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## Chance and necessity in the life-cycle of suppletion

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# I. First, Universals: Timeless laws and/or laws of change?

## (1) Relationship of **typology** and **diachrony**: Who is in charge?

Are limitations of linguistic diversity due to

(i) **timeless laws** (constraints on **states**), or

(ii) **laws of change** (constraints on **transitions**)?

(i) Universals impose limits on variation across languages (= across mental lexicons-and-grammars) at any and all times since the first origin(s) of grammatical language(s); change is constrained through constraints on what are possible lexicons-and-grammars – irrespective of the primary linguistic data that happen to be encountered by language learners (L1 or L2) as a matter of historical contingency – insofar as languages must at no stage be in violation of a timeless (genetic or functional, categorical or preferential) law, or at any rate not without subsequent changes making swift amends (allowing for therapy rather than insisting on prophylaxis).

(Possibly: There are no laws of change.)

(ii) Universals constrain change: particular **sources** (forms, categories, constructions, paradigms, rules, constraints, etc.) – as encountered by language learners as a matter of historical contingency – can only ever yield particular **results** (forms, etc.), under particular **conditions** (e.g., to do with frequency), through particular **mechanisms** of change (reanalysis);  
through constraints on what can be reanalysed as what, across generations and also across the lifespan of individuals, limits are imposed on how languages can differ: they can only **be** as different as they could **become** different, given a particular starting point and some amount of (generational, lifespan) time to change.

(Possibly: There are no timeless laws.

Or: Concomitant or consecutive changes are superintended by timeless laws: At any and all times,  $x$  cannot be reanalysed as  $x'$  without  $y$  being/having been reanalysed as  $y'$ .)

(iii) There are universals of both kinds: some are constraints on states (i), others are constraints on transitions (ii).

(2) The **Amphichronic Programme** (against Evolutionary Phonology and other recent instantiations of (ii)): diachronic and synchronic modes of explanation to be pursued in tandem; result:  
 UNIVERSALS constrain change (insofar as they constrain synchronic grammar);  
 change (if following recurrent patterns) results in typological GENERALISATIONS (Kiparsky 2008, continuing Kiparsky 2006).

Principled separation between  
**“true/intrinsic” UNIVERSALS**  
 (= universally available, though  
 not perforce universally instantiated):

**“mere” TYPOLOGICAL GENERALISATIONS**  
 (due to recurrent patterns of change):

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• no exceptions (though violable, if only by virtue of higher-ranked constraints)</li> <li>• convergence of multiple diachronic paths</li> <li>• TETU effects</li> <li>• manifested spontaneously in child lg</li> <li>• pathways of change</li> <li>• part of the grammar, interacting with parts of the grammar</li> </ul> | <p>.....</p> <ul style="list-style-type: none"> <li>allow exceptions</li> <li>single source, unique paths</li> <li>no TETU effects</li> <li>not manifested in child language</li> <li>inert</li> <li>not necessarily part of the grammar, but descriptive generalisations about grammars</li> </ul> |
|---|---|

## II. To illustrate the question whether universals are to be conceived of as constraints on states or on transitions

(3) When grammar/lexicon changes over time, any timeless law about what is changeable can, without consequence, be restated as a law of change – two laws: one about **innovation**, another about **loss**.

For example (Plank & Schellinger 2000):

Timeless law: For all languages at any and all times, there can be no **dual** without a **plural**.

Motivation: More marked implies less marked, timelessly.

Law of change: No **innovation** of a dual, from whatever source and in whatever way, without a plural being distinguished from a singular (or without a plural distinction being innovated simultaneously), and no **loss** of a plural, with whatever result and in whatever way, as long as a dual is being distinguished (or as long as a dual distinction is not being lost simultaneously).

Motivation: Innovation of more marked implies presence/prior innovation of less marked; loss of less marked implies absence/prior loss of more marked.

(4) Sometimes/often the typologist's '⊃' can be read as the historical linguist's '<'. For example (Plank 2003, Lahiri & Plank 2008):

Timeless law: For all languages at any and all times, **infixes** imply **adfixes**. (There can be no infixes in any language ever without there also being adfixes.)

Motivation: Instantiation of a general dispreference of discontinuous constructions, which in real time are harder to construct and process than continuous constructions.

Law of change: Infixes can only ever originate from adfixes, and the only mechanisms of change are metathesis or entrapment.

Motivation: Adfixes are internalised through metathesis (= phonology) in order to optimise prosodic structures (syllables, feet, “troughs”), or (rarely) they get trapped inside an outer unproductive adfix reanalysed as part of the stem.

(Re-ranking of phonological over morphological optimality, pronounceability over faithfulness, and perhaps back again.)

(5) Another example of  $\supset = \leftarrow$ , the most famous of them all, about word order:

Timeless law: For all languages at any and all times, Adp NP implies VO and N Gen and ..., NP Adp implies OV and Gen N and ...

Motivation: Harmonic serialisation of HEAD–DEP, or uniform branchingness direction, subserving planning and processing simplicity.

Law of change: Adpositions only ever derive from object-taking verbs or from genitive-taking head nouns (well, sometimes also from adverbs, adjectives, interjections) through grammaticalisation; rarely, the other way round, object-taking verbs and genitive-taking nouns can derive from adpositions; grammaticalisation as well as degrammaticalisation are always **order-preserving**.

Motivation: Adpositions are inherently relational, and if new ones are needed, lexical relational expressions are the only source to tap (other than borrowing or the reanalysis of existing adpositions), and owing to syntactic inertia, the given ordering of the parts of constructions (if any is given) won't be reversed in such categorial reanalyses.

(6) Timeless law: For all languages at any and all times, overt expression of indefinite pro's (pronouns, articles) in the plural implies overt expression for such indefinites also in the singular.

(Cf. asymmetries as in English SG *a book* – PL  $\emptyset$  *books*, Palatinate dialect of High German *Aus Pirmasens ist einer gekommen* – ... *sind*  $\emptyset$  *gekommen* ‘from Pirmasens someone has come’ – ‘... some have come’)

Motivation: Markedness reversal, with individuation of referents (SG), otherwise unmarked vis-à-vis group-reference (PL), becoming marked in the “ignorative” case (indefinites, interrogatives) and therefore requiring/favouring extra formal expenditure.

Law of change: Indefinite forms only ever derive from (i) the numeral ‘one’ (dedicated singular), (ii) mid-range quantifiers (dedicated plural), (iii) interrogative pronouns, (iv) generic nouns, (v) ... (?) by grammaticalisation (= obligatorification, ...).

Motivation: Inertia – or if source forms in grammaticalisation alter their inflection then they lose rather than gain inflectional contrasts.



Caution: This law of change in itself doesn't suffice to prevent SG u – PL m for indefinites. Suppose a mid-range quantifier is grammaticalised as an indefinite, then PL would initially have overt expression (because mid-range quantifiers are dedicated plural) and SG would be zero. (It is possible for dedicated singular/plural source forms **subsequently** to acquire a number contrast. Cf. Engl PL *sm books* – SG *sm book*, Bavarian SG *a Buach* – PL *oa Biacha* 'ein Buch – eine Bücher'.)

Superintending law: Don't grammaticalise a PL indefinite unless there already is a (possibly suppletive) SG form for that indefinite! (Which is tantamount to the **timeless** law above.)

- (7) For many more examples of unclear temporality browse THE UNIVERSALS ARCHIVE: <http://typo.uni-konstanz.de/archive/intro/> – just about all 2000+ entries are relevant! (and we gave up documenting some ten years ago; a conservative estimate is that by now there are some 4000 universals on record that would have to be documented, and re-tested by universals sceptics)

(8) Today's case study: The Crossover Constraint on suppletion

How can suppletive stems be distributed over inflectional paradigms?  
Can their distributions be random or do they have to respect paradigm structures?

In particular, are crossover distributions disallowed, as here schematically illustrated with number and case as the two inflectional categories?

And what would be the temporal nature of a CROSSOVER CONSTRAINT prohibiting them?


	SG	PL
NOM	<i>x</i>	<i>y</i>
ACC	<i>y</i>	<i>y</i>
GEN	<i>y</i>	<i>x</i>

(Paradigm structures are here modelled through geometric arrangements; features would also do, but sometimes do not transparently define the paradigm subsections required. Hence also “morphemes”.)

### III. Some suppletion basics

(9) Suppletion can be distinguished as being **strong(er)** vs. **weak(er)**, depending on the phonological similarity/dissimilarity between the suppletive stems – which is **synchrony**, but which has no relevance for how to deal with suppletion in synchronic grammar/lexicon: like irregular allomorphs, all suppletive stems require listing/memorisation.

strong

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- a. It. *Napoli/Partenope-*; E. *Liverpool/Scous-er, Shrewsbury/Salop-ian* ‘PLACE/someone from PLACE’; Fr. *all-/v-/ir-* ‘go-’ in different tenses and moods;
  - b. E. *Liverpool/Liverpudl-ian* [pu:l]/[pʌdl], *Birming-ham/Brumm-ie* [bə:m]/[brʌm] ‘PLACE/someone from PLACE’;  
G. *geh-/gVng-* ‘go-PRES/go-PRET, PRTCPII’ (*ging, ge-gang-en*);
  - c. E. *say* [sei]/*say-* [sɛ] ‘say-’ (as in *say-s* ‘say-3SG.IND.PRES’, *sai-d* ‘say-PRET’), with the alternation [ei] and [ɛ] for such inflectional categories being unique for English verbs (cf. *lay, lay-s, lai-d*; *pay, pay-s, pai-d*; *stray, stray-s, stray-ed*; *neigh, neigh-s, neigh-ed*; etc. – all with [ei] unaltered).

weak

- (10) Suppletion can **come about** in two very different ways:
- (i) through the **combination** of distinct stems in single paradigms or derivational partnerships (filling in paradigmatic gaps or replacing non-optimal stem forms, or out of sheer playfulness);
  - (ii) through phonological **dissimilation** of (irrecoverable) single stems (in the course of regular/irregular sound changes or analogical sound substitutions)
- which is **diachrony**, and which distinction doesn't matter for synchronic grammar/lexicon either.

(i) **combination**

- a. Fr. *all-/v-/i-* ‘go-’: combining the stems Lat. *ambul-*, *vad-*, *i-*;
- b. G. *geh-/gVng-* PRES VS. PRET/PRTCPII of ‘go’: combining the irregular short-form verb OHG *gā-* and etymologically unrelated strong verb OHG *gang-*;
- c. E. *Liverpool/Liverpudl-ian*: with second part of place name, from OE *lifer-pōl* ‘pool with muddy water’, playfully-derogatively replaced by stem of similar form and meaning, *puddle*;
- d. Archi (Nakh-Daghestanian) *bič’ni/boždo* ‘corner of a sack’ SG VS. PL: SG/PL themselves being cumulated with these two stems, which are not cognate despite a certain phonological similarity;
- e. Languages of Papua New Guinea where suppletive stems for verb ‘give’ originate from reanalyses of recipient cross-reference affixes as stems (Comrie 2003), with the stem itself being originally zero, as in Amele:

<i>ut-ec</i>	3SG-INF	'to give to him/her'
<i>ih-ec</i>	2SG-INF	'to give to you sg'
<i>it-ec</i>	1SG-INF	'to give to me'
<i>al-ec</i>	2/3DU-INF	'to give to you/them two'
<i>il-ec</i>	1DU-INF	'to give to us two'
<i>ad-ec</i>	2/3PL-INF	'to give to you/them PL'
<i>ig-ec</i>	1PL-INF	'to give to us PL'

(ii) **dissimilation**

- a. It. *ess-/son-/se-/si-/s-/∅-* (or *e-*) copula ‘be’ (*ess-ere* INF, *son-o* 1SG, *se-i* 2SG, *si-ete* 2PL, *s-iamo* 1PL, *∅-e* bzw. *e-∅* 3SG), or also, simpler, Lat. *sum-/es-* 1SG/1PL/3PL vs. 2SG/3SG/2PL.IND.PRES:  
phonologically regular accent-dependent stem-alternation  $*H_1és-/ *H_1s-$  in IE and different reductions depending on accent (plus further analogical changes in Italian);
- b. Lat. (*fer-/*)*tul-/lat-* ‘carry’ (PRES vs.) PERF vs. SUPINUM:  
with *lat-* < verbal adj *tul-át-*, whose unstressed first syllable got reduced (vowel elision, consonant cluster simplification);
- c. Grk. *énas/éna/mía* cardinal numeral ‘1’ MASC/NEUT/FEM:  
all deriving, by regular sound change or analogy, from IE stem  $*sem-$ :  
 $*sem-s > hens > \dots$ ,  $*sem > hen > \dots$ ,  $*sm-iH_2 > m(h)ia$ ;
- d. E. *Birmingham/Brumm-ie*:  
attested for a long time with /r/ metatheses back and forth and variable vowel (place name since 1086 in the form *Beormingeham* ‘homestead of the descendants of Beorma’, then *Bromwichham*, *Brummagem*, *Brumm* etc., hence demonym *Brumm-ie*);

- e. E. *Shrewsbury/Salop-ian* (with *Salopian* also serving as a demonym for people from the entire county of Shropshire):  
 the first element in Old English *Scrobbes-burh/-byrig* ‘fortified place in (a district called) the Scrub’ developed to *Scirop-(scire)* (whence *Shrop-shire*) through vowel epenthesis, but was alternatively changed to *Salopes-(berie)* by Norman or Anglo-Norman speakers equally adverse to onset clusters and replacing /r/ by /l/ (whence *Salop-ian*), while the most regular native continuation of the old name was to lead to the town name’s modern version, *Schrobes-berie* > *Shrows-bury* > *Shrews-bury*;
- f. E. *say-* [sei]/[sɛ]: alternation the result of idiosyncratic (high-frequency word) monophthongisation or laxing before consonantal inflectional suffix.

(11) No implications between **strength** and **kinds of origin** of suppletion  
 – all combinations are possible and attested:

- |  |                           |
|--|---------------------------|
| <b>strong</b> and <b>combinatory</b> :   | e.g., 9a/10ia, 10ie       |
| <b>strong</b> and <b>dissimilatory</b> : | e.g., 10iib, 10iic, 10iie |
| <b>weak</b> and <b>combinatory</b> :     | e.g., 10ib, 9b/10ic       |
| <b>weak</b> and <b>dissimilatory</b> :   | e.g., 10iid, 9c/10iif     |

Quiz (only for the colour-blind, because the colour-coding gives it away)  
 Suppletion of the copula 'be' in Germanic: Combination or dissimilation as origin?

	Go	ON	OE		OS	OHG	
PRES IND SG 1	<i>im</i>	<i>em</i>	<i>eom</i>		<i>bīo(m)</i>	<i>bium</i>	<i>bim/bin</i>
	2 <i>is</i>	<i>est</i>	<i>eart</i>		<i>bis(t)</i>	<i>bis(t)</i>	<i>bis(t)</i>
	3 <i>ist</i>	<i>es</i>	<i>is</i>		<i>bīþ</i>	<i>is(t)</i>	<i>ist</i>
PL 1	<i>sijum</i>	<i>erom</i>	<i>sind(on)</i>	<i>earon</i>	<i>bīoþ</i>	<i>sind(un)</i>	<i>birum(es)</i>
	2 <i>sijup</i>	<i>erop</i>	<i>sind(on)</i>	<i>earon</i>	<i>bīoþ</i>	<i>sind(un)</i>	<i>birut/bir(e)nt</i>
	3 <i>sijun</i>	<i>ero</i>	<i>sind(on)</i>	<i>earon</i>	<i>bīoþ</i>	<i>sind(un)</i>	<i>sint(un)</i>
DU 1	<i>siju</i>						
	2 <i>sijuts</i>						
SUB SG 1	<i>sijau</i>	<i>sia</i>	<i>sīe</i>		<i>bīo</i>	<i>si</i>	<i>sī</i>
IMP SG 2	<i>(sijais)</i>	<i>ves</i>	<i>wes</i>		<i>bīo</i>	<i>wis</i>	<i>wis</i> <i>bis</i> <i>sīst</i>
INF	<i>wisan</i>	<i>vesa</i>	<i>wesan</i>		<i>bīon</i>	<i>wesan</i>	<i>wēsan</i>
PRTCPI	<i>wisands</i>	<i>vesande</i>	<i>wesende</i>		<i>bīonde</i>	<i>wesandi</i>	<i>wēsanti</i>
PRET IND SG 1	<i>was was</i>	<i>wæs</i>			<i>was</i>	<i>was</i>	
	PL 1	<i>wēsum</i>	<i>vōro</i>	<i>wæron</i>		<i>wārun</i>	<i>wārum</i>



	†Go	Icel	Swed	ModE	LG	NHG
PRES IND SG 1		<i>er</i>	<i>är</i>	<i>am</i>	<i>bün</i>	<i>bin</i>
	2	<i>ert</i>		<i>are</i>	<i>büs(t)</i>	<i>bist</i>
	3	<i>er</i>		<i>is</i>	<i>is</i>	<i>ist</i>
	PL 1	<i>erum</i>		<i>are</i>	<i>sünd</i>	<i>sind</i>
	2	<i>eruð</i>		<i>are</i>	<i>sünd</i>	<i>seid</i>
	3	<i>eru</i>		<i>are</i>	<i>sünd</i>	<i>sind</i>
SUB SG 1		<i>sé</i>	<i>vare</i>	<i>be</i>		<i>sei</i>
IMP SG 2		<i>ver</i>	<i>var</i>	<i>be</i>	<i>wees sie</i>	<i>sei/bi (Bav.)</i>
INF		<i>vera</i>	<i>vara</i>	<i>be</i>	<i>wesen sien</i>	<i>sein</i>
PRTCPI		<i>verandi</i>	<i>varande</i>	<i>being</i>		<i>seiend</i>
PRET IND SG 1		<i>var</i>	<i>var</i>	<i>was</i>	<i>weer was</i>	<i>war</i>
	PL 1	<i>vorum</i>		<i>were</i>	<i>weren weern</i>	<i>waren</i>
PRTCPII		<i>verið</i>	<i>varin</i>	<i>been</i>	<i>wesen west</i>	<i>gewesen</i>

#### IV. Universals/preferences sometimes assumed to rein in suppletion

(12) morphological type:

flexive > agglutinative  
(exponents cumulative, variant, tight etc.) (exponents separative, invariant, loose etc.)

(13) kind of morphology:

derivation > inflection (> (word > phrase) cliticisation)

(14) meaning, form, and frequency of stems,

across word classes (a-e) and specific to particular word classes (f-i):

a. **frequent** > **rare** (subsuming much else; a **law of change**: rarely occurring irregularities will be discontinued over time, across cycles of acquisition)

b. short > long

c. general > particular meaning

d. colourless > colourful

e. EGO-proximal > EGO-distal

f. nouns: persons > animals > things > abstract

g. adjectives: GOOD/BAD > LARGE/SMALL > OLD/NEW > ...

h. numerals: ONE > TWO > higher, with: round > unround

i. verbs: BE > HAVE > DO > motion/posture > SEE, GIVE/SAY, HOLD, ...

(15) word classes:

- a. verbs > nouns
- b. closed > open class
  - aa. auxiliary/light verbs > full verbs
  - bb. pronouns > nouns

(16) derivational categories:

- a. verbs: Aktionsart/verbal number > causative > ...
- b. nouns: motion (gender-switch) > provenance (town > country) > ...
- c. numerals: ordinal > ...
- d. change of word class: deadjectival adverbialisation > ...

(17) inflectional categories:

- a. verbs: aspect > tense > mood > polarity > number<sub>agree</sub> > person<sub>agree</sub> ...  
> (\*)diathesis
- b. nouns: number > (?)case > (\*)possessor > (\*)state > (\*)definiteness
- c. adjectives/adverbs: comparison > ... > (\*)gender<sub>agree</sub>
- d. general: inherent > contextually assigned categories  
semantic > morphosyntactic categories

- (18) distributions of suppletive stems over terms of inflectional categories:
- a. unmarked vs. marked terms:  
e.g., NOM vs. other cases; 3SG vs. other persons and numbers;  
SG vs. PL/DU
  - b. paradigmatically “closer” vs. more “distant” terms:  
e.g., direct vs. oblique cases; 1st/2nd persons (speech-act participants) vs.  
3rd person; POSITIVE vs. COMPARATIVE/SUPERLATIVE in Adj gradation

Questions: Which stages or which transitions in the life-cycle of suppletion are constrained through such (categorical or preferential) universals?

The general plot of suppletive life-cycles goes like this.

## GENESIS

When distinct stems (or roots or words, depending on what are the basic units in the language concerned) exceptionally come to be yoked together to share in the labour of expressing certain inflectional or derivational contrasts, perhaps undergoing formal adaptations according to live (morpho-)phonological rules of grammar, such **combinatory suppletion tends to respect paradigmatic structures**. Suppletive stems do duty for subsets of categories which can be grouped together as **natural classes** within their paradigmatic system.

For example, when two stems are combined for purposes of number and case inflection of a noun, one is likely to take care of all cases of one number (or subset of numbers) and the other of all cases (or subset of cases) of the other number(s). Or they will be distributed by case, with one stem taking care of all numbers of one case (or subset of cases) and the other of all numbers of the other (subsets of) cases. Here is a real example, the noun for ‘man, person’ in Slovene, where the two stems are distributed by number (SG vs. DU and PL), but which also shows that complications can arise through sporadic redistributions of stems (with the PL stem invading some of the DU cases, encouraged by independent considerations of homonymy; Plank 1994;

Slovene also permits *človékov* and *človékih* as GEN.DU and LOC.DU alternatives, with the PL stem more orderly circumscribed):

	SG	DU	PL
NOM	<i>človek</i>	<i>človék-a</i>	<i>ljud-ê</i>
ACC	<i>človék-a</i>	<i>človék-a</i>	<i>ljud-î</i>
GEN	<i>človék-a</i>	<i>ljud-í</i>	<i>ljud-í</i>
LOC	<i>človék-u</i>	<i>ljud-éh</i>	<i>ljud-éh</i>
DAT	<i>človék-u</i>	<i>človék-oma</i>	<i>ljud-êm</i>
INS	<i>človék-om</i>	<i>človék-oma</i>	<i>ljud-mí</i>

Here it is primarily a distinction between categories (essentially number, paradigmatically dominant over case in Slovene) which is determining a suppletive distribution. As to the subsets of the terms of the category, number, which defines the distribution of the two stems, Slovene evidently groups DUAL with PLURAL (‘more than 1’ and ‘more than 1, specifically 2’, as opposed to SG ‘1’), except for exceptional GEN and LOC. Paradigmatic **dominance among categories** as well as **subgrouping among terms** can vary across languages, perhaps within limits. Thus, case can also be dominant over number; or a dual can also be grouped with singular instead, for all kinds of morphological purposes, on the strength of conceptualisations of DU as aligned with SG in a ‘minimal’ vs. ‘augmented’ paradigmatic contrast. For case, subsets frequently seen to be relevant for suppletive distributions are grammatical vs. semantic and direct vs. oblique cases.

The relations holding within paradigmatic systems may be complex and non-uniform, but **suppletive stems originating from distinct lexemes will never be randomly distributed over paradigms**. However, the constraint that they must respect paradigmatic structures and only cover natural subgroupings is a **DIACHRONIC** one, because it only applies when lexeme combination is the relevant step in creating suppletion. When **phonological differentiation** of single stems is the mechanism of change leading to suppletion, paradigmatic structures do NOT rein in the resultant patterns, except perhaps coincidentally, if reflected in phonological patterns.

**Defective paradigms** have sometimes been invoked as the catalysts of combinatory suppletion, and the resulting suppletive distributions would then be expected to be as orderly or random as the original gaps were. Now, paradigms can be defective because of **phonotactic conflicts** arising in combinations of morphological material are unresolvable or because of other **phonological inadequacies** (such as insufficient prosodic weight of inflected or derived words), and it would then be a coincidence if they followed morphological patterns. Or particular morphological categories (often paradigmatically exposed ones such as participles in verb inflection) of particular words can be affected for no apparent reasons at all. But the reasons for gaps can also be transparently semantic, as with *pluralia/singularia tantum* nouns or 3rd-person-only impersonal verbs. (See Baerman, Corbett & Brown 2010 for a recent overview.)

While morphological randomness is unlikely to be prevalent where gaps have invited suppletive filling, in many instances where the gestation and birth of a suppletion can be ascertained, there was no initial gap which another lexeme would have been called upon to fill, but the complementary distribution of suppletive stems over the paradigmatic system, through dropping one stem where the other was retained and vice versa, was only negotiated subsequently. (Hence Osthoff's term "*Ergänzungswesen*" vis-à-vis "*Defectivwesen*" as suggested by Gabelentz 1891 for what eventually became known as suppletion.) Overall, regardless of prior states of affairs, when origins of suppletion are combinatorial, paradigmatic structures will rarely be found to be wholly neglected.

## **PROGRESS**

Once suppletion through stem combination has been established for a lexeme, paradigmatic distributions are often diachronically remarkably **stable** (especially when a lexeme continues to be frequent). If one of the suppletive stems is subsequently replaced by another (as in the case of Scandinavian Germanic *bra* for *good*), paradigmatic patterns usually remain unaltered.

However, **redistributions** over paradigmatic systems do occur, especially as a concomitant of a return to morphological regularity by levelling out a paradigm; some degree of **interim randomness** here should not be wholly unexpected.



## DEMISE

The genesis of suppletion is more mysterious than its demise. Which suppletive lexemes are prone to be regularised and why is obvious: ones not occurring very frequently.

**Low-frequency** lexemes give learners fewer chances of even discovering that they are suppletive, and they will be regularised should they ever be used later in life.

## GENESIS, again

Frequency as such is unlikely to SPAWN suppletion, however, and the best predictor here seems to be meaning: being in **common everyday use** and designating something that is **perceptually, cognitively, or culturally salient** will increase the chances of (or threat for) lexemes to be harnessed together for expressing certain paradigmatic contrasts. Such lexemes will not be much handicapped by random paradigmatic gaps. And such central lexical fields will be densely populated with **synonyms** and **near-synonyms** lending themselves to distinguishing the finest semantic nuances if needed or desired – or eventually also to being combined with one another in one suppletive team. (Börjars & Vincent 2011 require more specifically that one such near-synonym must act as the “**dominant**” and the other as the “**recessive**” partner for suppletion to be accomplished.)

Finally, which **environments are either conducive or inimical to suppletion** has been a subject for some speculation, too. The following are some suggested preferences among conditioning factors: flexive/fusional > agglutinative morphology; derivation > inflection; pronouns > verbs > adjectives > nouns; comparison > agreement in the case of adjectives; inherent > contextual, semantic > morphosyntactic inflectional categories.

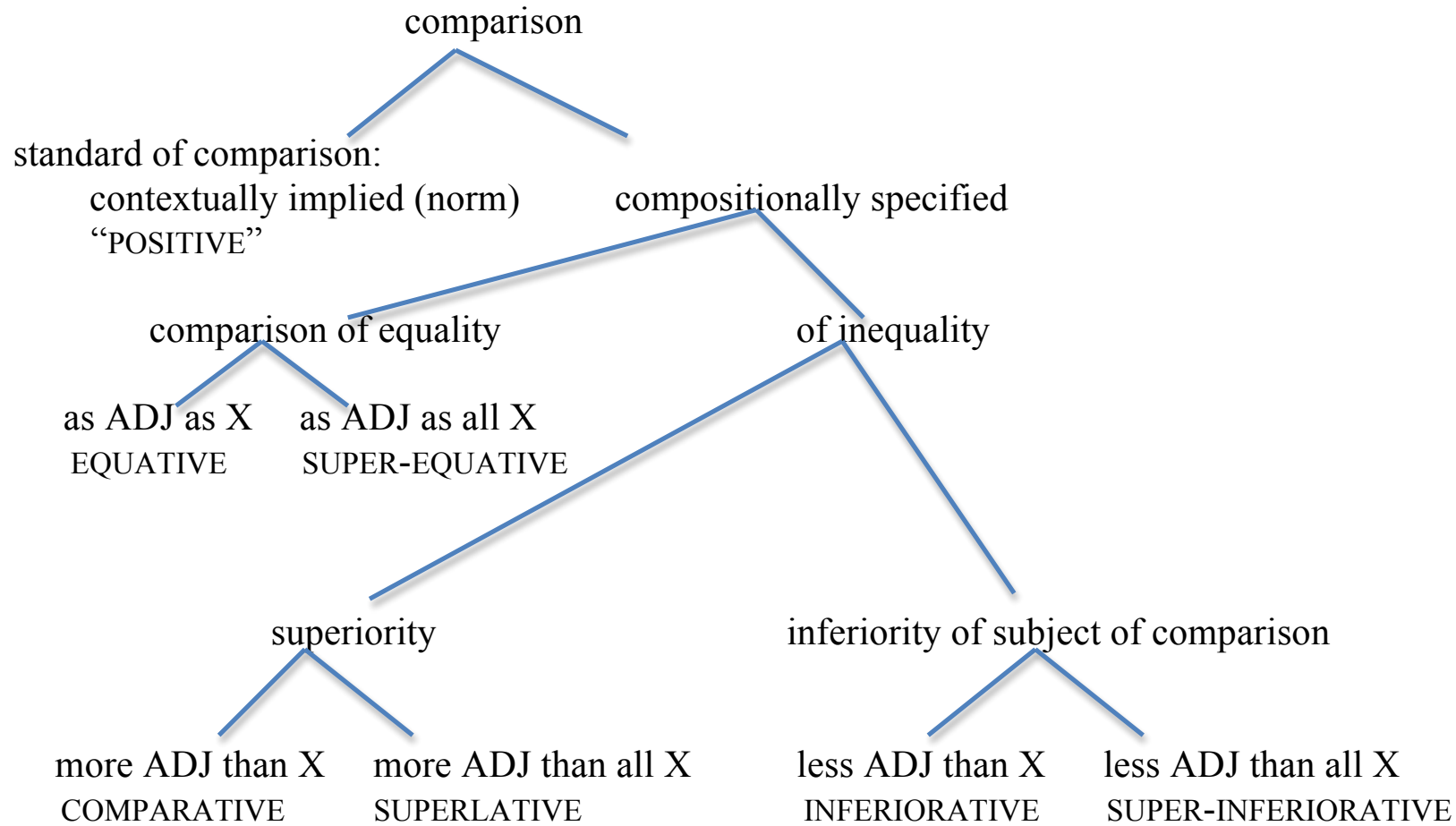
Passing on to the particular part of this explanatory scenario, a first prediction is confirmed by UCM's findings:

All adjectives, adverbs, and quantifiers figuring in UCM's samples are on the shortlist of suppletion candidates owing to their commonplace meaning and the corresponding abundance of near-synonyms.

Second, adjectives and their ilk are not excluded from the set of word classes accommodating suppletion.

Third, categories to do with comparison, be they inflectional or derivational, are possible and indeed likely conditioners of suppletion.

These categories of adjectival comparison form a hierarchical paradigmatic system as sketched in Figure 1, with EQUATIVES rarely and SUPER-EQUATIVES as well as INFERIORATIVES and SUPER-INFERIORATIVES (if you permit a few terminological innovations) apparently, on the evidence of UCM, never realised morphologically. CMPR and SPRL could not be closer together, and POS will remain on a separate hierarchical level even when the contrast of comparison of inequality and equality, only rarely recognised morphologically, is removed. Whatever the details of preferred semantic analyses, the **affinity of CMPR and SPRL** is hard to deny. For example, Wurzel (1987: 486), inspired by the semantics as worked out by Bierwisch (1987), emphasises the contrast between compositional and contextual specification of the standard of comparison which sets apart CMPR and SPRL from POS. For Herbermann (1998), like Wurzel (1987) but without the explicit formal semantics, SPRL is but a special case of CMPR, adding the quantificational aspect of bilateral comparisons among all relevant comparees.



**Figure 1:** Paradigmatic system of adjectival comparison

Fourth prediction, therefore: When suppletions in comparison originate through lexeme combination, they will form ABB or ABC patterns; \*AAB and \*ABA would be grouping categories – CMPR and POS, to the exclusion of SPRL; POS and SPRL, to the exclusion of CMPR – which form no natural pairs in the paradigmatic system. EQUATIVE going with POSITIVE in Welsh is consistent with the contrastive hierarchy of Figure 1, where no other category paradigmatically separates them. Still, perhaps the hierarchy can be modified, with all comparisons of inequality, whether they specify the standard of comparison or leave it implicit, forming one block, set against comparison of equality, where standards are always specified. If SIMILATIVES (‘Granny sings like a nightingale’) were to be added, they would be next-of-kin of equatives. When suppletions come about through phonological differentiation of single lexemes, *post factum* not a synchronically recognisable difference, any morphological pattern may be the result, including AAB and ABA. The universals in UCM, coming from UG, are envisaged as being timeless constraints on grammatical states; but what is required here instead are constraints on **changes** of grammatical states, so that only certain kinds of transitions can be prohibited, while others are allowed to go through, even though leading to the the very same kind of resultant state, suppletion.

To continue, not with a further prediction, but with an attempt to understand why and how comparison – typologically rather unusually – came to be expressed on adjectives themselves, and sometimes through suppletion on top of it, in genealogically and areally so narrowly circumscribed circumstances. Above, the full range of ways and means of dealing with comparison across languages was briefly alluded to (also recounted in UMC), and we should add now that typological concurrence has variously been projected onto diachronic succession. For Indo-European, a commonly assumed, if not point-by-point reconstructed grammaticalisation scenario posits

adversative or negative paratactic constructions, as exceedingly common almost everywhere else, as a point of departure, developing into (rare) monoclausal comparative constructions (e.g., Small 1923, 1929; Seuren 1984; Breivik 1994). Beginning with something like ‘Mother is old/not old, but Father is very/rather old’, a comparative marker associated with adjectives would have been recruited from intensifying modifiers, and various possibilities would have been explored of integrating the standard of comparison in a monoclausal comparative construction, yielding something like ‘Father is very/rather-old from/next to/... Mother’. **Intensity** thus was the uniform difference for all the parameters of comparison expressed by adjectives (and adverbs and quantifiers), and certain lexical domains, fundamental for everyday communication, would have provided a **wealth of near-synonyms suitable for intensity-grading**. And in such newly grammaticalised comparative constructions, or already in their ancestral paratactic clause combinations, it would not have been a big deal to match, for example; ‘old’ with more intense as well as more colourful ‘aged, ancient, grey, rusty, decrepit, infirm, (time-)worn, seasoned, third-age, senile, passé, past-one’s-prime’ or, deploying productive word-formation patterns à la German, ‘ur-alt, stein-alt’ – rendering intensifying modifiers about to be grammaticalised as regular adjectival morphology redundant. Keeping such lexical gradations, once monoclausal comparison has become entrenched, amounts to suppletion.

Paradigmatic gaps may here and there have played a role, but were hardly instrumental in launching a larger-scale suppletive programme. For example, for Germanic *\*gōda-* the original meaning appears to have been ‘fitting, suitable’ and the form has been assumed to be a participle or deverbal adjective from a verb ‘bring together, unite’; hence, since participles are uncomfortable with CMPR morphology, an inherently more intensive near-synonymous lexeme

would have had to step in (Common Germanic *\*batiz-ōn*, *\*batist-a*, of unclear origin, perhaps ‘happy, pleasant’?, and itself with a basic POS form, *\*bat-*, which was eventually discontinued, quite late in fact in German, where an adverb *bass* is only becoming obsolete now). Even where deficient paradigms were an impetus for suppletions, their distributions appear to always have observed the paradigmatic bifurcation of POS vs. CMPR/SPRL.

Diachronically, at least in Indo-European, the superlative was a subsequent addition, a semantic specialisation of the comparative. Here history again helps to understand, or indeed to predict, synchronic patterns: the morphological or periphrastic marking of SPRL typically builds on CMPR structures so as best to reflect its universal-quantifying semantics, recruiting definites, universal quantifiers, intensive or excessive markers, or existing bound morphology of comparable meaning for the purpose. In terms of constituency, CMPR marking will typically be “inner” and SPRL marking “outer”, because the latter is younger morphology, and morphology created by univerbation is added at word edges, not in their interior. (There may also be a timeless word-internal scope law for arranging pieces of morphology by generality (inner) and specificity (outer); its effect would in this case be the same.)

The paradigmatic divide between POS and CMPR/SPRL appears to be an especially robust one, because in the case of suppletions stems were not subsequently redistributed over paradigms so as to stray from the ABB and ABC patterns dictated by their origin.

Finally, again not a prediction because here almost anything goes, there is the matter of diachronic vacillations between the bi- and monomorphemic expression of comparative and superlative meanings. When created in a separate step of univerbation, SPRL will nonetheless imply CMPR, and if their exponents end up as morphological neighbours, there is a probability that

their fate will be that of gradual phonological fusion, eventually leading to cumulation. Probably flat morphological structures, [ADJ-CMPR-SPRL], are more conducive to fusion than hierarchical ones, [[[ADJ]-CMPR]-SPRL]; but perhaps the difference should not be exaggerated. More importantly, fusion is not perforce a one-way street: for example, relative to their joint source, Old High German (*alt-*, *alt-ir-*, *alt-ist-*), Cimbri has de-fused CMPR and SPRL through analogically extending the independent CMPR suffix (*alt-*, *ält-ar-*, *ält-ar-st-*), while other German retained the status quo (SPRL *ält-est-*) – not a big deal of huge theoretical significance, and none at all in overall semantics, but still altering morphological structure.



## V. Paradigmatic geometry of suppletion

- (19) Inflectional paradigm structures represented through **geometric arrangements** (following Rasmus Rask, Roman Jakobson, Louis Hjelmslev, et al., see Plank 1991):
- a. **dominance** among categories (when words inflect for more than one):  
horizontal dominant, vertical dominated
  - b. **markedness**: unmarked top and left (i.e., first as you scan a page)
  - c. relationships among terms that license patterns such as
    - aa. non-distinction of exponents (**syncretism**)
    - bb. distinction of stems (**allomorphy, suppletion**):  
the closer, the more similar (Thesaurus Principle);  
in particular, **neighbourhood constraint**, in association with  
**uniform order requirement** and **limitation of dimensions**.

(20) **Possible** patterns of distributing suppletive stems across inflectional paradigms  
(when words inflect for more than one category)

(i) Stem distributions defined through **single** categories

(A)	SG	PL	SG	PL
	NOM	x	x	x
	ACC	x	y	y
	GEN	x	y	y

the simplest distribution: for numbers, stem x selected by SG, stem y by PL;  
for cases, stem x selected by NOM, stem y by other cases.

(ii) Stem distributions defined through **more than one/all** categories

(Ba)	SG	PL	(Bb)	SG	PL
	NOM	x		u	v
	ACC	y		w	x
	GEN	y		y	z

**loners:**  
stem x selected by NOM.SG,  
y elsewhere

**lonely crowd:**  
**each** stem selected by unique case.number  
– complex pattern, but not in violation of neighbourhood constraint

(Ca)	SG	PL
NOM	x	y
ACC	x	y
GEN	y	y

**extension** to horizontal **or** vertical neighbours  
stem y selected by PL and GEN.SG, y elsewhere

(Cb)	SG	PL
	x	x
	x	y
	y	y

... to horizontal **and** vertical neighbours  
stem x selected by SG (except GEN) and  
NOM.PL, y by PL (except NOM) and GEN.SG

(Cc)	SG	PL
NOM	x	y
ACC	y	y
GEN	y	x

**CROSSOVER!**

violation of neighbourhood constraint

as long as term ordering is uniform across terms of categories involved

stem x selected by NOM.SG and GEN.PL,  
stem y elsewhere (by all cases other than NOM in SG and by all cases other than GEN in PL)

(21) What are the **real** distributions of suppletive stems across inflectional paradigms? Are any of the **possible** patterns unattested?

(22) Pattern A is surely real, and is the most frequent.

- a. noun *čelovek-* (2nd decl., masc.)/*ljud-* (3rd decl., fem.) ‘man, people’ in Russian (Slavonic, IE)

– NUMBER dominant over CASE?

	SG	PL
NOM	<i>čelovek</i>	<i>ljud-i</i>
ACC	<i>čelovek</i>	<i>ljud-i</i>
GEN	<i>čelovek-a</i>	<i>ljud-ej</i>
LOC	<i>čelovek-e</i>	<i>ljud-jax</i>
DAT	<i>čelovek-u</i>	<i>ljud-jam</i>
INS	<i>čelovek-om</i>	<i>ljud-’mi</i>

- b. proximal demonstrative pronoun *es(e)-/am(V)-* ‘this’ in Georgian (South Caucasian; Hewitt 1995: 77-78)

– CASE dominant over NUMBER?

	SG	COLLECTIVE	PL	
NOM	<i>es</i>	<i>ese-eb-i</i>	<i>ese-n-i</i>	(direct case)
ERG	<i>ama-n</i>	<i>ame-eb-ma</i>		(oblique cases)
GEN	<i>am-is(a)</i>	<i>ame-eb-is(a)</i>		
DAT	<i>ama-s(a)</i>	<i>ame-eb-s(a)</i>	<i>ama-t(a)</i>	
INS	<i>am-it(a)</i>	<i>ame-eb-it(a)</i>		
ADV	<i>ama-d(a)</i>	<i>ame-eb-ad(a)</i>		

c. adjective *bon-/mel-/opt-* ‘good’ in Latin (Italic, IE) – GRADATION dominant over all other categories

POSITIVE

SG			PL		
MASC	NEUT	FEM	MASC	NEUT	FEM
NOM <i>bon-us</i>	<i>bon-um</i>	<i>bon-a</i>	<i>bon-i</i>	<i>bon-a</i>	<i>bon-ae</i>
ACC <i>bon-um</i>	<i>bon-um</i>	<i>bon-am</i>	<i>bon-os</i>	<i>bon-a</i>	<i>bon-as</i>
GEN <i>bon-i</i>	<i>bon-i</i>	<i>bon-ae</i>	<i>bon-orum</i>	<i>bon-orum</i>	<i>bon-arum</i>

...

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COMPARATIVE

SG			PL		
MASC	NEUT	FEM	MASC	NEUT	FEM
NOM <i>mel-ior</i>	<i>mel-ior</i>	<i>mel-ior</i>	<i>mel-ior-es</i>	<i>mel-ior-a</i>	<i>mel-ior-es</i>
ACC <i>mel-ior-em</i>	<i>mel-ior</i>	<i>mel-ior-em</i>	<i>mel-ior-es</i>	<i>mel-ior-a</i>	<i>mel-ior-es</i>
GEN <i>mel-ior-is</i>	<i>mel-ior-is</i>	<i>mel-ior-is</i>	<i>mel-ior-um</i>	<i>mel-ior-um</i>	<i>mel-ior-um</i>

...

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SUPERLATIVE

SG			PL		
MASC	NEUT	FEM	MASC	NEUT	FEM
NOM <i>opt-im-us</i>	<i>opt-im-um</i>	<i>opt-im-a</i>	<i>opt-im-i</i>	<i>opt-im-a</i>	<i>opt-im-ae</i>
ACC <i>opt-im-um</i>	<i>opt-im-um</i>	<i>opt-im-am</i>	<i>opt-im-os</i>	<i>opt-im-a</i>	<i>opt-im-as</i>
GEN <i>opt-im-i</i>	<i>opt-im-i</i>	<i>opt-im-ae</i>	<i>opt-im-orum</i>	<i>opt-im-orum</i>	<i>opt-im-arum</i>

...

- d. Papantla Totonacan (isolate; Corbett 2009: 30, pc Paulette Levi) INCOMPLETEIVE of verb *a':n(a:)/pin(a:)* 'go' (same pattern in other aspects, COMPLETIVE und PERFECTIVE, and equally with verbs 'lie' and 'come')  
 – PERSON dominant over NUMBER?

		SG	PL
1	EXCL	<i>k-an</i>	<i>(k-)aná:</i>
	INCL		<i>aná:(-w)</i>
3		<i>an</i>	<i>t-a'n</i>
2		<i>pín-a</i>	<i>piná:-tit</i>

- e. Murle (Nilo-Saharan; Arensen 1982: 60, 72, Veselinova 2006: 101-102)  
 – NUMBER dominant over PERSON?

IMPERFECT regular verb 'climb'

suppletive verb 'go'

		SG	PL	SG	PL
1	EXCL	<i>ka-tood-i</i>	<i>ka-toɔt</i>	<i>ka-kɔ</i>	<i>ka-vɔ</i>
	INCL		<i>ka-toodd-a</i>		<i>ka-vɔy-a</i>
2		<i>a-tood-i</i>	<i>a-toodd-u</i>	<i>a-kɔy-i</i>	<i>a-vɔy-u</i>
3		<i>a-toɔt</i>	<i>a-toɔt</i>	<i>a-kɔ</i>	<i>a-vɔ</i>

where: *ka-* 1                    *-i* 1/2SG  
*a-* 2/3                        *-a* 1PL.INCL  
                                      *-∅* 1PL.EXCL/3  
                                      *-u* 2PL

- f. cardinal numeral *hen-/m-* ‘1’ (equally when negated: *oud-en-/oude-m-*, *mēd-en-/mēde-m-* ‘nobody’) in Ancient Greek (Hellenic, IE; Kieckers 1926: 75-79) [!!!]  
 – GENDER dominant over CASE?

	MASC	NEUT	FEM
NOM	<i>heĩ-s</i>	<i>hén</i>	<i>m-ía</i>
ACC	<i>hén-a</i>	<i>hén</i>	<i>m-ían</i>
GEN	<i>hen-ós</i>	<i>hen-ós</i>	<i>m-iãs</i>
DAT	<i>hen-í</i>	<i>hen-í</i>	<i>m-iã</i>

(23) Patterns B, loners, are common.

a. copula *be* in English (Germanic, IE)

PRESENT

	INDICATIVE		SUBJUNCTIVE		IMPERATIVE	
	SG	PL	SG	PL	SG	PL
1	<i>am</i>	<i>are</i>	<i>be</i>	<i>be</i>		
3	<i>is</i>	<i>are</i>	<i>be</i>	<i>be</i>		
2	<i>are</i>	<i>are</i>	<i>be</i>	<i>be</i>	<i>be</i>	<i>be</i>

PRETERITE

	INDICATIVE		SUBJUNCTIVE	
	SG	PL	SG	PL
1	<i>was</i>	<i>were</i>	<i>was/were</i>	<i>were</i>
3	<i>was</i>	<i>were</i>	<i>was/were</i>	<i>were</i>
2	<i>were</i>	<i>were</i>	<i>were</i>	<i>were</i>

b. adjective *lilla* (or dialectal East Norwegian *vesle*, being more strongly suppletive vis-à-vis *lit-* than *lilla*)/*små*/*lit-/min(d)*- ‘little’ in Norwegian (Germanic, IE; pc Allison Wetterlin)

DEF	POS	SG	PL
		<i>lille/vesle</i>	<i>små</i>
	COMP	<i>mind-re</i>	<i>mind-re</i>
	SUPER	<i>min-ste</i>	<i>min-ste</i>
INDEF	POS	MASC	<i>små</i>
		<i>lit-en</i>	
(FEM)	<i>lit-a</i>		
	NEUT	<i>lit-e</i>	
	COMP	<i>mind-re</i>	<i>mind-re</i>
	SUPER	<i>min-ste</i>	<i>min-ste</i>



c. personal pronoun 1st person in English (Germanic, IE): Lonely Crowd

	SG	PL (or ASSOCIATIVE)
SBJ	<i>I</i>	<i>we</i>
OBJ	<i>me</i>	<i>us</i>
POSS	<i>my</i>	<i>our</i>

Food for thought:

Where do loners occur in paradigms (diachronically speaking:  
Where do they edge in and hold out?)

Anywhere? (as in Lonely Crowds, where one loner appears  
to license an adjacent loner)

Or only/preferably in conspicuous, exposed positions?

e.g., Engadine Raeto-Romance *ir* 'to go'

PRES

	IND		IMP	
	SG	PL	SG	PL
1	<i>vegn</i>	<i>giain</i>	<i>va</i>	<i>it</i>
2	<i>vast</i>	<i>giais</i>		
3	<i>va</i>	<i>van</i>		

(24) Pattern Ca, horizontal or vertical extensions to neighbouring cells, is common.

a. noun *človek-/ljud-* ‘man, people’ in Slovene (Slavonic, IE)

	SG	DU	PL
NOM	<i>človek</i>	<i>človek-a</i>	<i>ljud-ê</i>
ACC	<i>človek-a</i>	<i>človek-a</i>	<i>ljud-î</i>
GEN	<i>človek-a</i>	<i>ljud-í</i>	<i>ljud-í</i>
LOC	<i>človek-u</i>	<i>ljud-êh</i>	<i>ljud-êh</i>
DAT	<i>človek-u</i>	<i>človek-oma</i>	<i>ljud-êm</i>
INS	<i>človek-om</i>	<i>človek-oma</i>	<i>ljud-mí</i>

b. verb *a(i)ll-/v-/i-* ‘go’ in French (Italic, IE)

PRESENT

	INDICATIVE		SUBJUNCTIVE		IMPERATIVE	
	SG	PL	SG	PL	SG	PL
1	<i>v-ais</i>	<i>all-ons</i>	<i>aill-e</i>	<i>all-ions</i>	<i>v-a(s)</i>	<i>all-ez</i>
2	<i>v-as</i>	<i>all-ez</i>	<i>aill-es</i>	<i>all-iez</i>		
3	<i>v-a</i>	<i>v-ont</i>	<i>aill-e</i>	<i>aill-ent</i>		

IMPERFECT (etc.)

	SG	PL
1	<i>all-ais</i>	<i>all-ions</i>
2	<i>all-ais</i>	<i>all-iez</i>
3	<i>all-ait</i>	<i>all-aient</i>

FUTURE (and CONDITIONAL)

	SG	PL
1	<i>i-r-ai</i>	<i>i-r-ons</i>
2	<i>i-r-as</i>	<i>i-r-ez</i>
3	<i>i-r-a</i>	<i>i-r-ont</i>

- c. verb ‘come, go’ in Georgian (South Caucasian; Hewitt 1995: 448-452)  
 – non-canonical according to Hippisley et al. 2004, but fine geometry:

four compact blocks

- stem *-di-*: present, imperfect, present subjunctive  
 stem *-vid-*: conditional, future subjunctive, aorist, aorist subjunctive  
 stem *-va(l)-*: future  
 stem *-(s)vl-*: perfect, pluperfect, third subjunctive, non-finite

plus one orderly extension: *-di-* also in 2SG/PL imperative

- d. verb ‘beat’ in Dusur (Skou, New Guinea; Donohue 2004: Chap. 7.2.4)

A \ P	1SG	2SG	3SG.NF	3SG.F	1PL	2PL	3PL	3PL.NF	3PL.F
2SG	<i>bá</i>	-	<i>bá</i>	<i>páng</i>	<i>jí</i>	-	<i>jí</i>	<i>jí</i>	<i>jí</i>
3SG.F	<i>wá</i>	<i>wá</i>	<i>wá</i>	<i>wáng</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>
3SG.NF	<i>ká</i>	<i>ká</i>	<i>ká</i>	<i>láng</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>
1SG	-	<i>ká</i>	<i>ká</i>	<i>láng</i>	-	<i>jí</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>
2PL	<i>ká</i>	-	<i>ká</i>	<i>láng</i>	<i>jí</i>	-	<i>jí</i>	<i>jí</i>	<i>jí</i>
1PL	-	<i>ká</i>	<i>ká</i>	<i>táng</i>	-	<i>jí</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>
3PL	<i>já</i>	<i>já</i>	<i>já</i>	<i>jáng</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>	<i>jí</i>

Columns distinguish person, number, gender of patient, lines those of agent; thus, e.g., *bá* ‘thou beatest me’, *jí* ‘thou beatest us’. NF is non-feminine.

(25) Pattern Cb, extensions to horizontal and vertical neighbours, is also common.

a. copula *esse* ‘be’ in Latin (Italic, IE), indicative present active

	SG	PL
1	<i>su-m</i>	<i>su-mus</i>
3	<i>es-t</i>	<i>su-nt</i>
2	<i>es</i>	<i>es-tis</i>

b. verb *mett-ere* ‘put’ and many others in Italian (Italic, IE), 2nd conj., PASSATO REMOTO

	SG	PL
2	<i>mett-esti</i>	<i>mett-este</i>
1	<i>mis-i</i>	<i>mett-emmo</i>
3	<i>mis-e</i>	<i>mis-ero</i>

c. verb *f(a)-are* ‘do’ in Italian (Italic, IE) – neighbourhood constraint only satisfied with different term orders in different subparadigms!

PASSATO REMOTO, suppletive stems /fatʃ-/ , /fetʃ-/

	SG	PL
2	<i>fac-esti</i>	<i>fac-este</i>
1	<i>fec-i</i>	<i>fac-emmo</i>
3	<i>fec-e</i>	<i>fec-ero</i>

indicative present, suppletive stems /fatʃtʃ-/ , /f(a)-/

	SG	PL	
1	<i>facc-io</i>	<i>facc-iamo</i>	(Regionally 1SG also <i>f-o</i> , with <i>facc-</i> 1PL as loner.)
2	<i>fa-i</i>	<i>f-ate</i>	
3	<i>f-a</i>	<i>f-anno</i>	

(26) Alas, pattern Cc, CROSSOVER, also occurs, if infrequently: Italian (26, 27), Dusur (24d).

- a. verb *ven-ire* ‘come’ in Italian (Italic, IE), 3rd conj.; indicative present suppletive stems /venɨ/, /ven, vien/ (assuming this last alternation is accent-dependent morphophonology rather than suppletion; if not, in line with neighbourhood constraint)

	SG	PL
1	<i>veng-o</i>	<i>ven-iamo</i>
2	<i>vien-i</i>	<i>ven-ite</i>
3	<i>vien-e</i>	<i>veng-ono</i>

- a'. with alternative term orders

	SG	PL
2	<i>vien-i</i>	<i>ven-ite</i>
1	<i>veng-o</i>	<i>ven-iamo</i>
3	<i>vien-e</i>	<i>veng-ono</i>

	SG	PL
1	<i>veng-o</i>	<i>ven-iamo</i>
3	<i>vien-e</i>	<i>veng-ono</i>
2	<i>vien-i</i>	<i>ven-ite</i>

- a". with non-uniform term orders across subparadigms: **poor paradigm design!**

	SG		PL
1	<i>veng-o</i>	3	<i>veng-ono</i>
2	<i>vien-i</i>	2	<i>ven-ite</i>
3	<i>vien-e</i>	1	<i>ven-iamo</i>

- b. other than *ven-ire*, a handful 2nd and 3rd conjugation verbs in Italian with stem-final /n, l/: *sal-ire* ‘mount’, *dol-ére* ‘hurt’, *ten-ére* ‘hold’, *val-ére* ‘be worth/valid’, *riman-ére* ‘remain’, *por-re/pon-ére* ‘put’, and, with an added complication at 1PL, *vol-ére* ‘wish’.  
(Phonological history: analogical addition of velar after model of verbs in /ng, lg/; then regular palatalisation /ŋ, ʎ/, then analogical levelling.)

e.g., *vol-ére* ‘wish’, 2nd conj.

suppletive stems /voʎ-/ , /vuol-, vol-/ , /vuo-/ in indicative present

	SG		PL			SG		PL
1	<i>vogli-o</i>		<i>vogl-iamo</i>	}	1	<i>vogli-o</i>		<i>vogl-iamo</i>
2	<i>vuo-i</i>		<i>vol-ete</i>		3	<i>vuol-e</i>		<i>vogli-ono</i>
3	<i>vuol-e</i>		<i>vogli-ono</i>		2	<i>vuo-i</i>		<i>vol-ete</i>

- c. a few verbs of the 3rd conjugation in Italian with stem-final /r/: *mor-ire* ‘die’, *appar-ire* ‘appear’.  
(Phonological history: vocalisation of final /r/.)

e.g., *mor-ire* ‘die’, 3rd conj., indicative present

	SG		PL
1	<i>muoi-o</i>	}	<i>mor-iamo</i>
2	<i>muor-i</i>		<i>mor-ite</i>
3	<i>muor-e</i>		<i>muoi-ono</i>

(27) Extensions of suppletive *g*-stem to paradigmatic neighbours (Rohlf's 1968: §535)  
 – but crossover remains:

horizontal

	SG	PL
1	<u>veng-o</u>	<u>vengh-iamo</u>
2	vien-i	ven-ite
3	vien-e	<u>veng-ono</u>

vertical

	SG	PL
	<u>veng-o</u>	<u>ven-iamo</u>
	<u>viengh-i</u>	<u>ven-ite</u>
	vien-e	<u>veng-ono</u>

(28) Crossover 1SG–3PL averted thanks to good neighbours

(i) 1SG = 1PL = 3PL

a. *pot-ére* ‘be able to’, 2nd conj.  
suppletive stems /pot-/, /poss-/, /puo-/ in indicative present

	SG	PL	
1	<i>poss-o</i>	<i>poss-iamo</i>	(Old Italian 1PL <i>pot-emo</i> , like pattern (25a))
3	<i>puo</i>	<i>poss-ono</i>	
2	<i>puo-i</i>	<i>pot-ete</i>	

(ii) 1SG = 3SG = 3PL

a. PASSATO REMOTO of *ven-ire* ‘come’; suppletive stems /ven/, /venn/

	SG	PL
2	<i>ven-esti</i>	<i>ven-iste</i>
1	<i>venn-i</i>	<i>ven-immo</i>
3	<i>venn-e</i>	<i>venn-ero</i>

b. imperative of *ven-ire* ‘come’; suppletive stems /ven, vien/, /venj/

	SG	PL
2	<i>vien-i</i>	<i>ven-ite</i>
1	-	<i>ven-iamo</i>
3	<i>veng-a</i>	<i>veng-ano</i>



(iii) 1SG = 2SG = 3SG = 3PL

- a. *dov-ére* 'must, should', 2nd conj.  
suppletive stems /*dov-*/, /*dev-*/, *debb-*/, /*dobb-*/ in indicative present

	SG	PL
1	<i>dev-o / debb-o</i>	<i>dobb-iamo</i>
2	<i>dev-i</i>	<i>dov-ete</i>
3	<i>dev-e</i>	<i>dev-ono / debb-ono</i>

- b. *fin-ire* 'finish', 3rd conj., with stem extension *-isc-*

	SG	PL
1	<i>fin-isc-o</i>	<i>fin-iamo</i>
2	<i>fin-isc-i</i>	<i>fin-ite</i>
3	<i>fin-isc-e</i>	<i>fin-isc-ono</i>

- (29)a. **Strength** of crossover suppletions in Italian:  
**weak** (stem-final /n, l/ vs. /ng, lg/, but alternation **not** governed by phonological rule), rather than strong.
- b. **Origin: dissimilatory**, rather than combinatory;  
 phonological history (Rohlf's 1968: §535):
- analogical addition of velar after model of verbs in /ng, lg/ (e.g., *giung-ere* 'link'), owing to ambiguity of surface nasal/lateral in contexts of palatalisation (/n, l/ → /ɲ, ʎ/ before /j/): *giugn-iamo*, *vegn-iamo* 1PL),
  - and helped by uncertainty over /ɲ, ʎ/ vs. /ng, lg/ (cf. also *giung-o/giugn-o*);
  - as a result *g*-stems originally only in contexts where /n, l/ are not palatalised: 1SG, 3PL (-o, -ono), vs. 2SG, 3SG, 1PL, 2PL (-i, -e, -iamo, -ite).
- (30)a. **Strength** of crossover suppletion for 'beat' in Dusur (24d):  
 on the **weak** side for the relevant forms (*wá-*, *lá-*; *ká*, *já*).
- b. **Origin: ???** (my bet: dissimilatory)

## VI. Is the distribution of suppletive stems across paradigms subject to constraints, and of what temporal nature would they be?

(31) There can be no (categorical) **timeless laws** regulating such distributions: in even a modest crosslinguistic sample, like the present one (a convenience sample), **every conceivable pattern is attested**, including the crossover pattern, however rare (a few verbs in Italian and Dursur).

Therefore, mental grammars are humanly possible (although they do not seem the most probable and time-stable ones) where suppletive stems are distributed across paradigms in even the most complex conceivable pattern.

(32) The different ways of **origin** of suppletion are synchronically irrelevant: they are not necessarily reflected in differences that would be recognisable by a language learner, such as differing strengths of suppletion.

- (33) However, these different ways of **diachronically** creating suppletion themselves can also be subject to constraints
- and while one kind of origin isn't constrained, another kind **is**, on current evidence.
- a. When suppletion is created through **phonological dissimilation** of once unitary stems, paradigm structures need **not** be respected: suppletive stems with this kind of origin can be distributed randomly across paradigms, following phonological rather than morphological guidelines.
  - b. But when suppletion is created through the **combination** of distinct stems in one paradigm, paradigm structures **must** be respected: in particular, such combinations must not result in the morphologically most complex distributions, i.e., crossovers.

- (34) Which goes to show that there are **laws of change** (genuine universals, not mere tendencies), constraining reanalyses (source > result), which are non-trivially distinct from **timeless laws**, constraining linguistic structures (= mental lexicons-and-grammars) at any and all times, regardless of their past and future.
- (35) But there surely are timeless laws, too, as non-trivially distinct from laws of change: constraints which hold regardless of how a pattern came about. (Don't believe the infidels!)
- (36) If valid, both are "true" universals, if of different temporal nature: constraints on **states** vs. constraints on **transitions** from one state to another (from the mental lexicon-and-grammar of generation  $n$  to that of generation  $n+1$ , perhaps also between the mental lexicon-and-grammars of individuals at different periods of their life spans).
- (37) Do universals matter?  
What if there really were none, timeful or timeless?

# GEHEN 'go' (and STEHEN 'stand') in varieties of Modern High German

## Standard German

(2)	PRESENT					
	INDICATIVE		SUBJUNCTIVE		IMPERATIVE	
	SG	PL	SG	PL	SG	PL
1	<i>geh-e</i>	<i>geh-en</i>	<i>geh-e</i>	<i>geh-en</i>		
3	<i>geh-t</i>	<i>geh-en</i>	<i>geh-e</i>	<i>geh-en</i>		
2	<i>geh-st</i>	<i>geh-t</i>	<i>geh-est</i>	<i>geh-et</i>	<i>geh(-e)</i>	<i>geh-t</i>
	INFINITIVE				<i>geh-en</i>	
					PARTICIPLE I	
					<i>geh-end</i>	
	PRETERITE					
	INDICATIVE		SUBJUNCTIVE			
	SG	PL	SG	PL		
1	<i>ging-Ø</i>	<i>ging-en</i>	<i>ging-e</i>	<i>ging-en</i>		
3	<i>ging-Ø</i>	<i>ging-en</i>	<i>ging-e</i>	<i>ging-en</i>		
2	<i>ging-st</i>	<i>ging-t</i>	<i>ging-est</i>	<i>ging-et</i>		
	PARTICIPLE II				<i>ge-gang-en</i>	

# Bavarian

(3)	PRESENT		SUBJUNCTIVE		IMPERATIVE	
	INDICATIVE					
	SG	PL	SG	PL	SG	PL
1	<i>i: gɛ:-∅</i>	<i>miɐ 'gɛŋ-ɐn(d)</i>	<i>'gɛ:-ɐd-∅</i>	<i>'gɛ:-ɐd-n</i>		
3	<i>ɛɐ/si: gɛ:-d</i>	<i>de: 'gɛŋ-ɐn(d)</i>	<i>'gɛ:-ɐd-∅</i>	<i>'gɛ:-ɐd-n</i>		
2	<i>du: gɛ:-sd</i>	<i>iɐ/e:s gɛ-ts</i>	<i>'gɛ:-ɐd-sd</i>	<i>'gɛ:-ɐd-ts</i>	<i>gɛ:-∅</i>	<i>gɛ-ts</i>

## INFINITIVE

*'gɛ:(-ɐ)*  
PARTICIPLE I  
*'gɛ:-ɐd*

## PRETERITE

	SUBJUNCTIVE	
	SG	PL
1	<i>'gɔŋ(-ɐd)-∅</i>	<i>'gɔŋ-ɐd-n</i>
3	<i>'gɔŋ(-ɐd)-∅</i>	<i>'gɔŋ-ɐd-n</i>
2	<i>'gɔŋ(-ɐd)-sd</i>	<i>'gɔŋ-ɐd-ts</i>

## PARTICIPLE II

*'gɔŋ-ɐ*

# Alemannic

## Bodensee-Alemannisch

(5)

PRESENT

INDICATIVE

SG

PL

1 *i gã:-∅* *miɐ 'gan̩-ət*

3 *ɛɐ/si gã:-t* *si 'gan̩-ət*

2 *du: gã:-f* *iɐ 'gan̩-ət*

SUBJUNCTIVE

SG

PL

'gã:-ət 'gã:-ət

'gã:-ət 'gã:-ət

'gã:-əf 'gã:-ət

IMPERATIVE

SG

PL

*gã:-∅ 'gan̩-ət*

INFINITIVE

*gã*

PRETERITE

SUBJUNCTIVE

SG

PL

1 *'giəŋ(-ət)* *'giəŋ-ət*

3 *'giəŋ(-ət)* *'giəŋ-ət*

2 *'giəŋ-əf* *'giəŋ-ət*

PARTICIPLE II

*'gan̩-ə*



## Varieties of Low and High Alemannic

(6)	PRESENT		SUBJUNCTIVE		IMPERATIVE	
	INDICATIVE					
	SG	PL	SG	PL	SG	PL
1	<i>i gʌŋ-Ø</i>	<i>miɐ gɔŋ-d</i>	<i>gɔ:-ət</i>	<i>gɔ:-ət</i>		
3	<i>ɛɐ/si gɔ:-t</i>	<i>si gɔŋ-d</i>	<i>gɔ:-ət</i>	<i>gɔ:-ət</i>		
2	<i>du gɔ:-f</i>	<i>iɐ gɔŋ-d</i>	<i>gɔ:-əf</i>	<i>gɔ:-ət</i>	<i>gɔ:-Ø/gʌŋ-Ø</i>	<i>gɔŋ-d</i>

### INFINITIVE

*gɔ:*

### PRETERITE

### SUBJUNCTIVE

		SG	PL
1		<i>'giəŋ(-ət)</i>	<i>'giəŋ-ət</i>
3		<i>'giəŋ(-ət)</i>	<i>'giəŋ-ət</i>
2		<i>'giəŋ-əf</i>	<i>'giəŋ-ət</i>

### PARTICIPLE II

*'gʌŋ-ə*

## Swabian Alemannic, also eastern Bodensee-Alemannisch

(7)

PRESENT

INDICATIVE

SG

PL

1 *i gʌŋ-∅* *miɐ 'gʌŋ-ət*

3 *ɛɐ/si gǎ:-t* *si 'gʌŋ-ət*

2 *du gǎ:-f* *iɐ 'gʌŋ-ət*

SUBJUNCTIVE

SG

PL

'*gǎ:-ət* '*gǎ:-ət*

'*gǎ:-ət* '*gǎ:-ət*

'*gǎ:-əf* '*gǎ:-ət*

IMPERATIVE

SG

PL

*gʌŋ-∅* '*gʌŋ-ət*

INFINITIVE

'*gʌŋ-ə*

PRETERITE

SUBJUNCTIVE

SG

PL

1 '*giəŋ(-ət)* '*giəŋ-ət*

3 '*giəŋ(-ət)* '*giəŋ-ət*

2 '*giəŋ-əf* '*giəŋ-ət*

PARTICIPLE II

'*gʌŋ-ə*

## Elsewhere in West Germanic

To complete a picture that is already quite colourful (profuse apologies to readers who will have to take my drab word for it because they are red-green colour-blind), when we look at West Germanic relatives of German, we find extensions, not of *gVng-*, but of *geh-* in Dutch and Frisian.

On the one hand, **Dutch** essentially maintains the tense-based distribution of these suppletive stems, except that *gaa-* is extended to Participle II (*ge-gaa-n*). (Unless this is a continuation of an earlier distribution not strictly following tense lines.) In **English** the Present stem is used for Participle II (*go-ne*), too, continuing the Old English distribution, where the Present stem *ga-* had been used for Participle II (*ge-ga-n*) and Infinitive (*ga-n*), at that time in partnership with Preterite stem *eo-*, to be later supplanted by *wend-* (neither stem ever making inroads on finite Present or non-finite sections of the paradigm).

In **Frisian**, on the other hand, *gea-* stems have become an option, alongside *gyng-/gong-*, also in all persons and numbers of the Indicative Preterite, as well as with Participle II, thereby effectively eliminating suppletion.

## Variations on a few themes

There are five themes underlying these variations in re-distribution. A suppletive stem is extended beyond its erstwhile tense domain as follows:

- (i) to 1&3PL.IND, and also to 2PL if person distinctions are wholly neutralised in the Plural;
- (ii) to 1SG.IND;
- (iii) combining the two patterns, (i) to 1&3PL.IND or to all Plural persons and (ii) also to 1SG.IND;
- (iv) to 2SG.IMP (and automatically also to 2PL.IMP if 2PL.IND has received the extended stem, too, with 2PL.IMP never distinct from 2PL.IND);
- (v) to non-Finite forms, most commonly in conjunction with extensions to IND and IMP sections.

The most basic lesson to be learnt here is that re-distributions ARE a diachronic possibility; and they seem rather uninhibited with these particular verbal lexemes in these particular languages and dialects. Still, it can't be all chaos, can it? Can any generalisations be made about what has happened, and has not happened, as the *gVng-* stem and the *geh-* stem were negotiating their shares in the joint paradigm, subsequent to post-Old High German paradigmatic unification of *gVng-* and *geh-*, with Present vs. Preterite tense as the straightforward division between the domains for *gVng-* and *geh-*? And mutatis mutandis for *steh-*, *stVnd-*, and *steng-*. A possible exception to this re-distributional scenario is that *gVng-* in the Imperative, already sometimes found in Middle High German, may not be the result of an extension, but a continuation from the times where *gangan* was not yet defective.

We have nothing positive to contribute here to the question of WHY suppletive paradigms got complicated that, originally, were neatly divided up along tense lines and WHY these particular re-distributions of suppletive stems happened. The overall impression is that suppletive lexemes GEHEN and STEHEN behave like other, less irregularly inflecting lexemes, insofar as paradigmatic divisions, even such a dominant one as that between Present and Preterite, do not categorically limit the shapes of paradigmatic patterns more severely than with single-stemmed lexemes. Though suppletive, the lexemes GEHEN and STEHEN are truly one for all paradigmatic purposes.

If there are more specific generalisations to be made they emerge when we try to filter out what happened from what could have happened but didn't.

The first thing to note is that the tense divide, so conspicuous with all kinds of paradigmatic patterns for all kinds of verbs, was not an impermeable boundary for re-distributions of suppletive stems in the cases of GEHEN and STEHEN.

Second, a constraint that has never and nowhere been violated in Upper German is as follows:

- (8) A suppletive stem entrenched somewhere in a paradigm can only be extended to such other sections of that paradigm
  - (i) which are vertically or horizontally ADJACENT in a well-designed paradigm (cf. the neighbourhood condition and cross-over constraint in Plank 1996, 2016 (constraints which can also be expressed in terms of shared morphological categories rather than geometric arrangements), and

(ii) which form a subset defined through other commonalities, such as systematic (= non-accidental) syncretism of exponents (“template”, Aski 1995; “morpheme”, Aronoff 1994, Maiden 2004 etc.).

This constraint, intended as a universal, licenses extensions of *gVng-* (and *stVnd-* and *steng-*) to:

- (9) (i) 1 & 3PL.IND.PRES (as in all of Bavarian), which are consistently suffix-syncretic in all of German (partly also 1SG = 3SG, as PRET and SUBJ)  
– which is an entrenched morphomic pattern, since 1&3 do not share anything featurewise as opposed to 2 (well, the meaning ‘non-addressee’, but with the referential hierarchy that holds for German, 1 > 2 > 3, that is not a systematically relevant meaning);
- (ii) 1&3&2PL.IND.PRES, also 2PL.IMP (as in most varieties of Alemannic), which are consistently suffix-syncretic in Alemannic (that is, 2PL forms have here been extended, not to just one PL person, but to both, on the strength of the 1=3 requirement, seemingly outranking all other syncretism requirements).

Third, extensions of *gVng-* (and *stVnd-* and *steng-*) to 1SG.IND.PRES, on its own (as in some varieties of Alemannic) or in addition to 1&3&2PL.IND.PRES (as in other varieties of Alemannic) are in line with a paradigmatic neighbourhood constraint (Plank 1996, 2016): introducing a “loner” in a single cell in a paradigm does not create discontinuities, nor does the horizontal extension from a Plural to a corresponding (hence neighbouring) Singular person.

The same loner status can be assumed to license the introduction of *gVng-* to 2SG.IMP on its own, or equally its lonely Present tense survival from non-defective times of *gangan* (as in varieties of Middle High German). (Imperatives are on record as morphological mavericks also elsewhere; cf. e.g. Maiden 2007.) The other way round, from Present to Preterite terrain, the introduction of *gaa-* to Participle II (as in Dutch) is also licensed as a loner in a non-finite section of the paradigm.

What has also happened – and probably should not have happened in light of such constraints inspired by the morphological or morphomic profile of a paradigm, and in this sense remains unaccounted for – are extensions of *gVng-* to 2SG.IMP in addition to 1&3&2PL.IND.PRES or to 1SG.IND.PRES, but not 2SG.IND.PRES (as in varieties of Alemannic): it would seem unfeasible to arrange paradigms so as to have these cells or sections as neighbours, in one- or two-dimensional representations. (Nor do they form natural classes in terms of plausible features.)

How the Infinitive is linked up with the rest of the paradigm is a moot question; It might or might not be a spurious generalisation that *gVng-* extends to INF only if it has also invaded IMP as well as 1&3&2PL.IND.PRES and 1SG.IND.PRES – i.e., in the case of its relatively most extensive extension.

What is also left unaccounted for, most lamentably, is the absence of further re-distributions that would not in fact have been ruled out by the constraints suggested.

First, given that loners are permissible, there are quite a few single cells in the present tense section where a sole *gVng-* (and *stVnd-* and *steng-*) has NOT been introduced to. Perhaps there is a concept of preferred loners in suppletive paradigms, or of preferred stepping stones when re-distributions are commencing.

Second, the way paradigms have been set out above, one wonders why *gVng-* (and *stVnd-* and *steng-*) have only ever been extended horizontally from Plural to 1SG, and not also to 3SG and/or 2SG. Again, perhaps the salient parts of paradigms that are especially inviting for loners are also preferred targets for extensions licensed by neighbourhood.

Look forward to surprises as GEHEN and STEHEN continue to re-mix their suppletive paradigms ever anew. But first look at how another suppletive lexeme shows more restraint in altering stem distributions.



....

I suggest that SEIN is not a unitary, well-integrated lexeme. I suggest that even with suppletion accomplished a structural difference must be recognised between INTEGRATED lexemes like GEHEN ‘to go, walk’ and UNINTEGRATED lexemes like SEIN.

...

While the suppletive stems of GEHEN and STEHEN have subsequently been able to be re-distributed in all kinds of ways in varieties of German(ic), in particular with the original Preterite stem infiltrating finite Present parts of the paradigm, this same dominant paradigm partition has remained sacrosanct for SEIN. In varieties of German and elsewhere in Germanic there have been a few re-distributions (cf. Schachner 1908): thus, *sei-*, *bis-*, *bi-*, and also *wes-* have been competing for the slot of 2SG.IMP and *sei-* and *wes-* for that of INF; a rare finite contest, between *bin* and *sin*, is for 1SG.IND.PRES; and *wes-* could expand as far as Present Subjunctive (Swedish *vare*). Overall, it is in the Present tense that stems other than descendants of *\*wes-* are fighting it out, while the descendant of *\*wes-* continues to reign unrivalled in the Preterite; non-finite and not-so-finite categories are contested between *\*wes* and any of the rest.

On the evidence of more severely constrained re-distributions, the suppletive paradigm of SEIN would seem less well-integrated than those of GEHEN and STEHEN: its component stems have retained more of an identity of their own, and categorial boundaries are not as permeable as with fully integrated lexemes.

## Chance and necessity in the life-cycle of suppletion

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The relationship of typology and diachrony is an old issue, and continues to be debated controversially. The question is whether limitations of crosslinguistic diversity are due to **timeless laws** or to **laws of change**. On the first interpretation no language at any time would be allowed to contravene such laws regardless of previous and subsequent stages, which would guarantee that no language would ever change so as to end up being in contravention. On the second interpretation constraints would instead be curbing change, with limitations of diversity as the automatic consequences of what are impermissible transitions from one state to another. Rejecting universals, as has become fashionable lately, usually targets timeless laws (constraints on states); however, what is not often appreciated is that the existence or non-existence of laws of change (constraints on transitions) is an independent question.

In many cases of limitations on diversity this would seem a moot question. For example, a timeless law “No dual without a plural” is effectively equivalent to a law of change, “No innovation of a dual without a plural being distinguished from a singular (or such a number distinction being innovated simultaneously), and no loss of a plural as long as a dual is being distinguished (or such a number distinction is being lost simultaneously)”. In other cases, a constraint can be made sense of timelessly as well as diachronically, although the motivations may be quite different. For example, “No infixes without affixes” is plausibly motivated as an

instantiation of a timeless dispreference of discontinuous constructions, harder to store and process than continuous constructions, but no less plausibly as a diachronic regularity to the effect that infixes can only ever originate from affixes, internalised in order to optimise prosodic structures or (rarely) trapped inside an outer affix.

Here I will present a case – concerning patterns of suppletion in inflection – where limited diversity can **only** be accounted for diachronically and where **no** timeless law (at least no categorical one) can possibly be invoked. This is a case where crosslinguistic variation is unlimited insofar as every conceivable distribution of suppletive stems over paradigms is attested; nonetheless, certain disorderly paradigmatic distributions, while universally permissible, cannot come about in any conceivable manner, attesting to a diachronic constraint on transitions.

The question is how suppletive stems can be distributed over inflectional paradigms. Hoping that such distributions will not turn out to be random, a constraint that one might want to entertain is to do with whether the distributions have to respect paradigmatic structures. Modelling paradigmatic structures in terms of geometric arrangements, suppletion often patterns as in (1), with each suppletive stem extending over a solid block, as defined by a single inflectional category (with number and case merely used for exemplification). Suppletive stems can also extend to a neighbour outside their block, with the more complex distribution then having to be stated in terms of two categories ((2), stem *x* used for SG and GEN.PL). The most complex distribution conceivable are CROSSOVERS, with no uniform arrangement of the categories and their terms possible where the relevant cells would be horizontal or vertical neighbours ((3), stem *x* used for NOM.SG and GEN.PL).

	(1a)		(1b)		(2)		(3)	
	SG	PL	SG	PL	SG	PL	SG	PL
NOM	x	y	x	x	x	y	x	y
ACC	x	y	y	y	x	y	y	y
GEN	x	y	y	y	x	x	y	x

Now, a survey of suppletion across a wide range of languages, in addition to frequent instances of patterns (1) and (2), also unearthes, if comparatively rarely, instances of crossovers (3). Hence, on empirical grounds, there can be no timeless law prohibiting such crossovers.

However, when taking into account how suppletion comes about, a diachronic constraint **can** be maintained. When suppletion is created through the COMBINATION of forms of separate lexemes in one paradigm, then paradigm structures **must** be respected and crossovers **are** prohibited. When suppletion develops through phonological DISSIMILATION of allomorphic stems of one lexeme, just about anything goes distributionwise. The impossibility of a timeless constraint on paradigmatic distributions is due to the fact that from the net results of such changes the different modes of origin of suppletion, combination or dissimilation, are indistinguishable. Regardless of their modes of origins, all suppletions are to be dealt with identically in synchronic grammar, however orderly or disorderly their distributions in paradigmatic terms; of their modes of origin, only one, namely combination, is severely constrained through paradigmatic structure.