Labiality lurks, palatality glides: Asymmetries in harmony

Filiz Mutlu, McGill University, filiz.mutlu@mail.mcgill.ca

Palatality spreads more freely than labiality in vowel harmony (cf. Kramer 2003 and works cited therein) and glide formation. Existing theories of phonological representation do not predict this asymmetry (among others). To address this issue, I offer a theory based on the principle of *asymmetry,* (cf. Di Sciullo 2005, Dresher and van der Hulst 1998, Kayne 1994).

Data: *Harmony:* Palatal harmony can occur as the sole type of harmony, e.g.: Finnish (Suomi et al. 2008), while labial harmony occurs with another type of harmony or is restricted in its targets and triggers (cf. Kaun 1995, Korn 1969). Turkish and Khalkha Mongolian are two examples of both co-occurrence with another type of harmony (palatal and ATR respectively), and height restriction in triggers/targets.

(1) Turkish palatal and labial harmony

root	**gloss**	**ACC**	**root+DAT**
el	'hand'	eli	ele
bal	'honey'	balɯ	bala
il	'town'	ili	ile
kɯr	'meadow'	kɯrɯ	kɯra
kol	'arm'	kolu	kola
gøl	'lake'	gøly	gøle
gyl	'rose'	gyly	gyle

(2) Khalkha Mongolian lab. harmony (Svantesson et al. 2005)

it-ɮe	'eat+PAST'
uts-ɮe	'see+PAST'
xeeɮ-ɮe	'decorate+PAST
og-ɮo	'give+PAST'
ʊʊrʃ-ɮa	'evaporate+PAST'
saat^{h}-ɮa	'be delayed+PAST'
ɔr-ɮɔ	'enter+PAST'

In Turkish (1), palatal harmony applies to both high (ACC) and non-high (DAT) vowels, but labial harmony applies only to high vowels, e.g.: **gølø* (DAT). In Khalkha Mongolian (2), labial harmony targets non-high PAST iff the trigger is also non-high.

Gliding: A previously unstudied Iranian language, Sauzini, has definite {-a} and indefinite {-i} appear with a glide after a vowel-final root (3). The glide acquires labiality from the root vowel **unless** the suffix has palatality (DEF). That is, palatality **wins** even when labiality could spread.

(3) Sauzini glide formation

root	**gloss**	**DEF.**	**INDEF.**
za:ru	'child'	za:ru(w)a	za:ru**(j)i**
dʒydʒu	'bird'	dʒydʒu(w)a	dʒydʒu**(j)i**
dev	'giant'	de:va	de:vi

(4) Turkish mid-vowel lowering

root	**gloss**	**PASS**
vɛr	'give'	veril
sor	'ask'	sorul
gør/gœr	'see'	gøryl

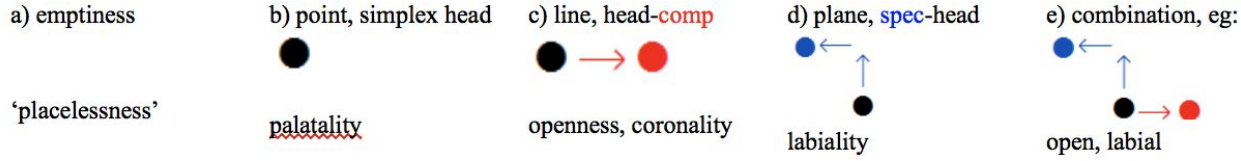
Triggering: Palatality not only spreads, but also triggers other processes. In Turkish closed syllables, [e]→[ɛ] before [r] without exception (Taylan 2015), but not [o]→[ɔ] (4). For some speakers, [ø]→[œ] (Gopal & Nichols 2016). Similarly, Norwegian has [æ] but not [e] before [ɾ] in closed syllables, eg.: *stjær* 'steal' (Kristoffersen 2000). I take non-high vowels to be coronal, following Broadbent (1993). Furthermore, coronality has degrees (cf. Pöchtrager 2015). That is, coronal vowels acquire more coronality from [r] only in the presence of palatality. Labiality does not trigger spreading. In fact, its presence restricts spreading to a subset of speakers.

Complexity and strength: In order to introduce the theory and the analysis, I must briefly look at consonantal place. I assume **phonotactic strength** is the crucial piece of evidence for phonological behaviour, and that **consonant cluster phonotactics** is the crucial piece of

evidence for phonotactic strength (cf. Vennemann 1972, for example). I will use Government Phonology terminology to refer to strength relations. In brief, coronality is stronger than labiality and dorsality since it occupies the *governing* position in same-manner clusters, e.g.: Norwegian *na[mn]* 'name', *va[ŋn]* 'wagon'. The relative strength of labiality vs. dorsality become apparent when a *governor* has two *governees*, or has a weaker manner (fricative, not plosive). English has *spring, split*, *screen* but not *[skl] except in a few medical terms, e.g.: *sclerosis*. When [k] governs both [s] and a liquid, it is strong enough to govern the weaker liquid [r] but NOT the stronger [l]. ([l] governs [r] but not nice versa, e.g.: *earl* but not *[lr].) Also, among fricatives, [fl]ug survives while [xl] has been simplified to [l] in German (Robinson 2001). To my knowledge, there is no similar evidence of palatality contributing to strength.

Hypothesis: Language, including phonology, is an asymmetrical way of creating relations. Apart from emptiness (5a), the simplest object in the system is zero dimensional (a point), the ***head*** (5b). The closest possible point to the head, its *comp(lement),* is removed from it along one dimension (a line) (5c). The next closest point to the head, its *spec(ifier),* is removed along two dimensions (a plane) (5d). By the asymmetry principle, no two points in a relation can be of equal strength. Strength spirals out from the **head,** decreasing as the distance of the dependent increases. The strong dependency of head-comp in syntax means that comp incorporates, creates idioms, etc. but spec does not. (5) represents the *argument structure* of verbs in syntax, the structure of compounds (Di Sciullo 2005) and place and manner properties in phonology. The distinction compound/morphology vs phrase/syntax map to place vs manner properties respectively. The strongest dependency maps to coronality (strongest) (5c), the weaker one to labiality (weaker) (5d) and a simplex head is the non-strength-relevant palatality (5b).

(5) Building up complexity in the system



Analysis: Since *system* implies *interrelation*, and palatality does not involve a dependency relation (5b), it is mostly likely to create other kinds of relations. Palatality can do so in two ways: **i.** It can spread, so it has a relation to its own copies. That is, there is a direct link between being simplex and being driven to spread. This is why palatality harmony is both common, and free in its targets and triggers (1, 2). **ii.** It can trigger another property to spread as in coronal vowels acquiring more coronality from [r] (4). In contrast, labiality already involves a (weak) dependency relation, so it is not driven like palatality to create other relations. Therefore, it is less likely to spread than palatality and restricted in triggers/targets (3). For the same reason, it is not a trigger for coronality spreading in (4).

Further predictions: i. In Element Theory terms, (5) derives the *elements* I A U from a principle. **ii.** Increasing complexity derives the *apophonic path* ∅ I A U (Guerssell & Lowenstamm 1996), posited for vowel alternations in Classic Arabic then applied to Beja, German, Spanish, Nepali, etc. (Rieder & Schenner 2001 and works cited therein).