Phonology and conventionalization: Naturalness and beyond in German(ic) sonorants

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Abstract. In Natural Linguistics a major concern regards conventionalization as opposed to the roll-out of naturalness. In this short homage, I will discuss these issues with the focus on the unstable status of sonorants, discussing a couple of examples coming from Modern Standard German and from Titsch, a Walser German variety spoken in a linguistic island in Aosta Valley.

Keywords. Natural Linguistics, conventionalization, sonorants, Modern Standard German, Walser German

1. Introduction

In Natural Linguistics (= NL) a major concern regards conventionalization — and which forces lead to it — as opposed to the straightforward offspring of the functionally founded teleology that is intrinsically rooted within a given component of the language faculty. Depending on the amount of information which has to be acquired, the roll-out of — functionally founded — natural behavior can be disentangled. For instance, a natural process of bleaching (see Donegan 1978: 83) is restricted by the acquisition of pairs of German nouns like *Tochter* / *Töchter* 'daughter(s)', *Mutter* / *Mütter* 'mother(s)', *Sohn* / *Söhne* 'son(s)', *Buch* / *Bücher* 'book(s)', etc. which can be generalized to a morpho(phono)logical — and therefore conventionalized, symbolic — process of plural formation (cf. Donegan & Stampe 2009: 9) involving [± back] feature opposition across the verb root vowels (see further *Vater* / *Väter* 'father(s)', *Nagel* / *Nägel* 'nail(s)', *Gast* / *Gäste* 'guest(s)', etc.).

Given the ubiquity of conventionalization – resulting from the systematic interaction with the symbolic dimension of linguistic signs

as well as from their routinization in chunks – it is perhaps chimeric to come up with a clear-cut picture of the extension of natural processes which are active within a single language. This is especially true for Natural Phonology, while in other components - where the symbolic aspects are more central – at least well-tailored specific subdomains have been investigated within single languages (for instance, from the perspective of Natural Morphology see Kilani-Schoch & Dressler 2005 on French verb inflection and Gaeta 2002 on Italian action nouns). As a matter of fact, only few investigations have been devoted to providing a thorough picture of a phonological system of a natural language (but see in this regard Tonelli 1984 on Italian and German varieties spoken in Bolzano and Dressler & Siptár 1989 on Hungarian). It has even been argued that providing such a languagespecific systemic picture lies beyond the reach of a universal theory like NL as a whole. For instance, with regard to Natural Morphology Spencer (1991: 127) has pointed out:

[The] aim is to provide a theory of languages rather than a theory of grammars. In this respect; the theory should perhaps be thought of as a theory of what Chomsky (1986) has called 'Elanguage', rather than 'I-language' [...] As such [t]his approach is very different in motivation from those deriving from the SPE tradition of generative grammar [...] Moreover, [it] make[s] considerable appeal to 'external evidence' in the form of child language data, psycholinguistic experiments and data from language pathology, suggesting the search for a 'psychologically real' characterization of the morphological system. However, the kind of psychological reality which is at stake is very different from that which is central to the philosophy of generative grammar.

However, one might argue in a parallel, but opposite way that a framework that is able to provide language-specific pictures focusing in this way on the I-language like generative grammar runs the risk of remaining imprisoned by its own representation unless it makes the effort of clearly disentangling the conventionalized aspects rooted within linguistic signs. In this connection, Bernie Hurch has argued in several contributions that this is in fact the case of a considerable amount of modern phonological literature coming from the SPE tradition, especially on topics such as aspiration (1988), word stress and prosody (1996), prosodic morphology and long-distance segment

interactions (1991). In this light, the insistence on using external evidence to capture the speakers' 'real' – i.e. measurable and reifiable – behavior declares the general philosophy shared by those scholars who feel to be part of the NL enterprise beyond any subjective difference on specific issues (see for instance Hurch & Nathan 1996 vs. Dressler 2009).

In this short homage, I will focus on the unstable status of sonorants, also discussing a couple of examples coming from my recent field work on Titsch, a Walser German variety spoken in a linguistic island in Aosta Valley. My hope is that this will be particularly appreciated by Bernie because of his utter preference for a linguistics of languages and not of linguists!

2. The uncertain status of sonorants

Sonorant consonants are notoriously unstable sounds in particular with regard to the issue of syllabification (Hock 2021: 149). This has led to a plenty of interpretations especially in connection with adjacent "light" vowels like schwa focusing on the one hand on their ability of constituting the syllable nucleus, and on the other on the special deletion effect often observed in a neighboring schwa in unstressed syllables. As for the latter aspect, it has been suggested to treat schwa vowels as default segments post-lexically inserted for the sake of syllabification in the following Modern Standard German (= MSG) examples (see Hall 2020: 18):

(1) a. Atem 'breath' ['ʔa:tm̩] / ['ʔa:təm]

Himmel 'sky' ['hɪml̩] / ['hɪməl]

b. Atmung 'respiration' ['ʔa:tmʊn̩] / *['ʔa:təmʊn̩]

himmlisch 'celestial'

According to this view, the straightforward underlying representation for the lexical entries in (1a) is held to be respectively /atm/ and /hɪml/. This representation is able to capture both the respective base forms and the corresponding suffixations in (1b) where no schwa is inserted nor the sonorants are syllabic. It must be added that syllabic sonorants in (1a) represent the normal realization of these lexical entries while the variants with schwa insertion are felt to be hyper-characterized pronunciations which are close to the respective written forms (see also Eisenberg 2020: 102 on this point).

['hɪmlɪʃ] / *['hɪmlɪʃ] / *['hɪməlɪʃ]

It must be emphasized that no schwa is inserted nor the sonorant is assigned a syllabic nucleus in the suffixed derivatives in (1b), i.e. when no strict requirement of syllabification is observed in contrast to the base forms /atm/ and /hɪml/. Actually, the syllabicity of the sonorant is blocked in the derivatives by the general syllabic profile of the word, because it would give rise to a final syllable without onset: see respectively *['ʔa:.tm.ʊn] and *['hɪmll.ɪʃ].¹ Besides being generally dispreferred, the assumption of onset-less syllables clashes against the general requirement of glottal stop insertion in an empty onset in MSG, as shown for instance by the initial syllable of ['ʔa:.tm]. This is utterly impossible for *['ʔa:.tm.ʔʊn] and *['hɪmll.ʔɪʃ] while it is normally allowed in cases like minoisch 'Minoan' [mi'no:.ʔɪʃ] or Jenaer 'from Jena' ['je:.ˌna.ʔəʀ] where the glottal stop is introduced before the suffix -er.

On the other hand, the second theoretical option, i.e. the schwa insertion as in *['?a:.tə.mʊŋ] and *['hɪmə.lɪʃ], is perfectly possible and in fact required by a representation containing an underlying schwa as in respectively /atəm/ and /hɪməl/. According to this view, the absence of schwa in the derived forms has to be justified by means of a deletion rule, which is however only found in the presence of the suffix -isch: see for these cases Bibel 'bible' \rightarrow biblisch / *bibelisch 'biblical', Teufel 'devil' \rightarrow teuflisch / *teufelisch 'diabolic'.

In contrast to this, in derivatives formed with other suffixes like -ig pairs with and without schwa deletion are found like $Atem \rightarrow (kurz)atmig$ 'short-winded' / *(kurz)atemig vs. Gabel 'fork' \rightarrow gabelig/*gablig. On the whole, in the most frequent cases where a final nonnasal sonorant is involved – see respectively the lateral in (2a) and the vibrant in (2b) – swinging pairs are normally found (a similar picture is provided by derivatives formed with the suffix -ung):

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(2) a. Knorpel 'gristle' \longrightarrow knorpelig / knorplig

Nebel 'fog' \longrightarrow nebelig / neblig

Schwefel 'sulfur' \longrightarrow schwefelig / schweflig

Schimmel 'mildew' \longrightarrow schimmelig / schimmlig

Trottel 'gawk' \longrightarrow trottelig / trottlig
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Following a widespread usage, in the IPA transcriptions dots indicate syllable boundaries; in particular, a dot above a nasal indicate that the latter is ambisyllabic.

Schwindel 'dizziness' → schwindelig / schwindlig Wurzel 'root' → wurzelig / wurzlig Muschel 'shell' → muschelig / muschlig Fussel lint' \rightarrow fusselig / fusslig Ekel 'disgust' \rightarrow *ekelig* / *eklig* Hügel 'hill' → hügelig / hüglig Stachel 'spike' → stachelig / stachlig holpern 'to bump' → holperig / holprig b. Fieber 'fever' \rightarrow *fieberig* / *fiebrig* Pfeffer 'pepper' → pfefferig / pfeffrig Pulver 'powder' → pulverig / pulvrig → dämmerig / dämmrig Dämmer 'dusk' Eiter 'pus' \rightarrow eiterig / eitrig Ader 'vein' \rightarrow aderig / adrig Faser 'fiber' \rightarrow faserig / fasrig Wasser 'water' → wässerig / wässrig Knicker 'skinflint' → knickerig / knickrig Loch 'hole' → löcherig / löchrig

Thus, the empirical evidence seems to point towards a morphophonemic alternation where several morphological factors interact with the occurrence or the absence of a schwa vowel. First, the type of suffix distinguishes between a categorial application of the deletion rule and cases where deletion can occur or not. Thus, the few derivatives with -isch implicated in a sequence schwa plus sonorant always display deletion – or never insertion – while the large amount of derivatives with -ig displays a mixed behavior. Notice that schwa deletion in the presence of -isch is also testified by a few cases involving the other sonorants, which are even more conventionalized like Bauer 'peasant'→ bäurisch 'boorish, countrified' (an older form bäuerisch is however attested) and Heide 'pagan' → heidnisch 'pagan (adj.)'. Second, and more importantly, cases in which deletion is an option show that schwa insertion cannot be used as a phonologicallydriven strategy for easing syllabification while the spread of deletion actually reduces the morphological transparency, the so-called diagrammaticity, of complex words. In other words, it is straightforward to conceive *hüglig* as resulting from a schwa deletion rather than vice versa to derive *hügelig* as resulting from schwa insertion from an underlying form /hügl+ig/. Similar observations regard the phonomorphological conventionalized haplology found in *Orden* 'order' → ordnen / *ordenen 'to order', Regen 'rain' → regnen / *regenen 'to rain'

(cf. Dressler 1977, but see Eisen 'iron' \rightarrow enteisenen / *enteisnen 'to deiron') and result from a general reductive process of schwa deletion which typically characterizes allegro speech varieties (cf. Kohler & Rodgers 2001). The allegro forms are largely exploited for textual purposes, as shown by (conventionalized) schwa deletions found in poems: see in this regard a line from Goethe's famous Ballade "Der König in Thule": Dem sterbend seine Buhle einen gold'nen Becher gab 'To whom, dying, his lover gave a golden cup'. On the other hand, the few cases in (1) for which an analysis has been suggested in terms of a schwa-insertion post-lexically required by syllabification are better treated as largely conventionalized alternations. Finally, the pairs shown in (2) display relevant differences in terms of preference of one form over the other: for instance, eklig is deemed as more common than ekelig, while the opposite is true for knorpelig vs. knorplig. Clearly, several factors are likely to play a role in these cases in order to decide for one form over the other, and in particular word frequency, the frequency of the derivative with regard to its base, the seize of the derivational family, and the like. This is a concrete example of how conventionalization arises and gets established at the level of the linguistic norm within a speakers' community. The detailed investigation of these factors, however, is a desideratum for future research.

3. Sonorants in Titsch

Let us move on to Titsch, a peculiar variety of Walser German belonging to the Highest Alemannic branch of West Upper German, which is spoken in the linguistic island of Gressoney in Northern Italy (see Gaeta et al. 2022 for a general picture). In Titsch, sonorants are implicated in a partially more complex picture. As a premise it is noteworthy to observe that – in contrast to MSG – Titsch final vowels are unreduced and signal in this way relevant morphological distinctions relating for instance to different classes of nominal plural:²

² Note that in Titsch orthography the signs <é> and <ò> stand for the vowels [ɪ] and [ʊ], while <ŝch> stands for [ʒ] and <sch> as well as a pre-consonantal <s> for [ʃ]. The other signs reflect their actual realization, for instance *stei* 'stone', *acher* 'field' and *brueder* 'brother' are realized as [ʃtei̯], [ˈaxer] and [ˈbrueder].

(3)	<i>bréf</i> 'letter'	bréfa
	grenz 'border'	grenze
	entò 'duck'	ente
	déng 'thing'	déngé
	<i>deché</i> 'blanket'	dechene
	ros 'horse'	rosser

In nouns ending with a sonorant, and especially liquids, the addition of the plural marker gives normally rise to the deletion of the vowel preceding the sonorant, independently of the vocalic suffix which can be -a, -e or $-\acute{e}$ (4a), although a few exceptions occur where no deletion takes place (4b):

(4)	a.	acher 'field'	achra
• •		brueder 'brother'	bruedra
		stadel 'blockhouse'	stadla
		techter 'daughter'	techtre
		regel 'rule'	regle
		koffer 'suitcase'	koffré
		kapitel 'chapter'	kapitlé
	b.	bättler 'beggar'	bättlera
		dokter 'doctor'	doktera
		<i>féler</i> 'mistake'	félera
		hendler 'dealer'	hendlera
		kanisner 'catechism'	kanisnera
		kerper 'body'	kerpera
		kutschner 'coachman'	kutschnera
		moaler 'painter'	moalera

In the light of the analysis suggested for the MSG cases discussed in (1) above, one might be tempted to interpret the reduced forms in (4a) in terms of the reassignment of the syllabic nucleus from the sonorant to the subsequent plural vowel. In this view, the unstressed vowel in the singular of stadel expresses the syllabicity of the sonorant, or – in a more abstract analysis – is inserted in order to license the syllabification: $/\int tadl/ \rightarrow ['\int ta.del]$. Besides the exceptions seen in (4b) above, which can be partially motivated by the possible rise of illegal consonant clusters: $*b\ddot{a}ttlra$, *hendlra, *kanisnra, *kerpra, *kutschnra, but see possible forms like °doktra (cf. doktro 'to medicate', elektresch 'electric') and $°f\'{e}lra$, °moalra (cf. taler 'thaler' / talra, weler 'elector' /

welra), this process is further obscured by three additional phenomena, which speak in favor of a general conventionalization of these alternations.

First, a similar vowel deletion is found when the vowel is not middle, but the low /a/:

(5)	amsal 'blackbird' éngodal 'chattel' handal 'deal'	amsla éngodla handla
	<i>hòbal '</i> jack plane'	hòbla
	jagal 'herd'	jagla
	mantal 'coat'	mantla
	modal 'model'	modla
	nagal 'nail'	nagla
	sattal 'saddle'	sattla
	spégal 'mirror'	spégla
	staffal 'rung'	staffla
	stéfal 'boot'	stéfla
	vogal 'bird'	vogla
	fòssal 'marsh'	fòssla or fòssle
	sädal 'perch'	sädla or sädle
	tròssal 'dowry'	trosslé

One might assume two different processes of vowel epenthesis, which are decided on a lexical basis. Accordingly, the lexical set in (4a) selects [e] in contrast to the lexical set in (5) which opts for [a], see respectively /ʃtadl/ $\rightarrow_{e\text{-Ep}}$ [ˈʃta.del] vs. /ʃtɪfl/ $\rightarrow_{a\text{-Ep}}$ [ˈʃtɪ.fal] (with few swinging forms like fòssla / fòssle, sädla / sädle, etc.). But this account would basically be equivalent to assume an opposition in terms of two different underlying strings /ˈʃtadel/ vs. /ˈʃtɪfal/. It has to be added that in few cases a further unstressed vowel is found like in tifòl 'devil' / tifla, which clearly requires a full lexical specification: /ˈtifol/.

Second, the plural suffix -a forces the deletion of a stem-final lateral when preceded by /I:

(6)	<i>bébél</i> 'bible'	bébia
	<i>còrtél</i> 'kitchen garden'	còrtia
	<i>effél</i> 'apple'	effia
	<i>héerfél</i> 'potato'	héerfia
	eŝchél 'donkey'	eŝchia
	<i>leffél</i> 'spoon'	leffia
	ségél 'seal'	ségia

schlegél 'stick' schlegia zedél 'slip of paper' zedia

This alternation has been generalized beyond the original context to a few nouns ending with -el or -al as shown by zérkel 'compass' / zérkia, gòntal 'wedge' / gòntia or gòntla, gréschal 'kerosene lamp' / gréschia or gréschla. Since the sequence [ɪla] is not illegal in itself and in fact is normally found in words like bélanz 'balance' or stéla 'handles', one might instead tentatively assume that a new marker or allomorph -ia has been created – by the weakening and palatalization of /l/ after /ɪ/: ['effīla] > ['effīja] - which sporadically replaces noun stems ending by /l/. That this morphological solution is on the right track is shown by the complementary case where the opaque allomorph -ia is sporadically replaced by the more transparent (or diagrammatic) form preserving the final /l/, as in engél 'angel' / engia or engla.

A third phenomenon which contributes to the conventionalization of the alternations involving sonorants relates to the systematic loss of the final nasal as shown by the following sets of words, in which the nasal only appears in the plural form displaying respectively a coronal and a bilabial nasal:

(7) ³	a.	balke 'balk' bei 'leg' goarte 'garden' ofe 'oven' reime 'strap' stei 'stone'	balkn-a bein-a goartn-a ofn-a reimn-a stein-a
	b.	bode 'floor' fade 'thread' gade 'stable' woase 'sod'	bodm-a fadm-a gadm-a woasm-a

Clearly, in this case a historical process of final nasal deletion has taken place, independently of whether the nasal is preceded by a nuclear vowel /e/ or not as in *balke* vs. *bei*. At any rate, the nasal shows up only when the plural suffix is added. Note that in the former case the addition of the plural vowel also triggers the deletion of the vowel /e/: *balkn-a*. Moreover, in MSG a final coronal nasal is also found in

³ MSG correspondents: Balken, Bein, Garten, Ofen, Riemen, Stein, Boden, Faden, Gaden, Wasen

the nouns in (4b), as shown in footnote 3, in contrast to Titsch where the bilabial nasal occurs. I will come back to this point below. In spite of the fact that only the allegedly epenthetic vowel /e/ seen in (4a) above is involved, this case is problematic for the analysis in terms of vowel insertion because it requires the nasal segment to be deleted in the singular after vowel insertion while it would be much simpler to drop the nasal before epenthesis. On the other hand, we have evidence that this might have been the case, at least in the past, before the alternation was completely conventionalized. In fact, a process of e-epenthesis has to be assumed which – besides the cases like /balkn/, /ofn/ and the like seen above – also affected sequences of sonorants like /hvrn/ and /dvarm/:

(8)	a.	hòre 'horn' chòre 'corn' dòre 'thorn' ahòre 'maple'	hòrn-é chòrn-é dòrn-a ahòrn-a
	b.	doare 'bowel' hale 'haulm' oare 'arm' woare 'worm'	doarm-a halm-a orm-a woarm-a

These words are accounted for with the help of a sequence of rules of *e*-epenthesis – due to the alleged syllabification of the group of sonorants: /hv.rn/, /dva.rm/ – and of final nasal deletion (see the MSG correspondents *Horn*, *Korn*, *Dorn*, *Ahorn*, *Darm*, *Halm*, *Arm*, *Wurm*):

(9) a. /hʊrn/
$$\rightarrow_{e-Ep}$$
 ['hʊren] \rightarrow_{n-Del} ['hʊre] ['hʊrnɪ]_{PL}

b. /dʊa̞rm/ \rightarrow_{e-Ep} ['dʊa̞rem] \rightarrow_{n-Del} ['dʊa̞re] ['dʊa̞rma]_{PL}

In spite of this straightforward account, however, the occurrence of the bilabial nasal found in (7b) above remains completely unaccounted and can merely be ascertained on a lexical basis. This is unsatisfactory in the light of their common origin in a coronal nasal, as shown by their MSG correspondents (footnote 3). In other words, while the account presented in (9) is fully adequate for the words in dependence of their etymological final nasal found respectively in (8a) and (8b) as shown by their respective plural forms ['horni] and ['doarma], it is unclear why the etymological coronal nasal was partly retained and partly changed into a bilabial, as shown by their respective plural

forms in (7a) ['ofna] and in (7b) ['bodma] / *['bodna]. To account for the correct outcomes, it has to be stipulated that the underlying form has changed from /bodn/ to /bodm/ for a not immediately clear reason.

One alternative analysis which starts from the conventionalized status of these morphophonemic alternations is of a morphological nature. In a manner similar to the -ia allomorph suggested above, we can reckon two different allomorphs here, respectively -na and -ma which compete in the same lexical domain. Note that the latter allomorph results from the reanalysis of an original final nasal which was dropped as shown in (9b) above. In other words, alternations like those found in (8) brought about an opacity which was reanalyzed in terms of Dressler's (1985) allomorphic-morphological variants. The nouns found in (7b) witness of this reanalysis via the extension of the allomorph -ma. In a similar way, the allomorph -na has been generalized to cases in which the singular did not etymologically end with nasal but happened to have a nasal plural like noame 'name' / noamn-e, chéschte 'basket' / chéschtn-a, schare 'swarm' / scharn-a, wélle 'scar' / wélln-a, etc. (see the MSG correspondents Name / Namen, Kiste / Kiste-n, Schar / Schar-en, Wille / Wille-n). At any rate, despite the extension of the allomorph -ma to the few nouns in (7b), its competitor -na is by far the prevailing variant, as shown by its extension to certain nouns where the nasal is not etymologically justified, as shown by tuech 'cloth, sheet' / tuechna 'blankets' besides tiecher 'clothes', gide 'mountain guide' (from French guide) / gidna, and in general to borrowings ending in a vowel like thé 'tea' / théna. Notice in this regard that according to Zürrer (1982: 79) nouns ending with /d/ should select the allomorph -ma. However, this is falsified by cases like gidna and by others like chnode 'ankle' / chnodna, made 'mowing' / madna besides madma, schade 'damage' / schadna, wade 'calf (anat.)' / wadna, etc., independently of the occurrence of an etymological final nasal (see MSG Schaden vs. Mahd, Wade), which show the preference of the allomorph -na over -ma, while -ia is restricted to the well-curtailed set of nouns ending with /ɪl/.

4. Conclusion

To sum up, we have discussed a couple of cases involving sonorants in German(ic) varieties in which phonological accounts couched within a generative framework are not really illuminating to the extent that the issue of conventionalization of the morphophonological

alternations is completely disregarded. As has been repeatedly objected against generative approaches (see Donegan & Stampe 1979: 144, Hurch 1991: 58, 1996: 75), the phonological account in (9) can at best capture only the diachronic development of the Titsch system. The degree of conventionalization of the alternations requires to have access to morphophonological or allomorphic-morphological representations in which phonological naturalness is largely lost. The same observations can be repeated for the MSG examples seen in chapter 3 above, for which schwa deletions reflect a natural process of reduction in allegro speech, which is however to a large extent conventionalized in the derivatives listed in (2) above.

As a final word, let me conclude by pointing out that one of the goals of linguistics as an empirical science is to come close to the concept of possible natural language. From this perspective, a possible theory of grammars as advocated by Spencer can only result from a large-scale theory of languages, but not vice versa. NL is an attempt to provide heuristic tools to carry out this enterprise. In this spirit, I send Bernie my best wishes for the future: *Ad multos annos*!

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