DERIVING ECONOMY: SYNCOPE IN OPTIMALITY THEORY

A Dissertation Presented

by

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ABSTRACT

DERIVING ECONOMY: SYNCOPE IN OPTIMALITY THEORY

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This dissertation proposes that markedness constraints in Optimality Theory are lenient: a form can be marked with respect to a constraint only if there is another form that is unmarked. Thus, no constraint bans the least marked thing. The central consequence of this idea is that there are no economy constraints that penalize structure as such. Economy effects follow from the interaction of lenient markedness constraints. Economy constraints are shown to be not only unnecessary but actually harmful: their very presence in CON predicts unattested patterns that remove structure regardless of markedness.

Chapter 2 develops the theory of CON and argues that various structural economy effects (preferences for smaller structures over larger ones and for fewer structures over more) follow from constraint interaction. Also addressed are economy effects that involve the deletion of input structure, including foot-sized maximum effects in truncation and syllable-sized and segment-sized maximum effects in reduplication. OT's economy constraints of the *STRUC family are argued to produce unattested patterns under re-ranking and are excluded from CON as a matter of principle.

Chapter 3 examines metrical syncope in Hopi, Tonkawa, and Southeastern Tepehuan. Different patterns fall out from the interaction of the same metrical markedness constraints in language-specific rankings. All of these constraints have other, non-economy effects—in principle, they can be satisfied by the addition of structure as well as by removal of structure. Metrical shortening and syncope remove marked structure, not all structure: the well-formedness of an output is determined by the distribution of weight in its feet and exhaustivity of footing, not by the number of syllables, moras, and feet.

Chapter 4 examines differential syncope in Lillooet, Lushootseed, and the Lebanese and Mekkan dialects of Arabic. Under the leniency hypothesis, there are constraints against low-sonority syllable nuclei and foot peaks but not high-sonority ones; likewise, there are constraints against high-sonority foot margins but not high-sonority vowels in general. The interaction of lenient constraints cannot duplicate the effects of economy constraints. There are real crosslinguistic asymmetries in attested differential syncope patterns that can only be explained if we abandon the notion that "everything is marked."

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CHAPTER 1

INTRODUCTION

1.1 **Introduction**

This dissertation argues that in Optimality Theory (Prince and Smolensky 1993), economy effects follow from the interaction of independently motivated constraints rather than from special economy principles. This theory of economy effects relies on the idea that constraints in CON are limited in what they can ban: no constraint can ban the least marked non-null thing along some particular dimension of markedness.

The interaction of independently motivated constraints in OT is rich enough to account for observed economy effects, whereas economy constraints contribute nothing to the understanding of these processes. In addition to being unnecessary, economy constraints can be shown to be a further imposition on the theory, since their presence in the grammar predicts unobserved patterns that remove structure without regard for markedness.

While a range of economy effects is addressed, the empirical focus is on syncope. I show that the various vowel deletion processes that are collectively referred to as "syncope" belong to a larger class of phenomena, some of which do not involve deletion at all. A constraint that is satisfied by syncope in one language may be satisfied by featural change, augmentation, or an altogether different process in another language.

This chapter presents an outline of the thesis. Section 1.2 summarizes the formal aspects of the proposal, §1.3 discusses economy effects, and §1.4 discusses syncope.

Section 1.5 addresses the status of economy principles in the present theory, and §1.6 is a summary outline of the chapters.

1.2 Theory of CON

1.2.1 Introduction: lenient markedness

The theory of economy effects that I propose relies on the idea that markedness constraints are *lenient*: at least one non-null structure will not violate any markedness constraints on a given dimension of markedness. For example, whereas nasal vowels are marked, oral vowels are not, which means that there is a constraint *NASALV in CON but there is no constraint against oral vowels or all vowels.

The central consequence of this theory of CON is that constraints are limited in what they can ban; the idea that “everything is marked” is expressly rejected. Nihilistic constraints of the *STRUC family (Prince and Smolensky 1993, Zoll 1993, 1996) are excluded from CON as a matter of principle.

1.2.2 Harmonic scales and Lenient Constraint Alignment

The theory is formally implemented by deriving all markedness constraints from harmonic scales. Harmonic scales arrange linguistic entities in the order of markedness; for example, nasal vowels are more marked than oral vowels. The following harmonic scale encodes this (“$\succ$” stands for “is more harmonic than”):

(1) *Vowel nasality harmonic scale*: oral vowel $\succ$ nasal vowel

Every markedness constraint comes from a scale, but not every level on a scale corresponds to a markedness constraint. This is the heart of the lenient proposal: markedness constraints violate things that are marked on harmonic scales, but no constraint penalizes the least marked element. Based on (1), there will be a constraint against nasal vowels but not one against oral vowels:

(2) Markedness constraint based on (1): *NASALV
There is no constraint *ORALV or *V

For longer scales, the same is true: no constraint can penalize the least marked member of a scale, but all other members will violate constraints. For example, Prince and Smolensky’s (1993) familiar sonority-based syllable peak harmony scale corresponds to the following constraint hierarchy:

(3) *Syllable peak harmony scale*: nuc/a ≻ nuc/ i ≻ ... nuc/s ≻ nuc /t
(4) *Syllable Peak Constraints:* *NUC/t>> *NUC/s.... >>*NUC/i
There is no constraint *NUC/a

All constraints are derived from scales by what I call Lenient Constraint Alignment, which is a modified version of Prince and Smolensky’s Constraint Alignment. The difference is that under Lenient Constraint Alignment, the least marked thing on every scale, a_n, escapes constrainthood:

(5) **Lenient Constraint Alignment**
The Constraint Alignment of a harmonic scale $a_n \succ a_{n+1} \succ ... a_{m-1} \succ a_m$ is the constraint hierarchy $*A_m >> *A_{m-1} ... >> *A_{n+1}$.

The scales must meet certain requirements as well. The most important of these is the following principle:

(6) NOZERO: no scale containing *x* implies that $\varnothing \succ x$.

This principle requires scales to express non-trivial harmonic relations: no structure can be so marked that the only thing better than it is the absence of structure. In other words, scales can express the markedness of one structure relative to another but they cannot express economy.

1.2.3 Economy effects through constraint interaction

Crucially, while no markedness constraint is set up to favor ∅ above all other structures, a constraint ranking can still do so under certain circumstances. For example, if the ranking of faithfulness constraints prevents a marked structure from mapping to an unmarked structure, the only option may be mapping to ∅:

(7) Mapping to ∅ in the lenient model

/x/	IDENT [x]	*X	MAX
a. ☞∅			*
b. x		*!	
c. y	*!		

The constraint *X in (7), which might be based on a scale $y \succ x$, is satisfied equally well by either *y* or ∅, but IDENT[x] prevents *x*’s mapping to *y*. The only option under this ranking is for *x* to map to ∅. This is an economy effect: in this particular grammar, ∅ is preferred to *x*. In a grammar with a different ranking, say, {MAX, *X} >> IDENT[x], *x* would map to *y*, and no economy effect would be observed. Thus, the same markedness constraint produces an economy effect in one language but a featural change in another. Depending on the nature of *X and its interaction with other constraints, still other effects may be possible that may not involve unfaithfulness at all.

In a case like (7), it is the ranking that favors ∅ over *y*—not a constraint. This sort of effect is characteristic of Optimality Theory: results come from constraint interaction rather than from adding new constraints to the constraint set.

1.3 Economy effects

1.3.1 Introduction: kinds of economy effects

The basic recipe for economy effects outlined in §1.2.3 is simple, but constraint interaction in OT can be complex. I argue that constraint interaction provides all the complexity that is required to explain a wide range of economy effects.

The term "economy" traditionally refers to the preference for smaller structures and shorter derivations (Chomsky 1989, 1995). Economy effects in phonology result when the hierarchical structure imposed on the output is minimal, or when structure that was present in the input is deleted in the output. An example of the first kind of economy effect is non-iterative foot parsing, where only one foot is built even though several are possible. An example of the second kind of economy effect is truncation, as in *psychology* → *psych*.

1.3.2 Economy effects and unfaithful mappings

Limited structure building effects involve competing structural analyses of the same segmental string—e.g., /patakata/ → $(pata_{Ft})ka.ta$ vs. $(pata_{Ft})(kata_{Ft})$. The competition between such alternative parses is decided by markedness constraints—see §2.3.2 for details and examples of such effects.

The central focus of the dissertation is on economy effects that involve unfaithful mappings. Deletion makes the output visibly shorter compared to the faithful parse. The need for an adequate analysis of such effects goes beyond a desire for a parsimonious theory where abstract structure is assigned only "where needed" (cf. Chomsky 1991, 1995 on the assignment of N' structure in syntax). Here, I discuss two kinds of economy effects that involve unfaithful mappings: prosodic morphology effects (McCarthy and Prince 1986, 1993b, 1999) and syncope (§1.4).

The theory of Prosodic Morphology (McCarthy and Prince 1986, 1993b, 1999) provides tools for the understanding of truncation in hypocoristics (e.g., *Edelbert* → *Bert*), child speech (e.g., *banana*→ *nana*), and maximal word effects. The common feature of all of these processes is that their output is a prosodic word that contains at least and at most a binary foot.[1] As McCarthy and Prince's (1994a) show in their analysis of reduplicant disyllabicity in Diyari, these "one-foot-per-word" effects result from the interaction of constraints on metrical foot parsing that penalize unfooted syllables, degenerate feet, and iterative footing; no special templatic constraints or economy principles are needed.

Another area where restricting size has been an issue is in cases where reduplication copies as little as possible of the base—a segment if possible, a syllable if necessary. Under the assumption that reduplication is copying of the base that is regulated by faithfulness constraints (McCarthy and Prince 1995), failure to copy all of the reduplicant can be seen as a kind of deletion—in other words, an economy effect. Minimal reduplication has sometimes been used as evidence of economy constraints (Feng 2003, Riggle 2003, Spaelti 1997, Walker 1998, 2000), but I suggest that there is an alternative to the economy analysis: paradigm uniformity. What limits the size of the reduplicative suffix is the requirement that the reduplicated form be as similar as possible

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[1] An interesting departure from this sort of pattern is found in Maori, where the word can contain some syllables in addition to the single foot but unfooted syllables are limited in number—see chapter 2 and de Lacy 2002b for a prosodic morphology analysis.

to the non-reduplicated base; the less is copied, the fewer violations of Output-Output faithfulness (Benua 1997) are incurred. I argue that the OO-faithfulness analysis has an advantage—it explains why size restrictions below the foot only hold of affixes but not of stems. This is not a prediction of the economy analysis—since anti-syllable economy constraints apply to all forms regardless of their paradigmatic status, we would expect to find some languages where even stems are limited to a single light syllable or even a single segment. Such languages are unattested.

Minimal copying in reduplication and "one-foot-per-word" effects are discussed in more detail in chapter 2 along with haplology, phonological word "wrapping," the harmony of the monosyllabic (H) foot, and others. The chief focus of chapters 3 and 4 is on the vowel deletion processes collectively known as syncope.

1.4 Metrical and differential syncope

1.4.1 Introduction

Syncope phenomena offer a particularly fertile ground for the study of economy effects, since examples are numerous and the interactions complex. An example of syncope from Hopi is given in (8). The syncopating vowels are underlined in the inputs:

(8) Some examples of syncope in Hopi (Hill et al. 1998, Jeanne 1978, 1982)

a.	/soma-ya/	sómya	'tie, pl.'	cf.	sóma	'tie, sg.'
b.	/tooka-ni/	tókni	'sleep, future'	cf.	toóka	'sleep, non-future'
c.	/navota-na/	na.vót.na	'inform, tell'	cf.	navóta	'to notice'

Such deletion shortens the output as compared with the faithful parse—cf. *tók.ni* and **too.ka.ni*. Correspondingly, it has frequently been attributed to economy rules and principles: deletion is assumed to apply wherever possible, but it is blocked by syllable structure constraints (Kisseberth 1970b), the OCP (McCarthy 1986), and so on.

The view advocated here is that a unified theory of syncope is impossible. The only thing all vowel deletion phenomena have in common is that a mapping has occurred that violates MAXV. There is no anti-vowel constraint *V (Hartkemeyer 2000) or anti-syllable constraint *STRUC(σ). There is also no demonstrable unity to vowel deletion processes; we might dub this "homogeneity of process/heterogeneity of target."[2] Thus, on the one hand, we find languages where syncope is one among several processes that achieve the same output target. Here, a single markedness constraint dominates several other constraints, MAXV among them:

(9) *Syncope is one among several processes*: M >> F_1>>MAXV>>F_2

On the other hand, we also find languages with a single syncope process that achieves several different output targets. Here, MAXV is dominated by several different markedness constraints.

(10) *Syncope achieves different goals*: {M_1, M_2, M_3}>>MAXV

In OT, this situation is not surprising or unexpected—it would indeed be surprising if syncope were a uniform process.

1.4.2 Metrical syncope

Chapter 3 examines a group of cases that might be collectively dubbed "metrical syncope," since they are analyzed as the interaction of metrical footing constraints with MAXV. All three languages that are analyzed in this chapter also have vowel shortening, which is an economy effect of sorts: its result is a reduction in the number of moras, compared to the faithful parse.

---

[2] This is the opposite of "homogeneity of target/heterogeneity of process," a term that McCarthy 2002b uses to refer to conspiracies (Kisseberth 1970a).

Hopi, Tonkawa, and Southeastern Tepehuan differ in several systematic ways. Tonkawa and Southeastern Tepehuan have iterative syncope, while in Hopi only one vowel per word is deleted. In Hopi and Southeastern Tepehuan, vowel deletion applies after long vowels, while in Tonkawa it does not. All of these differences receive a principled explanation under the hypothesis that syncope and shortening are ways to avoid marked metrical configurations: unfooted syllables, stressed light syllables, unstressed heavy syllables, and so on. Whether and where vowels delete depends on the ranking of the relevant metrical constraints in the language.

In the case of Hopi (see (8)), the output of syncope satisfies SWP, or the requirement for stressed syllables to be heavy[3] (cf. *sóm.ya* ~ **so.má.ya*, *na.vót.na* ~ **na.vó.ta.na*), but syncope applies even in cases where the faithful candidate would satisfy SWP, i.e., after long vowels. Syncope after long vowels minimizes the number of syllables outside the main stress foot. All three winners (11) have the same structure: a single iambic foot with a heavy head, (H) or (LH), followed by one light unfooted syllable, L:

---

[3] SWP, PARSE-σ, and NONFINALITY will be defined and provided with their harmonic scales in chapter 3.

(11) Hopi syncope, in brief

		SWP	Parse-σ	MaxV
/soma-ya/ LL-L	a. ☞ (sóm)ya (H) L		*	*
	b. (so.má)ya (LL)L	*!	*	
/tooka-ni/ HL-L	c. ☞(tók)ni (H)L		*	*
	d. (tóo)ka.ni (H)LL		**!	
/navota-na/ LLL-L	e. ☞(na.vót)na (L.H)L		*	*
	f. (na.vó)ta.na (LL)LL	*!	**	
	g. (náv)ta.na (H)LL		**!	*

The only reason Hopi has syncope rather than stressed syllable lengthening or post-stressed consonant gemination, as in many other iambic languages (see Hayes 1995 and chapter 3 for examples), is that MaxV is dominated by Dep. Likewise, Parse-σ is satisfied by deletion (of vowels) in Hopi but by the addition of structure (feet) in Tonkawa—the difference here is due to the ranking of Parse-σ with respect to constraints against iterative footing. (For detailed analyses, see chapter 3).

What these languages do not provide is evidence of syllable economy. Neither syllables nor vowels are in any way marked in these languages. Analyses in terms of economy constraints cannot explain exactly how syncope works without appealing to additional mechanisms. For example, in Hopi, the second vowel deletes in /LLL/ words but the third in /LLLL/ words. In the prosodic analysis, the asymmetry is explained by appealing to NonFinality: most iambic languages avoid final stress (Hung 1994), so the third vowel cannot be deleted in /LLL/ words. In a syllable economy analysis, this asymmetry is a mystery—why delete the third vowel in /navota-na/, yielding the trisyllabic output *na.vot.na*, when you can delete the second and the fourth vowels and get a disyllabic output, ***nav.tan*? Economy analyses of metrical syncope must appeal to prosodic constraints to function, but prosodic analyses do not require economy constraints.

In chapter 3 I also show that economy constraints are not only unnecessary but also harmful: their very presence in the grammar predicts unattested patterns. No metrical constraint distinguishes between the iambic feet (H) and (LH)—they are equally well-formed, all other things equal. Yet in terms of economy, (H) is better—it contains only one syllable, compared to (LH)'s two. The prediction of a theory that has syllable economy is that some languages should map /LH/ to (H), as in /pataa.../ → (pát)..., not *(pa.táa)... This sort of pattern is unattested, and it can only be ruled out if economy constraints are excluded from CON.

1.4.3 Differential syncope

Chapter 4 addresses differential syncope patterns, where only a subset of a language's vowel inventory syncopates. Differential syncope is just like metrical syncope in being not one process but many. Some languages delete only vowels of low sonority, e.g., *ə* (Lillooet) or *i* (various dialects of Arabic), whereas other languages delete only vowels of high sonority, e.g., *a* (Lushootseed). An example of differential syncope of *i* from Lebanese Arabic is given in (12).

(12) Lebanese Arabic differential syncope (Haddad 1984)

a. High vowel syncope

/nizi̲l-it/	níz.lit	‘she descended’	cf. nízil
/ni̲zil-t/	nzílt	‘I descended’	

b. No syncope of /a/ in the same environment

/saħab-it/	sá.ħa.bit	‘she withdrew (tr.)’	*sáħ.bit
/xazaʔ-t/	xazáʔt	‘I tore’	*xzáʔt

Low- and high-sonority differential syncope do not exactly mirror each other. We find that *ə* and *i* often delete in a wide range of environments, their appearance largely controlled only by phonotactic constraints (as in Lillooet and Mekkan Arabic) or by high-ranking metrical constraints (as in Lebanese Arabic). Conversely, vowels like *a* only delete in specific environments; thus, in Lushootseed, *a* deletes only in environments where it must be unstressed (Urbanczyk 1996). This asymmetry follows under the view that not everything is marked. Consider the following constraint hierarchies and harmonic scales, formulated under Lenient Constraint Alignment:

(13) Constraints on the sonority of syllable nuclei (Prince and Smolensky 1993)
*NUC/ə >> *NUC/i,u >> *NUC/e,o
Nucleus harmony scale: nuc/a ≻ nuc/e,o ≻ nuc/u,i ≻nuc/ə
There is no constraint *NUC/a

(14) Constraints on the sonority of vowels in strong branches of feet
*PK$_{\text{FT}}$/ə >> *PK$_{\text{FT}}$/i,u >> *PK$_{\text{FT}}$/e,o (cf. de Lacy 2002a, Kenstowicz 1996b)
Foot Head (peak) scale: Peak$_{\text{Ft}}$/a ≻ Peak$_{\text{Ft}}$/e,o ≻ Peak$_{\text{Ft}}$/u,i ≻ Peak$_{\text{Ft}}$/ə
There is no constraint *PK$_{\text{FT}}$/a

(15) Constraints on the sonority vowels in weak branches of feet
*MAR$_{\text{FT}}$/a >> *MAR$_{\text{FT}}$/e,o>>*MAR$_{\text{FT}}$/i,u (cf. de Lacy 2002a, Kenstowicz 1996b)
FtNonHead (margin) scale: Mar$_{\text{Ft}}$/ə ≻Mar$_{\text{Ft}}$/u,i ≻ Mar$_{\text{Ft}}$/e,o≻ Mar$_{\text{Ft}}$/a
There is no constraint *MAR$_{\text{FT}}$/ə

Since these hierarchies are formulated leniently, not one of them penalizes the entire range of vowels. The constraints in the hierarchy (13) ban a wide range of syllable nuclei, but they do not ban *a*. The highest-ranked constraint in (15) bans *a*, but only in the margin of a foot—i.e., in unstressed position. In chapter 4, I show that even if all of the constraints in (13)-(15) were high-ranked in a language, they still could not "gang up" and duplicate the effects of a general constraint against vowels, *V (Hartkemeyer 2000), or the effects of the economy constraint against syllables, *STRUC(σ) (Zoll 1993, 1996).

All of the constraints in (13)-(15) have motivation outside of syncope. The hierarchies in (14) and (15) have received a lot of attention recently—they are involved in the assignment of sonority-driven stress (de Lacy 2002a, Kenstowicz 1996b) and vowel reduction (Crosswhite 1999a), which are not economy effects at all. Likewise, the nucleus sonority hierarchy in (13) determines the course of syllabification (Dell and Elmedlaoui 1985, Prince and Smolensky 1993) and has been argued to determine the quality of epenthetic vowels in languages that epenthesize *a* (de Lacy 2002a).

Some of these effects coexist with syncope in the phonologies of the languages considered in chapter 4. Thus, Mekkan Arabic not only syncopates *i* but also epenthesizes *a*, showing that *i* is doubly marked: it deletes and it is not epenthesized. In Lushootseed, syncope of unstressable *a* is really just a minor aspect of the larger sonority-sensitive stress system: stress also retracts from *ə* to fuller vowels, *ə́* is replaced with a full vowel in stressed reduplicants, and unstressed *a* reduces to *ə* wherever deletion is not permitted. The same markedness constraints are involved in all of these patterns—economy effects are in no way special.

Chapter 4 also addresses the issue of vowels whose distribution is predictable from phonotactics, which I call "cheap vowels." An example of this is the distribution of schwa in Lillooet. In this language, every word must contain at least one vowel, and tautosyllabic clusters of sonorants are prohibited, as are sonority sequencing violations. Schwa surfaces only when its presence is required by these constraints:

(16) Lillooet schwa (van Eijk 1997)

a.	təq	‘to touch’	cf.	tq-alk’əm	‘to drive, steer’
b.	x̌ʷəm	‘fast’	cf.	x̌ʷm-akaʔ	‘to do smt. fast’
c.	s-nəm-nəm	‘blind’	cf.	nəm’ə-nm-’əp	‘going blind’

In OT, inputs are assumed to be unrestricted—this is known as Richness of the Base (Prince and Smolensky 1993). Cheap vowels cannot simply be banned from the input and inserted “where needed,” as they often are in rule-based analyses (Bobaljik 1997, Brainard 1994, and others). The grammar of Lillooet must work whether the input contains too many schwas or too few. If the input contains too many schwas, then they must be deleted, and if it contains too few, they must be inserted. Thus, schwas are both the most marked and the least marked vowels in the language: they must be marked to delete, and they must be unmarked to be epenthesized. The analysis I propose takes this duality of schwa to heart: I claim that it is the most marked *syllable nucleus* but the least marked *epenthetic vowel*. To this effect, I propose a hierarchy of constraints that ban epenthetic segments with too much prominence. According to these constraints, highly sonorant vowels must be recoverable (cf. Alderete 1999, Steriade 1995):

(17) REC/a>>REC/e,o>>REC/i,u

> RECOVER/x: “A syllable nucleus with the prominence *x* must have a correspondent in the input.”

The interaction of these constraints with the *NUC/x hierarchy in (13) can produce a pattern where the vowels of lowest sonority (e.g., *ə* and *ɨ*) have the “cheap vowel” distribution, but this interaction cannot produce a pattern where only *a* is a cheap vowel.

This, too, turns out to be an area where the lenient theory differs from the "everything-is-marked" theory: I show that once economy theory is enriched enough to deal with rich outputs, it can produce a grammar where only *a* syncopates and is inserted and other unattested patterns.

1.5 Economy principles

The argument against economy principles and constraints is two-pronged. On the one hand, economy effects follow straightforwardly from the interaction of independently motivated constraints, as long as these constraints are properly understood. This makes economy principles superfluous—they do not contribute anything to the understanding of economy effects and should be excluded from the theory by Ockham's Razor. On the other hand, economy constraints are dangerous in OT: their very presence in the grammar predicts unattested patterns that independently motivated constraints cannot produce. This requires that they be excluded from the theory.

In the Lenient model of CON, economy constraints are excluded as a matter of principle. On the one hand, they cannot be based on any harmonic scale that satisfies the NOZERO principle, since they almost by definition imply that ∅ is more well-formed than any other structure. For example, *STRUC(σ) really expresses the harmonic relationship $\varnothing \succ \sigma$, but this is not a possible harmonic scale in the theory. On the other hand, since no constraint can ban the least marked member of the harmonic scale, I show that another class of economy constraints is also excluded from CON: nihilistic constraints against highly sonorant nuclei, voiceless obstruents, oral vowels, and other unmarked things (cf. Clements 1997).

Yet another class of constraints whose membership in CON is put into question is gradient alignment constraints. While gradient alignment constraints are not, strictly speaking, *STRUC constraints, they have certain properties of economy constraints—for one thing, they can “count” syllables, feet, moras, and so on. Their ability to count necessitates harmonic scales of infinite length, which are an impossibility in a finite CON.

1.6 Outline of the thesis

The thesis is organized as follows. Chapter 2 presents the theory of CON and shows how several kinds of economy effects follow from the interaction of leniently formulated constraints. *STRUC constraints receive a formal definition under this theory and are excluded as a matter of principle.

Chapter 3 contains detailed analyses of Hopi, Tonkawa, and Southeastern Tepehuan and discusses some aspects of the theory of metrical parsing that is assumed in these analyses.

Chapter 4 contains case studies of Lillooet, Lebanese Arabic, Mekkan Arabic, and Lushootseed. In addition to discussing differential constraint hierarchies, the chapter contains a proposal for epenthetic vowel quality. The differences in the typological predictions of the present theory and “everything-is-marked” theories are discussed at length.