

Failing one's obligations: Defectiveness in Rumantsch reflexes of *DĒBĒRE*

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Compared with some other authors in the present volume, I do not have an overall theory of defectiveness and the status of paradigmatic gaps to offer in this paper. As opposed to the rich and varied array of defectiveness documented by Boyé & Hofherr, this volume, for other Romance languages, I have only one poor little crippled verb to offer up on parade: a single verb in a relatively obscure language which lacks many of the forms other verbs have, forcing speakers to use a distinct, nearly (but not quite) synonymous verb in its stead. The broader context in which this situation arises is, however, of some interest, I think, and it provides an opportunity to raise (if not to resolve) the question of how gaps should be treated in the context of Optimality Theory.

The language in question is Surmiran, a form of Swiss Rumantsch, although as I will note somewhat similar phenomena are attested in other related languages. Surmiran is of course a Romance language, and one of a range of fairly closely related languages spoken primarily in the canton of Graubünden¹ in Switzerland. Beyond that, however, its affiliations within Romance are somewhat controversial. Traditionally, Swiss Rumantsch is grouped together with Friulian and the Ladin languages of the Dolomites as a “Rhaeto-Romance” sub-group of Gallo-Romance. The languages in question are shown in Figure 1; among the Swiss Rumantsch languages, those with distinct literary and orthographic standards are unparenthesized, while several other quite distinct forms of Rumantsch (not at all an exhaustive list) are given in parentheses.

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¹“Grisons” in French, “Grigioni” in Italian, or “Grischun” in Rumantsch.

Swiss Rumantsch			Dolomitic Ladin	Friulian
Engadine	Central	Western		
Puter Vallader (Val Müstair)	Surmiran (Bergün) (Obervaz) Sutsilvan	Sursilvan	Gardena Gadera Fassa Livinallongo Ampezzo	Friulian

Figure 1: "Rhaeto-Rumantsch"

Haiman & Benincà 1992 argue that the evidence that the languages in Figure 1 form a distinct genetic group within Gallo-Romance, as opposed to being simply a set of Gallo-Romance languages spoken within a comparatively well-defined area, is weak or non-existent. Since our concern will be primarily with Surmiran, these comparative considerations are not of great importance, however.

The verbal system of Surmiran falls well within the 'normal' range for a Romance language. The Present Indicative paradigm of a regular verb such as *cantar* 'to sing' as shown in (1) includes distinct forms for singular and plural in three persons, with a typical difference in the location of main stress in the first and second person plural as opposed to the rest of the paradigm which will be important in what follows below.

(1) *cantar* 'sing' (Pres. Indic.):

1sg	(ia) cant	[kant]
2sg	(te) cantas	['kantəs]
3sg	(el) canta	['kantə]
1pl	(nous) cantagn	[kən'taɲ]
2pl	(vous) cantez	[kən'tɛts]
3pl	(els) cantan	['kantən]

In addition to the Present Indicative, Surmiran verbs show a number of other forms. These include the Present Subjunctive, illustrated in (2), in which the main stress is consistently on the stem.

(2) *cantar* 'sing' (Pres. Subj.):

1sg	(ia) canta	['kantə]
2sg	(te) cantas	['kantəs]
3sg	(el) canta	['kantə]
1pl	(nous) cantan	['kantən]
2pl	(vous) cantas	['kantəs]
3pl	(els) cantan	['kantən]

There are also several other tenses, for which 1sg forms are given in (3); like the Present Subjunctive, these forms show a consistent location of main stress.

(3) **Imperfect** (ia) *cantava* [kən'tavə];

Future (ia) *cantaro* [kəntə'ro];

Imperfect Subjunctive/Conditional (ia) *cantess* [kən'tɛs]

Non-finite forms include the Gerund (*cantond* [kən'tond]); a (potentially agreeing) Past participle (masculine *canto* [kən'to], feminine *cantada* [kən'tadə]) and the Imperative (singular *canta!* [k'antə], plural *cante!* [kən'te]). A number of other tenses are built periphrastically from forms of the auxiliary verbs *esser* 'be' and *aveir* 'have' together with non-finite forms of a lexical verb.

In this context, we can now examine our Defective verb, as illustrated in (4).

(4) *dueir* 'should':

- a. Present indicative: 1pl. *duagn* [dʊ'ɑŋ], 2pl. *duetz* [dʊ'ɛts]; all singular forms and 3pl missing)
- b. Present Subjunctive: missing
- c. Imperfect (ia) *dueva* [dʊ'vevə]; Future *duaro* [dʊə'ro]; Imperfect Subjunctive/Conditional *duess* [dʊ'ɛs]
- d. Gerund *duond* [dʊ'ond]; Past participle *duia*, *dueida* [dʊ'iə, dʊ'ejdə]
- e. Imperative: missing

The absence of an Imperative form of *dueir* 'should' (4e) is clearly a semantic fact and not in need of further explanation. The same is not true for the absence of a Present Subjunctive, however: this is the form that expresses reported speech, among other uses, and there is nothing about it that is either marginal or semantically inconsistent with a modal of obligation. Similarly, there is no obvious basis for the lack of singular or 3pl. Present Indicative forms. What seems to be the case is simply that *dueir* lacks certain forms, as shown in (4), and that this idiosyncrasy is to be accounted for in some way on the basis of the verb's specific lexical representation. Before we can make a specific proposal along those lines, however, we must lay out the broader picture within which it is to be understood.

Some general considerations related to the analysis of the Surmiran verb are presented in Anderson 2008a. The 'regular' verbs of the language are not all like *cantar*, but belong to one or another of six classes (descended in obvious ways from the conjugation classes of Latin) as listed in (5).

(5)	Inf.	Example	1pl. Pres.	Imperf.	Fut.	Cond.	PPpl.
	-ar [-ar]	cantar 'sing'	-agn	-ava	-aro	-ess	-o/ada
	-er [-er]	lascher 'leave'	-agn	-eva	-aro	-ess	-ea/eda
	-ier [-iər]	spitgier 'expect'	-agn	-iva	-aro	-ess	-ia/eida
	-eir [-ɛjr]	tameir 'fear'	-agn	-eva	-aro	-ess	-ia/eida
	-er [-ər]	tanscher 'reach'	-agn	-eva	-aro	-ess	-ia/eida
	-eir [-ɛjr]	parteir 'depart'	-ign	-iva	-iro	-iss	-ia/eida

A large number of verbs show substantial conjugational irregularity; in some cases this falls into patterns of limited sub-regularities, but in any event must be indicated for the individual verbs in question. Some of the irregular verbs are illustrated in (6).

(6)		eir 'go'	neir 'come'	(vu)leir 'want'	deir 'say'	star 'stay, live'	saveir 'know'
	1sg	vign	vign	vi	dei	stung	sa
	2sg	vast	vignst	vot	deist	stast	sast
	3sg	vo	vign	vot	dei	stat	so
	1pl	giagn	nign	lagn	schagn	stagn	savagn
	2pl	gez	niz	lez	schez	stez	savez
	3pl	von	vignan	vottan	deian	stattan	son

Members of a much larger class of “alternating” verbs, however show a single basic deviation from the simple conjugation pattern in (2). In the Present Indicative these verbs, as illustrated in (7), have one stem in the first and second person plural and another with a distinct vowel in the remaining forms.

(7)		ludar 'praise'	durmeir 'sleep'	lavar 'get up'	fittar 'finish'
	1sg	lod	dorm	lev	fet
	2sg	lodas	dormas	levas	fettas
	3sg	loda	dorma	leva	fetta
	1pl	ludagn	durmign	lavagn	fittagn
	2pl	ludez	durmiz	lavez	fittez
	3pl	lodan	dorman	levan	fettan

Apart from the Present Indicative, these alternating verbs show the same stem as that of the singular and third person plural in their Present Subjunctive paradigm and also in the singular imperative, as illustrated in (8).

(8) Pres. Subj.	ludar	durmeir	lavar	fittar
1sg	'loda	'dorma	'leva	'fetta
2sg	'lodas	'dormas	'levas	'fettas
3sg	'loda	'dorma	'leva	'fetta
1pl	'lodan	'dorman	'levan	'fettan
2pl	'lodas	'dormas	'levas	'fettas
3pl	'lodan	'dorman	'levan	'fettan
2sg Imper.	'loda!	'dorma!	'leva!	'fetta!

The remaining forms of these verbs, however, as illustrated in (9), are built from the same stem as the first and second person plural of the Present Indicative.

(9) infinitive:	ludar	durmeir	lavar	fittar
1pl Pres. ([-'aɪ]/[-'iɪ])	ludagn	durmign	lavagn	fittagn
1sg Imperf. ([-'evə]/[-'ivə])	ludeva	durmiva	laveva	fitteva
1sg Fut. ([-'ə'ro]/[-'i'ro])	ludaro	durmiro	lavaro	fittaro
1sg Condit. ([-'ɛs]/[-'is])	ludess	durmiss	lavess	fittess
2pl Imper. ([-'e]/[-'i])	lude!	durmi!	lave!	fitte!
Pres. Ppl. ([-'ənd])	ludond	durmond	lavond	fittond

A final form of the verb which has not been accommodated above is the infinitive. In general, the infinitive in Surmiran is built on the same stem as the first and second person plural Present Indicative, as can be seen in the verbs in (7). Exceptionally in this regard, “Fifth conjugation” verbs, whose infinitive ends in [-ər], have infinitives built on the stem of the singular and third plural of the Present Indicative: e.g. *discorrer* [dɪʃ'korər] ‘speak’; 1sg Present *discor* [dɪʃ'kor]; 1pl Present *discurrign* [dɪʃku'riɪ].

Lexically idiosyncratic forms of genuinely suppletive irregular verbs, like those in (6), are of course associated with specific bundles of morphosyntactic features. No coherent morphosyntactic characterization of the categories calling for one or the other of the stems of alternating verbs is available, though. This observation is reinforced by the fact that infinitives, as just noted, can call for one stem or the other depending on their ending.

On the other hand, a clear basis for the choice of stem does exist across all categories: one stem is used when main stress falls on the desinence (as in 1pl, 2pl present indicative and the other forms in (9)) while the other is used when main stress falls on the stem itself (as in (8)). The difference between infinitives like *discorrer* [dɪʃ'korər] ‘speak’ and others is that only in the “Fifth conjugation” does stress fall on the stem.

Disregarding obvious loan words, stress in Surmiran is largely predictable from the phonological form of a word: Main stress falls on the penult if the rhyme of the final syllable consists of [ə], possibly followed by [r], [l] [n] or [s]. If the final syllable contains a full (non-ə) vowel, or ə followed by some other consonant, it bears the

main stress. Secondary stress falls on initial syllables separated by at least one syllable from the main stress; parts of compounds are stressed separately with main stress on the stress center of the final element. Other secondary stresses appear to result from cyclic word formation, although the principles at work have not been fully worked out.

Vowel quality and stress are inter-related. Stressed syllables can contain a variety of vowels (long and short) and diphthongs. Unstressed syllables typically contain only short [ə] (written *a* or *e*), [ɪ] (*i*) or [ʊ] (*u*), though unstressed [ɛ, ɔ] are not rare. Looking at the relation between stressed and unstressed stems in alternating verbs like (7), then, it is reasonable to ask whether the stem alternation might not simply reflect the effects of a phonological rule of vowel reduction.

Reasons to reject this analysis are presented in Anderson 2008a, 2008b, and will not be rehearsed here in detail. Even confining our attention to simple alternation patterns like those illustrated in (7), the correspondence between the vowels in the two stems of verbs is many-to-many, and not unique in either direction. Each of unstressed [ə, ɪ, ʊ] in a stem can alternate with any of several vowels, and the correspondence between particular stressed vowels and their unstressed counterparts is equally non-unique. The same stressed vowel can correspond to more than one unstressed vowel (for [a] and [o], to all three). There is no stressed vowel whose unstressed correspondent is unique.

Furthermore, stem alternation can also involve consonants, with or without accompanying vowel changes; apparent metathesis (really V/∅ with subsequent epenthesis); and more complex, multi-vowel alternations such as those in (10).

(10)	Alternation	Infinitive	3sg Pres. Indic.	gloss
	a-ə~o-e	flammager	flommegia	'blaze'
	e-ə~ə-e	declarar	daclera	'declare'
	i-i~ə-e	angivinar	angiavegna	'solve'
	i-i~ə-ej	misirar	maseira	'measure'
	i-i~ə-i	ghisignier	gassigna	'taunt'
	u-ə~ə-o	murmagner	marmogna	'murmur'
	u-ə~ə-oi	suarar	savoira	'smell'
	u-ə~ə-u	ruschanar	raschunga	'speak'
	u-∅~ə-ou	luvrar	lavoura	'work'

The simple vowel alternations in (7) are just part of a more comprehensive system of stem alternations which are idiosyncratically associated with particular lexical items. Each alternating word has two listed stems, one used when stress falls on it, and the other when stress falls on an ending. The origins of these various patterns of alternation are in the historical phonology of the language, and especially in a simple rule of vowel reduction that once characterized the relation between the vocalism of stressed

and unstressed syllables. However, complex phonological developments over time (cf. Lutta 1923, pp. 120–136, Grisch 1939, pp. 76–94, Haiman & Benincà 1992, pp. 56–63), plus the influx of German words with vowels other than [ə, ɪ, ʊ] in unstressed syllables have made the original vowel reduction regularity opaque. Stem alternation is the morphologized remnant of that process, and can no longer be reduced to the effects of a phonological rule of vowel reduction.

A tempting possibility is to suggest that the alternations are an instance of the morphomic “L-pattern” of Maiden (1992, 2004, 2005, this volume, instantiated (as Maiden shows) in numerous Romance languages. On that analysis the difference between the categories calling for one stem or the other corresponds not to a coherent set of morphosyntactic categories, but rather to a language particular set, a *morphome* in the sense of Aronoff 1994.

While that analysis is appealing for many other Romance languages, it is much less so for Surmiran. First of all, the distribution is clearly correlated with an obvious phonological factor, stress: one stem is used when main stress falls on the stem itself as in (8), “Fifth conjugation” infinitives, and the singular and 3pl Present Indicative. The other is used when main stress falls outside the stem, as in 1pl, 2pl Present Indicative and the other forms in (9), and other infinitives. Not only is the phonological conditioning compelling and clear, it also contradicts any morphologically based categorization, in the case of the infinitive.

Furthermore, we find the same patterns of alternation, again correlated with the location of stress, in derivationally related non-verbs, to which the “L-Pattern” morphome would not apply. Where the forms involved are related to a verb, the stems that appear are generally the same as those that are found in the verb’s paradigm, as in the lexical sets in (11).

- (11)
- a. burschanar ‘brush’ 3sgPres. barschung
barschung ‘brush (N)’; (la) burschaneda ‘(process of) brushing’
 - b. cugliantar ‘swindle’ 3sgPres. cugliunga
cugliung ‘swindler’; (la) cuglianada ‘(act of) swindling’
 - c. guttar ‘to drip’ 3sgPres. gotta
got ‘drop (N)’; gutella ‘drip (N), (eye)drop’; guttarada ‘sudden snow-melt’
 - d. néiver ‘to snow’ 3sgPres. neiva, PP. navia
neiv ‘snow’; navaglia ‘big snowfall’; navada ‘(lots of) snow’
 - e. véiver ‘to live’ 3sgPres. veiva, 2plPres. vivagn
veiv ‘alive’; vivent ‘one who lives’

At least one alternating verb has related non-verbal forms with a different alternation, illustrated in (12).

- (12) suarar ‘to smell’ 3sgPres. savoir
savour ‘smell (N)’; savourous ‘fragrant’

In a significant number of forms, however, the “stressed” stem appears in a form where it does not take the stress, as shown in (13).

- (13) a. 'sfend[ər] ‘(to) split’ 1plPres. sfandagn
sfandia ‘cracked (adj)’; sfendibel ‘splittable’
b. durmeir ‘(to) sleep’ 3sgPres. dorma
durmigliun ‘late riser’ dormulent ‘sleepy’
c. satger ‘(to) dry [intr.]’ 3sgPres. setga
setg(a) ‘dry (adj.)’; setgantar ‘(to) dry [trans.]’
d. anganar ‘defraud’ 3sgPres. angiona
anganous ‘fraudulent’; angion ‘fraud (N)’; angionareia ‘deceit (coll.)’
e. preschentar ‘(to) present’ 3sgPres. preschainta
preschentaziun ‘presentation’; preschaint ‘present (Adj)’; preschaintamaintg
‘presently’

Some of these are clearly derived from other words in which the stressed base is motivated: *setgantar* ‘to make dry’ is de-adjectival, from *setg(a)*; *preschaintamaintg* is an adverb derived (as in other Romance languages) from the feminine form of the Adjective *preschainta*, etc. Others represent more compositional, word-level derivation, as opposed to (sometimes semantically idiosyncratic) stem-level derivation, comparable to the situation in English.

I assume here that Morphology and Phonology interact cyclically, on roughly the model of ‘Stratal OT’ (Kiparsky 2000, Bermudez-Otero forthcoming). Each cycle of morphological formation provides the input to an appropriate constraint system which determines the corresponding phonological form — which may in turn serve as the basis for further cycles of morphological formation. Stem choice takes place on the first cycle to which a stem is subject, and once the stem is determined, that decision is not revisited on subsequent cycles. As a result, if the ‘stressed’ base is chosen on the first stem cycle, and this form is subsequently extended by further endings so that the vowel stressed on the first cycle no longer bears stress, the original stem will appear inappropriate. (cf. Kamprath 1987 for discussion of motivations for cyclic interaction in a closely related form of Rumantsch).

Word-level morphology is based on an input from the stem level, where the stem choice (in the absence of stress-attracting stem extensions) will favor the ‘stressed’ stem. Subsequent layers of word-level morphology will render this choice opaque. Consistent with this picture, note that such opaque or ‘incorrect’ stem choice never involves the appearance of the ‘unstressed’ stem in a word where it would bear stress.

In addition to the stem alternations we have seen above, a great many verbs in the ‘productive’ [-ar] and [-ejr] conjugations form their “stressed” stem with the extension *-esch*, as illustrated in (14).

(14) <i>luschardar</i> ([luʒər'dar]) ‘strut’:	1sg	luschardesch
	2sg	luschardeschas
	3sg	luschardescha
	1pl	luschardagn
	2pl	luschardez
	3pl	luschardeschan
	Pres. Subj.	luschardescha etc.
	Imper. sg.	luschardescha!
	Imper. pl.	luscharde!
	Imperf.	luschardeva etc.

For such verbs, the “stressed” stem is always formed by extending the “unstressed” stem with *-esch*, and the stress itself falls on this extension. As a result, of course, no other stem alternation occurs in these verbs. The distribution of *-esch* obviously follows the same pattern as that of the “stressed” stem in alternating verbs, but this does not in any way compromise the observation that it is the location of main stress that conditions the appearance of one stem as opposed to the other.

The “stressed” stem in *-esch* is clearly a matter of *verbal* morphology: it never shows up except in verbal inflection. Verbs that take *-esch* in their stem-stressed forms always use the “unstressed” stem as the base for derivation (e.g., *fixar*/*fixescha* ‘fix, harden’; *fix* ‘fast, unmovable’, *fixaziun* ‘fixation’).

Verbs in *-esch* include many recent borrowings. Some verbs listed as alternating in Sonder & Grisch 1970 appear in Signorell 1999 with *-esch* (and current speakers extend this trend to additional verbs). Sometimes when speakers do not know or cannot recall the correct alternation pattern for a given verb, they produce *-esch* forms instead. It seems plausible that the absence of (internal) stem alternation in verbs with *-esch* is related to their use in these “default” conditions. Of course this observation does not in itself constitute an analysis, though one will be proposed below.

I conclude that, although the stem alternations in Surmiran (and their parallels in the other Swiss Rumantsch languages) have their origin in strictly phonological processes, those have become opaque, and are now lost as phonological rules. The residual allomorphy, however, is governed by a strictly phonological condition: one stem or the other is chosen depending on the location of main stress in the output form. Unlike many other instances of phonologically conditioned allomorphy (Carstairs 1986, 1988), this pattern affects most content words in the language, not just a small set such as a few affixes, or the ‘mobile diphthongs’ of Italian (van der Veer & Booij 2009). Since it is stems, and not affixes that alternate, a sub-categorization solution (Paster 2009; Bye 2007) does not seem appropriate. Instead, I adopt an approach

that treats stem choice as a matter of optimization based on phonological conditions (as in Kager 2008, Rubach & Booij 2001).

The analysis I proposed for these facts in Anderson 2008a is as follows. First, let us assume the distinctions [a] *vs.* [ə], [i] *vs.* [ɪ], [u] *vs.* [ʊ]. The first member of each pair should only appear in stressed position, the second only in unstressed position. The phonology of Surmiran includes a set of (Optimality Theoretic) constraints that express these preferred associations between stress (or its absence) and vowel quality, as well as others that describe the location of stress itself.

Stems have two (listed) alternants in the lexicon. In one of these the last vowel is generally from the set [ə, ɪ, ʊ], and in the other the last vowel is a full vowel or diphthong. In the derivation of a given verbal (or other) form, the input consists not just of a single stem, but rather of both listed stem possibilities, together with the remaining affixal material associated with the form in question. This provides two sets of candidate forms, one set based on each of the possible stems for the word in question. The constraints that associate full vowels with stressed syllables and reduced vowels with unstressed ones then function to choose the optimal form from the union of these two sets on the basis of the location of main stress.

This approach allows us to reduce the amount of arbitrary specification even in the case of verbs showing idiosyncratic patterns of suppletion, for most of which the actual idiosyncrasy is quite circumscribed. The verb *pudeir* ‘can, be able to’ for instance, as illustrated in (15), can be treated as having two stems like any other verb, but with three additional forms listed for specific morphosyntactic circumstances.

- (15) 1sg ia poss
 2sg te post
 3sg el pò
 1pl nous pudagn
 2pl vous pudez
 3pl els pon
 Stems: {/pɔs/, /pud/}
 Listed: 2sg, 3sg and 3pl Present Indicative (/pɔst/, /pɔ/, /pɔn/)

Verbs in *-esch* can now be described as having only an “unstressed” stem. The morphology includes a rule introducing *-esch* in Verbs, formulated roughly as in (16).

- (16) /X/ → /Xɛʃ/ $\left[\begin{array}{c} \overline{} \\ +\overline{\text{VERB}} \end{array} \right]$

According to normative descriptions such as that of Signorell et al. 1987, this rule is limited in its application to [-ar] and [-ejr] verbs. That is generally true, although I have recorded instances of *-esch* forms for a few other verbs.

Rule (16) would appear to be much too general, but in the context of an Optimality Theoretic description its actual application is quite limited. Notice that it mandates the introduction of phonological material into a verbal form, material that corresponds to no aspect of the form’s morphosyntactic or semantic content. As a result, higher ranking **Dep** constraints (requiring that material in the output correspond to material in the input) would always disprefer the application of this stem addition, unless some other constraint were satisfied exactly by the presence of the otherwise gratuitous suffix material. Of course, that will be the case exactly when the presence of *-esch* results in a prosodically preferred form, by avoiding stress on the unstressable vowel in the last syllable of such a verb’s only lexical stem. Ranking the constraints relating stress and vowel quality above the relevant **Dep** constraint (itself ranked above (16) construed as a constraint) will thus have the effect of introducing *-esch* in exactly those verbal forms where it would bear the main stress.

With this overall framework in place, we can return to the specific problem of *dueir* [dʊɛjr] ‘should’ (cf. (4) above). The descriptive generalization regarding this verb is as follows: All and only the forms built on the “unstressed” stem /dʊ/ exist, and these are constructed in completely regular fashion.

We might ask what we would expect the “stressed stem” forms of *dueir* to look like. The only other verbs of the shape [C₀vɛjr] are suppletive in their “stressed stem” forms, as illustrated in (17) for *stueir* ‘must, should’.

(17)	1sg	stò
	2sg	stost
	3sg	stò
	1pl	stuagn
	2pl	stuez
	3pl	ston

Superficially similar verbs that use the stem extension *-esch* in the stem-stressed forms (e.g. *cueir* ‘allow’; *flueir* ‘flow’; *prueir* ‘sprout’, etc.) differ from *dueir*, *stueir* in that they end in [-ɛjr], and thus (unlike *du[ɛ]ir*, *stu[ɛ]ir*) fall within the conjugation class for which this stem extension is possible (as opposed to [-ɛjr] verbs like *dueir*, to which rule (14) is generally inapplicable).

In terms of the classification of defectiveness given by Baerman, this volume, the aetiology of the gaps in the paradigm of this verb is morphological, consisting in the lack of a stem present for other comparable lexical items. It is thus similar to Baerman and Corbett’s example of the absence of the infinitive stem of *erkanee* ‘spread out’ in Finnish. *Dueir* is defective in having no “stressed” stem, and no valid model on which one can be constructed. That is, *dueir* only has a single stem (/dʊ/). Where stress would fall on this stem, the form is missing.

The gaps in the paradigm of *dueir* do not leave a speaker of Surmiran silent: where one of missing forms would be required, a corresponding form of the nearly synonymous verb *stueir* ‘must’ is substituted. This verb is itself suppletive, as shown in (17). It is tempting simply to see the forms of *dueir* and *stueir* as constituting a single paradigm displaying internal suppletion, but this is probably not correct. For one thing, *stueir* itself has a full paradigm independent of that of *dueir*, and where both forms exist (e.g., *nous duagn/stuagn*) there is a subtle semantic difference between them linked to the degree of obligation implied. It seems most reasonable to say simply that *dueir* lacks certain forms, as shown in (4), and that where one of the missing forms would be required, the meaning is expressed by a form of the semantically very similar verb *stueir* instead.

This conclusion is somewhat problematic within an Optimality Theoretic account. The essence of that theory is that the constraints constituting a grammar are ranked, and violable; and that the observed form corresponding to a given input will be the one that represents the best possible compromise with the requirements of the constraint system. That implies that for any given input, there ought to be *some* possible output, even if this is phonologically and/or morphologically ill-formed to some degree. Such a theory is incompatible in its essence with absolute ungrammaticality of the type represented by defective paradigms, including that of Surmiran *dueir*. A substantial literature within the OT tradition has arisen attempting to provide compatible mechanisms for describing the absolute impossibility of certain forms; I will not review the various devices that have been proposed for this purpose in detail here, but simply note that no consensus has been reached that any particular proposal is satisfactory.

In a case such as this one, where the missing forms are substituted by ones from the paradigm of a semantically similar verb, we might at least describe the situation as follows. Perhaps the constraints associating Vowel quality with stress (or its absence) outrank other constraints that require a given meaning to be lexicalized by a (form of) a specific verb. Let us call this ‘**Faith(Lexicalization)**’, and assume that a minimal violation of it consists in employing a distinct lexical item whose meaning is as close as possible semantically to that of the intended word. Assuming that such a requirement could be outweighed by phonological considerations such as those relating vowel quality and stress, an input that included a verb whose only stem is /dʉ/ together with associated morphology that would cause the main stress to fall on the (reduced) vowel [ʉ] might be realized by a form of the distinct verb *stueir*, for which phonologically well-formed forms with stem stress are available. I do not pretend, however, that this constitutes a deeply principled solution to a problem which must remain for the overall approach represented by Optimality Theory.

The situation surrounding Surmiran *dueir* must be of relatively recent origin, and it may be useful to establish some of the historical and comparative context in which it has arisen. According to Decurtins 1958, earlier Surmiran had a fuller paradigm for

daveir. F. DaSale (*Fundamenti della lingua Retica*, 1729, *apud* Decurtins 1958) has *dé, dest, de, dejen, deies, deien* for the Present Indicative; for the corresponding Present Subjunctive [1SG not attested], *deiest, deia, deiegns, deies, deien*; and Imperfect *daveva*. These show no stress alternations within a tense, but the verb seems to have stems [dəv] and [de] within a system in which stress may have been less predictable phonologically than in modern Surmiran. A 1768 *Catechism* has 1pl. Present Indicative *deiagns*, surely with desinential stress. Subsequently, the forms with stem stress were lost (and replaced in usage by forms of *stueir*). Present Indicative *duagn, duez* (with stem /dʊ/ < /dəv/) were presumably preserved because they had been rebuilt with stress on the endings.

It is interesting to compare these facts with those of the Rumantsch languages of the Engadine, where we find essentially the mirror image of the Surmiran situation. Consider the paradigm of Vallader *dovair* ‘should’ given in (18).

(18) Present Indicative:	1sg	dess [dɛs]
	2sg	dessast [ˈdɛsəst]
	3sg	dess [dɛs]
	1pl	dessan [ˈdɛsən]
	2pl	dessat [ˈdɛsət]
	3pl	dessan [ˈdɛsən]
Present Subjunctive:	1sg	dessa [ˈdɛsə]
	2sg	dessast [ˈdɛsəst]
	3sg	dessa [ˈdɛsə]
	1pl	dessan [ˈdɛsən]
	2pl	dessat [ˈdɛsət]
	3pl	dessan [ˈdɛsən]

All other forms of this verb (that is, all those with desinential stress) are lacking. Although dictionaries cite it as a verb with a lexical entry identified as *dovair* [doˈvajr], in fact this form is not a verbal infinitive and is only used as a noun meaning ‘duty, obligation’. The **verb** identified as ‘*dovair*’ lacks any forms with a stem like [döv-] where main stress does not fall on the stem. The missing forms include an infinitive **doˈvair*, an imperfect **doˈvaiva*, past definite *doˈvet*, future **dovaˈra*, etc. Puter ‘*dovair*’ is the same, except that the 1PL forms (Indicative and Subjunctive) are both *dessans* [ˈdɛsəns].

In Vallader and Puter, this verb only has a single stem /dɛs/ (historically an intrusion from the Conditional paradigm, but now used for the Present), which is necessarily stressed. The pattern of defectiveness is thus exactly the opposite of that in Surmiran, but the analysis is entirely parallel: as opposed to other verbs in the language, this one has only one stem, a stem which is only phonologically appropriate

for a restricted set of inflected forms. Where stress would not fall on the stem, this verb cannot be used.

The lack of a second, unstressed, stem is particularly remarkable in Vallader and Puter, because of the presence in the lexicon of a related noun which could provide /dov/ as an unstressed stem. Although surprising, this situation is not at all unprecedented in the language. Essentially, the stem alternation characteristic of a given verb is independent in principle of the alternations shown in derivationally related words. In (12) above, we already saw one word family in which the verbal alternation was distinct from that in non-verbal forms. Similarly, there are a number of verbs whose conjugation involves the stem extension *-esch*, and which on the present analysis therefore have only one lexical stem, but for which related non-verbal forms exist that would supply a model for a “stressed” stem, as illustrated in (19).

- (19) a. favoréir ‘to favor’ 3sgPres. favorescha
 favour ‘favor’; favorevel ‘favorable’
 b. fludrar ‘line (clothing)’ 3sgPres. fludrescha
 flodra ‘lining (of an article of clothing)’; fludrader ‘one who lines (clothes)’
 c. sblitgier ‘to bleach’ 3sgPres. sblitgescha
 sblatg ‘bleach(ed) (N,A)’; sblitgider ‘one who bleaches’

The fact that the stem of Vallader/Puter *dovair* ‘duty, obligation’ does not automatically become available to serve as the unstressed base of forms of the related verb in (18), then, is not isolated.

Other Swiss Rumantsch languages do not provide additional data points. Sutsilvan has a full paradigm for the verb *duer*: Present Indicative *de, des, de; duagn, duez, den*; Present Subjunctive *degi, degias, degi; dueian, dueias, degian*, etc. with abundant alternations based on multiple lexical stems. Sursilvan (Eastern Rumantsch) also has a full paradigm. Defectiveness is thus limited to Surmiran and the Engadine languages. The artificially constructed language known as ‘Rumantsch Grischun’ has eliminated the stress alternations in most verbs, generalizing desinential stress throughout the paradigm. There are thus no stem alternations in verbs apart from a very small set. Not surprisingly, Rumantsch Grischun *duair* has a fully regular paradigm.

Surmiran *dueir*, like Vallader/Puter *dovair*, is a reflex of Latin *DĒBĒRE*, itself from *DE+HABĒRE*. In other “Rhaeto-Romance” languages, this verb has competed unsuccessfully in many instances with semantically similar modals, in ways that are not always based on phonology. In the Dolomitic Ladin of the Val Gàdera, for example (cf. Kramer 1990), it survives only in the Present (formally a Conditional as in the Engadine languages: *dess, desses, dess, dessun, desses, dess*), and the Imperfect Indicative (*dô, dôs, dô, dôn, dôs, dô*), with stem alternation. Elsewhere it is replaced by forms of *messëi* (from German *müssen*) or Northern Italian *cognèr*.

I suggest that the primary factor in the emergence of defectiveness in Surmiran *dueir*, as well as the complementary pattern in the Engadine languages, was the morphologization of the vowel alternations in Swiss Rumantsch. If we hypothesize that this was combined with reduced use of the verb due to competition with others such as *stueir*, it could well have led to the present situation with only one stem conserved. An understanding of that situation, however, is only possible on the basis of a comprehensive picture of the pattern of stem alternations in these languages, a particularly dramatic example of the replacement of productive phonology by a system of phonologically conditioned allomorphy.

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