From degree achievements to iterativity:
Evidence from German(ic) *-(e)r-*verbs

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Introduction: Aktionsart & verb formation in German(ic)

- Argument and event structure alternations in present-day German (PDG) are mostly expressed via prefixation/preverbs
  - *malen* 'paint' (atelic) - ***be**-malen* (telic)
  - *schlagen* 'hit' (activity, atelic) - ***er**-schlagen* (telic, accomplishment)
- But PDG also has a few Aktionsart-modifying ***suffixes*** whose diachrony has not received much attention:
  - *-(e)l-*: diminutive/iterative (*köch-**el**-n* 'to simmer', *dräng-**el**-n* 'to shove')
  - *-ig-*: factitive, ornative (*rein-i**g**-en* 'to clean')
  - *-itz-*: intensive/iterative (*blitz-en* 'to flash')
  - *-(e)r-*: iterative → today's talk

Introduction: Aktionsart & verb formation in German(ic)

The suffix *-er-* appears to act as a verbalizer in three major subclasses of verbs in PDG:

1. Deverbal/root-based, e.g.:
   a. *flatter-n* 'to flutter', *flacker-n* 'flicker'
   b. *folg-er-n* 'to infer, deduce (*folg-en* 'to follow')
   c. *steig-er-n* 'to increase' (*steig-en* 'to rise, increase')

2. Denominal to substantives with (old or synchronic) plurals in *-er*, e.g.:
   a. *ver-gött-er-n* 'to treat as a god' (*Gott*, pl. *Gött-er*)
   b. *blätt-er-n* 'to leaf through' (*Blatt* 'leaf, page', pl. *Blätt-er*)

3. Deadjectival to comparatives and positives in *-er*, e.g.:
   a. *mild-er-n* 'to make mild' (*mild*, comp. *mild-er*)
   b. *ver-größ-er-n* 'to enlargen' (*groß*, comp. *größ-er* 'large, big')

Introduction: Aktionsart & verb formation in German(ic)

- While the *-er-* of classes II and III is arguably contained in the derivational base, this is not the case for class I, in which *-er-* acts as an **iterative verbal stem-forming suffix** according to the handbooks
  - Wilmanns 1895: 93; Henzen 1957: 224; Meid 1967: 264, Birkhan 1985: 184
- Cognates for this class can be found at least for North-West Germanic (e.g., OHG *flogarōn*, ON *flǫgra* 'fly around')
- Diachrony & origin of the iterative semantics of class I unclear: The handbooks generally propose that positive adjectives in Gmc. *-ar-* (+ some comparative forms) were resegmented in the context of verbal derivation
  - e.g., OHG *wachar* 'awake' : [[*wachar*]$_A$-*ōn*]$_V$ 'to be(come) awake, vigilant' → [[*wach*]$_{V/N}$-*arōn*]$_V$

Introduction: Aktionsart & verb formation in German(ic)

Problems:

- Deadjectival verbs are usually/cross-linguistically associated with factitive-fientive alternation verbs/degree achievements, not with (deverbal?) iteratives
  - PDG *sauber* 'clean': *säuber-n* 'to clean'
  - Engl. *flat* : *to flatt-en*
  - e.g., Hale & Keyser 1998, 2002; Harley 2005; Koontz-Garboden 2005; Kennedy & Levin 2008; Bobaljik 2012; Beavers & Koontz-Garboden 2020
- No corpus study so far has confirmed the connection with *r*-adjectives for German(ic)
- Unclear what role (if any) comparatives play in this reanalysis

Today's goals

- We present the results of a *corpus study* of four older Germanic languages to confirm the proposed connection between adjectival *-(a)r-* and verbal iterative *-r-*
- We discuss the different types of word classes that Germanic *r*-verbs are derived from and the role of comparative morphology
- We argue that there is a systematic connection between the semantics of the base and factitive/fientive vs. iterative formation
  - Quick note on terminology: we use the terms **fientive** and **factitive** for intransitive and transitive COS verbs from adjectival *states*/property concept (PC) lexemes, as opposed to inchoative/causative for verbs from *eventive* bases

Core claim: iteratives are not derived from canonical gradable/primary adjectives, but derivationally associated with root-derived "verbal adjectives"

Background: derived *r*-verbs in Germanic

Gothic

only transparently denominal/deadjectival *r*-verbs, no iterative function

- *gaurs* 'sad' → *gau**r**-jan* 'sadden, make sad'
- *maurþr* 'murder' (n.) → *maurþ**r**-jan* ' to murder'
- Inflection: 1st weak class (-*jan*)

Background: derived *r*-verbs in Germanic

Old High German (OHG)

- **denominal**: *wuntar* 'wonder' → *wuntar-ōn* 'to make wonder'; *zimbar* 'timber' → *(gi)zimb(a)r-en* 'to build'
  - Inflection: 1st & 2nd weak class (-*en* & -*ōn*)
- **deadj. fientives & fact.**: *finstar* 'dark' → *finstar-ēn* 'turn dark'; *muntar* 'awake' → *munt(a)r-en* `wake up' (tr.)
  - Inflection: 1st & 2nd weak class (-*en* & -*ōn*); statives/fientives also 3rd weak class (-*ēn*)
- **deverbal iteratives**: *fliog-an* 'fly' → *flog-ar-ōn* 'fly around, flutter'; *gang-an* 'go' → *gang-ar-ōn* 'walk around, wander'
  - Inflection: 2nd weak class (-*ōn*)

Background: derived *r*-verbs in Germanic

Old English

- **denominal**:   *myrþra* 'murder' → *myrþr-an* 'to murder';
  þunor 'thunder' → *þunr-ian* 'to thunder'
- **deadj. fientives & fact.**:   *mæger* 'meager' → *mæger-ian* 'make meager';
  þéostor 'dark' → *þēostr-ian* 'become/make dark'
- **deverbal iteratives**:   *flot-ian* 'swim, float' → *flot-er-ian* 'float around; flutter'

- Inflection: traces of the cl. I/II distinction, but different distribution – denominal/deadjectival verbs in general tend to be class II

Background: derived *r*-verbs in Germanic

Old Norse

- **denominal**: *slātr* 'slaughter' → *slātr-a* 'to slaughter';
  glutr 'waste' → *glutr-a* 'to waste'
- **deadj. fientives & fact**.: *fagr* 'beautiful, fair' → *fegr-a* 'make beautiful';
  snotr 'wise' → *snotr-a* 'make wise' (fient.: *-sk*)
- **deverbal iteratives**: *stak-a* 'to push, stagger' → *stak-r-a* 'to stagger';
  buga 'bend' (itr) → *bok-r-a* 'bend, crouch'
  - (weak verbs; no generalization w.r.t. inflectional class)

Summary: derived *r*-verbs in Germanic

- **East Gmc./Gothic:** only 1st weak class -*jan* from nominal/adj. bases in *r*-, no deverbal *r*-verbs
- **NW Gmc.** (OHG, OE, ON): denominal, deadjectival, deverbal/root-derived *r*-verbs; possibly a functional distribution of inflectional classes in OHG
- <u>Next step</u>: collection of *r*-verbs in older Germanic languages to clarify the distribution of the three core types
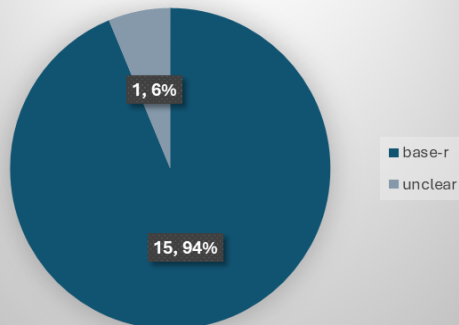
Methods

- Collection of derived verbs containing *-r-*, **focus on Gothic, OHG, OE, ON** (+ preliminary work on Old Saxon/OS & Old Frisian/OFr)
  - Exclusion of primary verbs with roots ending in *-r*, e.g., Go., OHG, OE *faran*, ON *fara* 'move, drive' < 1. *per* 'cross' (LIV^2: 472)
  - All other verbs containing an *-r-* before the ending, whether from a base substantive or as part of a suffix, were collected in the database, e.g:
    - OE *beterian* 'improve' < *betre* 'better' (base-r)
    - OE *scimrian* 'to glitter < *scīma* 'beam, gleam' (base no-r)
- Corpora/sources: (Etymological) dictionaries and text archives with complex search functions and/or annotated corpora
  - Kroonen 2013 (Gmc.); de Vries (ON); EWA, Bergmann 1991, Pfeifer et al. 1993 (OHG); Bosworth & Toller, DOE (OE), Wulfila project (Go.), Boutkan & Siebinga 2005 (OFr), Walkden 2016 (OS) …

Methods

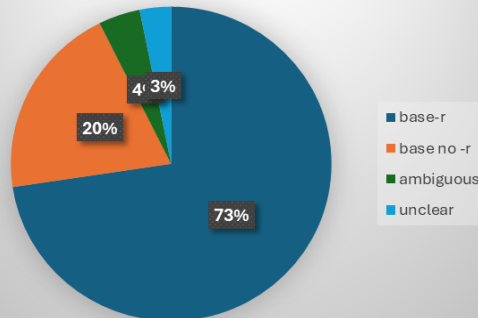- Extraction:
  - search terms such as *-ran, -rian* (OE) *-arōn*, *-iren* (OHG) were used to find *-r-* verbs
  - For OHG: cross-checked through compilation of OHG *r*-adjectives and associated verbs based on Heidermanns (1993) & EWA
- Categories/entry:
  - Meaning, base, base-r (y/n), base-meaning, base-cat
    - if base-cat = n: base-gender
  - Preliminary: Aktionsart (state, activity, achievement, accomplishment), transitivity, cognates, (earliest) attestation & place of attestation, existence of parallel *(e)l*-verb (e.g., OE *stamrian* 'to stammer' vs. NHG *stammeln*)
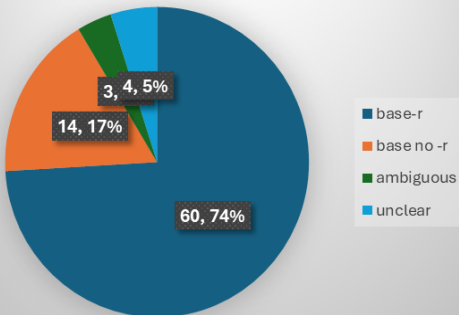
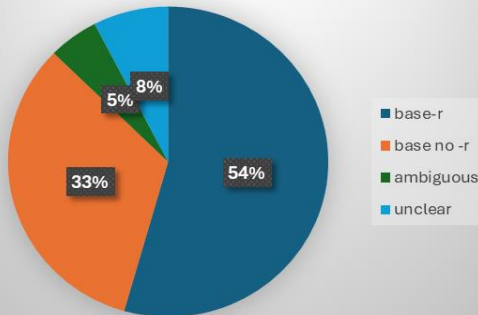# Results: base-r (y/n) in Go., OHG, OE, ON

Gothic r-verbs (n = 16)

- base-r
- unclear

1, 6%
15, 94%

OHG r-verbs (n = 95)

- base-r
- base no -r
- ambiguous
- unclear

4, 3%
20%
73%

OE r-verbs (n = 81)

- base-r
- base no -r
- ambiguous
- unclear

3, 4, 5%
14, 17%
60, 74%

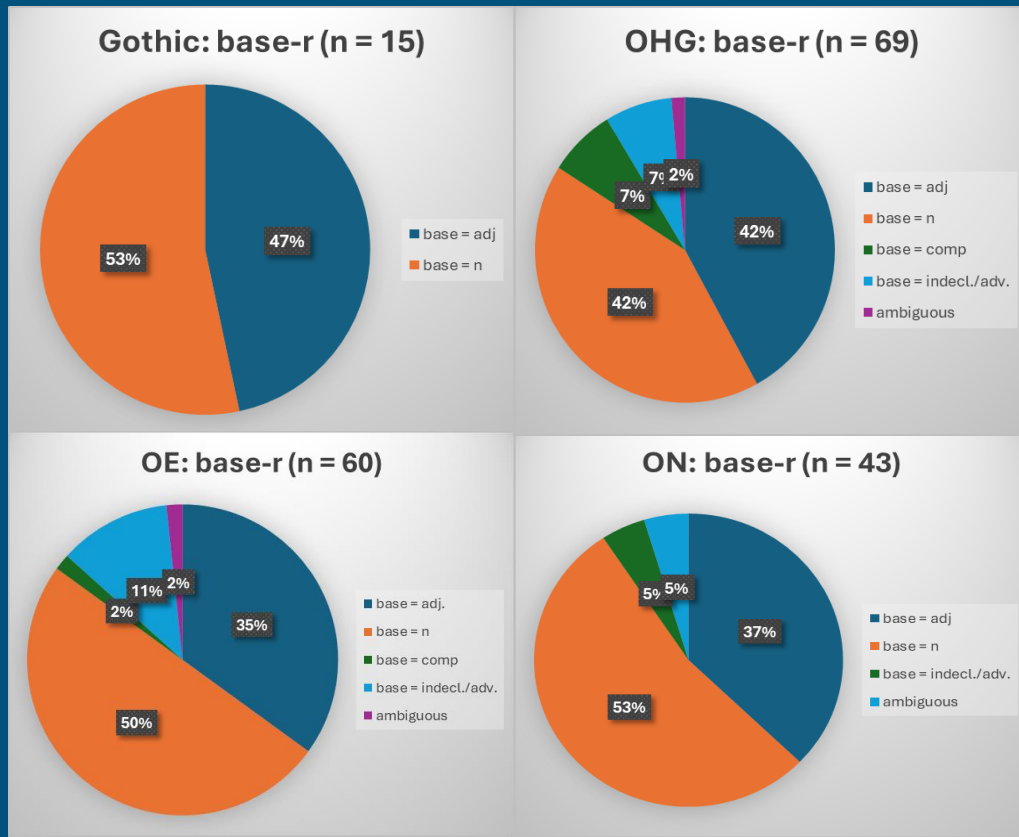## ON r-verbs (n = 79)

- base-r
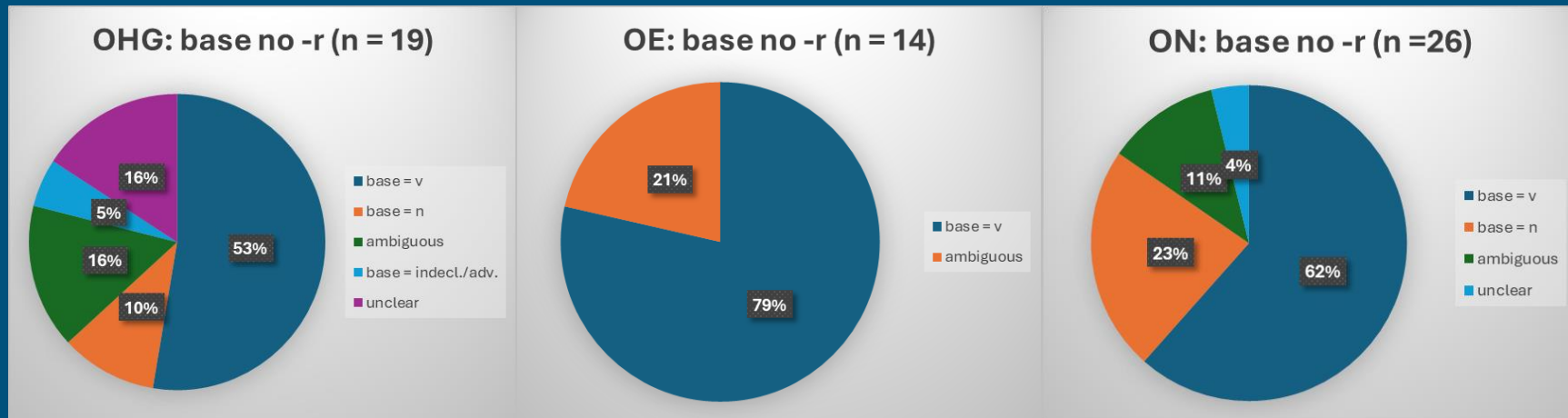- base no -r
- ambiguous
- unclear

5% 8%
33%
54%

- No deverbal iteratives in Gothic
- Majority of r-verbs in OHG, OE, ON are based on stems containing -r
- What exactly are these stems?

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Results: a closer look at base-r

Gothic: base-r (n = 15)
- base = adj 47%
- base = n 53%

OHG: base-r (n = 69)
- base = adj 42%
- base = n 42%
- base = comp 7%
- base = indecl./adv. 7%
- ambiguous 2%

OE: base-r (n = 60)
- base = adj. 35%
- base = n 50%
- base = comp 2%
- base = indecl./adv. 11%
- ambiguous 2%

ON: base-r (n = 43)
- base = adj 37%
- base = n 53%
- base = indecl./adv. 5%
- ambiguous 5%

- Base-r verbs are predominantly denom. & deadjectival
  - Exclusively so in Gothic
- Very few comparatives (none in ON)
  - n/a in Gothic: *-iz-/-oz-*, e.g., *minniza* 'smaller, lesser' → *minznan* 'to diminish'

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Results: a closer look at base no -r

OHG: base no -r (n = 19)

- base = v — 53%
- base = n — 10%
- ambiguous — 16%
- base = indecl./adv. — 5%
- unclear — 16%

OE: base no -r (n = 14)

- base = v — 79%
- ambiguous — 21%

ON: base no -r (n = 26)

- base = v — 62%
- base = n — 23%
- ambiguous — 11%
- unclear — 4%

- Basically, if *r* = part of the base, the derived verb is denominal or deadjectival, if *r* ≠ part of the base, the derived verb is deverbal

Results: Aktionsart

- **Base = adj.**: states ('be x'), degree achievements/COS verbs ('become x', 'make x')
- **Base = n.**: activities ('do x', e.g., OHG *last(a)r-ōn* 'to slander, talk smack' : *lastar* 'offense'), accomplishments (e.g., OHG *zimb(e)r-en* 'to build' : *zimbar* 'building material'), cf. Harley (1999, 2005)
  - Some denominal activity verbs are close to iteratives in terms of Aktionsart
- **Base = v**: activities/**iteratives** (e.g., OHG *flogarōn* 'fly around, flutter', *gangarōn* 'wander around', *swebarōn* 'float, swim')

Summary of results

- **Denominal r-verbs** are mostly **accomplishments**, **deadjectival** ones are **degree achievements & states**
  - … and therefore a subclass of denominal & deadjectival verb formation more generally – these just happen to be from stems that end in *-r*
- **Deverbal r-verbs** are mostly **activities**, the *-r* is not part of the base
  - → activity-forming verbalizer with iterative Aktionsart?
  - Gothic has no deverbal *r*-verbs → verbalizing function as NW-Germanic innovation
- Caveat: small numbers; this was never a hugely productive class

Analysis: getting adjectival morphology into the *v*-domain

- Assumption: *-(e)r-* is not an inherited verbalizer, it must have become reanalyzed as one in the history of (proto-)NW Germanic
  - No such verbalizer reconstructed for PIE
  - Gothic doesn't have it
- Reasonable to assume that this happened in the context of cross-categorial derivation → denominal/deadjectival verbs (Grestenberger 2022, 2023)
- Deadjectival verbs are the better candidates than denominal ones because:
  - Gmc. *-ra-/*-ri-; *-rja-* are adjectival rather than nominal stem-forming suffixes
  - No uniform function associated with nominal (*)-*(a)r*

Types of *r*-adjectives in Germanic

1. Root-derived/primary, PC roots
   - *dap-**ra*** 'heavy', *haid-**ra*** 'clear', *hai-**ra*** 'grey', *mag-**ra*** 'meager'
   - *-ri-*?
2. Root-derived/primary "verbal adjectives" from eventive/non-PC roots
   - *bit-**ra*** 'biting, bitter' : *beit-a-* 'bite';
     *klib-**ra*** 'sticky : *kleib-a-* 'stick';
     *slip-**ra*** 'slippery' : *sleip-a-* 'slip';
     *wak-**ra*** 'awake, aware' : *wak(na)-* 'wake up';
   - *wit-**ri*** 'knowing, knowledgeable' : *wait-* 'know';
     *skei-**ri*** 'shining' : *skei-* 'shine'

Wilmanns 1896: 427-8; Meid 1967: 78-81; Heidermanns 1993

Morphosemantics: Deadjectival verbs & degree achievements

- Verbs derived from gradable adjectives (property concepts, PCs) are **degree achievement verbs** (factitive-fientive alternation; statives)
  - Kennedy & Levin 2008; Bobaljik 2012; Beavers & Koontz-Garboden 2020, …
- The patient undergoes a change of state (COS) between the degree to which a property P (e.g., *wide*) holds at the beginning of the event and the degree to which it holds at the end
  - Hay et al. 1999; Kennedy & Levin 2008; Beavers & Koontz-Garboden 2020
  - Different scale types for different adj.

1) *They **widened** the road/The road **widened***

r-adjectives & deadjectival verbs

Verbs derived from type 1. = degree achievements & statives (ex. OHG):

(h)lūttar-ēn	be bright, clear	*lūt(t)ar, hlūt(t)ar*	bright, clear	**Statives & fient.**
finst(a)r-ēn	become dark	*finstar, finstir, finster*	dark	
timber-ēn	become murky	*timber*	somber, murky	
bittar-en	make bitter	*bittar*	bitter	**Factitives**
(gi)lūttir-en, liut(e)r-en	clear, make bright	*lūt(t)ar, hlūt(t)ar*	bright, clear	
heitar-en	be/make cheerful	*heitar*	sunny, clear, cheerful	
irbar-ōn	make bare	*bar*	bare	
magar-en	make thin	*magar*	meager, thin	
(ir-)munt(a)r-en	make alert	*muntar*	awake, alert	
sūbir-en, sūb(e)r-en, sūbar-ōn	make clean	*sūber, sūb(i)ri*	clean	

Morphosyntax: deadjectival verbs

- Bobaljik (2012): deadjectival degree achievements are based on the comparative, not the positive
- Evidence: verbs from suppletive adjectives always select the allomorph of the comparative
  - Engl. *to worsen, to better*
  - Gmn. *gut* 'good' - *besser* 'better' → *ver-besser-n* 'to better'
  - Lat. *bonus* 'good' - *melior* 'better' → *melior-āre* 'to better'
- But the comparative morpheme isn't always overt
  - Engl. *to cool, to dark-en*
  - PDG *säuber-n* 'to clean' (*sauber* 'clean' – *sauber-er* 'cleaner'), *ver-dunkel-n* 'to darken' (*dunkel* 'dark' – *dünkl-er* 'darker')
- Bobaljik speculates that this is because the verbalizer itself takes over the role of the comparative in deadjectival degree achievements

Morphosyntax: deadjectival verbs

- If so, a straightforward reanalysis of adjectival *-(e)r* would give us verbal *-(e)r* in deadjectival degree achievement verbs
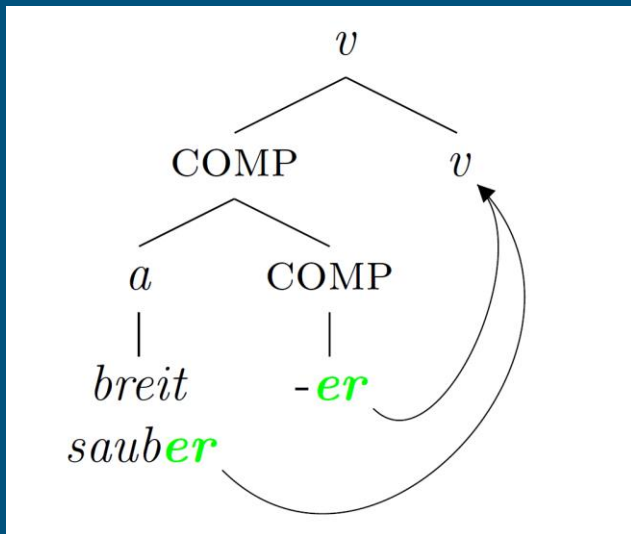

Fig. 1: reanalysis of positive/comparative *-(a/e)r* as verbalizer/Aktionsart marker

Morphosyntax: deadjectival verbs

- But we would expect the resultant verbalizer to derive factitive-fientive verbs, cf. reanalysis of adj. *-ig* → factitive *-ig-*:
  - MHG *rein-ec* 'clean' : *rein-eg-en* 'to clean'
    OHG, MHG *(h)reini*, *rein(e)* : *(h)rein-en* 'to clean'
  - OHG, MHG *sat* 'sated, full' : x, x = MHG *set(t)-ig-en* 'make full, sated' (older *set(t)-en*, *sat(t)-en*)

→ If adj. *-(e)r-* had undergone the same reanalysis, we would expect degree achievement verbs, not iteratives
- Cf. *ver-breit-er-n* 'make broad(er)' but *aus-breit-en* 'spread out', *ver-breit-en* 'spread' (*breit* 'broad'); OHG factitives from non-suppletive comparatives, e.g., *līhter-ōn*, *liehter-ōn* 'enlighten, make lighter'

Background: Iteratives

- Event-internal pluractionals: event consists of a plurality of subevents
  - *flutter*, *nibble*, *hop*, *waver*, *knock*, *jump* …
  - Caveat: iterative/pluractional reading epiphenomenal/dependent on the interpretation of the base? (Oltra-Massuet & Castroviejo 2014; Kastner 2020)
- Iteratives/pluractionals are (**atelic**) **activity** verbs, not (telic) achievements/COS verbs
  - Dressler 1968; Cusic 1981; Wood 2007; Tovena & Kihm 2008; Tovena 2010; Greenberg 2012; Grestenberger & Kallulli 2019
- Morphosyntax: √ACTION modifier of the event, adjoins to *v*P (Kastner 2020)

Ex.: OHG *(a)r-*"iteratives" (pluractionals)

Iterative		Base	
*bliuw-**ar**-ōn*	beat	*bliuwan*	make blue, beat
*fled-**ir**-ōn*	fall, hang loosely	*fleden/ - ēn*	fall, hang loosely
*flog-**ar**-ōn*	fly around, flutter	*fliogan*	fly, float, glide
*gang-**ar**-ōn*	walk around, wander	*gangan*	go, walk
*irscab-**ar**-ōn*	scrape together, snatch	*(ir)scaban*	scrape, scratch
*sweb-**ar**-ōn*	float, drift	*swebōn*	float, drift
*uob-**er**-ōn*	practise, peruse	*uoben*	practice, do
*wimm-**er**-en*	warm, teem with	*wium(m)en, wimmen*	swarm, teem with

r-adjectives & deadjectival verbs

- If deadjectival verbs from gradable/type 1) adjectives gave rise to degree achievements, then maybe type 2) adjectives ("verbal adjectives") were the basis for this class of *r*-iteratives?
  - Cf. inflectional difference in OHG:
    weak cl. I (-*jan*) factitives vs. weak cl. II (-*ōn*) iteratives

→ *r*-verbs classified ambiguous between base-r & base no-r in our collection

r-adjectives & deadjectival verbs

Ex: verbs derived from type 2/deverbal iteratives (base a; v)

OHG	*wahhar-ōn*	be alert, vigilant	*wahhar, wachar*	alert , vigilant	*wach-ēn*	be awake, vigilant
	weigar-ōn	be obstinate, refuse	*weigar*	obstinate, combative	*wīg-an*	fight, oppose
	flogar-ōn, flagar-ōn	flutter, flicker	**flakra-, OE flacor*	flickering	**flakk/g-ōn*, ME *flakken*	flutter, flicker
	ir-lungar-ōn	wander around	*lungar*	capable, diligent	*gi-lingan*	suceed
OE	*stam(e)r-ian*	stammer	*stamor*	stammering	**stimm-an*, MHG *stamen, stemmen*	stop, falter
	slidr-ian	slip, slither	*slidor*	slippery	*slidan*	slide
	sicer-ian	trickle, sink down	**sigra-,* MHG *seiger*	trickling; shale	*seon*, OHG *sīhan*	ooze, trickle; filter

Reanalysis: getting *r-* into the *v* domain

Fig. 2: reanalysis of *-(a)r* as *v*P modifier
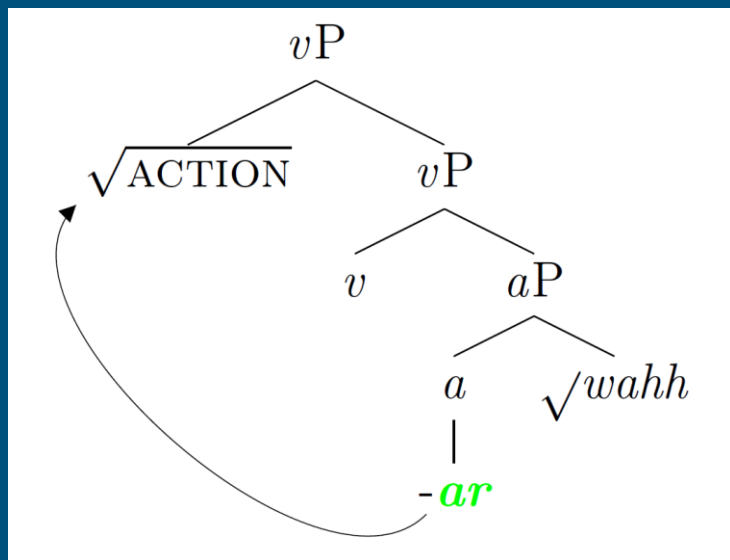
Morphosemantics:
- Some type 2) adjectives have a dispositional reading
  - *wahhar* 'vigilant';
    lungar 'prone to succeed',
    weigar 'prone to fight, combative'
- ≈ P['tendency-to']/"agentive quale" (Fábregas 2020) → reanalyzed as event modifier V<small>ACTION</small> in the *v*-domain?

Conclusion

- Deverbal/iterative *r*-verbs are a (proto-)NW-Gmc. innovation
- Our survey of OHG, OE and ON showed that if *r* = part of the base, the derived verb is denominal (accomplishment) or deadjectival (state or degree achievement), if *r* ≠ part of the base, the derived verb is a deverbal iterative
- We propose that iterative verbal -*r* came from "type 2" adjectives from eventive (non-PC) roots and was reanalyzed as a *v*P modifier in a subclass of deadjectival verbs
  - Crucially distinct from (factitive) degree achievement verbs, which saw a limited intrusion of positive/comparative -*r* (type *ver-breit-er-n*)

Open issues

- Details of the semantic reanalysis remain to be worked out
  - connection with denominal activity verbs & the causative/iterative polysemy? (Aikhenvald 2011, Bozzone 2016)
- Desiderata/future work
  - Synchronic survey of Old Saxon & Old Frisian
  - Add Middle High German & Middle English data
  - Diachrony from OHG → NHG, with ***n.pl.-derived verbs*** becoming (more) productive
    - *ver-gött-er-n* 'to treat as a god' (*Gott*, pl. *Gött-er*)
    - *blätt-er-n* 'to leaf through' (*Blatt* 'leaf, page', pl. *Blätt-er*)

Thank you for your attention!

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