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WHY *Thomas* IS '*Tömu*' AND *Markus* '*Küsu*': AN OT ACCOUNT OF HYPOCORISTICS IN BERNESE SWISS GERMAN

Theres Grüter
McGill University

ABSTRACT

Based on previously undiscussed data from Bernese Swiss German, this paper presents an analysis of the formation of hypocoristics (nicknames) in terms of Correspondence Theory (McCarthy & Prince 1995). The Bernese data are compared to the much discussed pattern of *i*-formation in Standard German (Itô & Mester 1997, Féry 1997), from which they differ in two important ways: firstly, the Bernese hypocoristics have Umlaut; secondly, the choice of syllable from the full name retained in the hypocoristic is not consistently the leftmost. The Umlaut phenomenon is shown to be an effect of the underlying shape of the hypocoristic suffix. The choice of syllable, while initially appearing to be a more marked pattern, can be shown to arise from the satisfaction of position-sensitive markedness constraints, which rank highly in the Bernese output-output grammar. This account illustrates how under an OT analysis the seemingly arbitrary choice of syllable becomes a direct result of the competition between correspondence and markedness constraints, showing typical aspects of the Emergence of the Unmarked (McCarthy & Prince 1994a).

1 INTRODUCTION[1]

The formation of hypocoristics in various languages has been a recurrent topic in prosodic morphology and, more recently, in Optimality Theory. In this paper, I present data from a pattern of male hypocoristics in Bernese Swiss German, which — to my knowledge — has never before been analysed. As illustrated by the sample presented in (1), the pattern is highly productive and applies freely to Germanic (1a&b) as well as non-Germanic names (1c).[2,3]

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1 This paper would not have been written without Heather Goad's advice, encouragement and enthusiasm, for which I am extremely grateful. Many insights presented here are originally hers, while all errors are of course my own.

2 My data consists of information provided by 11 Bernese informants. They were given a list of male names and asked to indicate (i) all possible nicknames they could form, and (ii) in particular, whether it was possible to form a nickname ending in -u. A full list of all data obtained is included in appendix 1. I am grateful to Matthias Kipfer and Sandra Fontanelli for their assistance in collecting this data.

3 Unless otherwise indicated (´), stress is on the first syllable. I refer the reader to the appendix for orthographic conventions observed in the presentation of the Swiss German data.

(1)	a.	Hugo	→	Hügu
		Urs	→	Ürsu
		Franz	→	Fränzu
		Lukas	→	Lüku
		Roland	→	Rölu
		Gregor	→	Gregu
		Konrad	→	Könu
		Fabian	→	Fäbu
		Gabriel	→	Gäbu
	b.	Eugen	→	Genu
		Adolf	→	Dölfu
		August	→	Güstu
		Erich	→	Richu, Eru
		Oliver	→	Livu, Ölu
		Markus	→	Küsu, Märku
		Sebástian	→	Bästu, Sebu
		Alexander	→	Xändu
	c.	Karim	→	Käru
		Sandro	→	Sändu
		Raoul	→	Räulu
		Giuséppe	→	Tschüsu, Seppu
		Salvatóre	→	Sälvu
		Jean-Pierre	→	Schämpu

I will refer to this pattern as "Bernese *u*-formation", based on its similarity to a more frequently discussed case, namely that of (Standard) German "*i*-formation" (Féry 1997, Itô and Mester 1997), illustrated in (2).

(2)	a.	Susánne	→	Susi	b.	Studént	→	Studi
		Heinrich	→	Heini		Fùndamèntalíst	→	Fundi
		Oliver	→	Olli		Àlkohóliker	→	Alki
		Gabriéle	→	Gabi		Sòzialíst	→	Sozi
		Katharína	→	Kathi		Compúter	→	Compi

(examples from Féry 1997)

As can be observed on the basis of the limited data in (1) and (2) alone, Bernese *u*-formation displays both parallels and differences in comparison to Standard German *i*-formation, the most notable differences being the Umlaut on the Bernese hypocoristics as well as the choice of syllable from the full name which is retained in the truncation: whereas *i*-formation always truncates to the initial syllable, many Bernese hypocoristics retain syllables other than the first (cf. 1b). It is the aim of this paper to present an analysis — based on the Correspondence Theory of McCarthy and Prince (1995) — which is able to integrate both of these phenomena.

I will begin by discussing the prosodic markedness constraints required to derive the prosodic template for the truncations, the syllabic trochee. As this is the same for both Bernese *u*- and German *i*-formation, I will use Féry's (1997) analysis of *i*-formation as a point of departure. I will go on to show that the prosodic markedness constraints proposed by Féry are not sufficient to account for the full range of data, neither in German *i*- nor Bernese *u*-formation, and provide an alternative solution (2.1). I will proceed to discuss the constraints on consonant clusters in the truncated forms, both in onsets (2.2) and codas (2.3). Again, the data from *i*- and *u*-formation are identical in this respect, and Féry's analysis will serve as a starting point. I will show that *u*- (as well as *i*-) formation is amenable to a more parsimonious account than that proposed by Féry. In particular, NASAL — a constraint introduced by Féry (1997) — will be replaced by a set of established position-sensitive markedness constraints. In section 3, I will turn to the characteristics which distinguish Bernese *u*- from German *i*-formation, as mentioned above. I will demonstrate that Umlaut is the consequence of the underlying representation of the suffix (3.1), and that the variation in the choice of syllable can be derived from an accurate ranking of prosodic and position-sensitive markedness constraints with respect to Output-Output Faithfulness (3.2). I will conclude with a final ranking of markedness and faithfulness constraints which accounts for a great majority of the Bernese data presented here (3.3). While it is beyond the scope of this paper to present an exhaustive account of Bernese *u*-formation, I will try in the course of my discussion to point out the aspects which remain problematic under the present analysis and suggest — where possible — which directions future research might take.

2. GERMAN *i*- AND BERNESE *u*-FORMATION: THE PARALLELS

2.1 PROSODIC CONSTRAINTS

In both German *i*- and Bernese *u*-formation, the truncated hypocoristic consists of a uniform prosodic shape, the syllabic trochee. One way to arrive at such an effect is to posit a templatic constraint TRUNC=TROCHEE, analogous to the templatic constraints frequently employed in analyses of reduplication (e.g. McCarthy and Prince 1990). However, Féry (1997) presents data from a number of morphological processes in German which suggest that the syllabic trochee has a priviledged status in German, i.e., that it constitutes the unmarked prosodic word.[4] Consequently, it should be possible to attain the same effect by simply 'letting the unmarked emerge' (cf. McCarthy and Prince 1994a), that is, by making prosodic markedness constraints directly responsible for the shape of the truncated form. This can be achieved by ranking the prosodic markedness constraints *above* Output-Output Faithfulness,

4 Her examples include the formation of infinitives from nouns by the suffixation of *-en*: *Segel* (sail, N) + *-en* does not become trisyllabic **se.ge.len*, but is reduced to the simple trochee *segeln* [se.gln] (to sail) with syllabic /l/. Nor does *Bau* (building, N) + *-en* become monosyllabic **baun*; the correct form is again a syllabic trochee, namely *bauen* [bau.ən](to build). For further detail and examples the reader is referred to the original source (Féry 1997:472).

which is responsible for the identity between the base (here: the full name) and the truncated hypocoristic. This is precisely what Féry proposes. In her ranking of constraints, FT-BIN ('Feet must be binary at some level of analysis (mora or syllable)') and FT-FORM (TROCHAIC) ('Feet are trochees') dominate all Output-Output correspondence relations such as MAX(*i*-formation) and DEP(*i*-formation).[5] As a result, the output will consist of no other feet than trochees.

This alone, however, is not enough to ensure that the output consists of *exactly one* trochee. Féry (1997:478) suggests the use of two alignment constraints for this purpose, ALIGN-L(PRWD,FT) and ALIGN-R(PRWD,FT).[6] Yet while this analysis correctly eliminates trisyllabic words, where an unparsed syllable at an edge will incur a violation of one of the constraints, it does *not* eliminate a word consisting of two trochees, as shown in (3) with an example from Féry's data.

(3)

katharína + i	ALIGN-R(PRWD,FT)	ALIGN-L(PRWD,FT)	MAX-BT
a. (ká.thi) desired winner			ar!ina
b. (ká.tha).ri	*!		ina
c. ka.(thá.ri)		*!	ina
☜ d. (ká.tha)(rí.ni) wrong winner			a

(ká.tha)(rí.ni) would wrongly emerge as the optimal candidate in this ranking since it violates neither of the alignment constraints and incurs the least violation of MAX-BT.[7]

One way to solve the problem is to change the order of the arguments in the constraint, i.e., ALIGN-L/R*(FT,PRWD)*, which due to the interaction of the universal and the existential quantifiers in the definition of the constraint (see footnote 6) will yield the correct result; *(ká.tha)(rí.ni)* now violates both alignment constraints and leaves the competition early. Another and perhaps leaner solution is to only use one of these alignment constraints together with PARSE(SYLLABLE), which is violated whenever a syllable remains unfooted. As shown in (4), these constraints derive the correct result.

5 While Féry uses the terms "MAX(*i*-Bildung)" and "DEP(*i*-Bildung)", I will use the more general MAX-BT and DEP-BT, where B stands for 'Base' and T for 'Truncation' (analogous to MAX-BR for reduplication, cf. McCarthy and Prince 1994a).

6 ALIGN-L/R(PRWD,FT) = 'For every prosodic word there exists some foot such that the left(right) edge of the prosodic word coincides with the left(right) edge of the foot.' (Féry 1997:478, my translation; cf. McCarthy and Prince 1994b)

7 Analogously, *Alexändu* would be the optimal candidate for *Alexander + u* in Bernese *u*-formation, instead of the real winner *Xändu*.

(4)

katharína + i	PARSE(SYLL)	ALIGN-L(Ft,PrWd)	MAX-BT
☞ a. (ká.thi)			arina
b. (ká.tha).ri	*!		ina
c. ka.(thá.ri)	*!	*	ina
d. (ká.tha)(rí.ni)		*!	a

The same combination of constraints has been used to derive a trochaic template for reduplication in Diyari (McCarthy and Prince 1994), for minimal word effects in child language (Pater 1997), and by Itô and Mester (1997) for precisely these German *i*-formations.

In sum, the prosodic markedness constraints needed to account for German *i*- as well as Bernese *u*-formation are FT-FORM(TROCHAIC), FT-BIN(SYLLABIC), PARSE(SYLLABLE) and ALIGN-L(FT,PRWD).[8,9] Since none of these constraints are ever violated in Bernese *u*-formation,[10] I will leave open the question of their respective ranking. In the remainder of this paper I will — for reasons of space — use the term 'EXACT TROCHEE' to refer to the unordered set containing these four constraints.

2.2 NOCOMPLEXONSET

In addition to the prosodic constraints on the shape of the truncated form, there also exist restrictions on the segmental and melodic material tolerated in the hypocoristic, in particular with regard to consonant clusters. One prominent observation — which holds for German *i*- and Bernese *u*-formations alike — is that complex onsets in the base are often reduced to a simple onset in the truncated form, e.g. *Gabriele* becomes *Gabi*, not *Gabri*, although *Gabri* also constitutes a trochee and, in addition, is more faithful to the base. To eliminate forms such as *Gabri*, Féry employs the constraint NOCOMPLEXONSET (or *COMPLEX(ONS)), which is defined as "syllables do not have complex onsets" (Féry 1997:480, m.t.).

Such a general constraint, however, would also — wrongly — eliminate *Proli* as the optimal truncation of *Proletarier* ('proletarian'), favouring instead **Poli or *Roli*, which are unattested. As Féry remarks, the constraint is only active in the onset of the second syllable while the first onset is always fully identical to that of the base. The same holds true for Bernese *u*-formation, where *Gabriel* becomes *Gäbu*, but *Gregor* becomes *Gregu*. Féry claims (without further discussion) that "this exact

8 Note that ALIGN-R(FT,PRWD) would have the same effect. For the present purpose, ALIGN-L is an arbitrary choice.

9 ALIGN-L(FT,PRWD) is often called ALL-FT-LEFT (Itô and Mester 1997, Kager 1999). I will not distinguish between the two.

10 Féry (1997:466f.) lists examples of German *i*-formation, where some of these constraints are violated (*Kompost* (compost) - *Komposti* (someone who advocates composting)), but remarks that they are marginal.

copy of the onset (and the nucleus) of the first syllable results from LEFT-ANCHORING and LINEARITY, which are ranked higher than the syllabic constraints" (Féry 1997:480, m.t.). This explanation, I argue, is not sufficient. Firstly, LEFT-ANCHORING — as defined in (5) — only affects the one segment at the left edge of the prosodic word.

(5) LEFT-ANCHORING[11]
Any element at the left edge of S_1 [here: the base] has a correspondent at the left edge of S_2 [here: the truncated form]

Under this definition, **Roli* would be ruled out, but neither *Proli* nor *Poli* incur a violation since both forms preserve initial [p]. Secondly, LINEARITY ("S_1 is consistent with the precedence structure of S_2, and vice versa", McCarthy and Prince (1995: 371), cf. also Féry (1997:477)), the 'No Metathesis' constraint, remains entirely unaffected here, contrary to Féry's (1997:480) claims. In neither $P_1r_2o_3l_4i$ nor $P_1o_3l_4i$ is the linear order of elements different from the base $P_1r_2o_3l_4etarier$. Clearly then, LEFT-ANCHORING and LINEARITY cannot account for the preservation of complex onsets in the initial syllable.

What *is* violated by *Poli* is CONTIGUITY ("The portion of S_1 standing in correspondence forms a contiguous string", McCarthy and Prince (1995:371)), a constraint Féry uses (p. 477) but does not discuss in the context of complex onsets. Note moreover that CONTIGUITY is not violated by a reduction of complexity in the second onset, as in $G_1a_2b_3i$ ($<G_1a_2b_3r_4i_5e_6l_7e_8 + i_{Affix}$). CONTIGUITY together with L-ANCH, ranked above *COMPLEX(ONS) will then give us the desired effect of eliminating complex onsets only in the second syllable, as demonstrated in (6) and (7) with examples from Bernese *u*-formation.[12,13]

11 Adapted from McCarthy and Prince (1995:371); Féry's (1997:477) German version is equivalent.

12 While this ranking arrives at the desired result, it does not capture the fact that it is the onset of the prosodically less prominent, i.e., unstressed, syllable, which is less tolerant of segmental complexity. Harris (1997) accounts for this phenomenon - referring briefly to German *i*-formation (p.363) - in terms of inheritance and depletion of licensing potential through a chain of heads of prosodic constituents. (For reasons of space, I must refer the reader to the original source for further detail.) While it is beyond the scope of this paper to integrate this point, a more exhaustive analysis of segmental complexity in truncations may well need to incorporate these facts. (See Goad and Rose (to appear) for an argument along these lines in the context of child language.)

13 Neither CONTIGUITY nor L-ANCH are undominated in the final ranking, as will be shown in 3.2 below.

(6)

gré.gor + u[14]	CONTIG	L-ANCH	*COMPLEX(ONS)	MAX-BT
☞ a. (gre.gu)			*	or
b. (ge.gu)	*!			ror
c. (re.gu)		*!		gor

(7)

gá.bri.el + u	CONTIG	L-ANCH	*COMPLEX(ONS)	MAX-BT
a. (gä.bru)			*!	iel
☞ b. (gä.bu)[15]				riel
c. (gä.ru)	*!			biel

2.3 HOW BAD ARE CODAS?

After discussing the restrictions on onsets in the truncated form, the status of the coda must be taken into consideration. Féry (1997) observes for German *i*-formation that "the status of the coda in the first syllable is also complex" (p. 148, m.t.). On the one hand, examples such as *Manfred* > *Manni*[16] and *We[sd]eutscher* > *Wessi* ('citizen of the former Western Germany') suggest that NOCODA ranks highly in this output-output grammar. On the other hand, *Andreas* > *Andi* and *Computer* > *Compi* show that NOCODA is violable under certain conditions. Féry identifies these conditions as coda-onset clusters consisting of a homorganic nasal and stop. She consequently formulates a constraint "NASAL", translated in (8).

(8) NASAL = A homorganic cluster of nasal + stop remains unaltered.
(from Féry 1997:481, m.t.)

NASAL ranked above NOCODA correctly derives *Andi* (*Ändu*) from *Andreas*, but *Koni* (*Könu*) from *Konrad.*

While a constraint — or a set of constraints — achieving the effects of NASAL is clearly needed for both *i*- and *u*-formation, it is also obvious that NASAL as such does not constitute a very well motivated constraint, as Féry herself notes by admitting that it is "ad hoc" (p. 481). In this section, I will re-examine the status of codas in the two processes of truncation under investigation. I will show that it cannot be context-free NOCODA which is at work here, but rather a small set of position-sensitive markedness constraints which militate only against a certain type

14 For the exact shape of the affix, see 3.1 below.

15 For the Umlaut effect, see 3.1 below.

16 Orthographic doubling of consonant letters in German does not indicate gemination but marks the shortness of the preceding vowel (cf. Mester and Itô 1997, footnote 4).

of, i.e. marked, codas or coda-onset clusters in truncations. As a result, it will be possible to eliminate Féry's ad hoc constraint NASAL and replace it with more established position-sensitive markedness constraints in the final ranking.

A survey of the data — both Féry's for *i*- (9) and my own for *u*-formation (10) — quickly reveals that it is not only nasal codas followed by a homorganic stop which can be retained in the truncations.

(9) German *i*-formation

Gruft	>	Gruf.ti
soft	>	Sof.ti
Klinsmann	>	Klin.si
Hans	>	Han.si
nervig	>	Ner.vi
Waldemar	>	Wal.di
Alkoholiker	>	Al.ki

(10) Bernese *u*-formation

Viktor	>	Vik.tu
Hans	>	Hän.su
Jör[k]	>	Jör.[k]u (Jö[k]u)[17]
Werner	>	Wer.nu
Urban	>	Ür.bu
Wa[w]ter	>	Wä[w].tu
Arno[w]d	>	Nö[w].du
Osk·ar	>	Ös.k·u (Ösu)
Pas[k]al	>	Päs.[k]u (Päsu)

Highly ranked NOCODA cannot account for the truncations in (9) and (10). In consideration of these facts, I will start with the assumption that codas are not bad in principle (i.e., NOCODA ranks low), and instead I will reconsider the specific cases where codas *are* eliminated. These cases, I argue, all fall into one of two patterns, illustrated in (11) and (12) respectively.[18]

(11)

Ko**nr**ad	>	Kö.nu	
Os[**v**]ald	>	Ö.su	
E**r**[**v**]in	>	E.ru	([V]inu)
Sil**v**an	>	Si.lu	
Sie[**k**]**f**rid	>	Si.[k]u	
Wil**h**elm	>	Wi.lu	
Ger**h**ard	>	Ge.ru	

17 Forms in parentheses represent other attested hypocoristics involving processes of reduction not under consideration at this point.

18 For reasons of space, I only present examples from Bernese *u*-formation here. Equivalent examples from German *i*-formation can be found easily.

(12) Be**r**nhard > Be.nu (Ber.nu)
Nor**b**ert > Nö.bu (Nör.bu)
He**r**bert > He.bu
Jö**r**[k] > Jö.[k]u (Jör.[k]u)

In (11), it is always the first consonant of the cluster which is retained, whereas in (12), it is the second. Note for the moment that all clusters in (12) are of the type -rC-. I will return to these cases below. With regard to the consonant clusters in (11) — [-nr-], [-sv-], [-rv-], [-lv-],[19] [-kf-], [-lh-] and [-rh-] — a survey of the (Swiss) German lexicon reveals that these clusters never appear stem-internally in the language, whereas clusters such as those in (10) above (which are retained in truncations) regularly do. In other words, the clusters in (11) cannot appear internal to the Prosodic Word.[20] The full names in (11), then, must consist of two Prosodic Words, with the PrWd-boundary splitting up the cluster, e.g. $[(\text{kon})]_{\text{PrWd}}$ $[(\text{rad})]_{\text{PrWd.}}$[21]

In the process of truncation, the prosodic markedness constraints discussed in 2.1 emerge and force the output to constitute a perfect trochee. At the same time, they effectively eliminate any candidate that consists of more than one Prosodic Word. **Könru*, for instance, cannot be parsed as $[(\text{kön.ru})_{\text{Ft}}]_{\text{PrWd}}$ due to the illicit cluster -nr-. Parsed as $[(\text{kön})_{\text{Ft}}]_{\text{PrWd}}$ $[(\text{ru})_{\text{Ft}}]_{\text{PrWd}}$, however, it incurs two violations of FT-BIN(SYLLABIC). Any other parsing of these segments will violate PARSE(SYLLABLE). Consequently, all candidates of this type will be eliminated by the prosodic markedness constraints which emerge in this output-output correspondence. The optimal candidates, then, are predicted to be those attested in (11). Note that this outcome is in no way related to restrictions on codas per se.

Let me now turn to the pattern in (12), where /r/ in coda position is eliminated while the following consonant is retained (*Norbert* > *Nöbu*). The optimal candidate thus incurs a violation of CONTIGUITY. Note that in almost all of these cases,[22] more than one optimal candidate exists, i.e., both *Nöbu* and *Nörbu* are attested for *Norbert*, as are *Benu* and *Bernu* for *Bernhard*. However, the seemingly perfect candidates **Nöru* and **Beru* are impossible. Why? Féry noted the unusual behaviour of names with coda-/r/ and comments in the context of *Cornelia* > *Conni*/ *Corni*/ **Corri:*

19 What is [-lv-] in Standard German words such as *Pul[v]er* (powder) is [-lf-], i.e. *pul[f̩r]* in Bernese, as in most other Swiss German dialects.

20 Why this is the case, is beyond my present abilities to explain. A possible answer may lie in the sonority profile of these clusters.

21 Names containing clusters not tolerated stem-internally can be observed in other languages as well, e.g. English *MacDonald* [-kd-] and *Elroy* [-lr-].

22 The only exception is *Herbert*, for which only *Hebu* but not *Herbu* is attested. I consider this an accidental gap, especially since an analogous hypocoristic in *-i* (*Herbi*) is attested.

(13) "The best candidate should really be *Corri since it violates neither NoCoda nor Contiguity. An explanation why this is not the case could lie in thestatus of *r* in the phonology of German. In coda position, /r/ is realized as a vocalic glide and is as such unsuitable for an onset."
(Féry 1997:488, fn10, m.t.)

Precisely this status of /r/ in the phonology of German is argued for by Wiese (1996:253):

(14) "The most straightforward generalization seems to be that /R/ is consonantal in onsets, and vocalic elsewhere (or in rhymes)."

In other words, German observes a cross-linguistically well-attested constraint which forces liquids to weaken to glides in the rhyme.[23] How exactly this constraint could be formalized within OT, I will have to leave to future research. For the present purpose, I will call the 'constraint' "*Liquid in Rhyme", and assume it to be undominated in Bernese. In featural terms, this means that /r/ in the rhyme has a different feature specification than /r/ in an onset, namely rhymal /r/ is vocalic whereas onset-/r/ is consonantal. In OT-terms, then, if /r/ in the base is vocalic and /r/ in the truncated form is not, we have a violation of a featural identity constraint on [vocalic], Ident-BT([voc]).[24] Together with German /r/-vocalization as proposed by Wiese (1996), this high ranking Ident constraint will rule out candidates such as **Nöru* and **Corri,* in which an /r/ syllabified in the rhyme of the base becomes an onset in the truncated form (cf. (15)).

Having correctly ruled out the unattested candidates, we are still left to account for the *two* optimal candidates *Nörbu/Nöbu*, i.e., *Corni/Conni.* The common practice to derive two optimal candidates has been through the equal ranking of two constraints, where optimal candidate A violates constraint 1, and optimal candidate B violates constraint 2. The two constraints being equally ranked, the weight of the violations will also be equal; thus neither candidate will be eliminated. Féry adopts this practice to derive *Corni* and *Conni* from *Cornelia*: Contiguity and NoCoda are equal in her ranking. However, since we have not found any evidence for the active participation of NoCoda in the output-output relations discussed here, the question remains as to which constraint is to be equally ranked with Contiguity in this case. As all cases in (12) involve an - /r/C - cluster, it stands to reason that the problem lies in /r/. Yet what exactly is problematic about (rhymal) /r/? Note that undominated *Liquid in Rhyme will eliminate all

23 This is not entirely correct with regard to /l/ in Standard German, which is not necessarily vocalized in rhymal position. As I will show below (3.1), however, this generalization holds for Bernese - the language under consideration here - where /l/-vocalization is pervasive.

24 Ident-BT([voc]): "Correspondent segments have identical values for the feature [vocalic]." (cf. McCarthy and Prince (1995:370) for the Ident constraint family.)

candidates in which rhymal /r/ is not vocalic. Two options obtain for the syllabification of this vocalic /r/: in the nucleus or in the coda. On cross-linguistic grounds, the latter seems to be disfavoured, and we may perhaps appeal to a high ranking constraint against [vocalic] in coda position ("*[VOC] IN CODA"). It is the former syllabification of /r/, then, which we can reasonably assume for attested optimal candidates such as *Nörbu* and *Corni*. Consequently, the constraint which is to be equally ranked with CONTIGUITY must be a constraint on vocalic /r/ in the nucleus. While it does certainly not seem counterintuitive to claim that a nucleus containing /r/ is marked, the precise formulation of the relevant markedness constraint cannot be pursued here. For the present purpose, I will simply call it "*/r/ IN NUC". It is this constraint which, when equally ranked with CONTIGUITY, will derive the two optimal candidates *Nörbu* and *Nöbu*, as illustrated in (15).

(15)

nor.bert + /l/ + [front]	IDENT-BT([voc])	CONTIGUITY	*/r/ IN NUC	MAX-BT[25]
☞ a. nör.bu			*	ert
b. nö.ru	*!			bert
☞ c. nö.bu		*		r ert

To sum up: I have shown that codas in the truncations discussed here are not bad in general, only *certain* codas (i.e., /r/) and those coda-onset clusters not found stem-internally elsewhere in the language are. I have argued that it is therefore misguided to use high ranking NOCODA in conjunction with an ad hoc constraint such as Féry's NASAL, which has the effect of banning codas in general while singling out a few for *preservation*. Instead, I have shown how through position-sensitive markedness constraints the "bad", or unattested, codas can be successfully singled out for *elimination*. The prosodic markedness constraints already used to arrive at a trochaic template ensure that the truncatum consists of only one prosodic word and thus eliminate clusters which are illicit PrWd-internally. All remaining non-preserved codas are /r/, for which the position-sensitive markedness constraint */r/ IN NUC has been proposed. Any other codas are predicted to be preserved by faithfulness to the base (MAX-BT), e.g., the optimal candidate for *Hans* will be *Hansi (Hänsu)*, not *Hani (Hänu)*, due to fewer violations of MAX-BT. This analysis is able to account for all the data — from *i*- as well as *u*-formation — presented in (9), (10), (11) and (12).

25 This mechanism of deriving two optimal candidates by equal ranking of constraints must make the additional — and formally problematic — assumption that lower ranked Max-BT will not decide between the two candidates, i.e. is somehow rendered inactive. (Otherwise *Nöbu* would be eliminated at this stage.) This solution is clearly subject to improvement.

3. Analysis of Bernese *u*-formation

3.1 Shape of the affix

Until now, I have simply used /-u/ to represent the affix in Bernese *u*-formation, analogous to /-i/ in German *i*-formation. In this section, I will show that this is not the correct underlying representation. The reader will recall that one of the salient differences between *i*- and *u*-formation is the Umlaut phenomenon involved in the latter, illustrated in (16).

(16)	full name	German hypocoristic (*i*-formation)	Bernese hypocoristic (*u*-formation)
	Hans	*Hansi*	*Hänsu*
	Konrad	*Kon(n)i*	*Könu*
	Gabriel(e)	*Gabi*	*Gäbu*

I will propose an analysis for the shape of the affix in *u*-formation which can account for both *-u* and Umlaut in a unified manner. Essentially, I am proposing that the underlying representation of the suffix consists of /-l/ plus a floating feature [front]. This may seem surprising at first, yet several empirical facts support this claim, as I will demonstrate.

Firstly, the suffix /-li/ is highly productive in the formation of diminutives in all dialects of Swiss German. As shown in (17), it combines with both common nouns and proper names.

(17)	common nouns			proper names		
	Tag	>	Tägli ('day')	Urs	>	Ursli[26]
	Auto	>	Autöli ('car')	Jakob	>	Jakobli
	Banane	>	Banän(d)li ('banana')	Kathrin	>	Kathrin(d)li

The proposed hypocoristic suffix /-l/ + [front] differs from the common diminutive morpheme only in that the latter has two segmental positions whereas the former only has one. While in the present context the exact relationship between these two morphemes can only be speculated on, I would nevertheless like to point out that both diminutives and hypocoristics are terms of endearment, and that it is thus not surprising that the two should be similar in form. Note also that it is socially and pragmatically inappropriate to use the diminutive in /-li/ to refer to an adult. We could then speculate that as one grows up the name by which one is referred to ideally does not change — to avoid ambiguity of reference. As /-li/ becomes inap-

26 Interestingly, the suffix /-li/ induces Umlaut in common nouns but not in proper names. I have no explanation for this phenomenon.

propriate, the switch from /-li/ to /-l/ + [front] is the most minimal possible, thus constituting a compromise between the requirements of unambiguity of reference and those imposed by social or pragmatic appropriateness.

Secondly, in the Oberländer dialect of Bernese, the hypocoristics are indeed realized with final /-əl/, as shown in (18).[27]

(18)		Bernese (Berne city)	Oberländer dialect
	Thomas:	Tömu	Töməl
	Martin:	Tinu	Tinəl
	Matthias:	Mättu	Mättəl

The main difference between the city and the Oberländer dialects is the fact that the former has a common process of /l/-vocalization, which the latter lacks. The general effects of /l/-vocalization in the city dialect are illustrated in (19).

(19)	Standard German		Bernese (city dialect)
	[ball]	('ball')	[baw]
	[kegəl]	('bowling pin')	[xegu]
	[haltəʃtellə]	('bus stop')	[hawtiʃtew]
	[laup]	('foliage')	[loup]
	[velo]	('bicycle')	[velo]

The emerging generalization is that /l/ in rhymal position becomes a glide, and — as observed in bisyllabic [xegu] — can be resyllabified as a nucleus.[28] The /l/ from the underlying form of the hypocoristic suffix, then, is predicted to undergo the same process and emerge as [u] in the phonetic representation, as is the case.

At this point, a note regarding the connection between Umlaut and the floating feature [front] is perhaps in order. An analysis of German Umlaut in terms of floating [front] — or [+front] — was first proposed by Wiese (1987) and seems now standard practice (cf. Wiese 1996:181ff.). The proposal is that floating [front] associates to the closest — in the case of suffixes the rightmost — vocalic segment in the stem. This results in the fronting of the affected vowel, which is precisely the phenomenon of Umlaut observed in numerous morphological processes in German.[29]

27 On the basis of the present data, I cannot decide whether these forms contain syllabic /l/ or schwa followed by /l/.

28 It is beyond the scope of this paper to discuss the process of /l/-vocalization in more detail. The reader is referred to Harris (1997), who discusses "liquid gliding" as an instance of neutralization with a parallel example from Brazilian Portuguese. He remarks that "[i]n the case of the various gliding events affecting liquids, we may assume that the vocalic outcome reflects a segment's secondary resonance characteristic. Thus vocalization of [y] and [w] indicate respectively a clear (palatalised) and a dark (labial-velarised) source" (Harris 1997:344). Bernese /l/-vocalization, then, could be analysed as the loss of laterality and the retention of the secondary dorsal place feature; this claim is supported by the fact that Bernese /l/ is typically dark.

29 I refer the reader to the original references (Wiese 1987, Wiese 1996) for further detail.

What remains to be discussed is the integration of this clearly procedural analysis into OT. Indeed, the expression of the Umlaut phenomenon through formal constraints remains somewhat problematic.[30] IDENT, the constraint family responsible for featural identity between correspondents, is clearly violated by a floating feature which changes the featural value of another segment. It is therefore an unlikely candidate for promoting the realization of floating [front]. MAX (as defined by McCarthy and Prince 1995), on the other hand, which ensures that the input/base is maximally realized in the output/truncatum, is taken to refer only to segmental *positions*, not to features. In the absence of a better candidate, however, I propose to extend the domain of MAX to subsegmental material. In this case, the constraint MAXMORPHEME — which demands that all material from the input representation *of the morpheme* is realized in the output — will only remain unviolated if [front] associates to some other segment and is thus realized in the output. At the same time, MAXMORPHEME must dominate the IDENT constraint(s) violated by the fronted vowels in the output. These two constraints, respectively ranked as in (20), will then derive the correct optimal candidate, i.e., that with Umlaut.

(20)

Thomas [tomas] + /l/ +[front]	MAXMORPH	IDENT-BT
a. [tomu] (/toml/)	*!	
☞ b. [tömu] (/töml/)		*

In sum, I have shown that an underlying suffix[31] of the shape /l/ + [front] (i) is lexically motivated through its relation to the common diminutive suffix /-li/, (ii) is able to account for the Umlaut phenomenon in a straight-forward manner, and (iii), in conjunction with /l/-vocalization, predicts precisely the observed phonetic realization of the suffix as [u].

3.2 VIOLATIONS OF L-ANCHORING

Until now, the perhaps most striking difference between German *i*- and Bernese *u*-formation has not been touched upon, namely the fact that the latter does not always retain the first syllable of the full name, as illustrated again in (21) (cf. also (1b) above).

30 The only extensive treatment of German Umlaut within OT (that I am aware of) is Klein (2000).

31 To ensure that the affix is a suffix, we need an alignment constraint ALIGN(/li/$_{AF}$,R,PRWD,R), which aligns the right edge of the affix with the right edge of the prosodic word. As this is the standard way of deriving suffixes (cf. Kager 1999), I will not discuss it in further detail.

(21)

	full name	attested hypocoristics
a.	Oliver[32]	Livu, Ölu
	Eri[x]	Ri[x]u, Eru
b.	Anton	Tönu
	Eugen [ói.ge:n]	Genu
	Alfons	Fönsu
c.	Martin	Tinu
	Mark^{x}us	K^{x}üsu[33]

In some cases (21a), two alternative forms are attested, whereas in others (21b&c), only one optimal candidate emerges. What is clear from these data, is that L-ANCH is violable in Bernese *u*-formation, while it is undominated in Féry's ranking for German *i*-formation. The crucial question, however, is where exactly L-ANCH is to be placed in a ranking to achieve the effects observed in (21) - which constitutes the aim of this section.

A first and obvious observation is that all full names in (21a) and (21b) are vowel-initial. Abidance by L-ANCH (see (5) above) in these cases necessarily results in a violation of ONSET ('all syllables have an onset'). If, however, we rank ONSET above L-ANCH, candidates such as *Livu* and *Richu* (21a) will win over *Ölu* and *Eru*. Yet the data show that both types of candidates can emerge as optimal in this context. I will therefore appeal again to the equal ranking of two constraints - ONSET and L-ANCH in this case - in order to derive two optimal candidates in (22).

(22)

eri[x] + /l/ + [front]	ONSET	L-ANCH	MAX-BT
☞ a. e.ru	*		i[x]
☞ b. ri.[x]u		*	e

Why is it, then, that we do not get the same variation in cases like (21b)? The answer, I will argue, lies in the sonority of the consonants in the base, in particular that of the onset of the second syllable. Note that in (21a), the onset of the second syllable is of high sonority, i.e. a liquid, whereas those in (21b) are (low-sonority) obstruents. To obtain these observed effects, we need to appeal to the universal sonority hierarchy, relativized to left edges in general, and onsets in particular (see below), which can be translated into a universal ranking of position-sensitive markedness constraints on sonority in consonants (cf. Prince and Smolensky 1993). This is shown in (23) for the constraints relevant in the case at hand.

32 *Oliver* is the only name from this list of examples which also figures in Féry's data. The *i*-formation indicated there is *Olli*.

33 In addition to *K^{x}üsu*, two informants indicated *Märk^{x}u* as a possible hypocoristic for *Markus*. See (26) and below for a discussion of this variation.

(23) a. * [VOCALIC ≫ * [LIQUID ≫ * [NASAL ≫ * [FRICATIVE

b. * VOCALIC-ONS ≫ * LIQUID-ONS ≫ * NASAL-ONS ≫ * FRICATIVE-ONS

(There is no empirical evidence to decide whether the left edge ([ ) referred to in (23a) is the edge of a foot or a prosodic word since in *u*-formation every prosodic word consists of exactly one foot (cf. 2.1).)

In general terms, the left edge of the truncation wants low sonority, more precisely, it wants to be less sonorous than a liquid. If the choice is between a vowel and a liquid (as in (21a)), the violations are of equal weight and both candidates survive (i.e. *[VOCALIC and *[LIQUID must be equally ranked). If, however, there is a candidate which violates neither *[VOCALIC nor *[LIQUID, that candidate will win over the more sonorous one (as in (21b)). The two scenarios are illustrated in (24) and (25).

(24)

eri[x] + /l/ + [front]	ONSET	L-ANCH	*[VOCALIC	*[LIQUID	(MAX-BT)
☞ a. e.ru	*		*		i[x]
☞ b. ri.[x]u		*		*	e

(25)

a[w]fons + /l/ + [front]	ONSET	L-ANCH	*[VOCALIC	*[LIQUID	(MAX-BT)
a. ä[w].fu	*		*!		ons
☞ b. fön.su		*			al

The ranking in (24) and (25) can fully account for all forms analogous to those presented in (21a) and (21b).[34] Most problematic, however, are the cases in (20c), *Markus* > *K·üsu,* and *Martin* > *Tinu.* To render the issue even more puzzling, consider the additional data in (26), where numbers in parentheses indicate the number of informants who provided the respective form.

(26)	full name	attested hypocoristics	
	Martin	*Tinu* (11)	*Märtu (0)
	Mark^{x}us	*K·üsu* (10)	Märk·u (2)
	Mar[s]el[35]	Selu (1)	*Märsu* (10)

34 An exception is *Alex* (Ale[ks]), for which we would expect both *Älu* and *Lexu*, yet only *Lexu* is attested. I consider this an accidental gap.

35 In addition to *Selu* and *Märsu*, one informant provided *Mäsu*, to which I will return in 3.3 below.

Since ONSET clearly does not enter the picture here, there must be something else which makes L-ANCH violable in these cases. Recall that in 2.3 above, the constraint */r/ IN NUC was used to account for cases where rhymal /r/ does not survive in the truncation (e.g. *Nöbu* < *Norbert*). To start with, suppose that */r/ IN NUC is ranked equally with L-ANCH. The result would be two optimal candidates, namely those listed in (26). Yet the two are by no means equally well attested, and - as the case of **Märtu* shows - not even always possible. Again, I suggest that the solution lies in the fixed ranking of constraints expressing the sonority hierarchy (cf. 23a): if in addition to *[VOCALIC and *[LIQUID we also invoke *[NASAL, *Märtu, Märk^x u* and *Märsu* will be eliminated. At this point, we have still not achieved a distinction between *Tinu* and *K^x üsu* on the one hand and *Märsu* on the other, and seem to be back where we would have been with merely ranking */r/ IN NUC above L-ANCH. Yet the introduction of one more position-sensitive markedness constraint will bring about the distinction: '*LIQUID-ONS' (cf. 23b) - ranked between *[LIQUID and *[NASAL - will correctly eliminate *Selu* in favour of *Märsu,* while *Tinu* and *K^x üsu* will be preferred to *Märtu* and *Märk^x u* respectively. The tableaux in (27), (28) and (29) illustrate these results.[36]

(27)

martin +/l/+ [front]	*/r/ IN NUC	L-ANCH	*[VOCALIC	*[LIQUID	*LIQUID -ONS	*[NASAL	(MAX-BT)
a. mär.tu	*					*!	in
☞ b. ti.nu		*					mar

(28)

mark^{x}us +/l/+ [front]	*/r/ IN NUC	L-ANCH	*[VOCALIC	*[LIQUID	*LIQUID -ONS	*[NASAL	(MAX-BT)
a. mär.k^{x}u	*					*!	us
☞ b. k^{x}üsu		*					mar

(29)

mar[s]el +/l/+ [front]	*/r/ IN NUC	L-ANCH	*[VOCALIC	*[LIQUID	*LIQUID -ONS	*[NASAL	(MAX-BT)
☞ a. mär.su	*					*	el
b. se.lu		*			*!		mar

36 I will return to these examples in the following section to discuss the issue of '2nd best' candidates.

As the range of possible names conforming to the specific profile of *Martin, Markus* and *Marcel* is limited,[37] this ranking had to be developed on the basis of very few examples and must therefore remain somewhat speculative. Note, however, that it observes the universal sonority hierarchy and is thus consistent with the concept of 'the emergence of the unmarked' in output-output correspondence relations (McCarthy and Prince 1994a).

In sum, I have shown that the majority of L-ANCH violations in Bernese *u*-formation can be accounted for by (i) equal ranking of ONSET and L-ANCH, and (ii) a series of position-sensitive markedness constraints, which are in accordance with the universal sonority hierarchy. The additional assumptions made in the discussion of the seemingly exceptional cases in (20c) will be reconsidered (and confirmed) in the course of the following section, where the issue of '2nd best' candidates will be addressed.

3.3 THE FINAL RANKING FOR BERNESE *u*-FORMATION

The full range of constraints required to account for Bernese *u*-formation has now been presented. What remains to be done is to establish their respective ranking in the cases where this has not been made explicit yet, notably with regard to *COMPLEX(ONS) (cf. section 2.2) as well as CONTIGUITY (2.2, 2.3). After briefly summarizing all constraints mentioned so far, I will end this section by presenting a final ranking which adequately accounts for the majority of cases in the pattern of Bernese *u*-formation.

Let me begin with those constraints that appear to be undominated. These include the set of constraints labelled 'EXACT TROCHEE' (cf. 2.1), consisting of FT-FORM(TROCHAIC), FT-BIN(SYLLABIC), PARSE(SYLLABLE) and ALIGN-L(FT,PRWD). As noted above, the trochaic "template" is never violated by the truncations under investigation; therefore 'EXACT TROCHEE' must be undominated. The same holds for the two constraints pertaining to the shape and position of the affix - MAX-MORPHEME and ALIGN_{af} (cf. footnote 31) - which must also be undominated since the affix is always fully realized and it is always a suffix.[38] I will also assume (as mentioned in 2.3 above) that both the constraint responsible for liquids weakening to glides in the rhyme - *LIQUID IN RHYME - and the one militating against vocalic segments in the coda - *[voc] IN CODA - are undominated.

With regard to IDENT-BT([voc]) (2.3), the issue is less straightforward. Although IDENT-BT([voc]) is not violated in almost all examples, a few exceptions, presented in (30), do exist.

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37 One possibility of obtaining further data would be to present informants with fake names fitting the profile under consideration. I doubt, however, that this would be successful since informants have already reacted unfavorably to "excessively exotic" names in the questionnaire.

38 For reasons of space, I ignore the IDENT violations incurred by the Umlaut, discussed in 3.1.

(30)	a.	[V]il.helm	>	[V]i.lu / *[V]ihu
		Ger.har[t]	>	Ge.ru / *Gehu
	b.	Sil.van	>	Si.lu / *Sivu
		Er.[v]in	>	E.ru / *Evu

Note that all the names in (30) contain consonant clusters illicit inside a prosodic word (cf. (11) above). In 2.3, I argued for an analysis of these names as consisting of two prosodic words, with the PrWd-boundary falling between the two consonants. (30a) could then be accounted for with a high ranking constraint against PrWd-internal /h/, which would eliminate **Gehu* and **[V]ihu*. The two examples in (30b) — both containing a liquid+[v] cluster — are more problematic and cannot be fully resolved here. It may be the case that liquids are not vocalized before [v] — in which case *Silu* and *Eru* would not violate IDENT-BT([voc]); yet phonetic evidence would be required to resolve the issue. Ignoring these two examples, I will simply assume that IDENT-BT([voc]) is never violated in the process of *u*-formation and is thus undominated.

All the remaining constraints have, in the course of this paper, been shown to be violable. In 2.3, I argued that both CONTIGUITY and */r/ IN NUC are violable and must be ranked equally. In 3.2, ONSET and L-ANCH were ranked equally, as were */r/ IN NUC and L-ANCH. By transitivity, then, all of these four constraints will have to be ranked equally. While this may seem an undesirable consequence, it turns out not to affect the results presented so far. Consider first the cases of equal violation of CONTIGUITY and */r/ IN NUC in (31).

(31)

nor.bert + /l/ + [front]	IDENT-BT([voc])	CONTIG	*/r/ IN NUC	L-ANCH	ONSET	MAX-BT
☞ a. nör.bu			*			ert
b. nö.ru	*!					bert
☞ c. nö.bu		*				r ert
d. ber.tu			*	*!		nor
e. be.ru	*!			*		nor t
f. be.tu		*		*!		nor r

An equal ranking of all four constraints still derives the correct result, as can be verified for all other related cases. The same holds for the equal violations of ONSET and L-ANCH, as in (32).

(32)

al.fons + /l/ + [front]	IDENT-BT([voc])	CONTIG	*/r/ IN NUC	L-ANCH	ONSET	*[VOCALIC	*NASAL-ONS	MAX-BT
a. äl.fu					*	*!		ons
b. ä.lu	*!				*	*		fons
c. ä.fu		*			*!	*		l ons
☞ d. fön.su				*				al
e. fö.nu				*			*!	al s
f. fö.su		*		*!				al n

The third case to consider is that of equal violations to */r/ IN NUC and L-ANCH *(Markus, Martin, Mar[s]el)* discussed in 3.2. As I will argue, the facts from these cases are not only consistent with the equal ranking of all four constraints, they may even provide additional evidence for such a ranking. The attested hypocoristics for *Mar[s]el* contain — in addition to *Märsu* (10 mentions) and *Selu* (1 mention) — one mention of a form violating CONTIGUITY, i.e. *Mäsu*. The tableau in (33) shows the status of this candidate with respect to the optimal *Märsu*.

(33)

mar.[s]el + /l/ + [front]	IDENT-BT([voc])	CONTIG	*/r/ IN NUC	L-ANCH	ONSET	*LIQUID-ONS	*[NASAL	MAX-BT
☞ a. mär.su			*				*	el
b. mä.ru	*!							sel
(2nd)c. mä.su		*					*	rel(!)
(3rd)d. se.lu				*		*(!)		mar

Mäsu loses to optimal *Märsu* only at MAX-BT.[39] It could thus be considered — in a notion that has no formal status within current Optimality Theory — as the 'second-best' candidate. It seems to me, however, that in a pattern showing as much variation as does Bernese *u*-formation (and hypocoristics in general), notions such as 'second-best' and perhaps even 'third-best' should be considered more carefully. It seems to be a consistent phenomenon in the data presented here that if there is one optimal candidate (i.e. one attested much more frequently than any others) accompanied by another (or two other) clearly less

39 Earlier (cf. fn 25 above) I suggested that in the case of violations of equally ranked constraints, MAX-BT becomes inactive. We would thus predict *Märsu* and *Mäsu* to be 'equally optimal', which is incorrect. The fact that both candidates also violate another lower constraint, *[NASAL, may be part of an answer which I am unable to provide at this point.

frequent alternatives, these alternatives are always the 'second-best' and (if relevant) 'third-best' ones. Note that for *Martin* and *Markus*, the candidates violating CONTIGUITY *(*Mätu, *Mäku)* are not attested, since — I argue — they only represent the *third*-best option (cf. (34)). In other words, there is no case where only the best and third-best candidates are attested; presence of the third-best seems to imply presence of the second-best. Clearly, much more data is needed to substantiate this claim.

(34)

mar.k^{x}us[40] + /l/ + [front]	IDENT-BT([voc])	CONTIG	*/r/ IN NUC	L-ANCH	ONSET	*LIQUID-ONS	*[NASAL	MAX-BT
(2nd)a. mär.k^{x}u			*				*(!)	us
b. mä.ru	*!						*	k^{x}us
(3rd)c. mä.k^{x}u		*					*(!)	r us((!))
☞ d. k^{x}ü.su				*				mar

As the tableaux in (31) to (34) have demonstrated, the equal ranking of CONTIGUITY, */r/ IN NUC, ONSET and L-ANCH does not change our predictions or generate incorrect results for the cases at hand. This unordered set of four will therefore be ranked immediately below the undominated constraints summarized above.

The last constraint remaining to be ranked is *COMPLEX(ONS). In 2.2, I pointed out that in order to eliminate branching onsets from the second syllable, *COMPLEX(ONS) must be ranked below both CONTIGUITY and L-ANCH. Its ranking with respect to the position-sensitive markedness constraints introduced in 3.2, however, still remains open. The case of *Andres* > *Resu* will be decisive in this matter. As illustrated in (35), *COMPLEX(ONS) must be ranked above the position sensitive markedness constraints in order for ill-formed **Dresu* to be eliminated before optimal *Resu.*[41]

40 The ranking for *Martin*, which I omit for reasons of space, is exactly equivalent.

41 More data is required to obtain a more complete picture of the hypocoristics for *Andres* (initial stress) versus *Andréas*. In the present corpus, 5 informants indicated *Resu* for *Andres*, whereas only one indicated *Ändu*. (Note that the ranking in (35) derives *Ändu* as the '2nd best' candidate for *Andres.*) For *Andréas*, on the other hand, 9 informants indicated *Ändu* (the optimal candidate derived by the present analysis), yet 4 indicated *Resu*, a fact that does not follow from my analysis as it is.

(35)

an.dres +/l/+[front]	CON-TIG	*/r/ IN NUC	L-ANCH	ONSET	***COMPL (ONS)**	*[VOC	*[LIQUID[42]	MAX-BT
a. än.du				*		*!		res
b. ä.nu				*		*!		dres
c. ä.du	*			*!		*		n res
d. dre.su			*		*!			an
e. de.su	*		*!					an r
☞ f. re.su			*				*	and

Summing up this discussion, the final ranking for the Output-Output correspondence relation in Bernese *u*-formation can now be established as in (36).

(36)

'EXACT TROCHEE' MAXMORPH ALIGN_{AF} IDENT-BT([voc]) *LIQUID IN RHYME *[VOC] IN CODA	≫	CONTIGUITY */r/ IN NUC ONSET L-ANCH ≫ *COMPLEX(ONS) ≫ {position sensitive markedness}♦)

♦) { } = *[VOCALIC ≫ *[LIQUID ≫ *LIQUID-ONS ≫ *[NASAL ≫ *NASAL-ONS

As I have shown throughout this paper, and as the reader will be able to verify, this ranking yields the correct results for the vast majority of the data presented here. Nevertheless, a few issues still remain unsolved, in particular concerning the occasional reduction or substitution of marked segments,[43] glides at the left edge,[44] and further CONTIGUITY violations.[45] These will have to be delegated to future research.

4. CONCLUSION

As I hope to have shown in the course of this paper, the pattern of male hypocoristics in Bernese Swiss German — which I have termed *u*-formation analogous to Standard German *i*-formation — can be largely accounted for within an

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42 The ranking of *[VOCALIC and *[LIQUID has been taken to be equal in earlier sections of this paper, while here the analysis relies on the fact that *[VOCALIC is ranked higher than *[LIQUID. I have no answer for this inconsistency.

43 e.g., Beat > Bi[t]u, [Y]osef > Seppu, Christof [xriʃtof] > [x]rigu

44 e.g., [y]akxob > Köbu, but: [y]onas > [y]önu

45 e.g., [f]ilip > Fippu, Feli[ks] > Fi[ks]u

Optimality Theoretic approach. Initially puzzling aspects such as the seemingly arbitrary choice of syllable from the full name, as well as the Umlaut phenomenon, have received a straight-forward explanation. Moreover, a previous account of a related pattern — Standard German *i*-formation (Féry 1997) — has been shown to be amenable to further simplification, in particular concerning the ad-hoc constraint "NASAL" (Féry 1997), which in the present analysis has been made redundant by an appropriate ranking of established markedness constraints, exemplifying once again 'the Emergence of the Unmarked' characteristic of Output-Output relations (McCarthy and Prince 1994a). In addition to the analysis proposed, the variation observed in the data, i.e. the presence of more than one optimal candidate in many cases, has given rise to questions concerning the integration of such empirical facts into the formal mechanisms of Optimality Theory. Answers have remained speculative, yet the data and analysis presented here may — I hope — provide a fertile ground for further investigations of this issue.

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APPENDIX 1: Data from 11 Bernese informants

Orthographic conventions:

Full names and hypocoristics are left in their original spelling (by the informants). Where the pronunciation cannot be predicted from standard German orthography, an IPA transcription is provided.

some common orthographic conventions

k = [kˣ]	x = [ks]	w = [v]
ch = [x]	z = [ts]	j = palatal glide
g, c = [k], or [g̊] (devoiced)[46]	sch = [ʃ]	
gg = [k]	st = [ʃt]	

Presentation:

Names are grouped according to their syllable structure (column 1). Column 2 lists the full name, column 3 the hypocoristic ending in *-u* (if provided), which is the pattern under consideration. In column 4, I list hypocoristics in *-u* displaying further irregularities with regard to vowel and consonant quality which are not addressed in the present paper. In column 5, any other nicknames provided by the informants are presented.
(Stress is on the first syllable, unless otherwise indicated (underlining).)

syllable structure	full name	hypocoristics in *-u*[47]	irregular hypocoristics in *-u*	other hypocoristics
monosyllabic				
CVC	Max	Mäxu		
CVCC	Karl	Käru		Kari
	Rolf	Röufu		Röfe, Rüfi, Rüfe
	Jörg	Jörgu	Jöggu	Jüre; Jöre
	Hans	Hänsu		Hansi, Housi
CCVC	Fritz	Fridu	Figgu	
CCVCC	Franz	Fränzu		Fräne
VCC	Urs	Ürsu		Ursli
VCCCC	Ernst [ærnʃt]			Aschi

46 In most Swiss German dialects, the voicing contrast between plosives is (partially) replaced by gemination or ambisyllabicity. Standard German *Made* [ma:də] ('maggot') is [matə] in Swiss German, whereas Standard German *Matte* [mattə] ('mat') is [mattə] in Swiss German as well. For the purpose of this paper, I ignore potentially ambisyllabic consonants and treat them as single.

47 In the cases where this column remains empty, none of the 11 informants had indicated a possible hypocoristic of this pattern for the name in question.

syllable structure	full name	hypocoristics in -*u*[47]	irregular hypocoristics in -*u*	other hypocoristics
CVVC	Paul [pʰɔul]	Pöilu		Pole, Polo
	Raoul [rɔul]	Röulu		Rale
bisyllabic				
CV.CV	Rene [rœnɛ]	Rönu		Röne
	Reto	Retu		
	Sascha [saʃa]	Säschu		
	Hugo	Hügu		
	Guido [gido]	Gidu		
CV.CVC	Lukas	Lüku	Lüggu	Luki
	Thomas	Tömu		Tomi
	Josef		Seppu	Sepp; Josi
	Felix		Fixu, Flixu	Fele; Flix
	Moritz	Möru		Möre
	Jakob	Köbu		Köbi
	Philip	Fippu		File; Fips
	Boris	Böre		Böre
	Simon	Simu		
	Peter	Petu		Pesche; Pedro; Peekli
	Cyrill [siril]	Siru		
	David	Dävu		Dave
	Roman	Römu		Romi
	Karim	Käru		
	Xaver [gsafɛr]	Xävu		
	Donat	Dönu		
	Jonas	Jönu		
CV.VC	Beat	Beätu	Bidu	Bide; Batli; Biit
CV.CVCC	Roland	Rölu		Role, Roli
	Rudolf		Rüedu	Ruedi
	Robert	Röbu		Röbi, Robi
	Richard	Richu		Riche; Richi
	Lorenz	Löru	Länzu	Lori
	Hubert	Hübu	Hebu	
	Gerald	Geru		Geri
CV.CCVC	Patrick	Pädu		Pädi
CV.CCVVC	Niklaus	Chlöisu, Niggu		Nick; Chlous
CCV.CVC	Gregor	Gregu		Greg; Gregi
	Stefan	Steffu; Stöffu		Steff; Stewe;

syllable structure	**full name**	**hypocoristics in -*u*[47]**	**irregular hypocoristics in -*u***	**other hypocoristics**
				Stivo; Stufi
CCV.CCVC	Christoph [xriʃtɔf]	Stöffu	Chrigu	Chügi; Chrischi
	Friedrich	Fridu	Fredu	Fritz; Fredi
V.CV	Otto	Öttu		Otti
	Ivo	Ivu		
V.CVC	Erich	Richu; Eru		Riche; Ere
	Alex	Lexu		
	Iwan	Iwu		
V.CVCC	Adolf	Döufu		Dölf
CVC.CV	Marco	Märcu	Gölu, Cölu	Göle
	Carlo	Cärlu		
CVC.CCV	Sandro	Sändu		
CVC.CVC	Markus	Küsu; Märku		Kusi, Küse; Märki
	Konrad	Könu		Koni
	Martin	Tinu		Tinel; Tineli
	Marcel [marsel]	Märsu; Mäsu; Selu		
	Walter	Wäutu		Wale
	Werner	Wernu		Werni
	Silvan	Silu		
	Viktor	Viktu		Vigä
	Pascal	Päscu		Päsi; Pasi; Pasci
	Kaspar [xaʃpər]	Chäschpu	Chäppu	Chaschpi
	Gustav [guʃtaf]	Güschtu		Guschti
CVC.CVCC	Vinzenz			Vinze; Vine; Viz; Vinz
	Herbert	Hebu		Herbi
	Gerhard	Geru		Geri; Gere
	Norbert	Nöbu; Nörbu		Nobi; Norbi
	Wilhelm	Wilu		Willi
CVC.CCVC	Manfred	Mänu; Fredu; Mänfu		Fredi; Mani; Mäni
	Siegfried	Sigu		Sigi
CVCC.CVCC	Bernhard	Bärnu; Benu		Bene; Bärni;

syllable structure	full name	hypocoristics in *-u*[47]	irregular hypocoristics in *-u*	other hypocoristics
				Beni; Benni; Börni
	Wolfgang	Wöufu		Wolfi
	Burkhart			Börk
CCVC.CV	Franco	Fräncu		
CVV.CVC	Dieter [diɛtər]	Dietu		Didi
	Rainer			Raini
CVV.CVCC	Gaudenz			Gaudi
CVV.CCVC	Dietrich [diɛtrix]	Dietu		
CVVC.CVC	Heinrich			Hene; Heini; Heiri; Heinz
	Meinrad			Meini
VC.CCV	Andre	Ändu		
VC.CVC	Erwin	Winu; Eru		
	Oskar	Ösku; Ösu		Oski
	Anton	Tönu		Toni
	Urban	Ürbu		
	Arthur	Türu		Turi
	Elmar			Elmi
VV.CVC	Eugen [œigɛn]	Genu		Geni
VC.CVCC	Oswald	Ösu		Ösi; Osi
	Arnold	Nöudu		Arni; Noldi, Noudi, Nole
	Alfons	Fönsu		
	Albert			Albi; Aubi; Berti
VV.CVCC	August [ɔuguʃt]	Güschtu		Guschti
VC.CCVC	Andres	Resu, Ändu		Res
	Alfred	Fredu		Alfi; Fredi
trisyllabic				
CV.CV.VC	Daniel	Dänu		Dani
	Matthias	Mättu		Matti
	Raphael	Räffu		Raffi
	Manuel	Mänu		Mani
	Fabian	Fäbu		
	Michael	Michu	Mischu	Mike

syllable structure	**full name**	**hypocoristics in -*u*[47]**	**irregular hypocoristics in -*u***	**other hypocoristics**
	Samuel	Sämu		Säm, Sämi
	Kilian	Kilu		
CV.CV.CVC	Dominik	Dömu	Niggu	Nik
CV.CV.CVCC	Benedikt	Benu		Bene
CV.CVC.CVC	Valentin			Vali; Vale
CV.CCV.VC	Gabriel	Gäbu		Gabi
CCV.CV.VC	Florian	Flöru		
CCV.CV.CVC	Fridolin	Fridu		
CCV.CCV.VC	Christian		Chrigu	Chrischte
V.CV.CVC	Oliver	Ölu; Livu	Ötschgu	Oschi; Oli; Livi
V.CV.VC	Alois		Wisu	
V.CCV.VC	Adrian	Ädu		Adi
V.CVC.CVCC	Adalbert			Berti
CVC.CV.CVC	Baltasar	Bältu		Balz
CVC.CV.CVCC	Ferdinand			Ferdi
CCV.CV.CV	Giuseppe [tʃusɛppɛ]	Tschüsu; Seppu		Tschusi
VC.CCV.VC	Andreas	Ändu, Resu		Andi, Res
VC.CV.CV	Enrico	Ricu		Rico
4 syll.				
V.CV.CVC.CVC, V.CV.CVC.CVC	Alexander	Xändu		
CV.CV.CV.VC	Sebastian	Sebu; Bäschtu		Seb
CVV.CV.CV.V	Maurizio	Mäuru		
CVC.CV.CV.VC	Cornelius	Cönu		
CVC.CV.CV.CV	Salvatore	Sälvu		
others (suggested by my informants)				
	Hans-Peter	Hämpu		Hämpi
	Jean-Pierre [ʃampiɛr]	Schämpu		
	Jean-François [ʃa frasua	Scha fräsu		

RÉSUMÉ

Sur la base de données sur le suisse-allemand bernois jusqu'à présent non commentées, ce papier présente une analyse de la fonction des hypocoristiques selon la thèse de la correspondance (McCarthy & Prince 1995). Les données bernoises sont comparées au paradigme fort discuté de la formation en *-i* en allemand standard (Itô & Mester 1997, Féry 1997), dont il diffère de deux manières importantes: Premièrement, les hypocoristiques comportent une inflexion; deuxièmement, le choix de la syllabe du nom complet retenue dans le diminutif du prénom n'est pas toujours la plus à gauche. Le phénomène de l'inflexion est un effet de la forme sousjacente du suffixe hypocoristique. Le choix de la syllabe, qui à prime abord paraît une forme plus marquée, peut être démontrée comme émergeant de la satisfaction des contraintes de marquage sensibles à la position, qui occupent un rang élevé dans la grammaire bernoise. Cette explication illustre comment, selon une analyse TO, le choix de syllabe apparemment arbitraire devient le résultat direct de la compétition entre les contraintes de correspondance et de marquage, présentant des aspects typiques de l'émergence du non-marqué (McCarthy & Prince 1994a).