

A catalogue of substrate alternations in Celtic

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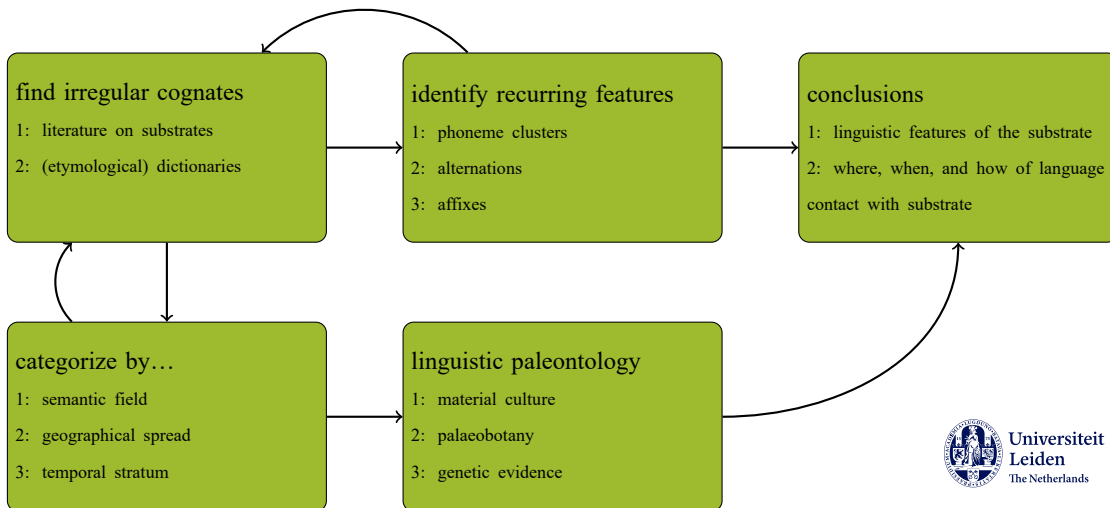
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Methodology



Three research questions

- What substrate words can be identified in Celtic?
 - How old are these words?
 - Where else are these words found?
- What substrate alternations can be identified in Celtic?
 - How old are these alternations?
 - How did these alternations arise?
- How can the substrate lexicon inform us about the linguistic prehistory of Celtic?



Celtic substrate: Wild flora

Celtic	Elsewhere	Meaning
* <i>gis-ust-</i> > OIr. <i>gíūs</i>	* <i>gis-n-</i> > OE <i>cēn</i> , MLG <i>kēn</i>	pine
* <i>l(e)im-</i> > OIr. <i>lem</i> , W <i>llwyf</i>	* <i>olm-</i> > Lat. <i>ulmus</i> , Olc. <i>almr</i> , * <i>elm-</i> > E <i>elm</i>	elm
* <i>aptl-</i> > MB <i>ezlen</i>	* <i>(p)tel-</i> > Gk. <i>πελέα</i> , Lat. <i>tilia</i>	elm, poplar
* <i>k^wres-n/ti-</i> > OIr. <i>crann</i> , W <i>prysg</i>	* <i>k^wrs-ti-</i> > OE <i>hyrst</i>	wood, copse
* <i>kolis-n-</i> > OIr. <i>cuilenn</i> , W <i>celyn</i>	* <i>kulis-</i> > OHG <i>hulis</i>	holly
* <i>gruki-</i> > W <i>grygion</i>	* <i>grukki-</i> > Nw. <i>krykke</i>	crowberry
* <i>bak-</i> > W <i>bagad</i> , <i>bagwy</i>	Berber * <i>bqā</i> , * <i>bakk-</i> > Lat. <i>bacca</i>	berry, cluster
* <i>mab-</i> > W <i>mafon</i>	* <i>amb/p-</i> > Mfr. <i>ambre</i> , <i>ampe</i>	raspberry
* <i>alis-tr-</i> > OIr. <i>ailestar</i> , W <i>elestr</i>	* <i>lvsk-</i> > MLat. <i>lisca</i> , Du. <i>lis</i>	sedge, iris
* <i>semmVr-</i> > OIr. <i>semar</i>	* <i>smēr-</i> > Icel. <i>smári</i>	clover



Celtic substrate: Domesticated flora & produce

Celtic	Elsewhere	Meaning
* <i>b^har-agi-</i> > W <i>bara</i>	* <i>b^har(V)s-</i> > Lat. <i>far</i> , OE <i>bere</i> , OCS <i>brašbno</i>	grain, flour, bread
* <i>ruki-</i> > W <i>rhyg</i>	* <i>rugi-</i> > ON <i>rugr</i> , Lith. <i>rugiaĩ</i>	rye
* <i>korki-</i> > OIr. <i>corcae</i> , W <i>ceirch</i>	* <i>kokri-</i> > Sw. <i>hagre</i>	oats
* <i>arb^h-</i> > W <i>erfin</i> , B <i>irvin</i>	* <i>rap-</i> > Lat. <i>rapum</i> , * <i>rab^h-</i> Gk. <i>ράφη</i> , <i>ράφάνη</i>	turnip
* <i>kn(o)uH-</i> > OIr. <i>cnú</i> , W <i>cnau</i>	* <i>knud-</i> > OE <i>hnutu</i> , * <i>knuk-</i> > Lat. <i>nux</i>	nut



Celtic substrate: Fauna

Celtic	Elsewhere	Meaning
<i>*gapr-</i> > OIr. <i>gabor</i> , <i>*kaper-</i> > Ir. <i>cáera</i>	<i>*kapr-</i> > Gk. <i>κάπρος</i> , Lat. <i>caper</i> , ON <i>hafr</i>	goat, sheep
<i>*mind-</i> > Mlr. <i>menn</i> , W <i>myn</i>	<i>*mand-</i> > Bq <i>mando</i> , Sard. <i>manzu</i>	young goat, mule
<i>*kadVl-</i> > Ir. <i>cadla</i>	<i>*g^haid-</i> > E <i>goat</i> , <i>*katVl-</i> > Lat. <i>catulus</i>	(young) goat
<i>*brano-</i> > Ir., W <i>bran</i>	<i>*warno-</i> > Ru. <i>voróna</i>	raven
<i>*b^{ho}ulVkk-</i> > ScG <i>bolachdan</i>	<i>*b^hulik-</i> > Lat. <i>fulica</i> , <i>*b^holig-</i> > G <i>Belche</i>	coot
<i>*mesal-</i> > W <i>mwyalch</i>	<i>*amsl-</i> > OE <i>ōsle</i> , G <i>Amsel</i>	blackbird
<i>*alaud-</i> > Gallo-Lat. <i>alauda</i>	<i>*laiwiz-</i> > OE <i>lāwrice</i>	lark
<i>*bek-</i> > OIr. <i>bech</i> W <i>begegyr</i>	<i>*b^hi(t)-</i> > OE <i>beó</i> , Lith. <i>bìtė</i> , <i>*api-</i> > Lat. <i>apis</i>	bee
<i>*satron-</i> > OB <i>satron</i>	<i>*d^hrōñ-</i> > OE <i>dran</i> , Gk. <i>θρῶναξ</i>	drone



Celtic substrate: Craftsmanship

Celtic	Elsewhere	Meaning
* <i>rut-</i> > W <i>rhwd</i>	* <i>arud-</i> > OHG <i>aruz</i> , * <i>raud-</i> > Lat. <i>raudus</i>	rust, ore
* <i>silapr-</i> > Celtib. <i>silabur</i>	* <i>silupr-</i> > OE <i>seolfor</i> , * <i>sirebr-</i> > OCS <i>srrebro</i>	silver
* <i>pelotn/r-</i> > OIr. <i>elada</i> , W <i>elydn</i> , <i>elydr</i>	* <i>piltr-</i> > Sp. <i>peltre</i> , OFr. <i>peautre</i>	craft, brass, pewter
* <i>ploud^h-</i> > OIr. <i>lúaide</i>	Berber * <i>būldūn</i> , * <i>pl^ound^h-</i> > Lat. <i>plumbum</i>	lead
* <i>karb-</i> > OIr. <i>carpat</i>	* <i>karb-</i> > ON <i>harpa</i> , * <i>korb-</i> > Lat. <i>corbis</i>	wooden frame
* <i>bakk-</i> > OIr. <i>bacc</i> , W <i>bach</i>	* <i>bak-</i> > Lat. <i>baculum</i>	curved stick
* <i>slatt-</i> > OIr. <i>slatt</i> , W <i>llath</i>	* <i>lat-ōn-</i> > E <i>lath</i> , <i>lat</i>	shoot, stalk
* <i>skrīb^hb^h-</i> > OIr. <i>scrípaid</i>	* <i>skrīb^h-</i> > Lat. <i>scrībo</i> , * <i>skrīp-</i> > Latv. <i>skrīpāt</i>	to scratch
* <i>kapu^k/t-</i> > OIr. <i>cúäch</i> , <i>cúad</i> , W <i>cawg</i>	* <i>ka(u)pu(t)-</i> > Lat. <i>caput</i> , Go. <i>haubip</i>	cup, head
* <i>kelpurn-</i> > OIr. <i>cilorn</i> , W <i>celwrn</i>	* <i>kalp-</i> > Lat. <i>calpar</i> , Gk. <i>κάλπις</i>	vessel



Celtic substrate: Remainder

Celtic	Elsewhere	Meaning
<i>*menekki-</i> > OIr. <i>minicc</i> , W <i>mynych</i>	<i>*m^u/_hnog^h</i> > OHG <i>manug</i> , OCS <i>mъnogъ</i>	many, frequent
<i>*strab-</i> > OIr. <i>sraib</i>	<i>*asterop-</i> > Gk. ἀστεροπή	lightning
<i>*karut-</i> > OIr. <i>caur</i>	<i>*kalVt-</i> > ON <i>hǫldr</i> , OE <i>hāleþ</i>	man, hero



Intra-Celtic irregularities

Goidelic	Gallo-Brittonic	Meaning
* <i>kair-</i> > OIr. <i>cáerthann</i>	* <i>kar-</i> > W <i>cerddin</i> , W <i>ceri</i>	rowan
* <i>eittVlon-</i> > OIr. <i>íatlu</i>	* <i>eist(V)loumm-</i> > W <i>ystlum</i>	bat
* <i>ledVbbagn-</i> > Ir. <i>leadhbán</i>	* <i>lextVbbagn-</i> > W <i>lleithban</i>	fish roe
* <i>loskann-</i> > OIr. <i>loscann</i>	* <i>luk^wk^want-</i> > W <i>llyffant</i>	toad
* <i>tazg-</i> > Ir. PN <i>Tadhg</i>	* <i>task-</i> > Gaul. PN <i>Tascos</i> (* <i>taks-</i> > MHG <i>dahs</i>)	badger
* <i>katirā</i> > Ir. <i>caithear</i>	* <i>ket%urā</i> > W <i>cedor</i>	pubic hair
* <i>krund-</i> > MIr. <i>cruind</i>	* <i>krund-</i> > W <i>crwn</i> , * <i>krutt-</i> > W <i>crwth</i> , <i>croth</i>	round, womb
* <i>aitl-</i> > Ir. <i>aoileach</i>	* <i>atl-</i> > W <i>hadl</i> (OE <i>adela</i> , <i>adel</i>)	dung, rotten
* <i>wragg-</i> > OIr. <i>frac</i>	* <i>wrak-</i> > W <i>gwraig</i> , * <i>wrakk-</i> > W <i>gwrach</i>	woman, witch
* <i>mak^wk^w-</i> > OIr. <i>macc</i>	* <i>mak^w-</i> > W <i>mab</i>	son, servant

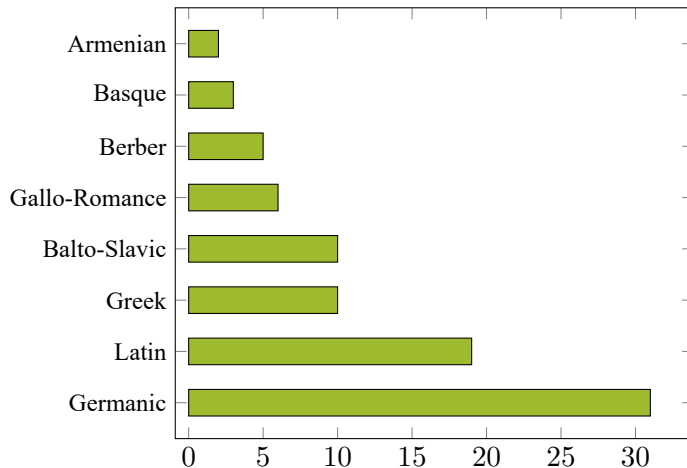


Intra-Celtic borrowing?

Goidelic	Brittonic	Meaning
* <i>meto-</i> > OIr. <i>meth</i>	* <i>metto-</i> > W <i>meth</i>	failure
* <i>nūsso-</i> > OIr. <i>nús</i>	* <i>nouso-</i> > W <i>nus</i>	first milk
* <i>wēsako-</i> > OIr. <i>fiäch</i>	* <i>wēsakko-</i> > W <i>gwyach</i>	grebe, raven
* <i>bloneggā</i> > OIr. <i>blonac</i>	* <i>bloneko-</i> > W <i>bloneg</i>	animal fat
* <i>Ploisko-</i> > OIr. <i>blóesc, plóesc</i>	* <i>Plisk-</i> > W <i>blisg, plisg</i>	shell
* <i>g(l)immuko-</i> > NIr. <i>gliomach</i>	* <i>kīmmukko-</i> > W <i>cimwch</i>	lobster



Summary



The *a*-prefix

With <i>a</i> -	Without <i>a</i> -	Meaning
* <i>amsl</i> - > OE <i>ōsle</i> , G <i>Amsel</i>	* <i>mesal</i> - > Lat. <i>merula</i> , W <i>mwyalch</i>	blackbird
* <i>alaud</i> - > Gallo-Lat. <i>alauda</i>	* <i>laiwiz</i> - > OE <i>lāwrice</i>	lark
* <i>asterop</i> - > Gk. ἀστεροπή	* <i>strab</i> - > OIr. <i>sraib</i>	lightning
* <i>arud</i> - > OHG <i>aruz</i>	* <i>rut</i> - > W <i>rhwd</i> , * <i>raud</i> - > Lat. <i>raudus</i>	ore, rust
* <i>ap(t)el</i> - > Gk. ἀπελλόν, MB <i>ezlen</i>	* <i>(p)tel</i> - > Gk. πετέλεα, Lat. <i>tilia</i>	poplar
* <i>amb/p</i> - > Mfr. <i>ambre</i> , <i>ampe</i>	* <i>mab</i> - > W <i>mafon</i>	raspberry
* <i>api</i> - > Lat. <i>apis</i>	* <i>b^hek</i> - > OIr. <i>bech</i> , * <i>b^hi(t)</i> - > Lith. <i>būtė</i> , E <i>bee</i>	bee
* <i>alis-tr</i> - > OIr. <i>ailestar</i> , W <i>elestr</i>	* <i>lvsk</i> - > MLat. <i>lisca</i> , Du. <i>lis</i> , Sp. <i>lasca</i>	sedge, iris

- Wide geographic spread up to Greek
- Old feature: alternation usually found between IE branches, and not within Celtic
- No specific semantic field; alternates mean the same



The *n*- and *st(r)*-suffixes

Lexeme	With <i>-n</i>	With <i>-st(r)</i>	Neither	Meaning
* <i>kVIVs-</i>	OIr. <i>cuilenn</i> , W <i>celyn</i>	Sard. <i>colostri</i> , B <i>kelastrenn</i>	OHG <i>hulis</i> , Fr. dial. <i>coux</i>	holly
* <i>k^wres-</i>	OIr. <i>crann</i> , W <i>pren</i>	W <i>prysg</i> , OE <i>hyrst</i>		wood, copse
* <i>gis(u)-</i>	OE <i>cēn</i> , MLG <i>kēn</i>	OIr. <i>gūis</i>		pine
* <i>(a-)lisk-</i>		OIr. <i>aillestar</i> , W <i>elestr</i>	MLat. <i>lisca</i>	sedge, iris

- Comparanda found throughout Europe
- Old feature: Proto-Celtic reconstructions
- Appears to be a plant-suffix



Dental and velar suffixes

Dental	Velar	Neither	Meaning
<i>*knud-</i> > OE <i>hnutu</i>	<i>*knuk-</i> > Lat. <i>nux</i>	<i>*kn(o)uH-</i> > OIr. <i>cnú</i> , W <i>cnau</i>	nut
<i>*kaput-</i> > OIr. <i>cúäd</i> , Lat. <i>caput</i>	<i>*kapuk-</i> > OIr. <i>cúäch</i> , W <i>cawg</i>	<i>*kapu-</i> > OE <i>hafo-la</i>	cup, head
<i>*b^hit-</i> > Mlr. <i>betham*</i> , Lith. <i>bìtė</i>	<i>*b^hek-</i> > OIr. <i>bech</i>	<i>*b^hi-</i> > OE <i>beó</i>	bee

- Comparanda found in Germanic, Italic, Balto-Slavic
- Alternation can be projected back to beyond Proto-Celtic (with **p* > **ϕ* > 0)
- Alternates exist side by side within Celtic
- Alternates mean the same thing



Voicing alternation

Voiced	Voiceless	Meaning
* <i>b^{hi}(k/t)</i> - > OIr. <i>bech</i> , Lith. <i>bìtė</i> , E <i>bee</i>	* <i>api</i> - > Lat. <i>apis</i>	bee
* <i>d^{hr}ōn</i> - > Gk. θρῶναξ, Du. <i>dar</i>	* <i>tron</i> - > OB <i>satron</i>	drone
* <i>rugi</i> - > ON <i>rugr</i> , Lith. <i>rugiaĩ</i>	* <i>ruki</i> - > W <i>rhyg</i>	rye
* <i>tazg</i> - > Ir. PN <i>Tadhg</i>	* <i>task</i> -, <i>taks</i> - > MHG <i>dahs</i> , Gaul. PN <i>Tascos</i>	badger
* <i>strab</i> - > OIr. <i>sraib</i>	* <i>asterop</i> - > Gk. ἀστεροπή	lightning
* <i>bloĩsk</i> - > OIr. <i>blóesc</i> , W <i>blisg</i>	* <i>plōĩsk</i> - > OIr. <i>plóesc</i> , W <i>plisg</i>	shell
* <i>gapr</i> - > OIr. <i>gabor</i>	* <i>kap(e)r</i> - > Ir. <i>cáera</i> , Lat. <i>caper</i>	goat, sheep
* <i>arb</i> - > W <i>erfin</i> , B <i>irvin</i>	* <i>rap</i> - > Lat. <i>rapum</i>	turnip

- Found both within and outside Celtic
- Alternation over large timespan



Geminate-simplex alternation

Form	Geminate	Simplex	Meaning
* <i>bak(k)</i> -	W <i>bach</i>	Lat. <i>baculum</i>	hook, peg
* <i>mak^w(k^w)</i> -	OIr. <i>macc</i>	W <i>mab</i>	son, servant
* <i>mVnVK(K)</i> -	W <i>mynych</i>	OE <i>manig</i>	many, frequent
* <i>met(t)o</i> -	W <i>meth</i>	OIr. <i>meth</i>	failure
* <i>(s)k(a)riB(B)</i> -	Gk. <i>σκαριφάομαι</i>	OIr. <i>scripaid</i>	to scratch
* <i>wesak(k)o</i> -	W <i>gwyach</i>	OIr. <i>fiäch</i>	grebe, raven
* <i>wraK(K)</i> -	W <i>gwrach</i>	W <i>gwraig</i>	woman
* <i>b^ho/ulV^k(k)</i> -	ScG <i>bolachdan</i>	Lat. <i>fulica</i>	coot

- Comparanda found across Europe
- The geminated variant is always found in Celtic or Italic
- Cf. language of the geminates
 - **gūggo*- > Ir. *gúgán* ‘whelk’
 - **g^eiruddo*- > Ir. *gioradán* ‘periwinkle’
 - **luppanti*- > OIr. *lupait* ‘young pig’



a ~ ai-alternation

<i>a</i>	<i>ai</i>	Meaning
* <i>kar-</i> > W <i>cerddin</i> , W <i>ceri</i>	* <i>kair-</i> > OIr. <i>cáerthann</i>	rowan
* <i>alaud-</i> > Gallo-Lat. <i>alauda</i>	* <i>laiwiz-</i> > OE <i>lāwrice</i>	lark
* <i>atl-</i> > W <i>hadl</i> , OE <i>adela</i> , <i>adel</i>	* <i>aitl-</i> > Ir. <i>aoileach</i>	dung, rotten
* <i>ka^hiVl-</i> > Ir. <i>cadla</i> , Lat. <i>catulus</i>	* <i>g^haid-</i> > Lat. <i>haedus</i> , E <i>goat</i>	(young) goat

- Alternation found within Celtic
- Comparanda found in Germanic and Italic
- May be a late western European substrate phenomenon (but cf. *alauda*)



Stratifying the substrates

- Early features (dialectal IE to Proto-Celtic)
 - *a*-prefix
 - *n*- & *st(r)*-suffix
 - Dental & velar suffix
- Late features (Pre-Proto-Celtic to history)
 - Geminate-simplex alternation
 - *a* ~ *ai*-alternation
- Undatable features (due to borrowing process)
 - Voicing alternation

IE arrives in Europe

**(a)st(e)rVP-* ‘lightning’

**kVIVs-* ‘holly’

**(a)pt(e)l-* ‘elm, poplar’

Pre-Proto-Celtic

**(a)la(i)uD-* ‘lark’

Proto-Celtic

**b^hulVK(K)-* ‘coot’

**mak^w(k^w)-* ‘son, servant’

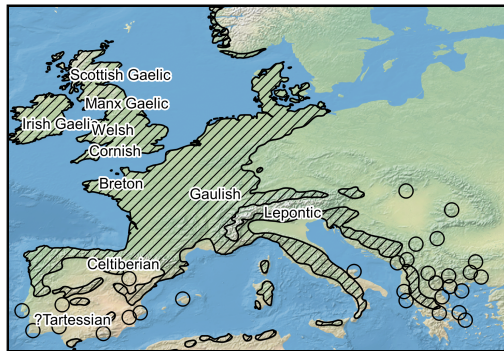
**ka(i)r-* ‘rowan’

Historical period



Holly

- **kolis-n-* > PC **kolinno-* > OIr. *cuilenn*, W *celyn*, B *kelenn*
- **kulis-* > PGm. **hulisa-* > Du. *hulst*, E *holly*
- **k^oul(V)sV-* > Fr. dial *coux*
- **ke/ila-str-* > B *kelastrenn* ‘holly branch’, with **str-* suffix
- Gk. κήλαστρος, Sard. *golosti*, *colostri*, Bq. *gorosti*, Arm. *kostli*
- Regular within Celtic, but irregular outside, so entered Celtic before Proto-Celtic
- Western distribution of the plant suggests early Celtic presence in western Europe



Thank you!

