The largesse of diminutives: suppressing the projection of roots*

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1. Introduction

It is well-known that, across languages, verbs may contain "diminutive" affixes identical in form with those found in nouns (e.g. Dressler and Merlini Barbaresi 1994, Wiltschko and Steriopolo 2007, De Belder, Faust, and Lampitelli 2014). This is shown in (1a) and (2a) for Standard German (henceforth: SG), in which the same affix *-el-* is used both in verbal and nominal diminutives. The same pattern is also found in Italian, as (1b) and (2b) show; note the use of the same affix, *-ett-*. Similarly, the Hebrew verbal and nominal diminutives in (1c) and (2c) use the same reduplication template, $C_1VC_2C_3VC_3$ (Italian and Hebrew examples from De Belder, Faust, and Lampitelli 2014).

(1) *Verbal diminutives*
   a. Standard German   b. Italian   c. Hebrew
   k**ö**ch-**el**-n   fischi-**ett**-are   **ci**xke**k**
   boil-DIM-3SG.PRES   whistle-DIM-INF   giggle.V.DIM
   'to boil a little, to simmer' 'to emit short whistles' 'to giggle'

(2) *Nominal diminutives*
   a. Standard German   b. Italian   c. Hebrew
   Busch m.   B**ü**sch-**el** n.   fischi-o m.   fischi-**ett**-o m.   √cxk   **ci**xk**uk**
   bush   bush-DIM   whistle-SG   whistle-DIM-SG   laugh   laugh.N.DIM
   'bush'   'bunch, tuft'   'whistle'   'whistle' (obj.)   'laugh' 'a giggle'

   In this paper, we take a closer look at Standard and Austro-Bavarian (primarily Viennese) German verbal diminutives like (1a). Our central claim is that these verbs are structurally denominal. More specifically, we propose that, just like in (2a), the diminutive affix in (1a) spells out the head of a diminutive nP, and that some of the morphosyntactic features

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of this n_{DIM} head were diachronically reanalyzed as part of the verbal domain, thus yielding the—in our view, erroneous—impression that the diminutive affix in (1a) is a stem-forming verbal one.

The rest of this paper is organized as follows. In the next section, we give a brief background on nominal diminutives, which is what the theoretical literature has focused on, followed by a discussion of our corpus of German verbal *(e)l-* and *erl*-diminutives and their classification in section 3. In section 4, we discuss the syntactic and event structure properties of verbal diminutives that motivate our proposal, namely that SG and Austro-Bavarian (henceforth: AB) verbal diminutives contain a head n_{DIM}, which selects either $\sqrt{}$ or n. We also adduce corroborating evidence for our analysis from the diachrony of *(e)l-* and *erl*-verbs. In section 5, concluding, we briefly discuss implications of our analysis, specifically the relationship between verbal diminutives and denominal verbs in general.

2.   Background

In the nominal domain, diminutive affixes may cross-linguistically be characterized in terms of the notion of *attenuation* (Jurafsky 1996), ranging over iterative, intensive, and/or pejorative semantics. They turn mass nouns into count nouns and change the noun gender or class, as illustrated in (3) for German, but the pattern is more general, including Dutch, Hebrew, and Hindi (Jurafsky 1996, Borer 2005, Wiltschko 2005, De Belder 2011).

(3)   *Nominal diminutives in Viennese and Standard German*
viel	Wein m.	viel-e	Weind-erl(-n) n.	(Viennese)
much	wine	many-PL	wine-DIM(-PL)	
viel	Schlaf m.	viel-e	Schläf-chen-Ø n.	(SG)
much	sleep	many-PL	sleep-DIM-PL	

Especially relevant for our purposes is the idea in De Belder, Faust, and Lampitelli 2014 that, cross-linguistically, there are two different functional heads that are responsible for diminutive formation, as shown in (4) (diminutive projections are bolded). These are not category-forming and can co-occur (depending on the language).

(4)   *Structure of nominal diminutives, De Belder, Faust, and Lampitelli 2014*
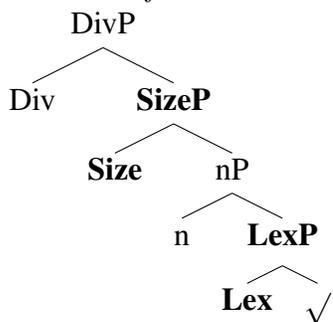
The head of LexP selects roots, attaches *below* category-forming heads (v, n, a) and may be semantically non-compositional, illustrated in (5) for Italian, Hebrew, and German.

(5)   *Diminutive = LexP (De Belder, Faust, and Lampitelli 2014)*

      a.   Italian *cas-a* 'house': *cas-**in**-o* 'brothel' (#'small house')
      b.   Hebrew *xatul* 'cat': *xataltul* 'kitten'
      c.   Standard German: *Busch* 'bush': *B**ü**sch-**el*** 'tuft, bunch' (#'small bush')

The head of SizeP, on the other hand, selects nPs, and is located between DivP (the projection that hosts number marking or classifier morphology according to Borer 2005) and nP. Semantically, it adds boundedness and a unit-reading (cf. UnitP in Ott 2011), and is always fully compositional, as illustrated in (6).

(6)   *Diminutive = SizeP (De Belder, Faust, and Lampitelli 2014)*

      a.   Italian *cas-a* 'house': *cas-**in**-a* 'small house'
      b.   Hebrew *xatul* 'cat': *xatul-**on*** 'small cat'
      c.   Viennese German *Sock-n* 'sock': *Sock-**erl*** 'small sock'

As indicated in (5), SG *-(e)l-* seems to spell out Lex: it is non-compositional, non-productive, and can be selected by higher, productive diminutive morphology, as shown in (7c), and arguably by verbal morphology, as shown in (7d).

(7)   *Standard German -(e)l-*

	a. B<u>u</u>nd	b. B<u>ü</u>nd-**el**	c. B<u>ü</u>nd-**el**-chen	d. b<u>ü</u>nd-**el**-n
	bunch	bunch-DIM	bunch-DIM-DIM	bunch-DIM-INF
	'bunch'	'bundle'	'small bundle'	'to bundle'

Diminutive *-(e)l-*-nouns are always grammatically neuter and the diminutive affix triggers *umlaut* of the base vowel (note the underlined vowels in (7)). The relevant vowel changes triggered by umlaut are summarized in (8).

(8)   *Vowel changes triggered by SG umlaut*
      Base vowel   Umlauted vowel
      a /a/, /aː/   >   ä /ɛ/, /eː/
      o /ɔ/, oː   >   ö /œ/, /øː/
      u /ʊ/, /uː/   >   ü /ʏ/, /yː/
      au /aʊ/   >   äu /ɔʏ/

SG also has a non-compositional, *non-diminutive* affix *-(e)l-* that does not trigger umlaut and can be grammatically masculine, feminine, or neuter (unlike diminutive *-(e)l-*). This affix is mostly found on instrument nouns, such as *Sattel* 'saddle', *Nagel* 'nail', *Hobel* 'plane', and others. Similar to this affix, the Viennese/AB diminutive affix *-erl-* /ɐl/ does not trigger umlaut, whereas the diminutive AB *-l-* (< *-el-*) usually does, just like its SG counterpart. This is shown in (9).

(9) *Viennese -erl- vs. -l-*

a. *-erl-*

Sack m.	Sack-**erl** n.
sack	sack-DIM
'sack, bag'	'small bag'
Suppe f.	Supp-**erl** n.
soup	soup-DIM
'soup'	'small amount of soup'

b. *-l-*

Haus n.	Hei s-**l** n.
house	house-DIM
'house'	'toilet'
Buasch m.	**Bia**sch-**l** n.
boy	boy-DIM
'boy'	'little boy'

The central question we set out to address is whether the SG nominal diminutive affix *-(e)l-* and its AB variants *-erl-* and *-l-* can be equated with their identical verbal analogues, to which we turn next.

3. Classifying verbal diminutives

We assembled a corpus of 300 verbs containing the SG affix *-(e)l-* and its AB variants *-(e)l-* and *-erl-* based on the data discussed in Weidhaas and Schmid 2015, Dressler and Merlini Barbaresi 1994, and Hornung and Grüner 2001 and cross-checked with the *Digitales Wörterbuch der deutschen Sprache* (= DWDS, "Digital dictionary of the German language"), the *Deutsches Wörterbuch* (= DWB, "German dictionary"), and Kluge's *Etymologisches Wörterbuch der deutschen Sprache* ("Etymological dictionary of the German language", Kluge 1999). We divided these into four basic classes, based on their derivational base and on whether or not the affix *-(e)l-* is present in the base.[1]

(10) *Classification of -(e)l-verbs*

Class I: base = adjective
a. base without *(e)l*-affix: 11 verbs
b. base with *(e)l*-affix: 2 verbs

Class II: base = verb: 97 verbs

Class III: base = noun
a. base without *(e)l*-affix: 43 verbs
b. base with *(e)l*-affix: 144 verbs

Class IV: "other"
a. base = inflected verb form: 2 verbs
b. base = adverb: 1 verb

Representative examples for the classes I through III (excluding the marginal class Ib) are given in (11) through (14) below.

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[1] In addition to these 300 verbs, we excluded 64 verbs, namely: (i) verbs with onomatopoeic or synchronically and/or diachronically unclear bases (e.g. *bimmeln* 'to ring', *nuscheln* 'to speak indistinctly', *wuseln* 'to scuttle, bustle', *zappeln* 'to twitch, fidget', etc.), (ii) loanwords (e.g. *handeln/händeln* /hɛndl̩n/ < Engl. *handle*, *recyceln* < Engl. *recycle*, *metzeln* 'to slaughter' < Lat. *macellāre*, etc.), and (iii) words from different dialects that are not used by us and our informants (e.g. *büffeln* 'to study'). Cf. also the differing classifications of Weidhaas and Schmid 2015 and Audring, Booij, and Jackendoff 2017.

(11)   *Class I (base = adjective)*

	Base		Dim. verb	
a.	schwach weak	'weak'	schw**äch**-**el**-n weak-DIM-INF	'to be/act a little weak'
b.	blöd silly	'silly'	bl**öd**-**el**-n silly-DIM-INF	'to be/act a little silly'
c.	grau grey	'grey'	gr**äu**-**el**-n grey-DIM-INF	'to be(come) somewhat grey, greyish'

The diminutive affix in the class of verbs illustrated in (11) seems to act as a verbalizer and always triggers umlaut on umlaut-capable vowels.

(12)   *Class II (base = verb)*

	Base		Dim. verb	
a.	koch-en boil-INF	'to boil' (anticaus./caus.)	k**öch**-**el**-n boil-DIM-INF	'to almost boil, to simmer'
b.	dräng-en urge-INF	'to urge/push'	dr**äng**-**el**-n urge-DIM-INF	'to jostle, to push less intensely/repeatedly'
c.	funk-en spark-INF	'to spark, emit sparks'	funk-**el**-n spark-DIM-INF	'to sparkle'
d.	schreib-en write-INF	'to write'	schreib-**erl**-n write-DIM-INF	'to write badly, inexpertly' (Viennese)

With this class, the diminutive affix seems to add iterative, intensive, or pejorative semantics. Note that the affix *-(e)l-* does not consistently trigger umlaut on the base vowel, e.g. (12c). Diachronically, some verbs of this class had (or have) both umlauting and non-umlauting variants, e.g. Middle High German (MHG) *lacheln* besides New High German (NHG) *lächeln* 'to smile', NHG *muffeln* vs. *müffeln* 'to smell musty', etc.

(13)   *Class IIIa: base = noun without (e)l-affix*

	Base		Dim. verb	
a.	Frost frost	'frost'	fr**öst**-**el**-n frost-DIM-INF	'to shiver, be cold'
b.	Stück piece	'piece'	stück-**el**-n piece-DIM-INF	'to divide into pieces'
c.	Maus mouse	'mouse'	maus-**l**-n mouse-DIM-INF	'to smell of mice' (Viennese)

In class IIIa, the diminutive affix regularly triggers umlaut in SG (there are fewer exceptions than in class II), and seems to act as a verbalizer (like in class I).

(14)   *Class IIIb: base = noun with (e)l-affix*

	No umlaut			Umlaut	
	Base	Verb		Base	Verb
a.	Sattel	sattel-n	d.	Brösel	brösel-n
	saddle	saddle-INF		crumb	crumb-INF
	'saddle'	'to saddle'		'crumb'	'to flake, crumble'
b.	Hagel	hagel-n	e.	Bündel	bündel-n
	hail	hail-INF		bundle	bundle-INF
	'hail'	'to hail'		'bundle'	'to bundle'
c.	Wurzel	wurzel-n	f.	Zügel	zügel-n
	root	root-INF		rein	rein-INF
	'root'	'be rooted in'		'rein'	'to put reins on, rein in'

In this class, the root vowel of the derived verb only umlauts if the root vowel of the base does; compare (14a-c) with (14d-f).[2] Moreover, the iterative, intensive, or pejorative semantics is less pronounced in this class than in class II, or absent altogether. In those cases in which "diminutive" semantics is present, it is clearly part of the base (e.g. *bröseln* 'to crumble into small crumbs': *Brösel* 'small crumb', compare this with (14a-c) and (14f)).

To summarize, the different classes of *-(e)l-/-erl-*verbs differ both in terms of their derivational base (noun, verb, adjective), syntactic behavior (transitivity), as well as semantics. However, a careful analysis of the syntactic properties of these verbs reveals a number of regularities between the disparate classes, as we show next, suggesting that a uniform structural analysis of verbal diminutives is possible (contra Dressler and Merlini Barbaresi 1994, Weidhaas and Schmid 2015, Audring, Booij, and Jackendoff 2017).

4.   Analysis

4.1   Aspectual behavior and argument structure of *(e)l*-verbs

Standard tests show that class I (deadjectival), class II (deverbal), and class IIIa (denominal, *l*-less base) *(e)l*-verbs are all activities; see (15)–(17).

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[2]There are only four exceptions to this generalization out of the 144 verbs in this class, all with a diachronic explanation. The verb *mäkeln* 'to criticize, carp' is synchronically associated with *Makel* m. 'fault, blemish', but diachronically with Low German *mäkeln*, *makelen* 'to haggle, bargain', itself deverbal to *maken* 'make'. NHG *nageln* 'to nail' from *Nagel* m. 'nail' is synchronically regular, but Old High German (OHG) *negilon* and MHG *negelen* reflect an umlauted variant, Proto-Germanic (PGmc.) **nagljan*, whose *j*-verbalizer triggered the umlaut. The verb *(ver)täfeln* 'to panel, inlay' is synchronically associated with non-umlauting *Tafel* f. 'plane, panel; table', but MHG had an umlauted variant *Tevel* n. (!) that may be the diachronic base. Finally, *vögeln* 'to screw, fuck' has been associated with *Vogel* 'bird' since the 15th century, but there is also an older, clearly denominal verb *vogeln* (OHG *fogalōn*) 'to go fowling, hunt birds', so it is possible that *vögeln* was originally deverbal to the root seen in German *ficken*, Dutch *fokken* 'to fuck' rather than denominal.

(15) Die Cora hat zehn Minuten lang /* in zehn Minuten ge-blöd-el-t.
the Cora has ten minutes long in ten minutes PTCP-silly-DIM-PTCP
"Cora acted silly for ten minutes/*in ten minutes."

(16) a. Die Suppe hat zwei Stunden (lang) /* in zwei Stunden ge-köch-el-t.
the soup has two hours (long) in two hours PTCP-boil-DIM-PTCP
"The soup was simmering for two hours/*in two hours."

b. Die Cora hat eine Stunde lang /* in einer Stunde ge-schreib-erl-t.
the Cora has an hour long in an hour PTCP-write-DIM-PTCP
"Cora wrote inexpertly for an hour/*in an hour."

(17) Es hat im August eine Woche /* in einer Woche ge-herbst-el-t.
it has in August one week in one week PCTP-Fall-DIM-PTCP
"It was fall-like for a week/*in a week in August."

Moreover, class II (deverbal) verbs often differ in their argument structure, aspectual behavior, and selection of preverbs with respect to their apparent verbal base. For example, *el*-verbs are often intransitive when the apparent base is transitive, see (18) and (19).

(18) a. Das Wasser koch-t / köch-el-t.
the water boil-3SG.PRES boil-DIM-3SG.PRES
"The water is boiling/simmering."

b. Die Cora koch-t (das) Wasser /* köch-el-t (das) Wasser.
the Cora boil-3SG.PRES (the) water boil-DIM-3SG.PRES (the) water
"Cora is boiling (the) water/*is causing (the) water to simmer."

While the verb *kochen* 'to boil' in (18) is a causative alternation verb which can as such appear in a transitive frame, the corresponding diminutive verb *köcheln* 'to simmer' cannot, see (18b).[3] Example (19b) shows that the same holds for the causative experiencer verb *nerven* 'to annoy', whose diminutive *nerveln* 'to annoy somewhat, to act annoying' cannot combine with an object.

(19) a. Die Livia nerv-t (herum) / nerv-el-t (herum).
the Livia nerve-3SG.PRES (around) nerve-DIM-3SG.PRES (around)
"Livia acts annoying/acts continually, somewhat annoying."

b. Die Livia nerv-t mich /* nerv-el-t mich.
the Livia nerve-3SG.PRES me.ACC nerve-DIM-3SG.PRES me.ACC
"Livia annoys me/*continually acts annoying towards me."

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[3]The transitive diminutive in (18b) seems to be grammatical for some speakers of non-AB varieties, as an internet search shows. None of our consultants accepts this, however.

Intransitive class I/II verbs moreover pattern as unergatives with respect to the formation of attributive participles, as shown in (20).

(20) a. das ge-koch-te /* ge-köch-el-te Wasser
       the PTCP-boil-PTCP   PTCP-boil-DIM-PTCP water
       "the boiled/*simmered water"

    b. *die ge-blöd-el-te Cora
       the PTCP-silly-DIM-PTCP Cora

Finally, Viennese/AB non-umlauting *-(e)l-/-(er)l-* productively derives (optionally expletive) verbs of emission from nouns, as shown in (21) and (22).

(21) *Viennese -(er)l-verbs of emission*

	Base	Dim. verb		Base	Dim. verb
a.	Schweiß	schweiß-**l**-n	c.	Brand	brand-**l**-n
	sweat	sweat-DIM-INF		fire	fire-DIM-INF
	'sweat'	'to smell of sweat'		'burning, fire'	'to smell of fire'
b.	Maus	maus-**l**-n	d.	Speibe	speib-**erl**-n
	mouse	mouse-DIM-INF		vomit	vomit-DIM-INF
	'mouse'	'to smell of mice'		'vomit'	'to smell of vomit'

(22) a. Der Hans schweiß-l-t.
       the Hans sweat-DIM-3SG.PRES
       "Hans smells of sweat." / "Hans sweats a little."

    b. Es schweiß-l-t (hier).
       it sweat-DIM-3SG.PRES (here)
       "It smells of sweat (here)."

These facts suggest that class I, II, and IIIa verbs are unergative activity verbs and verbs of emission. As for the transparently denominal class IIIb, see section 4.2 below.

4.2 Proposal

To account for the uniform syntactic properties of *-(e)l-/-erl-*verbs, we propose a formally uniform syntactic account, the crux of which is that *all* three classes contain a diminutive nominal head n_{DIM}. While this is obvious for the synchronically denominal class IIIb, we argue that there are good reasons to extend this analysis to class IIIa, where no synchronic *el*-nouns exist, and to classes I and II, which are synchronically deadjectival and deverbal. This necessitates a closer look at the function of n_{DIM}. As mentioned earlier, nominal diminutive heads individuate and create countable units (e.g. Borer 2005, Wiltschko 2005, De Belder 2011, Ott 2011) and can select either roots or nouns (Wiltschko 2005, Wiltschko and Steriopolo 2007, De Belder, Faust, and Lampitelli 2014). Based on these observations,

we further propose that n_{DIM} can become "bleached" or grammaticalized over time and lose its diminutive semantics, so that it appears as plain n. Thus, we can dispense with the LexP/nP distinction of De Belder, Faust, and Lampitelli 2014 (see Section 2 above). We also assume that higher (n-selecting) n_{DIM} projections can become the input to verbalization, *pace* Wiltschko and Steriopolo 2007 and De Belder, Faust, and Lampitelli 2014. This is suggested by examples like (23), in which nominal diminutives that attach above other overt nominal morphology become verbalized.

(23) a. $[[[\,\text{optim}_{\sqrt{}}\text{- ist}]_n\text{- el}]_{nDIM}\text{- n}]_{v/infl}$ 'be optimistic, act like an optimist'
             optim-   ist-   DIM-   INF

     b. $[[[\,\text{brauch}_{\sqrt{}}\text{- tüm}]_n\text{- el}]_{nDIM}\text{- n}]_{v/infl}$ 'be concerned with preserving customs'
             use-   dom-   DIM-   INF

We therefore argue that both root- and n-selecting n_{DIM} can become the input to verbalization by (a particular type of) *v*, formalized as *v*[ACT]. This *v* classifies the event as activity. We moreover follow Harley 2005, 2013, Alexiadou, Anagnostopoulou, and Schäfer 2015, among others, in assuming that the external argument is merged in the specifier of a higher functional projection VoiceP rather than by the verbalizing projection *v*. However, *v* determines the thematic role of the argument merged in the specifier of VoiceP, which in the case of *v*[ACT] is an actor rather than an agent.[4] Unlike agents, actors can be animate or inanimate and derive (among others) unergative verbs of internal causation and verbs of emission (thus, e.g. Levin and Rappaport Hovav 1995, Rothmayr 2009). This structure, illustrated in (24), covers all of our class II *(e)l*-verbs and the productive Viennese *(er)l*-verbs of emission. We argue that this is also the structure of classes Ia and IIIa, accounting for the parallelism with class II in terms of syntactic properties and event structure.

(24)   *Class I/II/IIIa (e)l-/erl-verbs*

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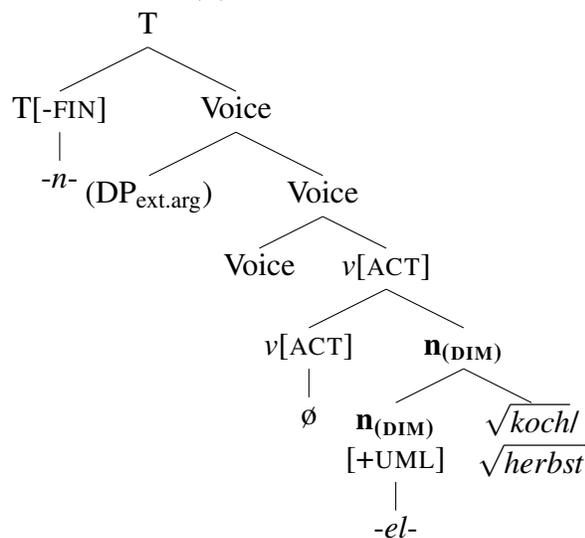
[4]Cf. Doron 2003 on the Hebrew intensive template as introducing an actor theta role and Harley 2005 on unergative activity verbs.
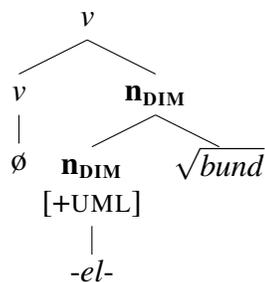
We contend that in classes I, II and IIIa, to which we have ascribed the structure in (24), the diminutive semantics of n$_{DIM}$ ("countable unit") was descriptively reanalyzed as belonging to *v*, resulting in the pluractionality (or "event-internal plurality", iterativity) reading observed in diminutive verbs (cf. Tovena 2010 for Italian). That is, the equivalent of n$_{DIM}$ in the verbal domain is (a particular type of) *v*[ACT]. This *v*[ACT] head can in turn be selected by a higher Voice head, which optionally introduces an actor or source argument—recall that many of these verbs (especially, but not only, the Viennese *(e)l-* and *erl-*verbs) are optionally expletive verbs of emission, as illustrated again in (25) for the verb *herbsteln* 'to look a lot like Fall / to be Fall-like'.

(25)   a.   Es herbst-el-t   so schön.
                it Fall-DIM-3SG.PRES so beautifully
                "It's so beautifully Fall-like." (i.e. the weather)

         b.   So schön   herbst-el-t   unser   Bezirk.
                so beautifully Fall-DIM-3SG.PRES our.NOM district.NOM
                "This is how beautifully Fall-like our district is."[5]

The nominative subject in (25) is the SOURCE or ACTOR argument introduced by Voice. On the morphonological side, the structure in (24) moreover accounts for the umlaut of *-(e)l-*verbs, which is triggered by the presence of the (bleached) diminutive affix, just as it is in nominal diminutives.[6]

Finally, (24) follows naturally from the compositional parallel analysis of the synchronically denominal verbs of class IIIb. As we have seen, these are built on synchronic (diminutive and non-diminutive) nouns in *-(e)l-* (e.g. *Krümel* 'little crumb': *krümel-n* 'to crumble, spread crumbs', *Bündel* 'bunch, bundle': *bündel-n* 'to bundle', etc.). This suggests that the same diminutive nominal projection is present in synchronically denominal class IIIb verbs, but that its DIM feature has not undergone reanalysis as part of the verbal domain. The relevant part of its structure is illustrated in (26).

(26)   *Class IIIb (e)l-/erl-verbs*

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[6]We interpret the fact that class II diminutive verbs do not always umlaut to mean that the bleaching of n$_{DIM}$ is most advanced in this class.

The diminutive semantics of this class thus follows compositionally from the presence of n_{DIM}. The next section contains corroborating evidence for this analysis from diachrony.

4.3   Corroborating evidence from diachrony

The nominal diminutive affix *-(e)l-* comes from the OHG affix *-il(a)* ($<$ Proto-Indo-European (PIE) **-elo-*, **-ilo-*), which formed diminutive nouns from nouns and instrument nouns from verbs, triggering umlaut of the preceding vowel (the non-umlauting variant *-al(a)-* $<$ PIE **-ol(o)-* became specialized as a derivational suffix for instrument nouns), see (27).

(27)   *OHG -il(a) and -al(a) nouns*

    a. Base   Diminutive

busc, bosc	'bush, shrub'	*busk-ila*	NHG *Büschel* 'tuft, bunch'
sack	'sack'	*seck-il*	'small sack, bag'
(h)ring	'ring'	*(h)ring-ila/o*	'little ring; marigold'

    b. Base   Instr. noun

*tug/tuh-	'pull'	**tug-ila-*	NHG *Zügel* 'rein'
slah/slag-	'slay, flay'	*sleg-il*	NHG *Schlegel* 'mallet'

Semantically, the origin of (at least some of the) functions of *-il(a)* and its ancestor **-el(o)-*, **-il(o)-* seems to have been "of X", or appurtenance. Some "fossilized" appurtenance nouns which have survived in NHG and are not synchronically analyzable as diminutives or instrument nouns are shown in (28).

(28)   *Appurtenance nouns in -el-*

     Arm m.   'arm'   *Ärm-**el*** m.   'sleeve' $<$ 'pertaining to the arm'

     Eiche f.   'oak tree'   *Eich-**el*** f.   'acorn' $<$ 'of/pertaining to the oak tree'

There is evidence that nominals with this kind of "(type) of x" or "(unit) of x" semantics are a cross-linguistically common diachronic origin of nominal diminutives (and their often pejorative semantics).[7]

Denominal and deadjectival verbs in *-il-ōn* and *-al-ōn* based on these diminutives and instrument nouns are found already in OHG (as well as in other Northwest Germanic languages and in Gothic), as shown in (29).

(29)   *OHG denominal and deadjectival verbs in -il-ōn, -al-ōn*

rig-il	'bolt, bar'	*rig-il-ōn*	'to protect with a bar, bolt'
nag-al	'nail'	*nag-al-ōn, neg-il-ōn*	'to nail'
wort-al	'talkative'	*wort-al-ōn*	'to be talkative, talk a lot'
mihh-il	'great, big'	*mihh-il-ōn*	'to make great, to praise'

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[7]Cf. Nussbaum 2009 for parallels in older Indo-European languages, e.g. Old Latin *serv-os* 'slave': *servo-**lu**-s* 'a slave not worth very much; young slave' (with the same **-lo-*suffix as in PGmc. & OHG).

That is, both diminutives and instrument nouns can and do become the basis for (descriptively zero-derived) denominal verbs throughout the history of German.

Moreover, *-il-ōn* and *-al-ōn* were undoubtedly also deverbal already in OHG, see (30). The OHG (weak) deverbal affixes *-il-ōn*, *-al-ōn* are described as "iterative" or "diminutive" in the handbooks, and have led some scholars to posit *two* affixes for OHG, a deverbal ("iterative") and a denominal one (e.g. Wissmann 1932, 27ff., Krahe and Meid 1969, 263f.).

(30)   *OHG deverbal -il-ōn/-al-ōn verbs*
     kling-an   'to sound out, ring'   *kling-**il**-ōn*   'to ring repeatedly'
     tūm-ōn   'to turn'   *tūm-**il**-ōn, -**al**-ōn*   'to roar; to turn, roll'
     grab-an   'to dig'   *grub-**il**-ōn*   'to dig at; to muse, ponder'
     want-ōn   'to turn, change'   *want-**al**-ōn*   'to change; to walk, stroll'

However, OHG diminutive verbs like those in (30) are clearly segmentable into diminutive/instrumental nominal *-il(a)-/-al(a)-*, plus the weak verb stem-forming infinitive *-ōn*. Moreover, at least some of these verbs also have a synchronic *-il(a)-* or *-al(a)*-diminutive or instrument noun beside the non-diminutive "base verb', so an ultimately denominal origin of the "deverbal" class seems plausible (note that the deverbal class is absent in Gothic, attested several centuries before OHG and the other Northwest Germanic languages). This suggests that the reanalysis of the "diminutive" feature of *-il-* and *-al-* as part of the *v*/event domain, sketched out in (31), occurred several times in the history of German.

(31)   *Reanalysis of* n_{DIM}*: klingilōn 'to ring repeatedly'*
     $[[[kling]_{\sqrt{}}\text{-}\mathbf{il}]_{n}\text{-}\bar{\text{o}}n]_{v/\text{infl}} \rightarrow [[kling]_{\sqrt{}}\text{-}\mathbf{il}\bar{\text{o}}n]_{v/\text{infl}}$

Thus, the umlaut of the majority of class II *el*-verbs betrays their denominal origin.

5.   Summary and conclusion

We have argued that the SG and AB "verbal diminutive" affixes *-(e)l-* and *-erl-* spell out n_{DIM}, even when there is no (synchronic) diminutive noun, thus offering a formally uniform and unified syntactic analysis of all classes of diminutive verbs. The head n_{DIM} selects roots that do not project, in the sense that its arguments are introduced by higher structural layers (*v*, Voice) rather than by the root itself—alternatively, this may be interpreted to mean that n_{DIM} effectively *blocks* the root from projecting. The syntactic and semantic behavior of "diminutive" verbs therefore differs from that of verbs that are derived from the same root, but lack this intermediate nominal projection (i.e. the apparent "base verbs" of deverbal diminutive verbs). We have shown how the event and argument structure properties of *-(e)l-* and *-erl-* verbs follow from the combination of n_{DIM} with the higher functional projections *v*([ACT]) and Voice, depending on whether *v*[ACT] is present and whether Voice introduces an external argument. The syntactic properties of diminutive verbs thus reflect their denominal origin.

Our analysis hence provides further evidence for the claim that the inner aspect of denominal verbs reflects the properties of the nominal base or root, cf. e.g. Harley (2005), who

argues that [+BOUNDED] roots like SADDLE result in denominal accomplishment verbs, while [-BOUNDED] roots like DROOL result in denominal activity verbs. We have argued that it is not just the properties of the root that matter, but that nominal structure can also be present in the verbalization and reflected in its syntactic properties. That is, AB verbal *-(e/er)l-* can be understood as a way of productively deriving unergative activity verbs.

Finally, the development of diminutives into nominalizers is cross-linguistically common and well-attested, as is the development of pejoratives and approximatives from diminutive semantics (Dahl 2006). In our account, the pejorative semantics of many of the German *(e/er)l*-verbs thus follows from their denominal origin.

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