (3) ‘makes reference to’ the utterance in example (2).

Some extensions of this system are shown in the following examples: when the privileged point is the speech event; another narrated event (itself typically grounded in the speech event); or a calendrical event (itself typically grounded in the speech event and other narrated events).

- (4) x-Ø-yaj-er hoob’ejer
 PERF-A3S-sick-BECOME five.days.ago
 ‘He became sick five days ago.
- chi-r-u li-x yaj-ik, mas kaw
 PREP-E3S-RN DM-E3S sick-NOM very strong
 Before his illness he was very strong.’

The narrated event in the second line of this example was reckoned relative to the narrated event in the first line of this example, which itself was reckoned relative to the speech event. In this way, speakers not only use privileged points and periods to reckon, they also establish what counts as a privileged point or period (often by simply referring to them), and thereby help regiment their own and others’ processes of reckoning.

- (5) chi-r-u li chihab' mil nove-syent sesent
 PREP-E3S-RN DM year 1000 nine-hundred sixty

'During the year 1960 ...

li x-b'een poyanam k-e'-hulak aran
 DM E3S-first people INF-A3P-arrive DEIC
 the first people arrived there.

chi-r-ix li-x hulaj-ik
 PREP-E3S-RN DM-E3S arrive-NOM
 After their arrival ...

k-Ø-e'x-yiib' chixjunil li ochoch
 INF-A3S-E3P-build all DM house
 they built all the houses.'

The narrated event in the second two lines of this example is reckoned relative to the narrated event in the first two lines, which itself was reckoned relative to a calendrical event (which itself presupposes other narrated events, and past speech events, and so it goes).

Many forms of replacement presumed widely privileged periods: the election cycle, or year; the person cycle, or generation. And moments of renewal often constituted privileged points for reckoning: *after the election, during the ceremony, when she fell sick, right before I paid him, just after our son was born.*

Indeed, the most quotidian forms of replacement constituted not just *event-centric* points and periods, but also *entity-centric* points and periods. In some sense, each and every use value as a type, or resource more generally, could constitute a privileged period (how long it usually takes to wear out, or use up); and every use value as a token could constitute a privileged point (when the last one wore out, or when was it last renewed, and hence when might the current one wear out, and when might it need to be replaced again). In this way, entities no less than events offer multiple affordances for various modes of temporality.

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The publics that reckoned with such privileged points and periods could be greater or smaller in scale. Sometimes the entire village could presume one and the same privileged point or period (say, an election cycle). Sometimes only the immediate families involved in an illness cure could (say, those who knew when the victim first took ill). Sometimes all the men involved in a labor pool could presume the same privileged point or period (say, the last time they collectively built a house). Sometimes just the two parties of a loan (say, when the advance was given). Such usage, then, diagrams *temporal publics* – groups of temporally oriented agents who have some salient subset of their temporal grounds, and hence privileged points and periods, in common.

It is worth offering one more example of temporality as reckoning insofar as it overlaps with temporality as repetition (and interruption) and temporality as irreversibility (and reversibility).

- (6) toj saj-in, maaji' n-in-tix-q
 still young-A1S not.yet PRES-A1S-be.old-NS
 'I am still young, I am not yet old.'

A woman is reporting the speech of her husband (who was 28 years old at the time). When she had asked him to join the *cofradía* as a couple, he had replied, 'I am still young, I am not yet old.' This became a point of contention for the couple: the woman wanted to join the *cofradía* (because it was a key mode of replacement that women could partake in, one that offered entry into extensive modes of village-wide and weekly sociality), whereas the man took participation in the *cofradía* as a sign of more traditional ways, and hence best left to older couples. In particular, the man had wanted instead to run for mayor – a different mode of replacement (that only men could partake in), and one for which younger and younger men were more and more often being recruited. Rather than knowledge of traditional ways, a high degree of competence in Spanish and extensive implication in extra-village social relations became key requirements for election.

Crucially, in offering his reasons for not wanting to join, the man used two temporal adverbs: *toj* (similar in function to English ‘still’) and *maaji* (similar in function to English ‘not yet’). Loosely speaking, the operator *toj* indicates that the *offset* of the narrated state (being young) is after some privileged point (here the reported speech event, qua reference time); whereas the operator *maaji* indicates that the *onset* of the narrated state (being old) is after that privileged point. In effect, the second clause is a paraphrase, if not poetic-repetition, of the first. Chapter 10 will carefully examine such temporal adverbs, and their privileged points qua *thresholds*, to better understand the important role they play in replacement practices and beyond.

Roots and Fruits

By *temporality as roots and fruits*, I mean a mode of understanding that frames an entity or event, experience or affect, belief or desire, in terms of what led to it or follows from it. For example, one and the same speech act is appropriate in context (roots) and effective on context (fruits). One and the same action may be an interpretant of a prior sign, and a sign that will lead to a subsequent interpretant. The same event may be understood as an effect of a prior cause, or a cause that will give rise to a subsequent effect. A mode of affect may be caused by a certain experience, and causal of a certain action. This framing of temporality came to the fore in Chapters 2 and 3, during our discussions of causal and experiential grounds. We will return to it in Chapter 11, when we analyze reasoning practices underlying possible world pragmatics. For present purposes, two relatively succinct examples should suffice.

As discussed in Kockelman (2010a, 2017), the interjection *chix* (yuck, ugh) is not just an exclamation that is ‘caused by’ the perception that matter is out of place (for example, a woman might say it after seeing that a chicken has shat near the hearth fire). It is also an imperative that ‘causes’ another agent to undertake an action (for example, the woman’s

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son, upon hearing his mother say *chix*, might go fetch a machete to clean up the mess).

As discussed above, a decaying house may simultaneously function as both symptom and herald. That is, it not only indexes past events, and the characteristics of actors who were implicated in them; it also indexes future worlds, and the possible actions of those who will inhabit them. This framing of temporality foregrounds all the ways in which any *now* is durationally thick with its conditions and consequences, be these discursive, affective, causal, inferential, experiential or otherwise.

Ontology and Cosmology

By *temporality as ontology or worldview*, I mean a mode of understanding that is oriented to time as such: what is time, what is the nature of temporality. Here go Mayan myths recounting the marriage of the sun and the moon (and the creation of the cosmos), claims from theoretical physics (the laws of thermodynamics, special relativity), classic understanding of propitiousness (when should we harvest, what is a lucky month to be born in), and even philosophical (and pseudo-philosophical) understandings of temporality: is time abstract or concrete, circular or linear, progressing or devolving, the ground of experience or a figure to be experienced.

One widespread and arguably erroneous worldview is often articulated by critical theorists: that modern modes of temporality are 'abstract', or 'empty and homogeneous', whereas premodern modes of temporality are 'concrete'. Hopefully, as per the last set of examples, the reader should now see that all of us, and not just speakers of Q'eqchi', reckon time by reference to concrete events and entities, insofar as they constitute privileged points and periods: *yesterday* and *tomorrow*, *at the end of spring break*, *after the war*, *in 200 BC*, *during the full moon*, *after the holidays*, *at low tide*, *when we still lived in Santa Fe*, *in the wake of September 11th*, *before the Pleistocene*, *13 billion years ago*, *during the*

Anthropocene, after the Trump Administration, before we finally got the vaccine for COVID-19, and so forth.

Finally, it cannot be emphasized enough that the very framework being developed and deployed in this chapter ('five ways of framing time') is itself a kind of worldview or theory – a set of assumptions, themselves inherently time-bound, and probably quite provincial, about what makes some experience or phenomenon relatively 'temporal'.

Let us now put together temporality as roots and roots, and temporality as worldview, in order to offer a few final thoughts about the temporality of replacement. As laid out above, replacement may be understood as an ensemble of sensibilities and assumptions regarding the equivalence of various entities: what requires a replacement; what can count as a replacement; and what are the conditions of possibility for such requirements. Such assumptions, while not necessarily articulated, or made explicit as such, nevertheless constitute a set of beliefs that are committed to in practice via relatively habitual, as well as relatively one-of-a-kind, actions. They thereby constitute an important part of a person's worldview (ideology, theory, ontology, mentality, cosmology, habitus, culture, etc.), a part which, while not 'about' time per se, is deeply entangled in temporality in all the ways just shown. To return to Heidegger (and Frege), while such assumptions do not *refer* to, or directly represent, temporality, they are certainly constituted 'in reference to' it.

Crucially, such assumptions have roots and fruits. On the one hand, they count as a *condition for* interpretations – for example, judgments as to who can replace whom in what context. They thus lie at the root of many kinds of practical decisions. On the other hand, they are themselves a *consequence of* interpretations – for example, they came about through a group's experience in the world, and the way that group made sense of such experience while helping to make such a world. In short, replacement constitutes a large-scale interpretive ground or worldview (however partial, implicit, inconsistent, or ephemeral) that makes

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reference to time; and that worldview itself, whatever its particular contents at any particular moment, has roots in past events, and bears fruit in future events (and so transforms over time).

Scaling Genealogy

Let me conclude by highlighting several temporal (spatial and social) scales along which such assumptions have transformed, or are in the process of transforming. That is to say, let me sketch the temporality of such assumptions about temporality. For present purposes, and to vastly simplify, three scales are particularly relevant. First, there are processes on the order of thousands of years (for example, Mesoamerican-wide versus Mayan-specific, pre-conquest versus post-conquest, pan- or proto-Mayan versus particular to the Quichean branch). Second, there are processes on the order of hundreds of years (for example, speakers of Q'eqchi' pre- and post-sixteenth-century reductions, or pre- and post-nineteenth-century modernist reforms). Finally, there are processes on the order of tens of years (for example, pre- and post-civil war, or pre-and post-eco-tourism boom and/or global economic crisis).

In regard to the longest scale, practices somewhat similar to replacement, and words somewhat similar to *-eeqaj*, have been documented in other Mayan communities – albeit in a much more circumscribed fashion. For example, Carlsen and Prechtel (1991) argue that the Tzutujil word *k'ex* refers to the replacement of older persons with younger equivalents. They refer to this as “making the new out of the old” and “reincarnation,” and they characterize it as “relating to the transfer, and hence continuity, of life” (p. 26). And Mondloch (1980), working with the Mayan language Quiche, has discussed the use of the word *k'e's* in relation to naming practices, describing it as a “social mechanism for replacing the ancestors” (p. 9). Similar themes have been echoed by other Mayanists working in Highland Guatemala.

While I have very little data on the historical transformations of the word *-eeqaj*, in meaning or in form, it may be the case that reincarnation – and the replacement of persons more generally – is the more ordinary and widespread usage. If so, it would indicate that the replacement of people – not only in namesaking, but also perhaps in civil-religious elections, *qua* mayor and *cofradía*, and perhaps even illness cures – is the more basic process.

In regard to the middle scale, it should be remembered that what passes as a local cultural order may have its origins in a colonial imposition; and what passes as a natural process of renewal may have its origins in the novel demands of capital. And so while such religious-cosmological interpretations are important, it is also worthwhile maintaining a more worldly interpretation. It has been suggested by Wilk (1991), for example, that labor pooling among the Q'eqchi' – which is one of the most important institutions involving replacement – may be a response to colonial forms of labor extraction (and perhaps pre-conquest forms of tribute-taking). That is, originally it was the state or coffee plantation that one owed labor to. And, if one couldn't fulfill this obligation, one had to send a replacement. In short, if the first scale pushes us towards rethinking replacement in terms of reincarnation, this scale pushes us towards rethinking replacement in terms of exploitation.

In regard to the final scale, villagers joined forces with an ecologically minded NGO in the 1990s and started an eco-tourism project (Kockelman 2016a). The money generated from this venture was supposed to be an incentive for villagers to stop their 'slash and burn' agriculture, and thereby preserve the cloud forest that surrounds this community, along with the endangered avifauna that reside there. In so doing, many villagers were 'capacitated' to engage in a wide variety of novel and specialized forms of labor: monitoring key species, hosting and guiding tourists, acting as extensionists to other villages, and so forth. Simultaneously, the NGO was giving out awards and certificates

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to such villagers, and thus highly visible signs of their new, hard-earned, and unique capacities, or ‘virtues’ (qua relatively high degrees of newly salient dimensions). Such villagers began to drop out of the system of replacement – giving up labor pooling in favor of cash payment, and constructing new kinds of houses with no local equivalents. That is, whereas replacement was once a condition for local values (constituting, as we saw, the systematic provisioning of social life, and hence replenishment in an extended sense), *irreplaceability* was becoming, for those villagers implicated in the eco-tourism project, a value in itself.

Notes to Chapter 9

- 1 Do not confuse Heidegger’s references (*die Verweisungen*) with Frege’s more famous notion of reference (*die Bedeutung*) or sense (*der Sinn*). In some sense, it is their very antithesis.
- 2 This kind of replacement can also be referred to as *q’ajkam*, and hence as something like compensation or retribution (Sam Juárez et al. 1997:228–29).
- 3 Some speakers also use *-uuchil* to refer to replacements involving labor.



Temporal Thresholds

Phase Transitions in Truth Conditions

In 1619, the mayor and aldermen of Cahabón (a municipality in the northern lowlands of Alta Verapaz, Guatemala) dictated a petition, requesting that their local priest be removed from his duty and replaced with someone else. They complained that this priest had been asking women shocking questions during confession, such as how often they had sinned with his predecessor – a priest who had been well liked, in part because of his facility with Q'eqchi', the Mayan language spoken throughout the region. The following example shows the last two clauses of the opening paragraph of this petition, which occur right after the offending priest has been named.¹

- (1) *toj maaji' na-Ø-(x)-naw le qa-wank-il*
 still not.yet PRES-A3S-E3S-know DM E1P-exist-NOM
 'He still does not yet know our customs.
- toj maaji' na-Ø-(x)-naw i q-aatin-al*
 still not.yet PRES-A3S-E3S-know DM E1P-word-ABS
 He still does not yet know our language.'

The two clauses have nearly identical contents except for the last word: 'customs' (itself a nominalization of the verb for existence); and 'language' (itself an abstraction of the noun for 'word'). In other words, that which was 'still not yet' known by the priest is the classic concern of

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Table 10.1 *Four temporal operators in Q'eqchi'*

(1) ak (already) < = 'onset of En is before Tr'	(2) maaji' (not yet) <== 'onset of En is after Tr'
(3) toj (still) = => 'offset of En is after Tr'	(4) ink'a' chik (no longer) ==> 'offset of En is before Tr'

anthropology: group-specific ways of residing in, and representing, the world (Edwards 2018). Not only was the current priest asking untoward and leading questions, but he continued to lack the essential capacities the petitioners thought he should have to be a proper replacement for his predecessor: a high enough degree of knowledge of their language and culture.

The invariant content of these two otherwise varying clauses is particularly interesting. In addition to the verb *na'ok* (to know), there are two co-occurring temporal adverbs (that the reader should recognize from Chapters 8 and 9), each of which usually occurs all by itself.

As shown in box (3) of Table 10.1, the first of these operators, *toj*, loosely translated as 'still', typically indicates that the OFFSET of a narrated event (such as the state of [not] knowing something) is *after* some reference time (here understood to be the event of writing the letter itself). As shown in box (2) of the table, the second of these operators, *maaji'*, loosely translated as 'not yet', typically indicates that the ONSET of a narrated event is *after* (or at least not before) some reference time. As shown in boxes (1) and (4) of this table, these operators are part of a larger class that includes *ak* 'already' and *ink'a' chik* 'no longer', which differ from the first two operators only in that they indicate that the beginning or end of a narrated event is BEFORE (as opposed to AFTER) some reference time.

(As discussed in Chapter 8, the times and events in question need not be 'events' per se, but may be framed as activities, intervals, states, and so forth. As discussed in Chapter 9, such reference times typically

function as privileged points, or periods, relative to which the temporal features of other events are reckoned and regimented.)

All four operators thereby foreground the onset (<) or offset (>) of a narrated event – from not true to true, or from true to not true – and hence draw attention to phase transitions in truth conditions, or *thresholds* more generally. In so doing, they connect two otherwise unconnected moments or intervals, the narrated event (==) and the reference time (|), via relations of precedence or antecedence. Finally, as should be clear from the tight coupling of their semantic features, such operators don't usually occur together in the same clause. To return to our opening example, how might we reconcile – semantically and pragmatically, historically and ethnographically – the immediate co-occurrence of two seemingly exclusive and contradictory operators: *toj* and *maaji*, or 'still' and 'not yet'?

This chapter offers a detailed analysis of these operators, focusing on the thresholds they delimit, the functions they serve, and the social relations they mediate. After offering a semantics of their presupposed and asserted contents, it details the extended uses of *toj*, which functions not only like English 'still', but also like English 'until' and 'unless'. The following section returns to the operator *chik* 'more' that was analyzed in Chapter 8. After discussing the relation between *toj* 'still' and *wi'chik* 'again', it analyzes the relation between repetition, restitution, and replacement. The next section analyzes a range of *toj maaji* ('still not yet') constructions from more recent fieldwork. The conclusion returns to the petition introduced above, using the analysis offered in earlier sections to interpret the presumptions and implications of such co-occurring operators in their historical context.

Dual Groups and Duplex Categories

The analysis of the four operators shown in Table 10.1, which comes from Kockelman (2010a), is just one way of framing their semantic

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Table 10.2 *Presupposed and asserted contents of the aspectual operators*

<i>ak</i> (already)	<i>maaji'</i> (not yet)
Presuppose: En false before Tr	Presuppose: En false before Tr
Assert: En true at Tr	Assert: En false at Tr
<i>toj</i> (still)	<i>ink'a' chik</i> (no longer)
Presuppose: En true before Tr	Presuppose: En true before Tr
Assert: En true at Tr	Assert: En false at Tr

features. Loebner (1989, 1999), working on a similar set of operators in German (*schon*, *noch nicht*, *noch*, and *nicht mehr*), focused on their presupposed and asserted contents. Table 10.2 shows an analogous analysis of the Q'eqchi' operators.

Unlike the framing introduced in the previous section, which brought together presupposed, asserted, and implied contents (and offered a somewhat intuitive diagram), this framing separates presupposed and asserted contents (and leaves out implications altogether). To understand how it might apply to the four Q'eqchi' forms, let me offer another example of the two operators in question, each with scope over its own clause.

- (2) S1: ma xkoo-Ø
 QUES go.PERF-A3S
 'Has it gone?'
 S2: maaji' na-Ø-xik,
 not.yet PRES-A3S-go
 'It has not yet gone.
 toj wan-Ø-Ø
 still exist-PRES-A3S
 It is still there.'

In this example, which comes from fieldwork undertaken in 2017, the owner (S1) of a small restaurant was asking her assistant whether a dog was still waiting at the entrance, and thereby making potential

customers uneasy. The assistant (S2) offered the response shown, consisting of two semantically similar clauses. The first clause, which involves the operator *maaji* ‘not yet’, presupposes that its narrated content (leaving a place) was *not* true before the reference time (here the speech event); and it asserts that the narrated content is *not* true at the reference time. The second clause involves the operator *toj* ‘still’. It presupposes that its narrated content (being located in a place) was true before the reference time; and it asserts that the narrated content is true at the reference time. As may be seen, the second clause is semantically equivalent to the first, and hence almost a restatement – think invariance under variation – of its contents. The operators *toj* and *maaji* have nearly identical semantics, so long as one operates on the antonym (or negated narrated content) of the other. Recall example (6) from Chapter 9, in which a woman used a similar pair of parallel constructions to report the words of her husband (as to why he did not want to join the *cofradía*): ‘I am still young. I am not yet old’.

Similar relations hold between the operators *ak* ‘already’ and *ink’a’ chik* ‘no longer’, as shown by speakers’ judgments as to the relative acceptability of various answers (A1, A2, A3) to the same question (Q).

- (3) Q: *ma* *toj* *yo’yo’* *li* *tz’i’?*
 QUES still alive DM dog
 ‘Is the dog still alive?’
- A1: * *ink’a’, ink’a’* *toj* *yo’yo’* *li* *tz’i’*
 NEG NEG still alive DM dog
 ‘No. The dog is not still alive.’
- A2: *ink’a’, ink’a’* *chik* *yo’yo’* *li* *tz’i’*
 NEG NEG more alive DM dog
 ‘No. The dog is no longer alive.’
- A3: *ink’a’, ak* *kam-enaq* *li* *tz’i’*
 NEG already die-PART DM dog
 ‘No. The dog is already dead.’
 (Context: a neighbor’s old dog has recently died)

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Here are two acceptable responses, and one unacceptable (*) response, to a yes/no question involving *toj* ‘still’. The predicate in question, *yo’yo*’ (to be alive) is a stative predicate; and the reference time is the speech event. As may be seen from the contrast between A1 and A2, proper external negation of a sentence involving *toj* is not *ink’a’ toj* ‘not still’, but rather *ink’a’ chik* ‘no more/longer’. (Recall that external negation involves the negation of an operator, whereas internal negation involves the negation of the operand, which is the argument of the operator.) As may be seen from the acceptability of both A2 and A3 (in the given context), *ink’a’ chik yo’yo*’ ‘no longer alive’ is more or less equivalent to *ak kamañaq* ‘already dead’.

The foregoing patterns may be summarized as follows (where *p* is a proposition, $\sim$ indicates negation, $\Leftrightarrow$ indicates mutual entailment, and parentheses indicate that the proposition *p*, with or without negation, is a key argument of the relevant operator):

$$\begin{aligned}\sim ak(p) &\Leftrightarrow maaji'(p) \Leftrightarrow toj(\sim p) \\ \sim toj(p) &\Leftrightarrow ink'a' chik(p) \Leftrightarrow ak(\sim p)\end{aligned}$$

This suggests that the four particles have the structure of a dual group (Loebner 1989, 1999; Doherty 1973; Abraham 1980). In particular, *maaji'* is the external negation of *ak*; *ink'a' chik* is the external negation of *toj*; and the external negation of *ak* is equivalent to the internal negation of *toj* (making *ak* and *toj*, as well as *maaji'* and *ink'a' chik*, dual operators of each other). These relations are shown in Figure 10.1.

In short, all four operators are similar in that they project a phase transition, or *threshold*, onto an event structure: either a transition

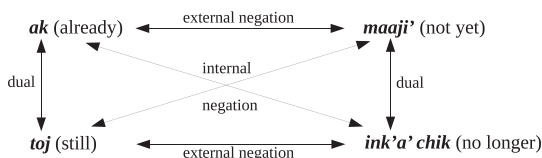


Figure 10.1 Aspectual operators as a dual group

from not state to state (or false to true), in the case of *ak* and *maaji*; or a transition from state to not state (or true to false), in the case of *toj* and *ink'a' chik*. They are all two-place predicates: the first argument is a proposition (describing the state in question); and the second argument is a reference time (indicating the moment that the value of this state is salient). As should be clear from our discussion of temporal reckoning in Chapter 9, this reference time, qua privileged point, may be constituted by the speech event itself, another narrated event (often through a closely coordinated clause), or some contextually relevant topic time. Such operators, then, do not just constitute a dual group (in the ways just shown), they are also duplex categories (in the tradition of Roman Jakobson, albeit slightly tweaked): their meaning is sensitive to a context-specific reference time, which is often – but not always – the speech event, and thereby shifts accordingly.

As may also be seen, the operators *ak* and *maaji* share a presupposition (that the state does not obtain before the reference time). They contrast, however, in that *ak* asserts that the state obtains at the reference time, whereas *maaji* asserts that the state does not obtain at the reference time. Similarly, the operators *toj* and *ink'a' chik* share a presupposition (that the state obtains before the reference time). They contrast, however, in that *toj* asserts that the state obtains at the reference time, whereas *ink'a' chik* asserts that the state does not obtain at the reference time. Adopting this semantic structure allows us to make sense of the foregoing data (for example, external negation preserves presuppositions); and it predicts a wide range of other phenomena that are found as well (Kockelman 2020c).

For example, if such operators project a phase transition onto events, then they should be incompatible with states that refer to one part of a necessarily one-way process, and so do not allow such a projection. The following data show this incompatibility. (Sentences involving forms separated by / all have the same acceptability judgment.)

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- (4) # *toj* / *ink'a'_chik* *kam-enaq* *li* *tz'i'*
 still / no.longer die-PART DM dog
 'The dog is still / no longer dead.'
- (5) # *ak* / *maaji'* *yo'yo'* *li* *tz'i'*
 already / not.yet alive DM dog
 'The dog is already / not yet alive.'

While it is perfectly acceptable, following example (3), and indeed highly informative, to state that something is *toj* alive (or *ink'a' chik* alive) and/or *ak* dead (or *maaji'* dead), sentences involving the application of *toj* or *ink'a' chik* to *kamenaq* 'dead' are judged unacceptable or inappropriate (hence the # symbol); likewise for sentences involving the application of *ak* or *maaji'* to *yo'yo'* 'alive'. I say inappropriate because speakers suggested that you could say such sentences when referring to relatively marked (and hypothetical) events: zombie outbreaks, and the like.

In contrast, all such operators were judged acceptable when occurring with predicates that referred to processes that could be framed as transitioning in either direction.

- (6) *ak* / *maaji'* / *toj* / *ink'a'_chik* *terto* *li* *kape'*
 already / not.yet / still / no.longer expensive DM coffee
 'Coffee is already / not yet / still / no longer expensive.'

Certain stative predicates like *terto* 'expensive' are acceptable with all four of the aspectual operators, so long as the argument can be framed as (potentially) transitioning from state to negative state, or from negative state to state. Here the coffee (*kape'*) in question is not the beverage, but the bean – a key cash crop and export commodity in the region, and hence one whose value is well known to be subject to large-scale market fluctuations.

Because these operators project a phase transition, or threshold, onto a state of affairs, as opposed to simply making a true or false predication, they invite the interpretation that the transition is unexpected, or

otherwise relevant, in some way. Such interpretations often show up in speakers' characterizations of the meaning and usage of these forms, and are often highly plausible and salient in actual contexts of usage. Moreover, such interpretations can themselves be embedded in more complicated attitudes and modalities: hopes and fears, desires and memories, necessity and obligation, etc. For example, an operator like *toj* (p) 'still p' may invite the defeasible inference that p should have been finished by the reference time, and/or that it may be expected to be finished soon after the reference time. In other words, saying that someone is *still* sleeping, may invite the inference that (the speaker thinks that) the person has been sleeping too long, stayed out very late, should be woken up immediately, and so forth. Such context-sensitive interpretations are active in many of the examples that follow, and will be more carefully analyzed in subsequent chapters.

Anyway, Unless, and Until

The operator *toj* presupposes not just that the state obtained before the reference time, but that it continuously obtained until the reference time.

- (7) ! yoo-Ø-Ø chi b'ichank ewer
 do-PRES-A3S COMP sing yesterday
 'She was singing yesterday ...
- ut toj yoo-Ø-Ø chi b'ichank anaqwan
 CONJ still do-PRES-A3S COMP sing today
 and she is still singing today.'

Here the reference time is explicitly established with the temporal deictic *anaqwan* 'now/today'. Speakers found this sentence unacceptable unless the singer really sang from yesterday until today – which they found highly improbable, indicating that she would have to have a really strong voice, lots of stamina, and so forth.

The next two examples showcase the concessive use of *toj* which can occur when *toj* has scope over a perfective predicate, and the reference event is framed as an obstacle (or, with negative valence, as an inducement). This function is relatively infrequent in my corpus, and seems minimally distinguishable from the unmarked usage of *toj* already described. In such cases, the relative continuity of some action or intention, in the face of some obstacle, is marked or noteworthy.

- In example (8), the reference event (the speaker's telling the addressee not to go) functions like an obstacle or negative inducement, and *toj* seems to indicate that the narrated event occurred despite that obstacle. Such a reading typically occurs when *toj* has scope over perfective predicates, and is similar to concessive uses of English *still* (Ippolito 2004, 2007; Michaelis 1993). Example (9) comes from a Q'eqchi' myth, recounted in 1904, which tells the story of how the Moon eloped with the Sun. In this passage, the Moon's father (*Tzuultaq'a*, or 'Mountain-Valley', the same earth deity we met in Chapter 4) has just asked his brother, Thunder, to kill the two fugitives. As may be seen, *despite* his brother's wishes, Thunder did not want to. Here the reference event (constituted by the proceeding clause in the narrative) is framed as an inducement or motivation; and this sentence effectively says that, despite such an inducement, the

narrated state (in particular, not wanting to achieve that goal) continues. The presupposition and assertion structure of such concessive constructions is very similar to the unmarked function of *toj* examined above: such constructions presuppose a proposition is true before the reference event (or time); and they assert that it is true at – and hence ‘despite’ – the reference event.

The fact that *toj* presupposes a strong continuity of the state in question motivates three other functions of this operator, which otherwise make it quite distinct from its Spanish (*todavía, aún*), English (*still*), and German (*noch*) counterparts. For example, when *toj* occurs with scope over a backgrounded clause, which itself establishes the reference time for a foregrounded clause, it functions like English ‘until’.

- (10) ink’a’ nek-e’-xik sa’ li tz’oleb’al
 NEG PRES-A3P-go PREP DM school
 ‘They do not go to school ...
 toj wan-Ø-Ø r-e waqib’ chihab’
 until exist-PRES-A3S E3S-DAT six year
 until they are six years old.’
 (SG: los niños no van a la escuela hasta que tengan seis años)

Example (10) shows an utterance that involves two coordinated clauses which are being used to describe the age at which children start going to school. As may be seen, the operator *toj* has scope over the second clause, which itself is being used to establish a threshold, in this case the timing of the change in truth value of the first clause. Such a construction presupposes that the narrated event (not going to school) is true before the reference time (being 6 years old). It asserts that the narrated event is true at (and continuously up to) the reference time. And it implies that the narrated event is false just after the reference time. That is, the children *do not* go to school (at any time) before they are 6; but at 6 (and after) they *do* go to school.

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This operator can also function as ‘until’ in single clause constructions so long as it has scope over a temporal adverb (as opposed to a backgrounded clause).

- (11) S1: maak’a’ li aatinak hoon r-ik’in l-aaw-ixaqil
 NEG.exist DM speak today E3S-RN DM-E2S-wife
 ‘There is no speaking with your wife today?’

S2: ink’a’
 ‘No.’

S1: toj kab’ej
 until tomorrow
 ‘(Not) until tomorrow?’

S2: eq’ela kab’ej
 early tomorrow
 ‘Early tomorrow.’

In the third line of this example, the operator *toj* (with a temporal deictic as its argument) is used in a question, asking when a negative state (the addressee’s not calling his wife) will cease to obtain (such that the addressee does call his wife). As may be seen, the adverb establishes the reference time, and the narrated event (the rest of the clause in question) is understood to be true before and continuously up to that time (and false afterwards).

Construction in which *toj* has scope over a temporal adverb or adposition frequently occur in the context of leave-taking, when no propositional content is overtly specified.

- (12) toj hulaj
 until tomorrow
 ‘Until tomorrow.’
 (SG: hasta mañana)

Such constructions are routinely translated using Spanish *hasta* ‘until’. While this construction type is highly ritualized (and might seem to be a morphosyntactic calque of its Spanish counterpart), such usage aligns

with the semantic structure discussed above. In particular, speakers agreed that example (12) could be expanded in one of two ways and still fit the situation: *nos vemos mañana* ('we'll see each other tomorrow' or 'see you tomorrow'); and *no nos vemos hasta mañana* ('we won't see each other until tomorrow').

A similar function is served when *toj* has scope over a spatial adverb.

- (13) Q: b'ar na-Ø-xik li manguera
 where PRES-A3S-go DM hose
 'Where does the hose go?'

A: ay, ink'a' n-Ø-in-naw,
 INTERJ NEG PRES-A3S-E1S-know
 'Ay, I don't know.'

mare arin toj najt chi-r-ix li tzuul
 perhaps here until far PREP-E3S-RN DM mountain
 Perhaps (from) here until far beyond (or after) the hill.'

Here *toj* occurs with scope over a spatial adverb, in an utterance describing the path of a very long hose (carrying water from a mountain spring down to the speaker's home). The presupposition and assertion structure of the temporal usage just discussed carries over to this usage: the adverbial argument of *toj* indicates a reference place (instead of a reference time); the hose extends (or 'goes') continuously to the reference place (and perhaps even past it) from an earlier place (in particular, the location of the speech event, marked by the deictic adverb *arin* 'here').

Not only does the operator *toj* function like English 'until', it can also function like English 'unless' when it occurs with modal operators (like the counterfactive form *raj*).

- (14) t-in-kaam-q raj (x)-b'aan ke
 FUT-A1S-die-NS CF E3S-RN cold
 'I will die of the cold ...'

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toj t-in-b'at-e'q sa' x-noq'al inup
 unless FUT-A1S-wrap-PSV PREP E3S-thread ceiba
 unless I am wrapped in the bark of a ceiba tree.'
 (Kockelman 2010a:216)

This sentence comes from the same myth discussed above. The (reported) speaker is a hummingbird explaining why it doesn't want to give away its feathers. If it did give them away, *it would die* (unless a particular condition is met). There is a foregrounded clause, with counterfactive status and future tense (or prospective aspect) that specifies the dire repercussions in question; and *toj* has scope over a backgrounded clause (also with future tense) that specifies the mitigating condition. The foregoing account of the semantics of *toj* fits this example quite well: the sentence presupposes that the foregrounded clause is true prior to the condition being met; it asserts that the foregrounded clause is true at the meeting of the condition (and continuously so up until then). Moreover, this sentence strongly implies that the foregrounded grounded clause is false (that is, the hummingbird will not die) after the condition is met. Note, then, that the condition is in effect establishing the reference time, perhaps best understood as a 'reference world'.

As the last three examples show, whether the narrated event and reference point are connected via temporal, spatial, or modal dimensions, *toj* serves a similar function. Such phase-transition operators are not only indifferent to magnitude (as opposed to direction and connection), they are also indifferent to dimension (as that which underlies such connections and directions). See Figure 10.2.

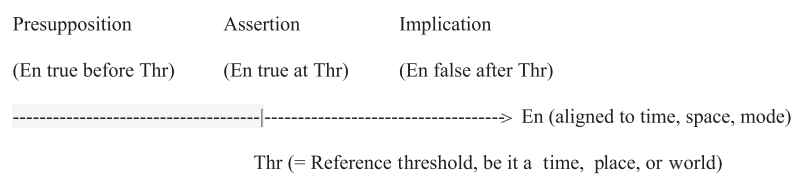


Figure 10.2 Phase transitions in truth conditions

From No Longer to Not Again

We saw that *ink'a'* *chik* ‘no longer’ is the external negation of *toj* ‘still’ (when these forms function as sentential operators with imperfective predicates). In such constructions, the wide-scope negation operator *ink'a'* ‘no/not’ occurs with *chik* ‘more’, which was analyzed in Chapter 8. Before continuing, it should be noted that Q’eqchi’ has several other negation operators, and *chik* can occur with all of them to similar effect: constituent-scope negation: *moko* . . . *ta*; imperative inflection negation: *mi-*; and existential negation *maak'a'*.

- (15) *ink'a'* *chik* *n-Ø-in-kuy* *li* *rah-il*
 NEG more PRES-A3S-E1S-endure DM painful-NOM
 ‘I no longer endure the pain.’
 (SG: no puedo soportar más este dolor)
- (16) *moko* *na-Ø-r-aj* *ta* *chik* *hilank* *aj* *Maynor*
 NEG PRES-A3S-E3S-want IRR more rest SD PN
 ‘Maynor no longer wanted to rest.’
- (17) *m-Ø-aa-sak'* *chik*
 NEG.IMP-A3S-E2S-hit more
 ‘Don’t hit him anymore (any longer)!’
 (SG: ya no le pegues)
 (Context: said to addressee while they are (repetitively) hitting someone)

Example (15) shows a negation *chik* construction with broad-scope negation, using the negation particle *ink'a'*. Example (16) shows such a construction with constituent-scope negation, using the constituent-encompassing form *moko* . . . *ta*. Example (17) shows such a construction with inflectional negation, using the negative-imperative form *mi-*. Again we see that such operators project a phase transition, or threshold, onto their states of affairs (true | not true). They presuppose that the (non-negated) proposition was true before some reference time; and they assert, in examples (15) and (16), or command, in example (17), that the negated proposition holds at the reference time.

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When the sentences involve relatively imperfective predicates, such as the two-place state predicates in examples (15) and (16), such constructions are probably best glossed as ‘no longer’ or ‘not anymore’, reflecting the fact that the non-negated proposition is presupposed to be continuously true until it becomes false (a transition that occurs no later than the reference time). In the case of example (17), the event of hitting must be framed as an iterative activity in order to satisfy this continuity requirement. Such a framing may be seen by contrasting this example with the next example, which involves the operator *wi’chik*, an operator that marks iterative actions (akin to English ‘again’) and restitutive actions (akin to English ‘back’).

- (18) m-Ø-aa-sak’ wi’chik
 NEG.IMP-A3S-E2S-hit again
 ‘Don’t hit him again!’
 (SG: ya no vuelvas a pegarle)
 (Context: said to an addressee who has hit someone in the past)

Example (18) contrasts with example (17) only in that the form *wi’chik* occurs instead of *chik*. The utterance with *wi’chik* presupposes that you hit him before; and it asserts that you (must) not hit him again. The utterance with *chik* presupposes that you are hitting him now; and it asserts that you (must) stop hitting him. The first construction might thus be glossed as ‘do not hit him any longer/anymore’; whereas the second construction might be glossed as ‘do not hit him again’. The rest of this section justifies these claims by examining the operator *wi’chik* in both negated and non-negated contexts, and contrasting its meaning with both *ink’a’ chik* and *toj* constructions.

Focusing on non-negated constructions first, the most frequent usage of *wi’chik* involves repeated events.

- (19) ut na-Ø-ch’up-e’ li-x kandeel chi-r-u
 CONJ PRES-A3S-extinguish-PSV DM-E3S candle PREP-E3S-RN
 ‘And the candle is extinguished in front of him.’

na-Ø-x-loch
 PRES-A3S-E3S-light
 He lights it.

ut na-Ø-ch'up-e' wi'chik chi-r-u
 CONJ PRES-A3S-extinguish-PSV again PREP-E3S-RN
 And it is extinguished in front of him again.'

(Shaw 1971:408)

The third line of this example shows a token of the operator *wi'chik* (glossed as 'again'), where the presupposed event is anaphorically present in the first line: a candle being extinguished (by an invisible agent). The content of the repeated clauses is nearly identical in both lines, except for the dropping of the noun phrase.

In constructions involving wide-scope negation, *wi'chik* is typically fronted to occur after the negation operator *ink'a'*. In such utterances, *wi'chik* has scope over negation. Much less frequently in my corpus, *wi'chik* remains in its post-predicate position, and negation has scope over *wi'chik*. Here are examples of each such construction, showing the contrast in question.

- (20) ink'a' x-Ø-k'ulun ewer
 NEG PERF-A3S-arrive yesterday
 'He didn't arrive yesterday.'

ut ink'a' wi'chik x-Ø-k'ulun anaqwan
 CONJ NEG again PERF-A3S-arrive today
 And again he did not arrive today.'
 (SG: no vino ayer, tampoco vino hoy)

- (21) x-Ø-k'ulun ewer
 PERF-A3S-arrive yesterday
 'He arrived yesterday.'

pero ab'anan ink'a' x-Ø-k'ulun wi'chik anaqwan
 CONJ CONJ NEG PERF-A3S-arrive again today
 However he didn't arrive again (or, more idiomatically, return) today.'
 (SG: vino ayer, sin embargo no vino hoy)

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Table 10.3 *The operators toj, chik, and wi'chik compared*

Boundedness of argument	Operator with unmarked valence	Operator with internal negation	Operator with external negation
Imperfective predicate	toj (p) 'still p'	toj (~ p) 'still not p'	~ chik (p) 'no longer p'
Perfective predicate	wi'chik (p) 'again p'	wi'chik (~ p) 'again not p'	~ wi'chik (p) 'not p again'

The second line of example (20) shows *wi'chik* with scope over clausal negation. The speaker is not saying that the man didn't arrive again (presupposing he arrived a first time). Rather, as shown by the content of the first clause, he is saying that, just as the man didn't arrive before (though he should have, or was going to), he didn't arrive again. The second line of example (21) shows *wi'chik* within the scope of clausal negation. As shown by the content of the first clause, the speaker is saying that, while the man arrived before he did not arrive again. Recall our discussion of example (18), as contrasted with example (17).

Table 10.3 summarizes the foregoing patterns. The operators *wi'chik* (again) and *ink'a' wi'chik* (again not) complement the operators *toj* (still) and *ink'a' chik* (no longer). While *toj* (in its unmarked usage as a sentential operator acting on imperfective predicates) frames the narrated event as relatively extended (that is, as having a duration and an offset), *wi'chik* frames the narrated event as relatively point-like. If *toj* may be understood as presupposing that the narrated event is true before the reference time and asserting that the narrated event is true at the reference time, *wi'chik* is best understood as presupposing (another instance of) the narrated event occurred before the reference time, and asserting that (this instance of) the narrated event occurred at the reference time. Finally, while *ink'a' chik* is the external negation of *toj*, *toj* can also be used with internal negation in limited contexts. Similarly, while *ink'a' wi'chik* is

the internal negation of *wi'chik*, *wi'chik* can also be used with external negation in limited contexts (recall example 21).

From Repetition to Restitution

We have been focused on repetitive uses of *wi'chik*, as they are more frequent. The same form also occurs with restitutive (or counter-directional) functions, as the next few examples demonstrate.²

- (22) li winq x-Ø-aqliik ut (x)-Ø-hilan wi'chik
 DM man PERF-A3S-stand.up CONJ PERF-A3S-rest again
 'The man stood up and sat down (or 'rested') again.'
 (SG: el hombre se paró y se sentó otra vez/de nuevo)

Here is a typical use of this form: while prior discourse involved no descriptions of the man resting or sitting down (so the presupposition in question is not anaphorically available), to stand up (as an action) presupposes one had been sitting down. Note that the Spanish gloss involves the verb *sentarse* 'to sit down' rather than *descansar* 'to rest' (which is how the Q'eqchi' predicate *hilank* would usually be translated). My sense is that, by modifying the predicate with *wi'chik*, the action in question is framed as restitutive of a prior state, and so *hilank* is treated as resting by sitting down (as opposed to resting by stopping, resting by lying down, resting by sleeping, and so forth). Recall example (19) from Chapter 8.

Here is another example of such a restitutive function, this one involving one's return to a place one has been.

- (23) ut (x)-oo-suq'iik chaq wi'chik, Flores wi'chik
 CONJ PERF-A1P-return DIR again PN again
 'And we returned again, (to) Flores again.'

A man was speaking about the first time he visited the Mayan temples at Tikal and the nearby city of Flores: first he went to Flores (for the first time in his life); from Flores he went to Tikal to visit the Mayan

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monuments; and then, as this sentence describes, he returned to Flores from Tikal. The verb *suq'iik* is usually translated as *regresar* 'to return', and does not require *wi'chik* for this meaning.

The next example requires knowledge of the causes and cure of a local illness.

- (24) t-Ø-aa-boq chaq wi'chik
 FUT-A3S-E2S-call DIR again
 'You will call it (your soul) back . . .
- r-e naq t-Ø-chal wi'chik l-aa yu'am
 E3S-RN COMP FUT-A3S-come again DM-E2S life
 so that your soul (or life force) comes back.'

A man is describing a ritual procedure that takes place after one has taken ill from *xiwajenaq* or 'fright' (Spanish *susto*), an illness that was discussed in Chapter 9. The precipitating cause of such an illness is the fact that one's soul or life force is lost (or taken, usually by a *Tzuultaq'a*). A key part of this procedure is calling 'back' one's lost soul (as shown in the first clause), such that one's soul comes 'back', or returns (as shown in the second clause). Here the state being restored is one in which the victim has possession of their life force. Note, then, the relation between replacement, as discussed in Chapter 9, and restitution: an effigy of oneself (qua replacement), along with a particular speech act (calling oneself, or a key part of oneself, back), is necessary for the restitution of one's health.

The three examples just discussed all involve movement of some form or another. A subsequent movement restores the state that a prior movement disrupted: stand up $\Rightarrow$ sit back down; go to X (from Y) $\Rightarrow$ go (back) to Y; possession goes (away) from possessor $\Rightarrow$ possession called/comes back to possessor. The next two examples, in contrast, involve the repetition of a predicate, rather than the use of two complementary predicates, along with a swapping of the agent and object of that predicate. While they don't involve canonical instances of replacement,

as analyzed in Chapter 9, they certainly bear a family resemblance to retribution and loans.

- (25) li winq x-in-ix-ket
 DM man PERF-A1S-E3S-hit
 ‘The man hit me.’

ut x-Ø-in-ket wi’chik
 CONJ PERF-A3S-E1S-hit again
 And I hit him back.’

- (26) x-Ø-in-k’e jun li maatan
 PERF-A3S-E1S-give one DM gift
 ‘I gave (the man) a gift.’

ut x-Ø-(x)-k’e w-e wi’chik
 CONJ PERF-A3S-E3S-give E1S-RN again
 And he gave it back to me.’
 (SG: yo le di un regalo al hombre y él me lo dio otra vez, me lo devolvió)

Both lines in example (25) involve the same verb *ketok* ‘to hit’, but with the transitive agent and direct object reversed. Both lines in example (26) involve the same verb *k’ehok* ‘to give’, but with the transitive agent and indirect object reversed (while the direct object, a particular gift, remains invariant).

To return to the concerns of Chapter 9, notice that both of these examples show modes of temporality as reckoning and repetition. In part, each consists of the repetition of tokens of the same type – here quasi-identical clauses that refer to quasi-identical states of affairs. The second line in each example is, in effect, the semantic *doppelgänger* of the first. Crucially, both examples not only involve temporal reckoning via their tense–aspect structure and the operator *wi’chik*, they also involve temporal reckoning in a more pointed, or poignant manner. In example (25), the speaker recounts how they ‘got back’ at their attacker, restoring a sense of balance or justice in a timely manner. In example (26), the speaker recounts how a gift was

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Table 10.4 *Repetitive, reversive, and restitutive uses of wi'chik*

Function of <i>wi'chik</i>	Presupposed and asserted content
Repetitive	wi'chik (p, e) = 'again p' P: there exists some e' (< e) and p true of e' A: p true of e
Restitutive	wi'chik (p, e) = 'p back' P: there exists some e' (< e) and p' true of e' A: p true of e, where p (destination/result) = p' (origin/condition)
Reversive (probably a sub-case of restitutive function)	wi'chik (p, e) = 'p back' P: there exists some e' (< e) and p' true of e' A: p true of e, where p (agent, object) = p' (object, agent)
P = presupposed content, A = asserted content	
p = proposition, e = (narrated/reference) event, < = prior to	

returned not just in an untimely manner (usually long delays exist between a gift and the return of something like its equivalent), but also in a tabooed manner: in effect, the person giving back the gift was refusing the gift, and hence refusing the social relation it would entail.

As summarized in Table 10.4, not only does *wi'chik* have a repetitive function, it also has restitutive and reversive functions. Like *toj* (still, despite, unless, until), it maintains a relatively invariant semantic core across its many variations.

The Doubling of Dual Operators

We just analyzed a dual group of duplex operators (*toj*, *maaji'*, *ak*, *ink'a'chik*), along with a closely related form that indicates repetition, restitution, and reversal (*wi'chik*). We now return to our opening concern: the doubling of such dual operators (when they co-occur in a single clause). Recall, as well, example (9) from Chapter 5: 'He has money, but *still not yet* a lot of it'.

- (27) t-Ø-in-xok chixjunil
 FUT-A3S-E1S-collect everything
 ‘I will collect everything . . .

 naq toj maaji’ n-in-xik
 COMP still not.yet PRES-A1S-go
 when I have still not yet gone (that is, *before* I go).’
 (SG: lo guardaré todo antes de salir)

This example shows a bi-clausal construction. The operators *toj* and *maaji’* occur together in a backgrounded clause (headed by the complementizer *naq*), where they help establish the reference time of the foregrounded clause (I will collect everything). As may be seen in my translation, I am treating the interaction of these two operators as a straightforward composition of their usual semantics. If *toj* (*p*, *t*) presupposes that (proposition) *p* is true before (some reference time) *t* and asserts that *p* is true at *t*, then the doubled operator *toj maaji’* (*p*, *t*) presupposes that *maaji’* (*p*, *t*) is true before *t* and asserts that *maaji’* (*p*, *t*) is true at *t*. Recursively, each of these presupposed and asserted propositions has itself presupposed and asserted contents based on the meaning of *maaji’*. See Table 10.5.

This analysis turns on a number of technical details (Kockelman 2020c). To motivate it, note first how it is bolstered by the following hypothetical interaction (generated from interactions I have often witnessed) that speakers found exemplary of usage.

Table 10.5 *Presupposed and asserted contents of co-occurring operators*

toj maaji’ (<i>p</i> , <i>t</i>) = ‘still not yet <i>p</i> (at <i>t</i>)’	Presuppose: [not yet <i>p</i>] true before <i>t</i> Presuppose: <i>p</i> false before <i>t</i> ’ (< <i>t</i>) Assert: <i>p</i> false at <i>t</i> ’ (< <i>t</i>) Assert: [not yet <i>p</i>] true at <i>t</i> Presuppose: <i>p</i> false before <i>t</i> Assert: <i>p</i> false at <i>t</i>
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- (28) S1: ma x-Ø-x-b'aanu
 QUES PERF-A3S-E3S-do
 'Has he done it?'

S2: maaji'
 'Not yet.'

[time passes]

- S1: ma x-Ø-x-b'aanu anaqwan
 QUES PERF-A3S-E3S-do now/today
 'Has he done it now?'

S2: toj maaji'
 still not.yet
 'Still not yet.'

As may be seen, *toj maaji' p* is highly acceptable following a prior *maaji' p* (just as *toj p* is highly acceptable following a prior *p*). That said, one finds *toj maaji'* constructions without prior *maaji'* constructions. In some such cases, it seems that the relevant presupposition is simply accommodated to context. Moreover, *toj maaji'* constructions are often glossed the same as *maaji'* constructions; in particular, as *todavía no*, and hence as 'still not' or 'not yet'. In such cases, it seems that *toj maaji'* is treated as having more or less the same presupposed and asserted contents as *maaji'* – perhaps only indicating greater expectation (that the event should have occurred), or greater exasperation (that the event has not yet occurred).

Here is an example of such a construction.

- (29) kama' El_Salvador, eh dolar chik
 like PN INTERJ dollar more
 'Like in El Salvador, um, it has (already) been dollarized (or become dollar-using).'

[intervening utterances removed]

arin quetzal, toj maaji' nek-Ø-e'x-jal
 DEIC quetzal still not.yet PRES-A3S-E3P-change
 'Here (in Guatemala) it is the quetzal. They have still not yet changed it.'

A man was speaking about changing currencies in Central America. The first line involves *chik* ‘more’ with scope over an NP-like argument, and a state-change reading. The second line involves a parallel construction: in contrast to the currency in El Salvador (which has already converted to the United States dollar), the currency in Guatemala has ‘still not yet’ changed. Such comparative contexts often generate *still* readings (in the absence of otherwise overt evidence of such an operator’s presupposed contents): she is (already) 4, but he is still 3; while El Salvador has (already) adopted the dollar, Guatemala has still not yet done so.

Here is another token of this construction, which occurs at the beginning of Ashley Kistler’s (2014) superb ethnography of female entrepreneurs in the market places of San Juan Chamelco. When this American academic asked local women whether she could start wearing *traje* (traditional Mayan clothing), she self-effacingly reports that they replied: *toj maa’ji*. Dr. Kistler translates the construction into English as ‘not yet’, which is quite appropriate, given the way it would usually be glossed into Spanish. But I think it is fair to hypothesize that such a construction presupposes – if only through contextual accommodation – a prior *maa’ji* (not yet). And so it doesn’t just indicate that the time was not yet ripe (at that speech event), it also indicates that the time was not yet ripe at an earlier speech event, in which she had asked a similar question. In addition to denying (or at least delaying) the possibility of cultural appropriation (or, better, sartorial celebration), it thus arguably indexes something like friendly vexation (in the context of a repeated, question), and functions perhaps as a mode of mild ribbing – the Q’eqchi’ equivalent of *curb your enthusiasm*.³

In all fairness to this anthropologist, who was greatly respected and fondly remembered, when I asked speakers of Q’eqchi’ if and when I might ever be considered a *tz’aqal* (true, sufficient) speaker of Q’eqchi’, they didn’t even offer the optimistic enticement of ‘not yet’ (*maa’ji*). They simply said ‘no’ (*ink’a*) or ‘never’ (*maajoq’e*). Looking ahead to

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the next two chapters (and back to that roller coaster ride), I had to learn the hard way that some thresholds just cannot be crossed.

From Ethnography to Inquisition

To return to our opening example, note how the doubling of such dual operators has been a practice for at least 400 years. Just as the first token of it (from 1619) occurred in the context of a complaint about a priest who had *still not yet* learned the language and customs of his parishioners, this last token occurred in the context of an anthropologist who was being told she could *still not yet* wear traditional Mayan clothing. If the priest was *too slow* (in learning local practices), the anthropologist was *too fast* (in adopting local dress). One and the same construction can index undue sloth or undue speed, and hence both *too much* and *not enough* of a single dimension in regards to its intensity or degree.

That said, it is not clear whether the occurrence of *toj maaji'* in the petition of 1619 is triggered by a prior complaint of the same type (such as a letter written earlier to complain that the priest had simply *not yet* learned the language and culture of the local people).⁴ My sense is that this is not the case; and that the occurrence of *toj maaji'* indexes, rather, the comparative nature of the complaint. (Recall our discussion, in example (29), of the relative speed of the adoption of the US dollar in El Salvador in comparison to Guatemala.) The new priest was the replacement of the old priest; and the old priest was not just respected by his parishioners, but also a much quicker study of the language and culture of the Q'eqchi' people. Moreover, it was precisely the old priest that the new priest was targeting in his untoward and leading questioning of local women within the confessional. To return to some of the concerns of Part II, this use of *toj maaji'* arguably functions as part of a comparative strategy.

To conclude, it should be mentioned that the petition of 1619 was first analyzed by Ray Freeze (1980), who used it to study the phonological

and inflectional history of the Q'eqchi' language. It was brought to Freeze's attention by Lawrence H. Feldman, a historian who found the letter in the national archives of Mexico under the heading *Inquisición*. It seems that the priest had been sent to the parish to investigate the practices of his predecessor, as part of the church's attempt to root out apostasy (*inter alia*) among its ranks. Having long gone after infidels of all persuasions – including the indigenous people of the Americas – the church was beginning to go after its own. The writers of this letter, and the people of this town, were not just targets of and witnesses to this larger sociohistorical process (in their own confessionals), they were also chroniclers of it and agents against it (in their petitions and actions).

Notes to Chapter 10

- 1 Orthography modernized. Vowel lengths and glottal stops added.
- 2 For more on these distinctions, see Beck (2006), Fabricius-Hansen (2001), and von Stechow (1996).
- 3 This approach could be pushed much further. See the superb analytic offered by Wortham and Reyes (2015).
- 4 An alternative hypothesis is that, in the early colonial period, *maaji*' functioned as simple negation, such that *toj maaji*' originally meant 'still not' or 'not yet' (and hence didn't involve a 'doubling' of 'still' and 'not yet').

ELEVEN



Modality and Worlding

The Ties That Bind

In the following example, a man describes what he *must* do over the weekend, as a basic parental obligation: go into town and buy a new belt for his son, whose old belt has worn out, and thus needs to be replaced.

- (1) aah, ut tento t-oo-chal-q arin Cobán,
 INTERJ and NEC FUT-A1P-come-NS DEIC Cobán
 ‘Ah, and we will have to come here to Cobán.’

x-maak naj li w-alal,
 E3S-RN COMP DM E1S-son
 Because my son . . .

ra jun li-x, x-baq-b'al li-x wex
 bad one DM-E3S E3S-tie-NOM DM-E3S pants
 his belt is worn out.

ink'a' chik us
 NEG more good
 It is no longer good.

entons tento t-Ø-in-loq' jun chik
 thus NEC FUT-A3S-E1S-buy one more
 And so it is necessary that I buy him another.’

The father's utterances incorporate many of the operators we have been examining. There are two tokens of the form *chik* (more): the first

occurs with negation, and is used to characterize the original belt as being ‘no longer’ good (adequate or useful); the second occurs with the number ‘one’ (*jun*), and is used to refer to the new belt that he is going to buy as a replacement for the old. Just as the first operator presupposes that the belt was good (before some reference time, or privileged point), the second operator presupposes that there was a different, and prior, token of the same type. Given the claims made in Chapter 9, it should be clear why such operators are frequently used in discussions about replacements. Degradation and aspect, like replacement and iteration, are intimately linked.

There are two forms marking interclausal relations: *-maak* ‘because’ is used to indicate the reason for the need to come into the city; and *entons* (<Sp. *entonces* ‘then’ or ‘so’) is used to return from that reason to the original need. These forms help organize the utterances into a text: just as a hammer ‘makes reference to’ a nail (i.e., a hammer only makes sense in relation to nails); and hammers and nails ‘make reference to’ wood; such otherwise disparate utterances ‘make reference to’ each other as reasons. To return to our discussion of Heidegger’s references in Chapter 9, the meaning of words is, to some degree along certain dimensions, organized like, and not just constituted by, being-in-the-world.

Finally, there are two tokens of the modal operator *tento*, which typically encodes circumstantial necessity, or deontic obligation. The first token occurs with the predicate *chalk* ‘to come’, and is inflected with future tense, and first-person plural affixes. It describes the family’s need, or obligation, to travel into the city. The second token occurs with the predicate *loq’ok* ‘to buy’, which is inflected with future tense, and first-person singular affixes. It describes the man’s need to purchase such a belt. In the tradition of scholars like David Lewis (1986) and Angelika Kratzer (1977, 1981, 2012), if possibility indicates that there is at least one relevant world in which a proposition holds true (subject to certain restrictions, be these imposed by norms or circumstances, logic

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or law, nature or price), necessity indicates that a proposition holds true in all such (relatively restricted) worlds. While such operators are somewhat abstract, semantically speaking, the pragmatics of their deployment turn on the most concrete of grounds: relatively shared, and context-sensitive understandings of what can, may, must, and should be the case (given the vicissitudes of residing in some particular world, with varying degrees of restricted access – be it actual or imagined – to alternative worlds). In effect, the man is saying something like: in all worlds in which my duties as a father are met, (it is true that) I go into town to buy my son a replacement for his worn-out belt. There is no other way (*modus* $\Rightarrow$ modality) to fulfill his obligations as a father.

Chapter 9 detailed some of the key institutions and practices in which such needs and obligations are grounded: relatively indispensable commodities, or ‘necessities’, must be replaced when they wear out or degrade (through entropic processes), and/or are used up (through consumptive practices). The necessity to replace, needless to say, dovetails with the parent’s obligation to provide for their children, and hence resonates with the man’s status as a father, and the rights and responsibilities attendant on holding such a position within a network of kin. While the father begins with a first-person plural action (referring to his family’s need to travel to the city), he ends with a first-person singular action (referring to his need to purchase the belt). In some sense, going into town is a necessity only because it is a means to an end, which is itself a more originary necessity (replacing the belt), which itself is a means to an even more originary necessity: providing for one’s children as a parent. In particular, the family is traveling to Cobán because of all the secondhand stores there, filled with cast-off items of American overconsumption: barely worn-out goods, abandoned by their original owners, that find a second life, and arguably more appreciated position, in Guatemalan homes.

This chapter is about the relationship between modality (or local understandings of actuality, possibility, and necessity) and worlding

(or ways of residing in, and representing, actual and alternative worlds). The first two sections analyze examples of modal constructions that turn on the operator *ruuk*, which encodes possibility in a variety of senses: deontic (what one is permitted to do); dynamic (what one is able to do); and circumstantial (what can happen so far as it is enabled by physical conditions and psychological dispositions), *inter alia*. The next three sections analyze the relation between necessity (*tento*), negated possibility, and telos. A final section shows the relation between such operators and economic opportunities, gender norms, and personal agency. The conclusion draws out the importance of such issues for rethinking the classic concerns of anthropology, understood as a *meta-multi-modal* endeavor.

For interested readers, Table 11.1 surveys the larger system of modal operators in Q'eqchi' (Kockelman 2010a), highlighting the two forms that will be analyzed below.

Ability

The following example involves dynamic modality: one's ability, competence, or power to undertake a certain action or perform a particular role.

- (2) a'an na-Ø-ru, na-Ø-ru, na-Ø-ru,
 DEM PRES-A3S-able PRES-A3S-able PRES-A3S-able
 'She is able. She is able. She is able.
- x-maak naq sa' li tzoleb'aal
 E3S-RN COMP PREP DM village
 Because in the village . . .
- b'ar na-Ø-hulak chi k'anjelak,
 where PRES-A3S-arrive PREP work
 where she goes to work,
- eb' li kok'al sa' q'eqchi' nak-e'-aatinak,
 PLR DM children PREP Q'eqchi' PRES-A3P-speak
 the children speak Q'eqchi'.

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Table 11.1 *Overview of modal operators in Q'eqchi'*

Form and placement	Meaning and function
<i>chi-</i> (verbal prefix)	optative mood, polite imperative
<i>mi-</i> (verbal prefix)	negative imperative
<i>Ø-</i> (verbal prefix, or zero morpheme)	imperative
<i>ki-</i> (verbal prefix)	unexperienced evidential, mythic tense
<i>len</i> (reportative particle)	hearsay evidential
<i>chan</i> (verb of speaking, quasi-particle)	reported speech
<i>anchal</i> (particle)	weak inference ('it seems')
<i>mare</i> (modal adverb)	epistemic possibility ('possibly')
<i>raj</i> (modal clitic)	counterfactive status
<i>ta</i> (modal clitic)	irrealis status
<i>(ta)na</i> (modal clitic)	afactive status
<i>taxaq</i> (modal clitic)	optative status
<i>Complement-taking predicates</i>	believe that, know that, say that, etc. order that/to, remember that/to, etc. desire to, intend to, be wary of, etc.
<i>yaal naq p</i> (factive)	'it is true that <i>p</i> ' (where <i>p</i> is a proposition)
<i>sa' inch'ool p</i> (counterfactive)	'in my heart <i>p</i> ' (I thought <i>p</i> [but I was wrong])
<i>tento</i> (particle, auxiliary verb)	deontic obligation (norms demand X) circumstantial necessity (conditions force X) dynamic compulsion (predilection or virtue requires X)
<i>ruuk</i> (auxiliary verb, quasi-particle)	deontic permission (norms allow X) circumstantial possibility (conditions afford X) dynamic ability (competence or power enables X)

ut x-Ø-(x)-tzol, x-Ø-(x)-tzol,
 CONJ PERF-A3S-E3S-study PERF-A3S-E3S-study
 And she studied it. She studied it.

na-Ø-ru chi aatinak sa' q'eqchi',
 PRES-A3S-able PREP talk PREP Q'eqchi'
 She is able to speak Q'eqchi'.

ka'ajwi' tz'aqal tz'aqal,
 only sufficient sufficient
 Only pretty well.

ink'a' mas naab'al, sa' q'eqchi',
 NEG very much PREP Q'eqchi'
 Not very much (or a whole lot) in Q'eqchi'.

pero si na, na-Ø-ru chi aatinak,
 but yes, PRES PRES-A3S-able PREP speak
 But yes, she is able to speak.

na-Ø-ru chi, chi-x-loq'-baal li-x tiib'elwa',
 PRES-A3S-able PREP PREP-E3S-buy-NOM DM-E3S food
 She is able to buy food.

na-Ø-ru chi-x-patz'-b'al b'ar wan-Ø-Ø (laughs)
 PRES-A3S-able PREP-E3S-ask-NOM where exist-PRES-A3S
 She is able to ask where (things) are.'

A man was asked the question: *Can your wife speak Q'eqchi' a little now?* While he grew up speaking Q'eqchi', his wife comes from a village that speaks a different Mayan language. For ten years or so they have been living in the Q'eqchi'-speaking town where he was born. The first line of his response involves multiple tokens of the modal auxiliary predicate *ruuk*, which encodes both ability and permission (and is thus similar to English *can* and *may*). The next four lines turn on a causal construction headed by the relational noun *-maak*: she has this ability *because* the children in the village where she works (as an elementary school teacher) speak it; and also *because* she studied it. In the sixth line he repeats the main claim (that she is able to speak Q'eqchi'); and then he goes on to qualify her ability using intensifiers. In particular, she only speaks 'just enough' (*tz'aqal tz'aqal*) Q'eqchi', and not 'a whole lot' (*mas naab'al*). In the ninth line he repeats the main claim again, and then describes the kind of activities she can undertake with her limited ability: shopping in the local market, and asking directions.

The first line involves triplication: she is able, she is able, she is able. This repetition is arguably meant to assure the person posing the question that she speaks Q'eqchi' (in case there is any doubt).

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Modal operators such as *ruuk* frequently occur with justifications. Recall example (6) from the introduction to this monograph: you *can* try tepezquintle meat *because* there are still tepezquintle in the forests, as well as hunters of tepezquintle. Such operators are easily motivated in the following contexts:

- (i) speaker has some background assumption: *if p, then q*
(e.g., if one speaks a language, then one has studied it and/or has experience with it);
- (ii) speaker primarily asserts *can p*
(e.g., my wife can speak Q'eqchi');
- (iii) speaker secondarily asserts (*because*) *q*
(e.g., because she works in a school where it is spoken, and she studied it).

My sense is that this kind of discourse pattern – involving a background assumption (if p then q), a main assertion (can p), and an auxiliary assertion (because q) – frequently occurs because of the logical relations that hold among the propositions. Recall that the truth table for a conditional is as follows (where T denotes true, F denotes false, and $\Rightarrow$ stands for material implication):

p	q	$p \Rightarrow q$
=====		
T	T	T
T	F	F
F	T	T
F	F	T

As may be seen, assuming the conditional holds ($p \Rightarrow q = T$), then whenever the consequent is false ($q = F$), the antecedent is false ($p = F$) as well. However, if the consequent is true ($q = T$), then the truth of the antecedent is not ruled out: p may be true or false. In effect, speakers can justify their claim (that there is a world in which p is true, such that p is *possibly* true), in light of such a background assumption ($p \Rightarrow q$), by asserting that q is true. For, if q were not true, then p

would necessarily be false. And, insofar as *p* is not necessarily false, it is possibly true.

The kind of possibility encoded by the predicate *ruuk* ‘to be able’ is not epistemic (e.g., it may be that she speaks Q’eqchi’ given the evidence on hand), but usually deontic (e.g., she is permitted to do so), dynamic (e.g., she has the ability to do so), and/or circumstantial (e.g., conditions provide an opportunity for her to do so). Given the kind of justification offered, it is the dynamic and circumstantial kind of modality that is at issue in this passage, not the deontic kind. In effect, the speaker is saying that his wife’s having that competence is not ruled out; for she has the kind of experience and training that give rise to that competence. And this in turn implies that her actually speaking Q’eqchi’ (as a performance) is not ruled out; for she has the requisite competence.

The second part of the man’s response involves two intensifiers, in a parallel construction, which characterize the *degree* to which the woman can speak Q’eqchi’. She is not able to speak very much or a whole lot (*ink’a’ mas naab’al*); she can speak just enough (*ka’ajwi’ tz’aqal tz’aqal*). As discussed in Chapter 8, the operator *ka’ajwi’* ‘only/just’ takes two arguments, the constituent within its scope (here the reduplicated intensifier in question), and a proposition that incorporates that constituent. Utterances involving this operator presuppose that the proposition is true of that constituent (that is, she does speak just enough); and assert that there is no constituent greater than that constituent of which the proposition is also true (that is, she definitely doesn’t speak more than just enough). The presence of such an operator often evinces the speaker’s belief that the addressee may be committed to a stronger assertion than the one being offered – in particular, when one hears that she is able to speak Q’eqchi’, one might infer that she speaks it quite well. In effect, the speaker is ruling out such an inference.

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The constituent in question is a reduplicated intensifier *tz'aqal* (enough, sufficient). As will be discussed in Chapter 12, this intensifier is not coupled to quantity per se. For example, one may *not have enough* of something (even though one has a great amount of it); conversely, one may *have more than enough* of something (and yet have only a tiny amount of it). Moreover, this intensifier is tightly coupled to modality, and so resonates with the occurrence of the modal predicate *ruuk* (to be able). In particular, to have enough of some dimension is not to have a lot or a little of it per se, but to have such a degree of that dimension that certain actions or attributes become possible or permissible, and thus realizable: she is old enough (to drive, to know better, etc.); he is not well enough (to go on the journey, to be left alone, etc.). In the context of this passage, this utterance makes sense: while she doesn't speak Q'eqchi' very well, she speaks it *well enough*.

Well enough for what, one may ask? The third part fills in these details: well enough to ask directions and shop for food. In short, well enough to engage in basic – but fundamental – language games for someone in her position (at least according to her husband, and hence 'in the world of' her husband): an indigenous woman, fluent in another Mayan language; but now living in her husband's village, and so obliged to deal with the world in its terms (and thus *his terms*).

Possibility

The next example involves circumstantial modality, as opposed to dynamic modality. Rather than focus on the capacity to use a code (that links speakers to addressees), we focus on the condition of infrastructure (that links an origin to a destination), and the kinds of travel times this condition makes possible.

- (3) S1: ch'ina-us li b'e
 DIM-good DM road
 'The road is wonderful.'

- S2: ah, ch'ina-us
 INTERJ DIM-good
 'Ah, it's wonderful.'
- S1: ch'ina-us ch'ina-us li b'e,
 DIM-good DIM-good DM road
 'The road is really wonderful.'
- na-Ø-ruu waqib' hora,
 PRES-A3S-able six hours
 One can (get there) in six hours.
- ssshhhsss,
 sound.of.wind.or.speed
Whoosh.
- tiik
 straight
 It is straight/smooth/direct.'

The speaker (S1) is describing the condition of a road (that goes from Alta Verapaz to the Petén). The predicate he uses, a combination of the diminutive prefix *ch'ina-* and the adjective *us* (good), is usually glossed as Spanish *bonito* or 'beautiful'. Here it is used to describe how wonderful, or well-maintained, the road is. After his initial assessment, which the addressee (S2) aligns with, the speaker upgrades his assessment, using a reduplicated version of the same predicate. This speaker then characterizes why the road is so wonderful, using a modal construction (you *can* get there in only six hours), an onomatopoeic sound indicating wind or speed (akin to English 'whoosh'), and a more referent-specific predicate, which describes the speed-affording dimension in question (the road is smooth or straight).

As discussed above, modal claims like 'may/can *p*' (where *p* is a proposition) often occur in contexts where *if p, then q* (or, *if not q, then not p*) is a background assumption, and *q* is a co-occurring claim (which functions as a reason).

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- (1a) if you arrive in six hours, then the road is good (background assumption);
- (1b) if the road is not good, you do not arrive in six hours (alternate, but equivalent, background assumption);
- (2) the road is good (reason);
- (3) thus, you *can* arrive in six hours (claim).

Here the conditional (1a/b) arises from a relatively widespread belief about certain circumstances or effects (the journey usually takes at least eight hours, and often more), and their conditions or causes (this is because the road is so bad, not because the distance is so great). This cause–effect relation arguably licenses a conditional relation (1b): if the road is bad, the journey takes a long time (that is, if the cause is active or present, the effect follows). Via a logical relation like *modus tollens*, this conditional statement has an equivalent formulation (1a): if the journey does not take a long time, the road is not bad. If one subsequently learns that the road is not bad, then one also learns that the journey does not *necessarily* take a long time: it *can* take a short time. To be sure, it can also still take a long time – the contingency of travel being what it is. In this way, claims like *can/may p*, when they occur with reasons like *q*, often index background assumptions like *if p, then q*, which are themselves grounded in local understandings of causality: *p gives rise to q or not q gives rise to not p* (at least around *here, nowadays*, in the experience of *this* speaker and addressee, and so forth).

Modal constructions, then, reveal relatively shared assumptions (qua ‘common ground’) about conditions and their causes. Indeed, even if an addressee is not already committed to such assumptions in the context of such a construction, by accepting the modalized claims being offered, they may tacitly concede to such assumptions, and thereby performatively accommodate them to context.

I refer to this particular case as *infrastructural modality*, itself a variety of circumstantial modality, because it frames the relation

between an origin and a destination in terms of the condition of the mediating path that connects them. And this framing leads to modalized claims about the possibility and necessity of various outcomes, given various conditions, as mediated by such shared assumptions regarding the state of infrastructure. It also highlights the way background assumptions, themselves turning on causal grounds, like *if p, then q*, serve as the logical infrastructure for claim-making, reasoning, and language and thought more generally.

The next example shows a modal operator interacting with *ajwi'* (also), a form whose meaning was analyzed in Chapter 8.

- (4) x-b'aan naq n-in-xik chi tijok sa' li ochoch-pek,
 E3S-RN COMP PRES-A1S-to PREP pray PREP DM house-rock
 'Because when I go to pray in a cave,
- na-Ø-ru ajwi' t-in-xik sa' li santil iglesya
 PRES-A3S-able also FUT-A1S-go PREP DM holy church
 it can also be the case that I go to church.'

A man is explaining that his praying in a cave does not preclude him from going to church. Or, if we relate such places of prayer to the beliefs of the people who pray in them, and expand the assertion to an impersonal subject, he is saying that belief in, or veneration of, a *Tzuultaq'a* (the earth god introduced in Chapter 4) does not preclude one from believing in, or worshiping, the Christian god.

The second clause is modalized with the operator *ruuk* (may/can), and involves the operator *ajwi'* (also): if one does X, one *can also* do Y. That is, praying to the Christian god is not incompatible with praying to a *Tzuultaq'a*. To be sure, it is not the case that everyone who engages in the former engages in the latter; but it is the case that engaging in the former does not prevent one from engaging in the latter. The two practices are mutually compatible given local customs and beliefs.

To relate this utterance to the foregoing framework, note the following. Rather than offering a reason (q) for a claim (may/can p)

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while presupposing a condition ($p \Rightarrow q$), the speaker is denying what he takes to be a widely believed proposition: if one prays in caves, then one does *not* go to church. That is, while the addressee might expect that this proposition holds true (as many people seem to believe it), it is in fact false; a person who prays in a cave can also go to church. Unlike examples (2) and (3), which presumed conditional propositions to make modal claims, this example uses a modalized claim to overturn a relatively entrenched, or presupposed, conditional.

Finally, note that the second clause involves two inflected predicates (*naru* ‘it is possible’ and *tinxik* ‘I will go’), which differ in their inflections for person–number and tense–aspect. This should be contrasted with example (2) above, in which *naru* functioned as an auxiliary verb for the main predicate. In particular, while *naru* was inflected for person–number and tense–aspect, the main verb was in its nonfinite form, as headed by the preposition *chi*. In Q’eqchi’, this kind of construction is typically used to encode personal ability as opposed to social permission or material circumstance. If, in the case of example (2), a specific person is said to be able to engage in a specific action (because of her personal capacities or linguistic competence); in the case of example (4), a generic person may indeed engage in a specific action (because local norms or circumstances do not prohibit it). In both cases, a discursive pattern, built on a logical structure (or rationale), reveals a set of relatively shared beliefs and values (qua cultural background or inhabited world).

Given our discussion of the phatic function in Chapters 3 and 4, and its relation to channels and prayer, this last example turns not just on where one can go (to pray), but also what kind of deity one can contact (through prayer). In effect, it is another instance of infrastructural modality: not so much how to get from here to there (via physical infrastructure); but how to get from here to one or more hereafters (via a communicative channel).

Negated Possibility

The next example involves the negation of possibility, and sits somewhere between deontic and circumstantial modality.

- (5) maak'a' l-in appendice,
 NEG.exist DM-EIS appendix
 'I don't have an appendix.

entonces ink'a' na-Ø-ru
 therefore NEG PRES-A3S-able
 So it is not permitted (or not possible) . . .

n-Ø-in-ket li oo, grasa de manteca
 PRES-A3S-EIS-eat DM avocado oil of butter
 (that) I eat avocados, or butter.

b'ab'ay ajwi'
 a.little only
 Only a little.'

A man is discussing the dietary restrictions his doctor has imposed on him following the removal of his appendix. He topicalized these restrictions after having just described his love of avocados. The operator *naru* (may/can) occurs in the second line with scope under clausal negation: it is *not* the case that he *may* eat them; or, equivalently, he *must not* eat them (in large quantities).

The underlying logic of this claim, complete with background assumptions, might be sketched as follows:

- (i) if you don't have an appendix (not p) and you eat fatty foods (q), you will be harmed (r);
- (ii) assuming you want r to be false (that is, you don't want to be harmed), and assuming not p is true (that is, you don't have an appendix), then not q is necessarily true;
- (iii) or, equivalently, possibly q is false (that is, it is not possible to eat fatty foods).

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Here the undesirability of being harmed (*r*) is taken for granted, as is the conditional (*i*) itself. Having predicated *not p* (as new information about himself), the speaker draws a reasonable conclusion: it's not possible for him to eat fatty foods – or at least not possible for him to eat a lot of them. Given the previous discussion (of his love for avocados), foregoing them is framed as a minor hardship. Possibility and necessity, as distinct modalities, not only index beliefs about causes and laws (qua interpretive grounds), but also economies of desire – however mundane – that get rechanneled by such causes and laws.

Like most utterances involving modal constructions, it is difficult to say for sure whether the modality in question is deontic (having to do with rules, or prescriptions, imposed by his doctor), circumstantial (having to do with necessities imposed by his body), or something else entirely. To be sure, like doctors and bodies, rules and circumstances are usually quite difficult to disentangle. The doctor forbids (deontically) what is harmful (circumstantially); and the man follows the doctor's orders in order to avoid the harmful effects – perhaps not just damage to his body, but also disapproval from his doctor.

Necessity and Obligation

We now move from possibility constructions involving *ruuk*, to necessity constructions involving *tento*, the modal operator that was showcased in example (1). The following example is particularly interesting insofar as it involves metalanguage. The speaker is discussing when a person is or is not permitted to use a particular linguistic expression (*maaji' chik ninhulak*, or 'I have not yet been back'), insofar as this expression presupposes that the speaker has been to a place before. The example opens with negated possibility and closes with necessity.

- (6) ink'a' n-in-ru,
 NEG PRES-A1S-able,
 'I cannot (use the expression) ...

ink'a' nak-Ø-in-naw,
 NEG PRES-A3S-E1S-know,
 (if) I don't know the place.

ut moko t-Ø-ruu-q ta
 CONJ NEG FUT-A3S-able-NS IRR
 And it will not be possible ...

t-Ø-in-ye,
 FUT-A3S-E1S-say
 for me to say,

maaji' chik n-in-hulak,
 not.yet more PRES-A1S-arrive
 "I have not yet been back."

ink'a' us li li r-oksink-il,
 NEG good DM DM E3S-use-NOM
 Such usage is not good.

tento t-Ø-aa-naw
 must FUT-A3S-E2S-know
 You must know (the place) ...

naj t-Ø-aaw-oksi
 COMP FUT-A3S-E2S-use
 when you use this expression.'

A man is discussing contexts in which one is permitted to use the compound operator *maaji' chik* (not yet again). He is sensitive to the fact that, in the sentence in question, the use of this operator presupposes that the speaker has been to a place before, and hence 'knows it'. In the first two lines, he claims that he cannot use the construction, because he doesn't know the place in question. In the next three lines, he unpacks this claim using three conjoined clauses. It is not possible that

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I say, 'I have not yet been back'. He then qualifies the lack of possibility, saying that such usage is 'not good' (*ink'a' us*). Finally, he restates the felicity condition in more general terms, using the necessity operator *tento* instead of a negated possibility operator: you *must* know the place when you use this expression.

This example shows that speakers of Q'eqchi' are not just sensitive to the presuppositions underlying their propositions, but that they also can characterize their felicity conditions in normative terms: what you may and may not say given such presuppositions. It shows that speakers can describe such normative conditions in general terms, and detail their application to particular cases. It shows how speakers of Q'eqchi' relate violations of norms to goodness, or its negation: *ink'a' us* 'not good'. Finally, it shows how speakers treat different kinds of modality, like possibility and necessity, as more or less equivalent constructions (when one or the other modal operator is doubly negated).

To demonstrate this last point, let me paraphrase the propositional contents of the first five lines (i) and the last two lines (ii):

- (i) if I don't know the place, I am not permitted to use the expression;
- (ii) if one uses the expression, one is obligated to know the place.

Claim (ii) shades into claim (i), or vice versa, through a series of steps. First, if (ii) is true of all subjects governed by such norms (via the impersonal 'you'), then it is true of the speaker (insofar as he is such a subject). This leads to the following claim:

- (iii) if I use the expression, I am obligated to know the place.

Claim (iii) can be expressed in more abstract terms as:

- (iv) if *p*, then necessarily *q*.

Finally, assuming that *necessarily q* implies *q* and that *p* implies *possibly p*, claim (iv) claim leads back to claim (i) through the following logical transformations:

- (v) if p, then q;
- (vi) if not q, then not p;
- (vii) if not q, then not possibly p;
- (viii) if not q, then p is not permitted;
- (ix) if I don't know the place, then I am not permitted to use the expression.

The fact that speakers of Q'eqchi' use both expressions in relatively parallel sets of utterances to characterize the same felicity conditions provides evidence that such operations serve as the logical grounds for such utterances. It also provides evidence (corroborated by grammatical judgments and paraphrase possibilities in elicitation settings) that, like the temporal adverbs *ak* 'already' and *toj* 'still' discussed in Chapter 10, possibility and necessity are structured as a dual group in Q'eqchi'. That is, *not necessarily not p = possibly p* and *not possibly not p = necessarily p*.

The next example, in which the speaker recounts the aftermath of having stepped on a nail, helps justify some of the foregoing claims. It also offers another example of dynamic modality (or, rather, its lack).

- (7) ra no, ink'a' chik,
 painful NEG NEG more
 'Painful, no. No longer.

ink'a' chik arin,
 NEG more here
 No longer here (in this part).

li w-ooq, kach'in ajwi',
 DM E1S-foot a.little only
 In my foot, only a little,

x-maak naj toj maaji' naa-Ø-k'ira, chi chaab'il,
 E3S-RN COMP still not.yet PRES-A3S-heal PREP well
 because it has still not yet healed completely.

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pero n-in-ru chi beek,
 but PRES-A3S-able PREP walk
 But I can walk. (Thus, it has healed enough for him to walk.)

maak'a' li cha'ajk'ilal (laughs)
 NEG.exist DM difficulty
 There is no difficulty. (Or, more idiomatically, 'It's no big deal'.)

s-ink'a' tento wan-Ø-Ø jun l-in muleta
 if-NEG must exist-A3S-PRES one DM-E1S crutche
 If (that were not the case), I would need a crutch.'

The man is describing which parts of his foot are still in pain. As may be seen, the first five lines exhibit many of the operators that were discussed in earlier chapters: *ink'a'* *chik* 'no longer', *maaji* 'not yet', *b'ab'ay* 'a little', and *ajwi* 'only'. There is even a token of a *toj maaji* construction, qua 'still not yet', involving the doubling of aspectual operators that was examined in Chapter 10. Loosely speaking, such a claim presupposes that there was a time, prior to the speech event, when it had *not yet* happened; and it presupposes that, at the time of the speech event, it had *still* not yet happened (thereby implying that the man had been waiting quite a while for it to heal completely). The last three lines, in contrast, show two modal operators in parallel constructions: 'I *can* walk. It's no big deal. If that were not the case, I would *need* a crutch (or it would be necessary that I have a crutch). The propositions incorporating these operators are conjoined in the following way:

- (i) I am able to walk
 possibly p;
- (ii) if that were not the case, I would need a crutch
 if not possibly p, then necessarily q.

We might paraphrase all this as follows. There exists one or more worlds, compatible with the extent of my injury, in which (it is true that) I walk. If that were not the case, then there would be no worlds,

compatible with the extent of my injury, in which I walk. And if *that* were the case (i.e., that there were no such worlds), I would need crutches to walk. That is, in all worlds in which I walk, compatible with my injuries and their deleterious effects on my walking, I use crutches (as the only viable means of getting around in such worlds).

As may be seen in the last two examples, unlike the possibility operator *ruuk*, the necessity operator *tento* is (almost) never inflected for tense or person. This means that there is no structural way to encode different kinds of necessity: one and the same operator marks circumstantial, deontic, and dynamic necessity, *inter alia*. That said, the particle *tento* is probably related to the verbal predicate *teneb'ank*, which can function as a speech act verb with a meaning like: to order someone, or oblige someone, to do X. See example (19) in Chapter 12. So it may be that normative obligation, as brought about by commands or orders, is the more basic or original meaning.

Telic Modality

Certain kinds of modality do not so much make reference to circumstances, norms or abilities, as the deployment of means to achieve certain ends.

- (8) *tento* *t-o-juch-uq*,
 NEC FUT-AIP-measure(?)-NS
 ‘We must measure it . . .

<i>r-e</i>	<i>naq</i>	<i>maak'a'</i>	<i>chik</i>	<i>li</i>	<i>pleetik</i>
E3S-RN	COMP	NEG.exist	more	DM	fight

in order that there be no more fighting.’

This example, which is part of a longer exchange that will be examined in Chapter 12, shows a man discussing the boundary between Guatemala and Belize. He states that it is necessary to precisely

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determine where the boundary is in order that there be no more fighting between the two countries. His utterance consists of two clauses, connected by the relational noun *-e* (to be discussed below), and the full-clause complementizer *naq*. Such a construction, with or without modal operators, indicates that the event denoted by the first clause relates to the event denoted by the second clause as means to end. According to the man, there are no worlds, other than those in which the boundary is precisely delimited, in which the dispute is settled. For this end to be achieved, then, such a means is necessary, and so *must* be employed.

We now turn from telic necessity to telic possibility.

- (9) ah, pero na-Ø-ru
 INTERJ but PRES-A3S-able
 ‘Ah, but it is possible (to do that) ...

 r-e x-k’ol-b’al l-aa tumin,
 E3S-RN E3S-save-NOM DM-E2S money
 in order to save money.

 chi-r-u li treinta quetzales
 PREP-E3S-RN DM thirty quetzals
 Like thirty quetzals.

 chaab’il t-at-wa’-aq aran
 well FUT-A2S-eat-NS there
 You will eat well there (with such additional money).’

A local man was telling a visitor that he could try to pass himself off as a local, rather than a tourist, in order to save money on admission to the caves of Lanquín (a nearby tourist attraction). Recall our discussion of Q’eqchi’ identity which is, in part, determined by one’s ability to speak the language. The visitor had previously indicated he wouldn’t want to engage in such a deceitful practice, however harmless. And this man replied with this utterance – saying, in effect, that it is okay,

possible, and/or permissible to circumvent a moral injunction (like prohibitions against lying) or a law (regarding who must pay how much to whom) insofar as it would save the visitor money. Indeed, he went on to tell the visitor just how well he could eat in that area with all the money he would save. The modalized clause involves a nonfinite predicate headed by the relational noun *-e* (which, recall from Chapter 9, derives from the inalienable possession for mouth). While this form has many functions (such as indicating genitive and dative relations), here it again links two predicates in a means–end chain, similar to the English prepositional phrase ‘in order to’. Note, then, that possibility, just like necessity, can be grounded in means–end relations, as much as circumstances, laws, or abilities. Deceit, while typically prohibited, or morally frowned upon, is one possible and/or permissible way to save money when interacting with a potentially exploitative, or at least overcharging, institution.

Economy and Agency

All the examples that follow come from Angelina (a pseudonym), who was a twenty-five-year-old woman with three children at the time (in 1999). Together, they personalize various kinds of obligation and necessity that confront someone in her position. As will be seen, Angelina was not just overworked and underpaid, she was usually not paid at all and, indeed, often forbidden from pursuing cash-earning enterprises in the first place. In her own estimation she was also different from other women. In part, this was because she could replace her husband in otherwise gender-specific activities while he was away (working on a plantation, often for weeks at a time). In part, this was because she found ways of circumventing local models of idealized behavior, including an NGO’s rules regarding who could engage in which kinds of tasks while hosting eco-tourists.

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- (10) *porque arin sa' li, sa' qa-k'aleb'aal,*
 because here PREP DM PREP E1P-village
 'Because here, in our village . . .
- wi wan-Ø-Ø li-x b'eelom li ixq,*
 if exist-PRES-A3S DM-E3S husband DM woman
 if a woman has a husband (and if her husband is home),
- na-Ø-ru na-Ø-x-k'ul li turiis*
 PRES-A3S-able PRES-A3S-E3S-receive DM tourist
 she is able to receive tourists . . .
- sa' li r-ochoch,*
 PREP DM E3S-home
 in her home.
- wi maak'a',*
 if NEG.exist
 If she doesn't have a husband (or he isn't at home),
- moko nek-Ø-e'x-k'ul ta,*
 NEG PRES-A3S-E3P-receive IRR
 she doesn't receive them.
- pero l-aa'in n-Ø-in-k'ul=eb' l-in turiis*
 but DM-A1S PRES-A3S-E1S-receive=PLR DM-E1S tourist
 But I receive my tourists,
- wi maak'a'*
 if NEG.exist
 (even) if my husband is not at home.'

In the first seven lines, Angelina is explaining one of the rules of the eco-tourism project: a household is permitted (*ruuk*) to receive tourists only if the husband is home. This rule was imposed, in part, to protect women from the visiting strangers; and, in part, to protect them from gossip networks, innuendo, and shame. For Angelina, however, it had the adverse consequences of preventing her from earning extra money for her family. As may be seen in the last two lines of the example,

she – with her husband’s consent, it might be added – did not abide by this rule.

Angelina not only hosted tourists while her husband was away, as a means to earn extra cash, she also replaced him in some of his domestic tasks, including relatively arduous ones like chopping firewood and weeding corn fields.

- (11) hehe’ ch’a’aj, ab’anan tento x-b’aanunk-il,
 yes difficult but NEC E3S-do-NOM
 ‘Yes, it is difficult. But it is necessary to do.’

x-maak naj tumin t-Ø-aaw-aj, pe’ yaal,
 E3S-RN COMP money FUT-A3S-E2S-desire F true
 Because you want (or require) money, no?’

Here she explains that she must (*tento*) replace her husband in certain gender-specific tasks, like chopping wood, no matter how arduous. This is so that he can continue to work on a plantation and thereby earn the money that is required (or ‘wanted’) for running a household. This is one of the ways in which necessity is grounded in a means–end relation between labor and wage: the latter being understood as an obviously desirable end (if not a ‘necessity’); the former being understood as the only – and hence necessary – means towards that end. If, in the previous example, she broke a village rule; in this example, she engages in relatively arduous work. In both cases, she flouts gender norms because of economic demands.

In the next example, Angelina describes her own experience as a young mother, living with her husband’s family right after their wedding. At that time the eco-tourism project was just getting started: villagers could go to paid training sessions to learn various skills needed for hosting and guiding tourists, a process the NGO referred to as ‘capacitization’. Angelina was particularly angry because, unlike other women in the village, she was prohibited from going. Insofar as her mother-in-law wanted to attend the training sessions, she told Angelina that she must stay at home. Not only did Angelina have to take on her

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husband's duties while he was away, she also had to serve as her mother-in-law's replacement, thereby taking on the woman's usual work as an extra responsibility.

- (12) moko (t)-Ø-aa-baanu ta chan-k-Ø,
 NEG FUT-A3S-E2S-do IRR say-PRES-A3S
 "You will not do it," she said.

ut mas naab'al l-in k'anjel,
 and very many DM-E1S work
 And I had a whole lot of work.

mesuk, ke'ek, puch'uk, ke'ek, ilo' wakax, ilo' kaxlan,
 sweep grind wash grind see cow see chicken
 (I had to) sweep the house, grind corn, wash clothes, look after the cow and chickens.

wuqub' hoor na-Ø-xik,
 seven hour PRES-A3S-go
 She would go for seven hours.

na-Ø-xik chi k'anjelak sa' li proyecto,
 PRES-A3S-go PREP work PREP DM project
 She would go work at the project (that is, the environmental NGO).

na-Ø-toj-e' rajlal li po',
 PRES-A3S-pay-PSV every DM month
 She was paid every month.

pero ut a'in, maa-jun, maa-jun l-in sentaa,
 but and A1S NEG-one NEG-one DM-E1S centavo
 But me, not one centavo (the smallest unit of value).

maak'a' in-sentaa,
 NEG.exist E1S-centavo
 There were no centavos for me.

moko n-in-ru ta chi x-sik'-bal l-in sentaa,
 NEG PRES-A1S-can/may IRR PREP E3S-seek-NOM DM-E1S centav
 I was not permitted to seek my own centavos.

entons x-b'aan a'an, x-in-'el sa' li w-ochoch,
 so E3S-RN DEM PERF-A1S-leave PREP DM E1S-home
 And so, because of that, I left home.

x-in-titz' chi k'anjelak
 PERF-A1S-get.fed.up PREP work
 I got sick of working.'

Fed up with such additional constraints and burdens, Angelina left the home of her parents-in-law and went back to her birth home, until she and her husband could find a place of their own. That is, unfair rules and/or unbearable circumstances constituted reasons for affect-driven actions, actions that thwarted such rules and/or neutralized such circumstances. To be sure, the broader circumstances were such that her earning money was possible (many other young women were paid by the project to be trained); and she certainly desired to earn money; it was just an unjust obligation imposed by her mother-in-law, upheld by her husband, and overlooked by the NGO, that kept her from seizing that opportunity, and/or realizing that possibility.

In the final example, Angelina discusses the obligations that are imposed on women by tabooed behaviors – obligations that again keep young women close to home, all the while permitting others to travel further away.

- (13) jun li k'a'uxl, jun li na'leb'
 one DM thought one DM custom
 '(This is) a belief, a custom.
- nek-Ø-e'x-ye sa' x-b'een li kaxlan
 PRES-A3S-E3P-say PREP E3S-RN DM chicken
 They say in regard to chickens ...
- naq ink'a' t-at-xik chi najt
 COMP NEG FUT-A2S-go PREP far
 that you will (or should) not go far.
- x-maak naj t-at-xik eeh,
 E3S-RN COMP FUT-A2S-go INTERJ
 Because when you go far ...
- como=eb' li kok' kaxlan,
 like=PLR DM small.PLR chicken
 like the chicks ...

naq nak-e'-yolak nak-e'-xik chi najt, pe' yaal
 COMP PRES-A3P-born PRES-A3P-go PREP far F true
 when they are born, they go far (as well), no?

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ut tento naj kok' kaxlan=eb',
and NEC COMP small.PL chicken=PL

And it is necessary that the chicks ...

tento wan-k-Ø sa' x-k'at
NEC exist-PRES-A3S PREP E3S-near

It is necessary that they are near (the house).'

As discussed in the introduction to this book, such taboos intersect with modality and a woman's agency in multiple ways. First, there is the assumption that, circumstances being what they are (in a rural village at the edge of the cloud forest), chicks *must* stay close to home (for, if they don't, the chicken hawk, and other predators, will kill them). There is the assumption that a woman's movements, while her hens are brooding, are coupled to the future movements of the chicks that will hatch from the eggs of those hens: if the woman 'goes far', her chicks will too. There are sensibilities regarding what counts as a woman going *too far* from her home, or a chick staying *close enough* to its coop. This iconic-indexical coupling, of dimensions and degrees as much as people and animals, however conventional or arbitrary, ensures that the necessity of keeping her chicks close to home rebounds on a woman as an obligation for she herself to stay close to home. Such assumptions and sensibilities constitute some of the key grounds on which modal operators (like *ruuk* and *tento*) depend, insofar as such operators figure possible and necessary worlds in reference to relatively shared understandings of the normative, desired, or inherent characteristics of this world.

That said, unlike the example involving her mother-in-law, in which she eventually left that home (and so wandered very far indeed), in the case of local taboos concerning domestic animals, Angelina generally stayed close to home. This was not just because of the taboo itself (which often had minimal sway if a woman really needed to get away), but because of the lack of opportunities to go elsewhere, coupled with all

the other constraints on a woman's behavior, as just enumerated: absent husbands, demanding mothers-in-law, indifferent NGOs, and massive work loads.

Grounding Worlds That Could Be Otherwise

We will return to Angelina, and the relation between economy, replacement, and agency, in Chapter 12, when we examine the relation between modality and intensity. To conclude this chapter, I want to say a few more words about modality and worlding.¹

As Kockelman (2007:153) put it, at the heart of anthropology is “a combination of the cultural relativism of Boas and the social facts of Durkheim . . . best understood as a kind of second-order modality: deontic [dynamic, epistemic, circumstantial, etc.] pairings of types of behaviors and types of circumstances that *must be this way* (here, now, and among us), but *may be otherwise* (there, then, and among them).”

Part of what it means to reside in a world is to act ‘in reference to’ such *modal grounds*, qua relatively organized ensembles of sensibilities and assumptions regarding what may and must be the case. Part of what it means to represent a world is to ‘refer to’ such modal grounds, and/or the worlds they emerge from and help organize, using operators like *may* and *must*, *could* and *should*, *if only* and *maybe*, not to mention *in your dreams* and *no fucking way*.

Crucially, local assumptions and assertions regarding modal grounds live on many levels. To some degree, along certain dimensions, actors can (and must) reside in and represent, as well as create and regiment, not just the modal grounds that organize their own worlds, but also the modal grounds of others, including their own *potential* modal grounds, however implausible, ill-conceived, or incipient, at one or more degrees of remove: relatively realizable worlds that might possibly be – indeed,

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some of which must surely be – so much better than the ones currently realized.

Notes to Chapter 11

- 1 In the tradition of scholars like Katie Stewart (2007), sort of; as well as scholars like Heller (2017) and Hoffmann-Dilloway (2018); not to mention Jane Kenyon (1996).

TWELVE



Modal Thresholds

Not Having Enough

A frequently used word in the Q'eqchi' language is *tz'aq*. As a possessed noun, it refers to the price, or cost, of the noun phrase that constitutes its possessor.

- (1) jo' nim-al li-x tz'aq li kaxlan
 how big-NOM DM-E3S price DM chicken
 'How much does the chicken cost?'

As this example shows, to ask the price of something one uses the preposition *jo'* 'how/as', along with a nominalization of the adjective *nim* 'big/large'. The argument of this construction is the possessed form of the noun *tz'aq* 'price', and the possessor of this noun is usually another noun phrase, such as *li kaxlan* 'the chicken'. Given its syntax, a more literally gloss of this sentence might be, 'How is the largeness of the price of the chicken?' Possible responses to such a question include actual prices in Quetzals, as well as more frank assessments, such as *jwal tero* 'very, very expensive'.

The form *tz'aqal*, which is derived from *tz'aq* using the abstracting suffix *-al*, frequently serves as an adjective with a meaning similar to English 'enough' or 'sufficient', especially in negated contexts. Curiously, one of the nouns it frequently modifies in its role as an adjective is the word for price.

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- (2) pero moko tz'aqal ta in-tumin r-e li-x tz'aq
 but NEG sufficient IRR E1S-money E3S-RN DM-E3S price
 'But I did not have enough money for its price.'

Here is such a doubled use of *tz'aq(al)*, first as a negated adjective (meaning 'insufficient' or 'not enough'), and second as a noun (meaning 'price' or 'cost'). As may be seen, this utterance also involves the relational noun *-e* serving a telic function ('in order to' or 'for'), as the money was a means to pay the price (and thereby acquire the item that constituted its possessor – which, in this utterance, was a particularly plump and comely hen).

To be sure, the close relation between *tz'aq* and *tz'aqal* is not all that surprising: the price of a commodity is the minimum amount of money needed to purchase the commodity insofar as it is enough to satisfy the seller. Prices, then, constitute modal (and affective) *thresholds*, with a relatively self-reflexive structure: the minimal amount of money necessary (or desired) to acquire an object of necessity (or desire).

This chapter is about these and other modal thresholds. The first section focuses on *tz'aqalok*, a verbal predicate derived from *tz'aqal*, which means 'to satisfy or complete'. The next four sections focus on various uses of *tz'aqal*: when it occurs with negation (with a meaning similar to 'insufficient' or 'incomplete'); when it serves as an adverb rather than an adjective ('completely', 'really'); when it plays a role in compound constructions ('real', 'authentic'); and when it occurs with temporal adverbs ('not yet enough', 'no longer enough'). Three sections then examine the functions such predicates serve when people talk about avoiding responsibilities, lacking capacities, and exchanging labor. They show the important and overlapping roles that both modal and temporal thresholds play in the institution of replacement. The conclusion analyzes the root *num*, which has a meaning similar to English 'too' or 'over-', showing the complementary relation between *tz'aqal* and *num*, qua 'enough' and 'too', as well as the relation between scarcity (not enough) and excess (too much). See Table 12.1.

Table 12.1 *Enough and too, under- and over-, scarcity and excess*

Form	Form class	Meaning
<i>tz'aq</i>	(possessed) noun	price, cost
<i>tz'aqal</i>	(negated) adjective	(not) sufficient, (not) enough
<i>tz'aqalok</i>	(negated) verb	to suffice, to complete (or not)
<i>tz'aqal</i>	(negated) adverb (modifying an Adj)	(in)sufficiently Adj
<i>tz'aqal</i>	adverb (following the Adj it modifies)	really, truly, precisely Adj
<i>tz'aqal</i>	in compound construction with NP	true, real, exact NP
<i>num-</i>	compound construction with verb	to over-verb
<i>nume'k</i>	derived verb	to be passed
<i>nume'k chi -u</i>	derived verb with adposition	to pass before, surpass
<i>nume'k sa' -b'een</i>	comparative construction (in colonial era)	figure passes over ground
<i>numtaak</i>	derived verb	to exceed, surpass
<i>numtajenaq</i>	participle, secondary interjection with NP	an excessive amount of NP!

To Suffice or Satisfy

The examples that follow show various uses of the verbal predicate *tz'aq(a)lok*, which derives from *tz'aqal*, and means something like 'to be sufficient or complete'. As will be seen, and in line with our opening example, modal thresholds are very frequently monetary thresholds.

- (3) wi ka'ajwi' li winq t-Ø-k'anjelaq, li tumin,
 if only DM men FUT-A3S-work DM money
 'If only the man works, the money ...'

moko na-Ø-tz'aqalok ta cho'q r-e li jun kab'-al
 NEG PRES-A3S-suffice IRR for E3S-RN DM one house-ABS
 'will not satisfy, or be enough for, a household.'

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This utterance comes from Angelina, the young mother who was at the center of our discussion of agency and affect in Chapter 11. She is explaining why she should be permitted to engage in work outside of, or in addition to, her usual domestic responsibilities. As may be seen, this part of her argument is structured as a conditional, where the quantifier *ka'ajwi* 'only' occurs in the antecedent clause. As was discussed in Chapter 8, this operator takes two arguments: the constituent within its scope (the man) and a proposition that incorporates that constituent (the man works). Such an utterance presupposes that the proposition is true of its argument; and it proposes that the proposition is not true of any additional argument within some relevant domain (in this case, the domestic household, or family). In particular, Angelina is arguing that one consequence of such a condition being true (the man being the only one who works), is that the family *won't have enough money* to meet its needs – such that, someone else besides the man within that domain (in particular, his wife) *should (be permitted to) work* as well. As may be seen, she uses the predicate *tz'aqalok* 'to suffice', which takes the NP *li tumin* or 'the money' as its subject. And she uses the relational noun *-e*, along with the preposition *cho'q*, to indicate the target or goal of sufficiency (qua significant degree and salient dimension of the threshold in question): that is, sufficient to meet the needs of a domestic household such as her family.

The next example shows another token of this predicate and exemplifies the interaction between temporal and modal thresholds.

- (4) *maaji' na-Ø-tz'aqalok li qa-tumin*
 not.yet PRES-A3S-suffice DM E1P-money
 'Our money does not yet suffice (to buy it).'

The subject of this verb is again money and, in particular, 'our money' (as in the money that belongs to the domestic household, or family). This construction is modified by the temporal adverb *maaji'*, or 'not yet', whose meaning was analyzed in Chapter 10. In

effect, such an utterance turns on two thresholds. In regard to modality, such an utterance presupposes a certain acceptable amount, or degree, of money (that which would be enough to purchase some item given its price); and it asserts that the amount of money possessed by the family was below such a threshold, and hence did not meet it. In regard to temporality, such an utterance presupposes that the money was not enough (for the purchase) prior to some some reference time (here, the speech event); it proposes that the money was not enough at that reference time; and it defeasibly implies that the money would be enough soon after the reference time. We will return to this important, and pervasive, interaction between temporal and modal thresholds below.

The next example comes from a dictionary entry, and showcases a token of this predicate in which money is not the topic.

- (5) yal jun aj chik ma
 only one only more QUES
 ‘Only one more ...’

na-Ø-tz’aqlok x-b’een li w-ochoch
 PRES-A3S-be.enough E3S-RN DM E1S-house
 (and) the roof of my house is complete.’
 (SG: solo una teja falta para completarse el techo de mi casa)

This example, which comes from Stewart (1980), incorporates many interesting constructions. The verb *tz’aqlok* is glossed into Spanish as *completarse* ‘to complete’. In effect, the roof will have a sufficient number of tiles to be considered finished or complete. The entire proposition, *the roof of my house is complete*, is itself modalized using the interrogative particle *ma* (which typically heads yes/no questions), and a series of quantifiers (modifying the number *one*): *yal jun aj chik*, or ‘only one more’. As was shown in Chapter 8, the use of this interrogative particle, along with such a quantity *chik* construction, indicates that the proposition, while false at some reference time (here, the speech

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event), will be true as soon as that small quantity – and, at least in this example, *only* that small quantity (and so nothing more) – is added. Very little, as it were, stands in the way of the roof's completion.

As will be seen in many of the examples that follow, the forms *tz'aqal* and *tz'aqalok* sometimes have a 'suffices' reading and sometimes have a 'completes' reading. In the case of sufficing, a certain threshold is met, but more could be added, and/or a greater degree could be achieved. That is, the dimension in question does not have an upper bound, or does not have its threshold set at its upper bound. In the case of completion, a certain threshold is again met, but that threshold is at the upper bound of the dimension in question, such that no more could be added, and/or no greater degree could be achieved. That is, the dimension has an upper bound, and the threshold is set there. Because of this sensitivity to the (putative or projected) boundedness of the dimension in question, *tz'aqal* can be used to upgrade assessments (completely, truly) as well as to downgrade them (barely, or [just] enough). As will be seen, these two readings of one and the same operator (*tz'aqal*), not only correlate with different kinds of arguments, they often correlate with different kinds of affect: from (barely) satisfying to (truly) sating.

Insufficient and Incomplete

The foregoing sections focused on the role of *tz'aq* as a noun, *tz'aqal* as an adjective (modifying a noun phrase), and *tz'aqalok* as a verb (also modifying a noun phrase). In this section we focus on utterances in which *tz'aqal* functions as an adverb (modifying adjectives). Such constructions indicate that the degree of some dimension (specified by the adjective in question) is sufficient or complete. Like the adjectival functions, such adverbial constructions often occur in negated contexts: when the degree of some dimension is *not* enough for some task or function.

The first example turns on the insufficiently happy state of the anthropologist's heart in a somewhat hypothetical situation.

- (6) *toj t-Ø-hulaq ch-aaw-u chi wank arin,*
 still FUT-A3S-arrive PREP-E2S-RN PREP exist here
 'You still like being here. (Literally, 'It arrives before you to be here').

pero ab'anan yoo-Ø-Ø l-aa ch'ool chi suq'iik
 but but do-PRES-A3S DM-E2S heart PREP return

However, your heart is returning . . .

sa' l-aa tenamit,
 PREP DM-E2S town
 to your town (or home).

pues, entons aran wib' l-aa ch'ool
 well then there two DM-E2S heart

Well then (in such a situation) your heart is two.

porke moko sa ta chik tz'aqal,
 because NEG happy IRR more sufficient

Because no longer (are they) sufficiently (completely, really) happy,

jun aj-ta-wi' l-aa k'a'uxl
 one only-IRR-only DM-E2S thought
 no longer are your thoughts only one (or unified).'

A man is explaining the meaning of a linguistic construction ('you have two hearts') by reference to the anthropologist's conflicted feelings (in the role of addressee): on the one hand, the anthropologist is still happy to be living in the speaker's village; on the other hand, he is missing his family back home. Such a construction involves a particular trope: while the anthropologist (qua possessor, or whole) is happy to be in the village, his heart (qua inalienable possession, or part) is returning home. In such a bimodal situation, when the person *actually* does one thing, while the person's heart *virtually* does another, such a construction can be used to describe the person's conflicted desires, or ambivalent affects.

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For present purposes, the last two lines are critical, insofar as they interpret the possessed-heart construction using two alternative constructions with the same subject (your thoughts) and overlapping syntax. First, we have a token of *tz'aqal*, which I gloss as 'sufficiently', modifying the adjective *sa* 'good/happy'. As may be seen, the entire clause is modified with a negation *chik* construction: one's thoughts or feelings are no longer sufficiently happy (and hence one is becoming unhappy, or discontent). Second, assuming the negative prefix *moko* from the proceeding line carries through to the last line (due to the repeated token of the irrealis particle *ta*, and the shared subject), we have the quantifier *ajwi* 'only' operating on the number one (*jun*): the anthropologist's thoughts are no longer only one, but have become two, such that he has become unsettled and/or conflicted.

In short, *tz'aqal* can modify adjectives, and typically indicates that the degree of the dimension specified by the adjective meets a certain threshold: happy enough that one's heart has not doubled, such that one's heart does not undertake journeys all by itself. Like many of the preceding examples, *tz'aqal* also occurs in the context of a temporal threshold (as indicated by the aspectual operator negation *chik*): while the anthropologist's heart had been sufficiently happy (up to some reference time), it was no longer so. With a single utterance, the man offered two interpretants at once – the gloss of a construction, and the diagnosis of a person.

In the next example, *tz'aqal* modifies an adjective in a comparative construction.

- (7) a'an nim li r-oq,
 DEM large DM E3S-LEG
 'He is tall.

ab'anan moko, ink'a' tz'aqal nim li r-ooq
 however NEG NEG sufficient large DM E3S-leg
 However, he is not really/sufficiently tall . . .

ke chi-r-u l-aj q'an-isb',
 COMP PREP-E3S-RN DM-SD yellow-hair
 in comparison to North Americans.

nim li r-oq arin Guatemala
 large DM E3S-leg here Guatemala
 He is tall here in Guatemala.'

A man is describing his brother-in-law. Here *tz'aqal* modifies the adjective *nim* 'big/large', which is being predicated of the legs of a person to mean 'tall'. This predication is negated and occurs in a comparative construction (with the Spanish complementizer *que* preceding the Q'eqchi' adposition *chiru*). Recall our discussion of such 'doubled' comparative grounds at the end of Chapter 7. As may be seen, the subject of this predication is someone who meets the threshold for tallness when other people from Guatemala constitute the comparison class, but not when people from North America constitute the comparison class. Or, as it might be put in English, while the person is tall 'for around here', he is not tall in a broader context, and hence not 'really' tall (or tall 'per se'), given how tall people can be (in the speaker's experience, given his encounters with eco-tourists).

Here is an example of a similar construction.

- (8) ab'anan l-aj il-on-el a'an,
 however DM-SD see-AP-NOM DEM
 'However, that healer (a kind of traditional doctor, or *curandero*),
 moko tz'aqal chaab'il ta li-x na'-leb'
 NEG sufficient quality IRR DM-E3S know-NOM
 his knowledge was not sufficiently high-quality.'

The speaker was describing a man who was posing as a healer or *aj ilonel* (literally 'one who sees'), but who didn't have enough knowledge or know-how to be a real, or authentic, healer. As in the last example, *tz'aqal* is modifying an adjective in a negated construction: the man's degree of the dimension at issue (knowledge) did not meet the relevant

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threshold (for a real healer). And so, while he might pose as a healer, when he was actually called upon to exercise his knowledge, it was inadequate; and so he ended up hurting the person he was supposed to help.

Really and Truly

In the foregoing examples, *tz'aqal* came before the adjective it modified, and the entire construction was typically negated: not enough knowledge; not really tall; no longer sufficiently happy. It is, of course, not without significance that such constructions are typically negated: the fact that something does not meet a threshold is particularly salient information. The examples that follow, in contrast, show *tz'aqal* following the adjective it modifies, often in the context of upgrading, to indicate a high degree of the relevant dimension, and hence an intensity that undoubtedly meets a salient threshold. As will be seen, this kind of construction often occurs at the end of a particular sequence of parallel utterances, both within and across turns.

- (9) Muy bueno ejemplo,
very good example
'(That is) a very good example.

chaab'il,
high-quality
It is excellent (or of high quality).

chaab'il tz'aqal
quality completely
It is really excellent.'

The speaker is assessing an example of linguistic usage that was offered by the addressee. As may be seen, the assessment consists of three parallel utterances. The first utterance, in Spanish, refers to the example as *muy bueno*, or 'very good'. The second restates the Spanish

utterance in Q'eqchi', using the adjective *chaab'il* which is typically used to indicate that something is high-quality, excellent, or really good (in comparison to other entities within its comparison class). For example, a really good idea, radio, habit, or house. Finally, this same adjective is followed by *chaab'il*. While it is difficult to get at the meaning of this last construction, given the way *tz'aqal* is used in other contexts, it seems to mean something like 'really' or 'truly'. That is, the example being assessed definitely (without exaggeration) meets the threshold for quality or excellence. Recall our discussion of the two different readings of *tz'aqal* (completes versus suffices). The issue here is the completion reading: it is not that the example is good enough, it is that the example is excellent, and hence at the upper bound of the scale.

The next example, while slightly extended with additional utterances, shows a similarly structured assessment.

- (10) mas ke, eq'ela,
 very cold early
 '(It was) very cold, early (this morning).

ooh, aah, aa'in x-Ø-in-k'a'uxla
 INTERJ INTERJ A1S PERF-A3S-E1S-think
 "Ooh, Aah," I thought.

ooh, chal, x-Ø-chal wi'chik li ha',
 INTERJ come PERF-A3S-come again DM water
 "Ooh, the rain has come again."

aah, ke,
 INTERJ cold
 Aah, (it was) cold!

ke tz'aqal
 cold sufficient
 Really cold.'

The speaker is describing how cold it was earlier that morning. He does so with three parallel constructions (interspersed with two lines,

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here indented, that report his thoughts at the time). The adjective *ke* 'cold' occurs in the first line with the intensifier *mas*; then, in the penultimate line, with the interjection *aah*; and finally, in the last line, with *tz'aqal*. That morning, definitely and without exaggeration or doubt, met the threshold for cold mornings.

The next example shows a similarly structured assessment, but now one that extends across turns in a conversation.

- (11) S1: eeh, exacto,
INTERJ exactly
'Um, exactly.'
- S2: pe' yaal
F true
'Truly?'
- S1: hehe',
yes
'Yes.

yaal tz'aqal
true completely
It's really true (or right).'

Speaker 1 begins with a Spanish phrase (*exacto*, or 'exactly'), itself offered in response to an earlier query by Speaker 2 regarding the correctness of their assessment (as to what had happened the day before). Speaker 2 offers a positive minimal response (which, when stressed, can also index doubt or disbelief). Speaker 1 continues, first by saying 'yes', and then by repeating the adjective used in the positive minimal response, followed by *tz'aqal*. As may be seen, the three utterances offered by Speaker 1 have a similar structure to the three utterances offered in the last two examples: three statements, making more or less the same claim, the last one modified with *tz'aqal*. Impressionistically, something like the utterance by Speaker 2 seems to structure the meaning of all three examples: in the context of a potential doubt (such as a not yet fully convinced interlocutor), *tz'aqal*

indicates that the intensity of the dimension does indeed meet the relevant threshold (such that any doubts are misplaced).

While the examples in the last section, in which *tz'aqal* modified an adjective with negation, seemed to indicate that the degree of some dimension did not meet the *lower bound* of a threshold (such that it was insufficient), these examples seem to indicate that the degree of some dimension not only met a threshold, but more than adequately so, such that there were degrees above the threshold to spare. In part, this is due to the staging of multiple assessments, and the upgrading that occurs during that staging: it is good $\Rightarrow$ it is really good. In part, this is due to the fact that an unadorned adjective (e.g., it is heavy) already indicates that something meets a threshold, qua comparative ground; as such, the addition of an intensifier like *tz'aqal* comes to serve a different function. Finally, as discussed above, it seems to be the case that certain dimensions have upper bounds (such that if a degree meets that bound, thereby making it sufficient, it tops out, exhausts, or completes the dimension), whereas other dimensions are unbounded (such that a degree can meet a threshold but not complete, or exhaust, a dimension).

The next example shows a maximally – and unnaturally – unbounded dimension (at least in an Aristotelian tradition): economic value, or money.

- (12) ka'ajwi' tz'aqal, tz'aqal li qa-tumin
 only sufficient sufficient DM E1P-money
 'Only enough, (just) enough was our money ...
- r-e li wakax
 E3S-RN DM COW
 for the cow.'

The speaker is describing a situation in which she and her husband had only just enough money to buy a cow. As we saw in Chapter 8, the quantifier *ka'ajwi'* 'only' presupposes that the predicate (*tz'aqal*) applies to the subject;

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and it proposes that no greater, or more intense, predicate applies to the subject. That is, they had enough money for the cow, but no more.

Pure and Authentic

In line with its function in the foregoing examples, the form *tz'aqal* frequently occurs in compound constructions with nouns, where it means something like 'exact', 'true', 'complete', 'pure', or 'authentic'. For example, a recent dictionary (Sam Juárez et al. 1997) offers many tokens of such compound constructions: *tz'aqal winq* 'hombre de palabra cabal o maduro' (a man of his word, a mature man); *tz'aqal wa* 'tortilla legítima' (a legitimate or authentic tortilla); *tz'aqal t'uj ixq* 'mujer virgen o que ha alcanzado madurez' (a virgin, or a woman who has reached maturity); *tz'aqal b'isleb* 'medida exacta o cabal' (an exact or full measure). As may be seen, the presence of *tz'aqal* seems to indicate that the referent of the noun exhibits the essential dimensions (properties, virtues, or powers) of the noun class in question to a sufficient and/or complete degree.

The following utterances showcase one important function of such constructions.

- (13) x-b'aan naq a'an x-kab' in-na',
E3S-RN COMP DEM E3S-second E1S-mother
'Because she was my stepmother.

moko tz'aqal in-na' ta chik
NEG sufficient E1S-mother IRR more
She was not my real mother.

naq wi raj tz'aqal in-na',
COMP if CF real E1S-mother
If she had been my real mother . . .

moko x-Ø-numsí ta raj li aatin a'an
NEG PERF-A3S-pass IRR CF DM word DEM
she would not have passed those words on.'

A young woman is describing how her stepmother reported her relatively critical words to another family member, leading to an estranged social relation. In the first two lines, she contrasts her ‘second mother’ (*xkab’ inna*), qua stepmother, with her ‘real/true mother’ (*tz’aqal inna*), qua birth mother. In the second two lines she uses a counterfactual conditional: while the former ‘passed on’ her critical words to the one being criticized, and thereby betrayed her trust, her real mother would not have done that.

Again, then, we see the tension between a ‘sufficient’ reading of *tz’aqal* and a ‘complete’ reading: the former tends to occur in negated contexts; the latter tends to occur with upper-bounded scales. This is a good example of a situation in which an erstwhile replacement (the stepmother) does not have the essential virtues (properties, or dimensions) of the original. Indeed, to return to our discussion in Chapter 9, the woman’s birth mother, insofar as she was a singularity, could not be replaced by her stepmother, insofar as the latter lacked some of the essential, or at least stereotypical, attributes of the former (in particular, a sufficiently high degree of trustworthiness and/or confidentiality).

Not Yet and No Longer Enough

Many of the preceding examples showed *tz’aq*, *tz’aqal*, or *tz’aqalok* interacting with temporal adverbs. As the following examples show, this co-occurrence of temporal and modal operators, each of which is sensitive to a distinct threshold, is a pervasive phenomenon.

- (14) *casi* *tz’aqal*,
 almost sufficient
 ‘It is almost sufficient.
- ab’an* *toj* *maaji’* *tz’aqal*
 but still not.yet sufficient
 But it is still not yet sufficient.’

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The speaker was describing how much money he had in relation to the price of a chainsaw he wanted to buy (for living at the edge of a cloud forest is rife with temptations). In the first line, he describes this amount of money using the Spanish word *casi*, which has more or less the same meaning for speakers of Q'eqchi' that it does for speakers of Spanish, and so might be best glossed as 'almost', 'nearly', or 'approximately'. In particular, he says he has 'almost enough money'. In the second line, he qualifies what he says using two temporal operators, *toj* and *maaji'*. As we saw in Chapter 10, such doubled forms arguably indicate not just that he didn't have enough money (at the reference time, as well as before), but that he did not yet have enough money before that moment (and so for some time) – indicating that his desire for the chainsaw, and his inability to buy it, had been long-standing. Moreover, such a construction defeasibly implies that he will soon have enough. Indeed, as the speaker states in the first line: he is almost there.

The next example shows a similar situation, but one in which the dimension in question turns on the meaning of a word rather than the price of a commodity.

- (15) hehe', komo kach'in chik ink'a' tz'aqal,
 yes like little more NEG sufficient
 'Yes, as if a little more it is not sufficient (i.e., it is almost sufficient).
- o_sea pues, maaji' tz'aqal li aatin
 in.other.words well not.yet sufficient DM word
 In other words, the expression is not yet sufficient.'

The first line of this example shows a quantity *chik* construction modifying a negated adjective (*ink'a' tz'aqal*, or 'not sufficient'). Such a construction is very similar to those showcased in example (5) and analyzed in Chapter 8. While the predicate is currently false of the subject, with the addition of just a few more degrees (of some relevant dimension), the predicate will become true of the subject. In the second

line of this example, the speaker offers a (very loose) paraphrase of the first line, using the aspectual form *maaji* 'not yet' with the same adjective as before (*tz'aqal*, or 'sufficient'). Here we see how a quantifying operator (*kach'in chik ink'a' tz'aqal*, or 'not sufficient by a small amount') is paraphrased by, and hence metalinguistically equated with, an aspectual operator (*maaji' tz'aqal*, or 'not yet sufficient'). In contrast to the aspectual form, then, the quantifying form allows one to specify how much (a little) is left before the narrated event (being not sufficient) is no longer true (such that it becomes sufficient). This is another site where the difference between grade and aspect is neutralized, or simply blurred, in the context of negative valence.

When prices rise, as opposed to savings, the relevant temporal operator is usually 'no longer' (*ink'a' chik*) as opposed to 'not yet' (*maaji*).

- (16) *anaqwan, mas tertō chik*
 now very expensive more
 'It is now much more expensive than before.'

moko tz'aqal ta chik li qa-tumin
 NEG sufficient IRR more DM EIP-money
 'Our money is no longer enough.'

The first line of this example involves a self-comparative construction, as was analyzed in Chapter 8: the price of a good is much more expensive, not in comparison to another good, but relative to how it was before. The second line of this example shows a negation *chik* construction: it presupposes that the proposition was true before the reference time (that is, the speaker's family *had* enough money); and it proposes that the proposition is false at the reference time (implying that it became so relatively recently). Given the increase in price (which likely happened only a short time ago), the same amount of money will no longer suffice.

All these examples involve the interaction of two thresholds: in regard to the modal threshold, the degree of a certain dimension is either enough, or not enough, for some price or norm to be met; in regard

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to the temporal threshold, this relative sufficiency changes at a particular moment in time – from not enough to enough, or vice versa. Such complex interactions between temporal and modal thresholds will be carefully examined in the sections that follow.

Avoiding Responsibilities

Let us now return to replacement, and the practices that sustain it. The following three examples showcase the important role that temporal and modal thresholds play in mediating the replacement of one agent for another in labor-pooling practices. The first is about temporal thresholds and replacement; the second is about replacement and obligation; and the third is about obligation and modal thresholds.

- (17) sik' jun-aq li ani kub'sin x-ha',
seek.IMP one-NS DM someone lower E3S-water
“Seek someone (else) for the baptism.

ink'a' chik t-Ø-in-b'aanu,
NEG more FUT-A3S-E1S-do
I will no longer do it.

sik' w-eeqaj chan-k-Ø
seek.IMP E1S-replacement say-PRES-A3S
Seek my replacement,” he said.’

A woman is recounting a conversation she had with the godfather of her first child. Because of something she had done (which angered him), he told her that he would not be the godfather of her second child, and that she should seek his replacement. Instead of a material resource wearing out, such that it can ‘no longer’ serve its function, such that it must be replaced, we have a social relation wearing thin, such that someone is ‘no longer’ willing to fulfill their expected social role, such that their replacement must be found.

The next example also turns on the need to seek the speaker's replacement, this time because the speaker could not fulfill his work obligations due to sickness.

- (18) S1: moko tento ta t-Ø-in-b'aanu li k'anjel
 NEG NEC IRR FUT-A3S-E1S-do DM work/task
 'I am not obligated to do that job.'
- S2: k'a'ut
 why/what
 'Why not?'
- S1: x-b'aan naq l-aa'in yaj-in
 E3S-RN COMP DM-A1S sick-A1S
 'Because I am sick.'
- S2: aah, us
 INTERJ good
 'Aah, okay.'
- S1: wan-Ø-Ø li yajerk x-Ø-'ok w-e,
 exist-PRES-A3S DM sicken PERF-A3S-enter E1S-RN
 'There is a sickness that has entered me.'
- tento naq t-e'x-sik' jalan chik
 NEC COMP FUT-A3P-seek different more
 It is necessary that they find another (to do the job in my place).'

In the first line of this example, Speaker 1 asserts that he is not obligated (*tento*) to do a certain task (that community members have requested he do). In the last line, he asserts that those community members, rather, are obligated (*tento*) to seek someone else (to replace him in such a role). And, in the middle lines, he explains the reason: he is sick, and thus unable to carry out the work himself.

In the next example, a man offers yet another reason one may get out of a labor obligation: because one has not yet sufficiently (*tz'aqal*) agreed to a request (to undertake the work in question), and so is not yet normatively bound.

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- (19) qa-ye-haq-Ø ha' li komun x-Ø-e'x-ye w-e
 E1P-say-NS-A3S TOP DM community PERF-A3S-E3P-say E1S-RN
 'Let's say the community has said to me ...
- naq l-aa'in t-Ø-in-b'aanu li k'anjel
 COMP DM-A1S FUT-A3S-E1S-do DM work
 that I will do the job.
- ab'an maaji' x-in-sume' sa' x-yaam li komunil a'an
 but not.yet PERF-A1S-reply PREP E3S-? DM community DEM
 But I have not yet replied to the ? of the community ...
- naq t-Ø-in-b'aanu,
 COMP FUT-A3S-E1S-do
 that I will do it.
- x-Ø-e'x-teneb' raj jun li k'anjel s-in-b'een,
 PERF-A3S-E3P-oblige CF one DM work PREP-E1S-RN
 They tried to impose a labor obligation on me.
- ab'an ink'a' t-Ø-in-b'aanu
 but NEG FUT-A3S-E1S-do
 But I will not do it.
- mare t-Ø-in-b'aanu,
 AF FUT-A3S-E1S-do
 (Well), maybe I will do it.
- ab'an maaji' tz'aqal n-in-sume' x-baanunk-il
 but not.yet sufficient PRES-A1S-reply E3S-do-NOM
 But my agreeing to do it is not yet sufficient (to be binding).'

The speaker is explaining one important ground for obligation: when the community requests that you do a particular job or undertake a specific activity. (Note the role of the relational noun *-b'een* in marking the person 'over' whom the obligation will fall.) The speaker also explains how the potentially imposed obligation may not yet be binding, insofar as the one charged with the task has not yet sufficiently agreed to the request. As may be seen, the speech act verb *teneb'ank*, which is arguably related to the modal necessity operator *tento*, is used with the counterfactive particle *raj*: while his community *tried to* impose a labor obligation on him, he is not yet obliged to do it insofar as he has not yet

sufficiently responded (in the sense of accepting the imposition, and thereby committing himself to the obligation).

The last line of this example is particularly important insofar as it shows the interaction of two thresholds in mediating this lack of obligation. The form *maaji* presupposes that the man's response was not sufficient prior to the reference time, asserts that it was not sufficient at the reference time, and defeasibly implies that it will be sufficient soon after the reference time. The adjective *tz'aqal*, in such a negated context, indicates that the man's response was not yet complete or sufficient, and so didn't count as a full acceptance of the obligation in question (at that moment). That is, the man was not yet obligated to work because he had not yet fully responded to, or accepted, the request to work.

We have just seen three examples in which someone is getting out of a prior or potential obligation: they have become angry, and no longer want to fulfill it; they are sick, and so are unable to fill it; they never fully agreed, and so are not actually obligated to fulfill it. Insofar as someone else will have to fill in for the person in question, all three examples involve replacements: the first two explicitly; the last one implicitly. In each case, temporal thresholds play an important role: someone is no longer able to fulfill a prior obligation; or someone has not yet agreed to a pending obligation. Not surprisingly, speakers are hyperaware of the kinds of actions that commit them to, or relieve them from, their responsibilities to 'the social', and thus how to agentively strategize the temporal unfolding of their interactions accordingly.

Lacking Capacities

We just focused on situations in which someone does not want to, or is unable to, fulfill an obligation, such that someone else will have to serve

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as their replacement. We now turn to cases in which someone is not permitted to replace another, insofar as they are judged unable to replace that other – not because of a relatively temporary condition (like sickness), but because they do not have, or at least do not yet have, a sufficient degree of a certain dimension. In particular, we focus on cases in which one kind of person (a wife or son) is not permitted to replace another (a husband or father), even though they might want to, insofar as the former are thought to be lacking in a certain virtue or competence that the latter have in full. Such cases often make reference to thresholds – either temporal thresholds (through adverbs like *maaji* ‘not yet’) or modal thresholds (through words like *tz’aqal*, qua ‘sufficient’ or ‘enough’). In short, rather than focusing on the strategies that individual people use to get out of responsibilities, we focus on collective judgments regarding who doesn’t (yet) have certain capacities.

Let me highlight two contrasting accounts of such capacities, in order to better understand the grammatical categories they incorporate.

- (20) li-x metz’ew moko tz’aqal ta
 DM-E3S strength NEG enough IRR
 ‘She does not have enough strength (to substitute for her husband).’

This example shows a man articulating a pervasive claim made by women and men alike: that women cannot replace their husbands in many kinds of work, insofar as they do not have enough strength. In particular, as the next example shows, men often state that women cannot endure (*kuyuk*) certain feats of strength that men are required to perform when they work.

- (21) moko t-Ø-(x)-kuy ta li li semento
 NEG FUT-A3S-E3S-endure IRR DM DM cement
 ‘She will not endure (carrying bags of) cement.’

Building on the last example, insofar as a woman doesn’t have enough strength (to replace a man), she is not able to endure certain tasks that would be stereotypically required of men. To be sure, it is not all that

often that man are carrying bags of cement around, so speakers tend to emphasize the most difficult of tasks – however infrequent – when offering such assessments.

When the topic is women, such utterances involve simple negation: they don't have enough strength; they cannot endure such weight. When the topic is boys, in contrast, similar utterances, while still negated, are modified with temporal thresholds: until they are of a certain age, they do not yet have enough strength.

- (22) S1: maaji' tz'aqal,
not.yet sufficient
'(At age 14), they are not yet (old) enough.
- eeh holaju, waqlaju, wuqlaju, wajxaqlaju, tz'aqal
INTERJ 15 16 17 18 sufficient
Um, at 15, 16, 17, or 18, they are (old) enough.'
- S2: aah
INTERJ
'Aah.'
- S1: cho'q li eeqaj
PREP DM replacement
'For replacement.'
- S2: aah, k'a'ut
INTERJ why
'Aah. How come?'
- S1: eeh
INTERJ
'Um.'
- S2: ma toj maaji' wan-Ø-Ø li-x na'-leb'
INTERJ still not.yet exist-PRES-A3S DM-E3S know-INSTR
'Do they still not yet have enough knowledge (or know-how)?'
- S1: es ke, li-x metz'ew pues
it.is COMP DM-E3S strength well
'It's that, it's their strength.'
- S2: aah
INTERJ
'Aah.'

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- S1: qa-ye-haq-Ø mare
 E1P-say-NS-A3S perhaps
 ‘Let’s say perhaps ...’
- aj jun-aq li, li jun bols chi semeent,
 SD one-NS DM DM one bag PREP cement
 someone, (and) a bag of cement,
- t-Ø-k’e-he’k chi-xokok
 FUT-A3S-give-PSV PREP-carry
 he is given to carry it.’
- S2: aah
 INTERJ
 ‘Aah.’
- S1: xok chaq li cemeent a’an, le’,
 carry.IMP DIR DM cement DEM DEIC
 “Carry that (bag of) cement over there!” (someone says to him).
- maaji’ t-Ø-(x)-kuy,
 not.yet FUT-A3S-E3S-endure
 He will not manage, or endure, it.
- pero wi ak wan-PRES-A3S chik
 but if already exist-Ø-Ø more
 But if he already has more,
- es de quince, dieciséis, malaj dieciocho,
 it.is PREP 15 16 or 18
 say, 15, 16, or 18 years,
- na-Ø-ru tz’aqal chik t-Ø-(x)-kuy li aal
 PRES-A3S-can sufficient more FUT-A3S-E3S-endure DM weight
 he will (already) be sufficiently able to endure the weight.’

A man is discussing situations in which boys can replace their fathers in labor pools. He says that they cannot serve as replacements until they are at least 15 years old. This is not because, if they are younger, they don’t yet have enough know-how, or experience. It is because they don’t yet have enough strength.

The last three lines of this example bring together, in condensed fashion, several key concerns of this monograph, especially as laid out in Part III: replacement as a social institution; modality (in the guise of

ability or permission); sufficiency (qua meeting a threshold of intensity); temporality (in the developmental unfolding of sufficiency); and intensity per se (in regard to a dimension like strength or endurance in relation to work or labor).

Indeed, the man is not talking about a particular boy at a specific moment in time, but rather about boys in general at particular ages: 15, 16, 17, 18, etc. Regarding the operator ‘not yet’ (*maaji*), the privileged point is not some moment in time per se, but rather a stage of life. Up until a certain age, a certain proposition is false; past that age, the proposition is true. In short, not just moments in time, but also stages in life, can constitute reference times (qua privileged points); and the phase transitions of temporal operators like ‘not yet’ and ‘no longer’ are sensitive to such stages.

The proposition in question turns on a modal operator (*ruuk*, qua possibility, ability, or permission) and an intensity threshold (*tz’aqal*, qua sufficient or complete). Up until the reference time in question, a boy does not have enough strength, and so cannot sufficiently endure the weight, and so *cannot* (dynamically) – and thus *may not* (deontically) – replace his father in a labor pool. But after that time, he has enough strength, and so he can sufficiently endure the weight, and so he both *can* and *may* replace his father.

Finally, notice the conditional structure of the last three lines: *if* he is at least 15 years old, *then* he can sufficiently endure the weight. The verbal predicate *ruuk* is doing the work of dynamic modality: at that age, and after, physiological circumstances (strength, size, etc.) are such that a boy *can* endure the weight to a (more than) sufficient degree (*tz’aqal chik*). It doesn’t mean a boy will necessarily endure such weight – for he would only be asked to fill in for his father in a pinch; and, as discussed above, even if he were asked to replace his father, it is unlikely that actually lifting bags of cement would be required of him. That said, in the wake of additional income from eco-tourism, as well as additional devastation from landslides, more and more families were

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using cement to better secure the foundations of their houses, lest they need to replace their ruined homes as well.

Excess and Affect

Preceding sections focused on the word *tz'aqal*, and the role it plays in everyday discourse. While this word was multifunctional, it often had a meaning similar to English 'enough' or 'sufficient', especially in negated contexts, when the degree of some dimension is judged insufficient. English has a variety of forms that complement the meaning of such adjectives: *too* (as in 'too salty'), *over-* (as in 'overeat'), and *excess* (as in 'excessively polite'). Recall our example of landslide risk assessments from Chapter 1: "evaluating the risk of large-scale landslides is *too* complicated to be done by trained non-technical experts." As will be discussed in the final chapter, this complementarity shows that many dimensions have two thresholds – a minimum amount (of the degree in question) and a maximum amount. Degrees within this range are acceptable insofar as they make possible and/or permissible particular actions and events (e.g., not too tall, but tall enough). In contrast, degrees above the maximum or below the minimum, and so outside of this range, are unacceptable insofar as they make certain actions and events impossible or prohibited (e.g., too tall or not tall enough).

Like the temporal operators *already* and *still*, or the modal operators *possible* and *necessary*, the operators *too* and *enough* are duals of each other: *heavy enough* $\Leftrightarrow$ *not too light*; *too fast* $\Leftrightarrow$ *not slow enough*. If you take the inner and outer negation of one, it is semantically equivalent to the other. Such operators, then, link modality and intensity in complex, and somewhat covert, ways.

We have already seen a series of forms in Q'eqchi' that are somewhat similar to English *too*, *excessive*, and *over-*. As discussed in Chapters 5 and 7, the root *num* shows up in a wide range of constructions, all of which have a sense of exceeding some limit or threshold. In particular,

the form *num* may precede a verb or noun in compound constructions, meaning something like overdoing the action denoted by the verb, or indicating an excessive amount of the referent of the noun (or one of its essential dimensions). For example, *num atz'am* 'over-salted' and *num-wa'ak* 'to overeat'. The predicate *nume'k*, which means 'to pass' or 'to be passed', played a key role in the colonial comparative construction, where its subject constituted the figure of comparison, and where the ground of comparison was marked by the adposition *sa' -b'een*, qua 'over' or 'above'. Recall examples (15)–(18) in Chapter 7. The predicate *numtaak* indicates that the subject exceeds some limit. And the participle form of this predicate, *numtajenaq* (which might be literally glossed as 'surpassed') is frequently used as a secondary interjection (with a noun phrase as its argument), indicating a very large, and often excessive, amount of the referent in question (and often indexing the surprise or dismay of the speaker). Recall examples (14) and (25) in Chapter 5. It is usually translated into Spanish using words like *demasiado* (too much, a lot) and constructions like *un montón de* (a pile of).

As with *tz'aqal*, constructions involving *num* can also occur with temporal thresholds.

- (23) *ak* *x-Ø-x-num-ket* *li* *b'oj*
 already PERF-A3S-E3S-over-consume DM alcohol
 'By the time I had arrived, he had already over-imbibed.' (Or, 'drunk too much')

The speaker was recounting, in a somewhat rueful way, the behavior of his brother-in-law at a recent wedding. His description involves a *num*-verb construction, with a meaning of overdoing the action in question (in this case, drinking a local alcohol, which is often served at festivals). As indicated by the operator *ak* (already), the man's degree of drinking had passed a significant threshold by the time the speaker arrived – presupposing that the brother-in-law was drunk before he had arrived, thereby indicating that his brother-in-law must have started in on the *b'oj* relatively early, and even implying that there was nothing he could have done to prevent it.

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- (24) *toj num atz'am li kaalt,*
 still too salt DM soup
 'The broth is still too salty (or 'over-salted').
- ink'a' na-Ø-ru r-uk'-b'al*
 NEG PRES-A3S-be.able E3S-drink-NOM
 It is not possible to drink it.'

The first line of this example shows a *num*-noun construction, along with the aspectual operator *toj* (still). Despite recent efforts to add water to the broth to make it less salty, it continues to be too salty. The second line constitutes a paraphrase, and quasi-entailment, of the proposition expressed in the first line: insofar as it is too salty, it cannot be consumed. To make it consumable, even more water must be added.

Of particular importance in this last example is the fact that, like *tz'aqal* constructions, *num* constructions can take modal paraphrases: if something is *hot enough* (to eat, touch, or use in some way), not only does it have a certain degree of the relevant dimension (such that it meets a certain threshold associated with the figure and dimension in question), the fact that it has such a degree makes *possible* (or *permissible*) a particular action or event (insofar as such an action or event is threshold-dependent). Conversely, if something is *too hot* (to eat, touch, or use in some way), not only does it have a certain degree of the relevant dimension, the fact that it has such a degree makes a particular action or event *impossible* or *prohibited* (insofar as such a degree exceeds a relevant threshold).

We will now turn to the ways such intensity operators, insofar as they interact with modal operators and temporal operators, are not just *dual* operators, but *duplex* categories (Jakobson 1990a) – and so index (channel and transduce), in context-sensitive and culture-specific ways, the beliefs and values, cosmologies and causalogies, affects and intentions, of interactants. We will also move away from the question of *replacement* (that is, who

has enough of a certain capacity or quality such that they are able to replace another in a labor pool) to *replenishment* – the reordering of the world, turning on language and affect as much as reproduction and work, to make up for the consumption and degradation of resources – and hence temporality as irreversibility (and reversibility) as much as temporality as repetition (and interruption), not to mention temporality as roots and fruits, reckoning and worldview.

Conclusion: The Ecological Self

At the end of July, there was no longer enough water for all the trees.

Despite the evidence they had seen, they were not yet angry enough to take a stand.

When they finally began to act, it was already too damaged to make a difference.

Enough Already

The primary focus of this book has been *intensity*, loosely understood as significant degrees of salient dimensions in shared worlds. Broadly speaking, it offered a natural history of the wording and worlding of intensity among speakers of Q'eqchi', living in and around the cloud forests of highland Guatemala.

Each of its three parts analyzed a relatively shared set of interpretive resources that speakers of Q'eqchi', and most other languages, depend on: grounds, tensors, and thresholds. As was shown, such a set of resources, as a kind of semiotic commons, not only enabled speakers to judge intensities, but also to draw inferences, communicate and critique values, act effectively, experience affectively, interrelate socially, distribute agency, and both imagine and inhabit possible worlds.

Part I focused on causal and comparative *grounds*: the way people come to understand, and alter, the relative intensity of entities and events; and, concomitantly, the way people come to understand, and

alter, the sequencing of events, and the channeling of forces. Through such a lens, it took up the relation between gradients, grading, degradation, and grace.

Part II focused on *tensors*: the semiotic resources speakers of Q'eqchi' have, understood as context-sensitive and culturally salient arrays of values, for registering intensities and/or regimenting tensions. By analyzing the grammatical structure, semantic features, pragmatic functions, and social history of such values it offered a genealogy of intensity.

Part III focused on *thresholds*: particular moments (along a timeline) when the truth of a statement changes from true to false (or vice versa); and particular degrees (along a dimension) where the relative intensity of some condition makes an otherwise acceptable action unacceptable (or vice versa). It focused on replacement – which includes replenishment – as an ensemble of Q'eqchi'-specific practices, to better understand the mutual mediation of temporality, modality, and intensity.

I will now draw out some of the stakes of this analysis for a slightly wider set of concerns. Building on the analysis of similar operators in Q'eqchi', the next two sections summarize certain key functions of modal intensifiers (*too* and *enough*) and temporal adverbs (*still*, *already*, *no longer*, and *not yet*) in English. A third section brings both sets of operators together, as evinced in the three utterances that open this chapter. In so doing, it reframes certain aspects of the Anthropocene (global warming, mass extinction, and environmental mediation more generally), in terms of tensors and thresholds. The final section returns to the five ways of framing temporality that were introduced in Chapter 9. It reinterprets one key facet of the Anthropocene as a layered series of interpretive grounds, themselves signified and interpreted, or 'written' and 'read', by a radically distributed agent, *the ecological self*.

Conclusion

Modal Intensifiers

Let us return to the analysis offered in Chapters 11 and 12, but focus instead on English terms that serve (somewhat) analogous functions. While words like *enough* and *too* have a range of meanings, one particularly important role they play is as modal intensifiers. Loosely speaking, to say that *John is too sick to travel* is to say that John's degree of the dimension at issue (sickness) exceeds a certain threshold, such that he *cannot* (or *may not*) undertake the action in question (traveling). Similarly, to say that *Jane is fast enough to win* is to say that Jane's degree of the dimension at issue (speed) exceeds a certain threshold, such she *can* (or *may*) achieve the goal in question (winning).

While the meanings of such words turn on specific degrees of certain dimensions, they do so in a way that is different from more typical intensifiers like *very* and *somewhat*. In particular, we can say things like: *it is not too cold* (even though it is very cold); *it is too cold* (even though it is only somewhat cold); *it is hot enough* (even though it is only somewhat hot); *it is not hot enough* (even though it is very hot). That is, the semiotic grounds associated with modal intensifiers (say, what counts as *too cold* [to touch]) differ from the (implicitly) comparative grounds associated with non-modal intensifiers (say, what counts as *very cold* [for a winter's day]). If the latter turn on typical degrees of the dimension for the figure in question (say, colder than average, around here, in the speaker's experience), the former turn on a very particular kind of threshold: certain degrees along a dimension which, when crossed, make a formerly possible action impossible, or a formerly permissible action prohibited (or vice versa).

For many dimensions, in relation to many actions, there are arguably two distinct thresholds, such that the degrees of the dimension between those thresholds constitute an acceptability range. Take, for example, a dimension like sweetness in relation to an action like eating. If we say that something is *too sweet*, we say that its degree of sweetness is *outside*

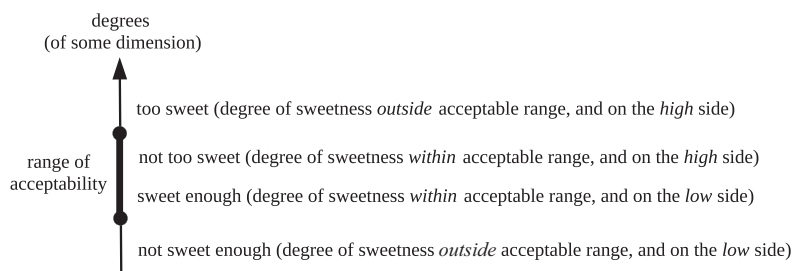


Figure C.1 Partitioning degrees

of some acceptable range (and on the *high* side). If we say that something is *not sweet enough*, we say that its degree of sweetness is also *outside* of some acceptable range (but on the *low* side). If we say something is *not too sweet*, we say that its degree of sweetness is *within* some acceptable range (and on the *high* side). And if we say that something is *sweet enough*, we also say that its degree of sweetness is *within* some acceptable range (but on the *low* side). Figure C.1 represents such an acceptability range, and organizes the modal intensifiers along it.

As seen in the above glosses, words like *too* and *enough* are inherently modal. They indicate that, insofar as the figure is within the range of acceptability, for the dimension at issue, the action in question is permissible, possible, or likely. Conversely, insofar as the figure is outside of the range of acceptability, they indicate that the action in question is not permissible, impossible, or unlikely. Such operators thereby link thresholds of intensity to modal notions like deontic, epistemic, and dynamic possibility – and hence potentiality, or virtuality, more generally. Such a linkage ensures that such operators are not just content-dependent (insofar as they are sensitive to the figures, dimensions, and actions in question, qua arguments of themselves as operators), but also radically context-dependent (insofar as they are sensitive to a wide range of intensity thresholds and modal grounds). Figure C.2 summarizes such dependencies.

Conclusion

The car is too expensive (to buy):

- i. The car is expensive to a certain degree;
- ii. That degree exceeds a certain threshold, or ground, which is itself dependent on:
 - a. the dimension (expensiveness);
 - b. the figure (cars of a certain kind);
 - c. the action (buying);
 - d. and various other aspects of context:
 - A. the stance of speaker;
 - B. the identities of, and/or relations between, the participants;
 - C. the situation/world in which they find themselves;
 - D. various norms, ideals, models, rules, regularities pertinent in that world (and thereby projectable by such participants);
 - E. and so forth.
- iii. Because of such an excess, in the context of such (projected) regularities, the car:
 - a. *cannot* be bought (e.g., one does not have enough money to buy it);
 - b. *may not* be bought (e.g., one is not permitted to buy it);
 - c. *should not* be bought (e.g., it would be unwise, or undesirable, for one to buy it);
 - d. and/or is *unlikely* to be bought (e.g., it is not probable that one will buy it),
(where precisely which modality is active is context-dependent).

Figure C.2 Content- and context-dependence of modal intensifiers

Temporal Operators

Let us return to the analysis offered in Chapters 9 and 10, but focus instead on English phrases that serve some somewhat analogous functions. A temporal adverb like *no longer* may be understood as a two-place predicate: one argument is the proposition within its scope; and the other argument is a reference time (or event). Recall our discussion, in Chapter 10, of Loebner's (1989) analysis of similar operators in German. For example, if I say that John was no longer awake when I arrived, I presuppose that he was awake before I arrived, and I assert

that he was not awake when I arrived. I thereby highlight the fact that a change in state occurred: his movement from awake to asleep, as two salient phases linked by a kind of threshold – such that a phase transition occurred sometime prior to the reference time. Other operators within this set have complementary semantics, as Figure C.3 shows.

Given the fact that a narrated event (or proposition) may have both an onset (transition from false to true) and an offset (transition from true to false), we can think of these four operators as partitioning the dimension of time into four domains related by two thresholds. Rather than focus on degrees of a particular dimension (sweetness, temperature, etc.), as per the preceding section, we focus on moments along a particularly important dimension (time). See Figure C.4.

Not only do such temporal operators relate to the modal intensifiers in terms of the thresholds and acceptability ranges they project onto particular dimensions, they also relate to them as similarly structured

(1) 'already' $< =$ 'onset of E' is before E'	(2) 'not yet' $ <=$ 'onset of E' is after E'
(3) 'still' $= =>$ 'offset of E' is after E'	(4) 'no longer' $==> $ 'offset of E' is before E'
Example: When I arrived at the house ($= E'$), he was still (no longer, not yet, already) drunk [$= E''$].	
(i) speech event (E^s): the time (moment, duration, interval) when the utterance was made	
(ii) reference event (E'): the time I arrived at the house (i.e., first clause)	
(iii) narrated event (E''): the time he was drunk (i.e., second clause)	
$=$ narrated event; $>$ offset of narrated event; $<$ onset of narrated event; $ $ reference event.	

Figure C.3 Temporal adverbs and phase transitions

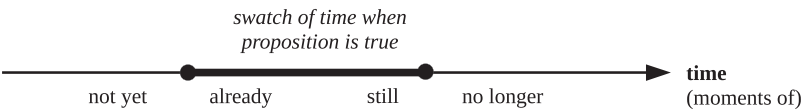


Figure C.4 Partitioning time

Conclusion

dual groups: just as ‘still alive’ is more or less equivalent to ‘not yet dead’, ‘too cold’ is more or less equivalent to ‘not hot enough’; and just as ‘already old’ is more or less equivalent to ‘no longer young’, ‘tall enough’ is more or less equivalent to ‘not too short’. From a somewhat abstract perspective, then, such groups of operators have very similar semantics. Not just dual groups, they are also duplex categories – in particular, *shifters*, and hence a kind of sign whose meaning is inherently context-dependent.

We will now use the foregoing analyses to examine utterances in which both kinds of operators are present (modal intensifiers and temporal adverbs); we will move from the semantics of such operators to their pragmatics; we will link such dynamics to nonlinguistic practices and affective processes; and we will return to concerns that are tightly linked to the Anthropocene, as a particularly tense and timely coupling of temporality and intensity.

The Chronotopology of Intensity

Each of the three judgments that opened this chapter involves three events, or intervals, located at various points in time. Focusing on the third judgment, there is the time the judgment was made (the speech event), the time someone began to act (the reference event), and the time something was too damaged to make a difference (the narrated event).

Focusing on the second clause of this third judgment, the referent of ‘it’ is the figure (say, the planet Earth, itself the ur-ground for an infinity of other figures and, as far as we know, all figurations). The referent of ‘damaged’ is the dimension (say, some generalized notion of harm or degradation, as applicable to the figure, that can occur to various degrees, and hence with greater or lesser intensity).

An adverb like ‘too’ indicates that the degree of the dimension at issue, for the figure in question, is outside of some acceptable range of

degrees. As we just saw, such a range of acceptability is dependent not only on the figure and dimension in question, but also on the stance of the speaker and the standards of some collectivity (where such standards and stances are themselves dependent on some causal model of the world, and/or some intensity imaginary more generally).

An adverb like 'already', as it occurs in the second clause, indicates that the onset of too much damage occurred before the time of action. Such an adverb, then, relates the narrated event to the reference event (onset or offset, before or after), just like the tense (or modality) of the first clause relates the reference event to the speech event (earlier or later, actual or counterfactual).

Figure C.5 shows a salient portion of the possibility space of such judgments, and is thus applicable to a wide range of figures, dimensions, events or intervals (reference, speech, narrated), stances, standards, collectivities, models, and imaginaries. Indeed, somewhat eerily, across this incredibly wide range of (possibly) possible worlds, while such a

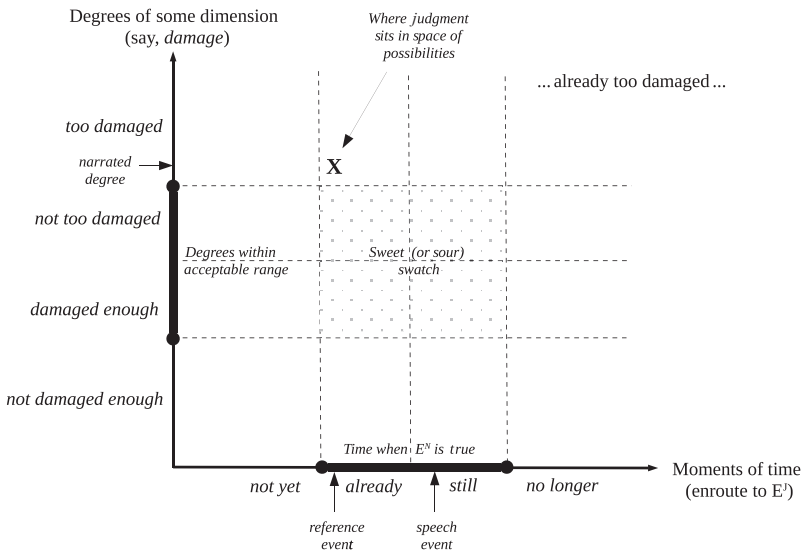


Figure C.5 Thresholds of time and intensity

Conclusion

diagram might be stretched and strained indefinitely (much like a rubber sheet, that ur-figure of topological intuition), the overarching relations between relations showcased within it remain relatively invariant.¹

The vertical axis shows the degrees of some dimension, or the intensity of some phenomenon, from lesser to greater. The thicker part of the vertical axis indicates those degrees (of the dimension at issue) that are within an acceptable range (for the figure in question). Loosely speaking, degrees outside of the acceptable range (be they above or below) indicate that some action or condition, as salient to the figure in question, is impossible, prohibited, or unlikely. Depending on where a degree lies (along a salient dimension, for a given figure, given some standard, from some stance, and so forth), the adverbs shown on the left of the vertical axis are differentially applicable.

The horizontal axis shows moments in time, from earlier to later. The thicker part of the horizontal axis indicates those moments of time when the judgment is being treated as true: some figure has a certain degree of some dimension (as located in relation to an acceptable range). Depending on where the reference time falls along this axis, the adverbs shown on the bottom of the horizontal axis are differentially applicable. Moreover, just as the reference time can fall within or outside of this range, the speech event can occur more or less before or after the reference time (assuming the latter is actualized).

Following the analysis undertaken in the preceding two sections, black circles denote critical *thresholds*, either temporal (horizontal axis) or intensive (vertical axis). They may be more or less extended, or thick, and hence able to encompass as much as to segment the dimensions (and durations) in question.

Not all 16 ($= 4 \times 4$) possible judgments exist for all dimensions, at all moments. For example, there are many today who would claim that you can be 'too rich'. And predications like 'no longer dead' only make sense

in a world where resurrections are possible (or zombies are actual). Precisely what constrains this possibility space is an open, labile, and somewhat unsettling question.

While the possibility space of such judgments is here being explicated in terms of linguistic categories, similar interpretive grounds arguably exist as affective attunements, engendred instincts, ethical standards, embodied practices, institutional arrangements, infrastructural layouts, commodity aesthetics, design features, ecological feedback mechanisms, and computational algorithms (Kockelman 2020a, 2020b). What is too high a temperature for a coral reef? Not enough promise for a speculative investment? Too steep a slope for a wheelchair ramp? Not enough hunger for a humanitarian intervention?

Dimensions, figures, acceptability ranges, truth conditions, salient events, and so forth are incredibly wide and far-reaching. In some sense, each collectivity, and individual within such a collectivity, may have a different ensemble. Part of what it means to belong to a collectivity is to take up residence in such a space, and to represent the spaces that other collectivities reside in. Indeed, no small part of one's identity is one's imaginary of acceptable degrees (for various dimensions). For example, what kinds of subjects believe that it is still too early to tell, or feel that it is already too late to act? And what are the conditions of possibility for such modes of subjectivity?

Our judgments are not just sensitive to thresholds within such imaginaries, they can also function to set such thresholds. Moreover, such judgments not only conform to the world, they also transform the world, perturbing it in ways that can cause it to become both more and less like their own contents.

That said, the Earth itself will set, or has set, certain essential dimensions, acceptability ranges, and reference times (qua privileged points and periods). To some degree, along certain key dimensions, it is arguably indifferent to our collective imaginaries. Indeed, some say that it is not just subject to our judgments, it is also a kind of ultimate agent:

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that which will one day judge – if it hasn't done so already – the soundness of our judgments.

Grounding the Anthropocene (Continued)

Having just reframed the Anthropocene – and, arguably, just about every scene – in terms of tensors and thresholds, let us now reframe it in terms of grounds. During our discussion of landslides, affect and earth gods in Part I, we focused on grace in a very specific sense: a small prayer giving thanks. As mentioned in Chapter 4, this word has many other meanings, from fluidity of movement to a free and unmerited gift. While the gift-based definition often refers to something like a divine favor – such as the salvation of sinners – that is overly optimistic. Indeed, it could be argued that the largest gift bestowed upon humanity in the last 500 years or so was fossil fuels, understood as easily exploited reserves of free energy, qua untapped gradients of chemical potential. To be sure, like the witch's apple in Snow White, such a gift turned out to be poisoned. (And all currently available evidence suggests that there is no Prince Charming.)

We might therefore return to the 'time machines' we took up at the end of that chapter. However, rather than using this phrase to refer to the heat engine (as that gradient-tapping technology that spurned us on to a degraded future), I want to use it to refer to the geologic timescale.

To some *potential* ecological self, qua self-reflexive, spatially and temporally distributed, ontologically heterogeneous, and thermodynamically evaluative interpretive agent, such a semiotic technology serves as a record, reminder, and theory of the eras and epochs the Earth has been through (or is going through). Insofar as such an ecological self has the wherewithal to perceive its signs, interpret their meanings, and thereby come to know what has happened and what is happening, what could happen and what could have happened, such a radically agential agent might come to respond affectively and act effectively.² For example, it

might act to safeguard the shared interests of all Earth's inhabitants in light of such an abrupt and intense foreshortening of their shared future. See Figure C.6.

As may be seen in this figure, such an affective, inferential, and agentic capacity – qua vibrant propensity and semiotic potential – is

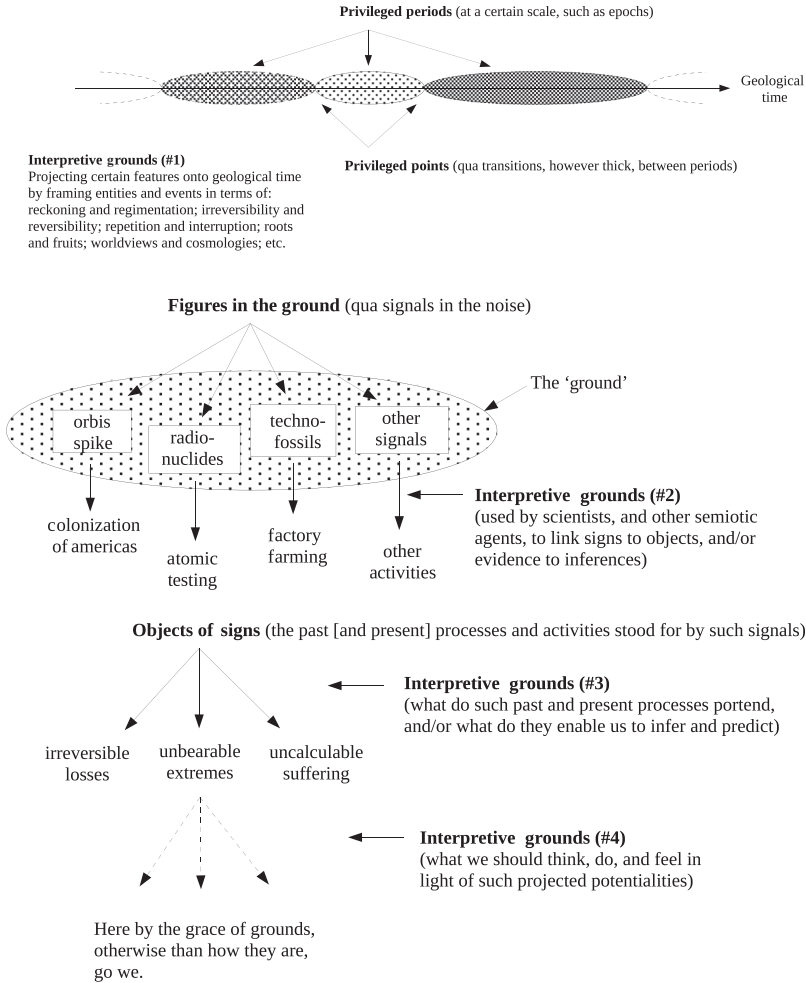


Figure C.6 Grounding the Anthropocene

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grounded in a variety of interpretive grounds, understood as the sensibilities and assumptions such an agent has insofar as they enable that agent to pick out signals in noise (as figures in the ground), project types onto tokens (or kinds onto individuals), link objects to signs (or signs to objects), and interpret such sign–object relations (affectively and effectively) in ways that make sense given the diverse and otherwise disparate interests and identities that constitute it (Kockelman 2012).

To be sure, and to return to those comparative constructions with which we began, it is no more likely that there is an ecological self than it is that there is a God or Prince Charming. But at least in this third case, there is the slim chance we residents-in-the-world (who are more or less coterminous with *the* world, itself the springboard and threshold for other worlds) might performatively manage to make such a possible agent actually so. To intelligently, intentionally, and gracefully (rather than stupidly, inadvertently, and disgracefully) etch a new epoch into the grounds of the geologic timescale – one that could ensure the existence of future agents capable of reading it (or at least receiving it) – say, by replacing profit with replenishment, as many speakers of Q’eqchi’ would say. Which is as good enough a place to end (or at least direct our aim, channel our affect, and ground our action) as any.

Notes to Conclusion

- 1 On topology as method, see the essays in Gros, Russell, and Stafford (2020).
- 2 On distributed agency, and the history and limits of agency, see the essays in Enfield and Kockelman (2017); on precursors to the ecological self, see Gibson (1979) and Neisser (1988), as well as James (1985), Kleidon (2012), and Kockelman (2011). For superb work on related concerns from alternative perspectives, see Dove (2020), and Barnes and Dove (2015). On grounds in this quasi-archaeological sense, see Kockelman (2012).

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