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# 13 EUROPEAN PREHISTORY BETWEEN CELTIC AND GERMANIC: THE CELTO-GERMANIC ISOGLOSSES REVISITED\*

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## 13.1 Introduction

Recent advances in the field of palaeogenomics have revealed that at the onset of the Late Neolithic, Europe was characterized by a major cultural and genetic transformation triggered by multiple population movements from the Pontic–Caspian steppe. Corded Ware populations show a large-scale introduction of Yamnaya steppe ancestry across the entire archaeological horizon (Allentoft et al. 2015; Haak et al. 2015; Malmström 2019). The emergence of the Bell Beaker burial identity in the early third millennium BCE was similarly accompanied by a dramatic genetic turnover, at least in Northwestern Europe (Olalde et al. 2018). These population changes call for the integration of genetic evidence into existing models for the linguistic Indo-Europeanization of Europe (cf. Kristiansen et al. 2017).

In spite of these advances in the debate on the Indo-European dispersal, many key linguistic questions remain, most notably those on the movements and contact of prehistoric groups in the millennia that followed. Here we focus on Western Europe, where the Celtic and Germanic languages historically formed some of the most prominent subgroups of the Indo-European language family. Germanic and Celtic are not traditionally considered monophyletic or even closely related Indo-European subgroups, and most likely arrived in their historical locations through independent dispersals from the Indo-European homeland. In spite of this distant relationship, a considerable amount of lexical stock has nevertheless been identified as exclusive to these two branches, being suggestive of a partially shared prehistory separate from the other Indo-European subgroups. This linguistic problem has been recognized since the early days of Indo-European studies (Ebel 1861; Kluge 1913: 5–6) and revisited multiple times since then (see Section 2.1). However, due to the highly complex

evolution of the surviving Celtic languages and the lack of a linguistic methodology for the absolute dating of prehistoric lexical change, no consensus currently exists on either the exact extent of the lexical evidence for Celto-Germanic language contact, or the timing and linguistic processes by which it accrued.

Several linguistic mechanisms may be hypothesized to account for these Celto-Germanicisms.

### 13.1.1 Mechanism 1: A Celto-Germanic Subnode

One way to account for uniquely Celtic and Germanic lexical commonalities is to posit a period of shared linguistic evolution. This scenario revolves around the question of when exactly the unity between those Proto-Indo-European dialects that evolved into Celtic and Germanic was disrupted. Celtic is known to share a number of post-PIE linguistic innovations with Italic, with which it may have formed a subunit until well after the migration from the Pontic–Caspian steppe (cf. Schrijver 2016). No such subunit has been hypothesized for Celtic and Germanic, however, because sound laws and morphological developments uniquely shared between Celtic and Germanic are incomparable in number compared to Italo-Celtic. It is nevertheless possible that the Celto-Germanic isoglosses contain lexical elements – inherited archaisms or shared innovations – from the PIE dialectal period that have so far been overlooked.

### 13.1.2 Mechanism 2: Mutual Contact

In addition to vertically transmitted features, lexical material may have been exchanged from one branch to another horizontally in the period following the breakup of Indo-European and the intrusions of Celtic and Germanic into Europe. The presumed *in situ* evolution of these branches over the millennia leading up to the attested Celtic and Germanic languages are likely to have entailed multiple periods of contact where goods, customs, ideas, and vocabulary may have been exchanged. The

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second question that we therefore address in this study is to what extent the Celto-Germanic isoglosses are due to secondary, post-settlement contact between speakers of Germanic and Celtic in Europe.

A key question in exploring the prehistoric contact between Celtic and Germanic is where and when in Europe such contact could have taken place. Obviously, this question cannot be answered without addressing the debates on the periodizations and locations of the Celtic and Germanic linguistic homelands, which due to a lack of written sources cannot be established with the help of direct evidence. If indeed Celtic and Germanic developed in Europe following the Yamnaya expansion, several hypotheses are at hand.

Germanic is generally considered to have been in place in Northern Europe in the Iron Age, and plausibly already during the Nordic Bronze Age (cf. Mallory 1989: 84–87). A further hypothesis is that it developed from an Indo-European dialect that arrived in Northern Europe with the Corded Ware in the first quarter of the third millennium BCE (Mallory 1989: 108; Schm 130; Iversen & Kroonen 2017).

There are various hypotheses on where and when Proto-Celtic was spoken. Direct attestation of Celtic languages dates to the first millennium BCE, but already in this millennium, Celtic languages are attested from Iberia to Central Europe, so a mechanism by which it spread across Europe must also be identified. The traditional hypothesis identifies Proto-Celtic with the Hallstatt and La Tène cultures found in Western and Central Europe in the Late Bronze Age and Iron Age. Celtic speakers then migrated from Central Europe into the Iberian Peninsula and the British Isles as these material cultures spread.

Current archaeological evidence does not support a major settlement of a foreign population during the La Tène period, however, and Mallory (2016), among others, argues that other mechanisms than mass migration must be found to account for the spread of Celtic across Europe. He connects its spread with social practices such as guest–host relationships, feasting, and fosterage found in socially stratified Celtic-speaking communities. The spread of hillforts and sword warfare, i.e. a warrior culture, from Atlantic Europe to the British Isles in the Middle to Late Bronze Age is proposed to serve as an archaeological correlate for these mechanisms. Amid the lack of unambiguous archaeological evidence for an intrusive population associated with hillforts, however, Mallory’s argumentation in favor of a language shift has faced the same criticism as the traditional hypothesis (O’Brien 2016).

Under the “Celtic from the West” hypothesis, the Proto-Celtic language community was situated both earlier in time and further to the west. Under this hypothesis, Indo-European dialects were spoken along the Atlantic coast at least as early as the Bell Beaker period, either because Indo-European spread to the Atlantic with Neolithic farmers, or because people associated with the spread of the Bell Beaker package adopted Indo-European from their steppe-derived Corded Ware neighbors. The spread of Celtic then entailed a process of dialect leveling among Indo-European speakers over the course of the Bronze Age. The archaeological vector for this

dialect leveling was the Atlantic Bronze Age. Under this hypothesis, Celtic emerged – as a lingua franca used among Indo-European speakers for trade along the Atlantic coast – through a process of dialect leveling,<sup>1</sup> and the Hallstatt and La Tène cultures may still have served as vectors of later expansion of Celtic into the Balkans (Cunliffe & Koch 2019; Sims-Williams 2020).

While both a Central European and an Atlantic homeland of Proto-Celtic allow for Celtic-Germanic language contact, the expected location and nature of this contact differs. Under the traditional hypothesis, as well as that of Mallory, Celtic and Germanic prehistoric language contact was land-based, in what is now Germany (cf. Stifter, Chapter 12 in this volume). Under the Celtic from the West hypothesis, a sea-based vector of contact around the North Sea is more likely. These contact scenarios should yield different types of shared vocabulary. In this study, we will not just review the evidence for prehistoric Celtic-Germanic language contact from a purely linguistic perspective, but additionally, use the results to review the aforementioned perspectives on the hypothetical locations of the Proto-Celtic language community.

Several second- and first-millennium BCE archaeological vectors may be relevant. The Bell Beaker phenomenon reached all the way north to Jutland and represented a second layer of potentially Indo-European-speaking communities following the Corded Ware incursions, so it may have served as the vector for the earlier strata of Celto-Germanic vocabulary. Somewhat later vectors of contact may be between either the Atlantic Bronze Age or the Urnfield culture on the one hand, and the Nordic Bronze Age on the other. The final vector of prehistoric language contact may have been between Hallstatt/La Tène and the final Nordic Bronze Age.

### 13.1.3 Mechanism 3: Shared Contact with Non-IE Languages

Finally, a remaining explanation for vocabulary shared exclusively by Celtic and Germanic is that both of these Indo-European subgroups were subjected to linguistic influences from non-Indo-European language(s) spoken in Europe before the steppe incursions. This question in turn ties back in with the Celtic homeland problem, as well as with one of the most important archaeological debates of the past decades: the origin and nature of the Bell Beaker package. While in the traditional view, the early-third-millennium spread of this package, consisting of characteristic reversed bell beakers, copper daggers, and stone wrist guards, was taken to represent the expansion of a distinct ethnocultural unity, the “Bell Beaker folk,” later archaeology emphasized a mechanism of cultural diffusion without large-scale mobility of people.

This century-old debate has, however, now been decided by a comprehensive genetic study on individuals selected from

<sup>1</sup> However, language spread through use as a lingua franca for trade would be expected to exhibit significant grammatical simplification, which is not found (Mallory 2016: 393).

Bell Beaker burial contexts from all across Europe (Olalde et al. 2018). The result of this study was that the two explanations for the spread of the Bell Beaker cultural package are in fact complementary. Whereas individuals from Southern Europe, especially the Iberian Peninsula, cluster with Neolithic populations, individuals from Northern Europe carry a strong steppe signal, with Y-chromosomal lineages peaking around 90% in Britain and the Netherlands. This contrast between cultural homogeneity versus genetic heterogeneity has decisively demonstrated that the spread of the Bell Beaker package did not involve a detectable population movement in the south but was indeed coupled with a large-scale population turnover in the north. One possible explanation is that incoming steppe males adopted cultural traditions from local populations through mechanisms of cultural adaptation while largely keeping their original genetic profile. Another is that the Bell Beaker package at least partly stems from derived steppe traditions, most notably the large beakers resembling the ceramics of the Corded Ware, which were transmitted to non-steppe populations in Europe.

Whatever the case may be, the observable contact between highly divergent genetic groups in Western Europe may indicate language contact between Indo-European and non-Indo-European languages. Such contact would indeed appear to offer one possible scenario for the emergence of shared Celtic-Germanic vocabulary not inherited from the common linguistic parent. Although the estimated date of Proto-Celtic, around 1500 BCE, postdates the Bell Beaker period by almost a millennium, and as such precludes the possibility that Proto-Celtic was proliferated through this cultural phenomenon, Celtic may still have developed from a more primitive Indo-European subdialect spoken by Bell Beaker-associated steppe groups. Moreover, as the Bell Beaker horizon also partly encompassed Northern Europe, including parts of South Norway and Jutland, it is conceivable that certain linguistic features spread from the south to the future Germanic-speaking area through the same horizon. The third major mechanism we therefore explore in this study is whether there are Celto-Germanicisms that can be positively attributed to a non-Indo-European language and result from contact between steppe and Late Neolithic groups in the Western European Bell Beaker zone.

## 13.2 Methodology

### 13.2.1 Compilation of the Corpus

To address the key questions above, we collected all roots, derivations, and semantic innovations that, within the Indo-European language family, are unique to Germanic and Celtic. We call words of this type Celto-Germanic *isoglosses* or simply Celto-Germanicisms (CG).

In order to compile the corpus, we first review the lexical Celto-Germanicisms posited in previous studies. These include Lane (L), Krahe (Kr), Porzig (Pr), Polomé (Pl), Schmidt (Schm), Schumacher (Schu), Hyllested (H), and Koch (Ko).<sup>2</sup>

We also review the Celto-Germanic status of words discussed by Schrijver (1997), who specifically discusses substrate words found only in Celtic and Germanic. Moreover, some authors have written on Celtic-Germanic contact more generally, such as Birkhan (1970), Schumacher (Schu), and Stifter (2009), and the lexical correspondences there are also considered. Some etymological dictionaries also identify Celto-Germanicisms, either explicitly or by implication when only Celtic and Germanic are mentioned (IEW; EDPC; EDPG); the more plausible of these suggestions are considered in this study. Finally, we propose a number of new Celto-Germanicisms ourselves.

In order to ensure the robustness of the results, we have excluded irrelevant and methodologically problematic evidence. We only consider Celto-Germanicisms up to the period when Proto-Germanic diverged into separate dialects around the start of the common era, as later loans do not inform us about the shared linguistic prehistory of the two branches. Words that exclusively or primarily exist as personal names, place names, etc. in at least one of the branches are not discussed either, because the original meanings of these formations are often irrecoverable or at least not directly attested. Finally, we have not evaluated morphosyntactic and phonological innovations unique to Celtic and Germanic (cf. Hill 2002; Hill 2012; Schu).

### 13.2.2 Etymological Scrutiny

During the past century, a vast number of Celto-Germanicisms has been posited, as shown by the impressive body of literature given above. However, despite an extensive period of linguistic research, the reliability of the corpus is still highly variable. One major reason for this is the fact that the philology of Celtic languages is highly demanding. Another reason lies in the complex evolutions of the languages themselves, as the phonologies of Goidelic and British both underwent thorough restructurings in the early medieval period. As a consequence, the reconstruction of the Proto-Celtic form of words is not always feasible, or at least not to the extent that a single proto-form can be established.<sup>3</sup> In order to establish the reliability of the corpus of isoglosses, we therefore subjected them to systematic etymological scrutiny, during which we divided the isoglosses into *compelling*, *doubtful*, and *rejected* isoglosses (see appendix).

During our investigation, we rejected a large number of isoglosses. One major reason for rejecting proposed Celto-Germanicisms was basic formal incongruence: i.e., the formal

<sup>2</sup> Koch (2020) has not been included, because this work appeared only after we finished the etymological scrutiny.

<sup>3</sup> This situation is further complicated by the extensive dark age between the reconstructed Indo-European protolanguage, estimated to have been spoken in the late fourth millennium BCE, and reconstructed Proto-Celtic and Proto-Germanic, starting at approximately 1500 and 500 BCE, respectively.

correspondence simply did not hold up to scrutiny.<sup>4</sup> Other important grounds on which we rejected isoglosses were philological errors, cognates outside C and G having been overlooked (nonexclusive isoglosses), or the presence of convincing alternative etymologies. These rejections led to a considerable reduction of the corpus.

The *doubtful* category contains instances where an isogloss or loanword has an equally convincing alternative etymology. Doubtful instances also include possibly independent innovations: morphological isoglosses where the shared derivation is so productive that it may well have occurred independently in both branches, or semantic isoglosses where the shared semantic development is potentially trivial. Other doubtful instances are formally speculative: they contain words that are too short to exclude chance resemblance, or they require poorly understood sound laws or derivations. Some doubtful instances are such because they constitute an imperfect formal or semantic match that is nevertheless striking. A few instances are doubtful because the evidence is poor, i.e. some of the words are poorly attested, or the transmission of the material to the present day may have introduced a bias in interpretation.

The remaining *compelling* Celto-Germanicisms are unlikely to be trivial or due to chance. It is exclusively on these isoglosses that we base our further analysis.

### 13.2.3 Typological Classification

We found that the resulting corpus of compelling isoglosses can be satisfactorily described with the help of four typological labels. Consequently, all Celto-Germanicisms have received at least one label, but in numerous cases, the nature of the evidence required the use of more than one label.

- RT = root isoglosses: uniquely shared roots attested in the different branches with dissimilar suffixes or nonidentical ablaut patterns;
- MO = morphological isoglosses: uniquely shared formations whose roots are identifiable through cognates in at least one other Indo-European branch;
- SM = semantic isoglosses: formations found in at least one other Indo-European branch, but with a uniquely shared meaning;
- LX = lexical isoglosses: uniquely shared but otherwise etymologically isolated lexemes with no demonstrable derivational structure.

Practically speaking, lexical isoglosses are the broadest type that is typically applied when the formation of the isogloss in question resists further analysis, e.g. when no deeper etymology is at hand and when no morpheme boundaries can positively be identified. In absence of any external connections, the LX type cannot logically be associated with any semantic innovations,

<sup>4</sup> Formal incongruencies are permissible in words independently suspected to be borrowed from a third language, i.e. substrate borrowings and *Wanderwörter*. However, identification of these words comes with constraints of its own (Schrijver 1997: 296).

which excludes combination with the SM type. The latter type can, however, be combined with root isoglosses or uniquely shared formations of the RT and MO types.

### 13.2.4 Etymological Classification

The typological subdivision enabled us to further interpret the compelling isoglosses, and in most cases it was possible to establish the linguistic processes that led to the Celto-Germanicism.

- IE = Indo-Europeanisms:
  - IE = etymologically nonisolated, but derivationally isolated isoglosses;
  - IE(?) = derivationally nonisolated, but semantically isolated isoglosses;
  - IE? = etymologically isolated isoglosses that do not violate PIE phonotactics;
- L = undefined loans: loanwords that may belong to any of the following categories:
  - 3L = third-party loans: loanwords from unknown sources, e.g. substrate words or *Wanderwörter*;
  - ML = mutual loans: loanwords that originate in Celtic or Germanic, but whose direction of borrowing cannot be established;
  - CGL = Celtic to Germanic loans;
  - GCL = Germanic to Celtic loans.

### 13.2.5 Temporal Stratification

In addition to a formal categorization, we provide a relative periodization for the time frame in which a given CG could have plausibly arisen. The strategy for establishing the relative chronology is based on the order of the sound changes that can be demonstrated for the prehistoric stages of Celtic and Germanic. The temporal strata are schematically represented in Figure 13.1 and defined as follows:

- Stratum 0: Proto-Indo-European. This stratum starts with the earliest phase of linguistic unity of all Indo-European branches, including the early offshoots Anatolian and Tocharian, and ends with the fragmentation of the late Indo-European dialect continuum, in our case specifically with the departure of Celtic and Germanic.
- Stratum I: Fragmented Indo-European. In this stratum, the Proto-Indo-European dialects have broken off from the original dialect continuum, but they still lack evidence of the major sound laws that allow for their characterization as specifically Celtic or Germanic.
- Stratum II. This stratum contains borrowings after the sound changes leading up to Proto-Celtic, e.g. PIE  $*\bar{e} > PC *\bar{i}$ , PIE  $*p > PC *\phi (> *θ)$ , PIE  $*sn > PC *nn$ .
- Stratum III. This stratum contains borrowings after the major consonant shifts leading up to Proto-Germanic, i.e. Grimm's law, Verner's law, and Kluge's law. Somewhere during this stratum, the vocalic changes Pre-G  $*o > PG *a$  and Pre-G  $*\bar{a} > PG *\bar{o}$  also take place.
- Stratum IV: Fragmented Germanic. This stratum started with the breakup of Proto-Germanic into separate dialects. Any language

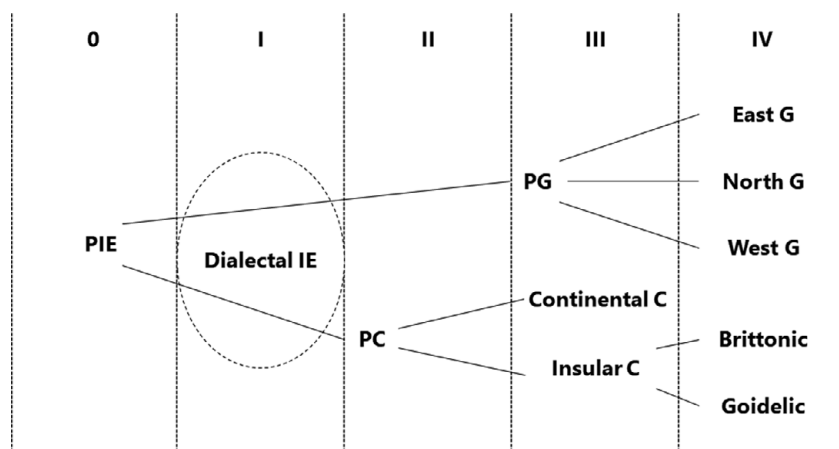


FIGURE 13.1. Schematic representation of the main temporal strata of Celtic and Germanic.

contact that happened during this phase falls outside of the temporal scope of this study, i.e. lexical exchange between individual Germanic and Celtic dialects and languages.

The precision with which the exchange of a Celto-Germanicism can be dated differs from word to word. Some words lack the phonemes that have undergone particular sound changes, in which case the adoption of these words cannot be dated relatively to these sound changes. For example, the difference between Stratum II and III is defined with respect to the Germanic consonant shifts mainly affecting stop consonants. When a word with no stop consonants therefore enters Germanic, this event cannot be dated relatively to these consonant shifts, and a range of strata must be given.

Moreover, this stratification is only possible when the Celto-Germanicism concerns the shared retention or transfer of lexical material. That is, the exchange of a Celto-Germanicism can only be dated when the sound of a word is exchanged. This excludes semantic isoglosses, i.e. instances in which a meaning is uniquely shared, but the formation itself is not unique. A semantic innovation may result from shared inheritance, dialectal affiliation, or from later horizontal transfer, but sound laws cannot arbitrate on this matter. Morphological isoglosses are similarly undateable using sound laws: a morphological isogloss can come into being through shared inheritance or later calquing, and the correct scenario cannot be decided with sound laws. It may generally be assumed that morphological and semantic isoglosses are early rather than late, because sound laws obscure the cognacy between roots and formations, making calquing less likely over time.

## 13.3 Results

### 13.3.1 Linguistic Classification

In this section, we provide a classification of the shared Celto-Germanic lexicon on the basis of formal, semantic, and temporal

criteria. Our full analysis is too detailed to include here, but can be found in the appendix. In this section, it suffices to offer a concise presentation of the evidence, which we have divided into three main classes: (1) morphologically isolated Celto-Germanicisms; (2) semantically isolated Celto-Germanicisms; and (3) etymologically isolated Celto-Germanicisms.

#### 13.3.1.1 Morphologically Isolated Celto-Germanicisms

The first group of CG we discuss comprises the uniquely shared formations whose roots are identifiable through cognates in at least one other Indo-European branch. The material is clustered according to its perceived age.

One clear cluster of Indo-Europeanisms consists of pure *archaisms*, which we define as lexemes whose creation is unlikely to postdate Proto-Indo-European. This cluster contains exclusively Celto-Germanic formations that display archaic IE derivational patterns such as reduplication, *tudāti* formations, or nasal infixes. In addition, they are based on roots that are well attested in the other branches, as a result of which their PIE origins are beyond a reasonable doubt.

- COVER – PC *\*tog-ī-* (OIr. *tuigithir* ‘covers’) ~ PG *\*pakjan-* (ON *þekja*, OE *þeccan*, OS *bi-thekkia*, OHG *decken* ‘to cover’) < *\*tog-eie-*. An old causative-iterative formation vs. Lat. *tegere* ‘to cover’ < *\*teg-e-*.
- FAT – PC *\*tegu-* (Mlr. *tiug* ‘thick, dense, solid’, W *tew*, B *tev* ‘fat’) ~ PG *\*beku-* (ON *þykkir*, OE *þicce*, OHG *dicki* ‘fat, thick’) < ?PIE *\*te(ǵ)-u-*, probably related to *\*teg-* ‘to cover’, but the formation appears to conserve a more primary meaning, i.e. ‘to tighten, make tight’; cf. G *dicht machen* ‘to seal, close’ (< ‘to make dense/tight’).
- FEAR – PC *\*āg-ī-* (OIr. *-āgadar* ‘fears’) ~ PG *\*agan-*, pres. *\*ōg-* (Go. *ogan* ‘to fear’) < *\*h<sub>2</sub>e-h<sub>2</sub>(o)ǵ<sup>h</sup>-*, in C and G continued by an archaic reduplicated present probably continuing a PIE perfect.
- FIGHT – PC *\*uik-o-* (OIr. *fichid*, W *amwyn* ‘to fight, contend, seize’) ~ PG *\*wihan-* (Go. *waihan\**, *weihan*, ON *vega*, OE *wīgan*, OHG *wīgan* ‘to fight, do battle’) < PIE *\*uik-e-*, a *tudāti*-type verbal formation, moribund in G.

- ROW – PC \**rā-* (OIr. *ráid* ‘rows’) ~ PG \**rōan-* (ON *róa*, OE *rōwan* ‘to row’) < \**h<sub>1</sub>roh<sub>1</sub>-e-*, and *o*-grade (iterative) present with an archaic reduplicated preterite in both branches.
- STICK – PC \**gli-na-* (OIr. *glenaid* ‘adheres, cleaves’, W *glynu*, MB *englenaff* ‘to adhere, stick, bind’) ~ PG \**klinan-* (OHG *klenan* ‘to baste, stick together’) < \**gli-n-H-*, a nasal infix present.

Another old cluster consists of isoglosses that are also derivationally isolated, but with less archaic derivational patterns. These may have been created in dialectal Indo-European or in some cases even later; it indeed cannot be excluded that some of these formations arose independently in the separate daughter languages. On the other hand, it is still possible that some of them were simply inherited from PIE, i.e. are vestiges of lexemes that were lost in the other branches.

- FATHOM – PC \**fatamV-* (W *edef*, pl. *adafedd* ‘thread, yarn’), secondarily with palatalization in Goidelic, as if from \**fatimā* (ScG *aitheamh* ‘fathom’) ~ PG \**fapma-* (ON *faðmr*, OE *faðm*, OHG *fadam*, *fadum* ‘fathom’, OS *fathmos* ‘two stretched arms’) < \**p(o)th<sub>2</sub>-mV-*, to PIE \**peth<sub>2</sub>-* ‘to spread’.
- FLOOR – PC \**flāro-* (OIr. *lár* ‘ground, surface, middle’, MW *llawr*, B *leur* ‘floor, ground’) ~ PG \**flōra-* (ON *flórr* ‘floor of a cowshed’, OE *flōr* ‘floor’, OHG *fluor* ‘field’) < \**pleh<sub>2</sub>-ro-* to PIE ‘flat; to spread’; also a semantic isogloss.
- HARBOR – PC \**kauno-* (MÍr. *cúan* ‘harbor, bay’) ~ PG \**hafnō-* (ON *hofn*, OE *haefen*, MLG *havene* ‘harbor, bay’) < \**kh<sub>2</sub>p-no/eh<sub>2</sub>-*, to PIE \**keh<sub>2</sub>p-* ‘to seize’. Since the root has given rise to four different formations in G, it appears native to this branch; cf. MHG *habe* f. ‘harbor, haven, sea’, Swi. G. *Hab* f. ‘harbor’ < \**kh<sub>2</sub>p-éh<sub>2</sub>-*, ON *haf*; OE *haef*; OFri. *hef* ‘sea, lake’ < \**kh<sub>2</sub>p-o-*, and ON *hóp* ‘small bay’ < \**ke/oh<sub>2</sub>p-nó-*.
- LEFT – PC \**kl(e)io-* (OIr. *clé* ‘left (side); malign’, W *cledd*, B *kleiz*, Co. *cleddh* ‘left (hand)’) ~ PG \**hlī(j)a-* (Go. *hleiduma* comp. ‘left’) < \**kl(e)i-(i)o-*, to PIE \**klei-* ‘to lean, be slanted’.
- SIEVE – PC \**sīlō-/ā* (W *hidl*, MB *sizl* ‘sieve’) ~ PG \**sēpla-* (ON *sáld* ‘sieve, riddle’) < \**seh<sub>1</sub>-tlo-*, an instrument noun to PIE \**seh<sub>1</sub>-* ‘to sift’, otherwise lost in both branches.
- THROAT – PC \**brāgant-* (OIr. *brágae*, MW *breuant* ‘neck, throat’) ~ PG \**k(w)ragan(b)-* (ON *kragi*, MHG *krage*, E *craw* ‘throat, collar’) < \**g<sup>w</sup>ōg<sup>h</sup>-(o)nt-*; cf. Gr. βρόχω\* ‘to gulp down’ < \**g<sup>w</sup>rog<sup>h</sup>-*.
- THIRST? – PC \**tartu-* (OIr. *tart* ‘dryness, thirst’, W *tarth* ‘steam’) ~ PG \**burstu-* (OE *burst*, *þyrst*, OS *thurst*, OHG *durst* ‘thirst’) < \**trs-tu-*, to PIE \**ters-* ‘to be dry’.
- UTTERANCE? – PC \**texti-* (OIr. *icht* ‘people, tribe’, W *iaith*, B *yezh*, MCo. *yēth* ‘language’) ~ PG \**jehti-* (OHG *jiht* ‘confession; praise’, OFri. *jecht* ‘confession’) < \**iek-ti-*; cf. Lat. *iocus* ‘joke’ < \**iok-o-*.

This cluster also contains some potential pseudo-Indo-Europeanisms, i.e. isoglosses that technically can be projected back into (dialectal) Proto-Indo-European, but in which case mutual borrowing or calquing in strata I to III cannot be excluded. Still, all of these isoglosses have convincing Indo-European etymologies, which could mean that they actually were inherited from PIE in both branches.

- DISTANT COUSIN – PC \**kom-nepot-* (MW *keifn*, W *caifn* ‘third or distant cousin’, MB *quifniant* ‘distant cousin’) ~ PG \**ga-nefan-* (OE *ge-nefa* ‘nephew; son of a cousin’) < \**kom-nepot-*, a compound of \**kom* ‘joint’ and PIE \**nepot-* ‘cousin, grandchild’.

- FIERCE – PC \**abro-* (MÍr. *abar-*, *amar-*, W *afir-* ‘very’) ~ PG \**abra-* (Go. *abrs* ‘great, severe’, ON *afar-* ‘very, exceedingly’) < CG \**ab<sup>h</sup>ro-* or \**apró-*, perhaps from PIE \**h<sub>2</sub>ep-ró-*; cf. Skt. *ápāra-* ‘posterior, later; extreme, strange’ < \**h<sub>2</sub>ep-ero-*. It could be an early shared innovation or mutual borrowing at any stage.
- INHERITANCE – PC \**orbio-* (OIr. *orbae* ‘inheritance, legacy’) ~ PG \**arbja-* (Go. *arbi*, OE *ierfe*, OFri. *erve* ‘inheritance, patrimony’, ON *erfi* ‘ritual burial celebration’) < \**h<sub>3</sub>erb<sup>h</sup>-io-*, to PIE \**h<sub>3</sub>erb<sup>h</sup>-*; cf. Hitt. *ḫarp-* ‘to change allegiance, status’.
- LAW – PC \**restu-* (OIr. *recht*, W *cyf-raith*, MB *reiz* ‘law, justice’) ~ PG \**rehtu-* (ON *rétrr* ‘justice, law’) < \**h<sub>3</sub>reg<sup>h</sup>-tu-*, to PIE \**h<sub>3</sub>reg<sup>h</sup>-e-* ‘to straighten’.
- MANE – PC \**mongo-/ā* (OIr. *mong*, W *mwng*, OB. *mogou* ‘mane, hair’, MB. *moe*) ~ PG \**mankan-* (ON *makki*, Eلف. *maunke*, Da. *manke* ‘mane’). Possibly derived, in either C or G or a shared pre-stage, from PIE \**mon-i-* ‘mane, neck’, although the suffix \**-g-* is obscure.
- NUMBER – PC \**rīmā* (OIr. *rím*, W *rhif* ‘number’) ~ PG \**rīma-* (ON *rím* ‘number’, ON *rím* ‘computation’, OHG *rīm* ‘account, series, number’) < \**h<sub>2</sub>riH-mo-/eh<sub>2</sub>-*, to PIE \**h<sub>2</sub>reiH-* ‘to fit, fix’.

### 13.3.1.2 Semantically Isolated Celto-Germanicisms

Another category found within the corpus encompasses potential semantic isoglosses. Here we have selected formations not restricted to C and G that exhibit exclusively CG semantics. All of these formations can technically be made to comply with the phonotactic and derivational rules of the protolanguage and can arguably be shown to have a derivational base in PIE.

In some cases, both the formation and meaning are unique to CG, in which case we can speak of a full lexical isogloss. However, we have not included such formally isolated semantic isoglosses here, because their unique meanings may have resulted from the very process by which these formations were derived, by which principle they cannot with certainty be regarded as semantic innovations.

We find that semantic isoglosses are notoriously difficult to analyze. A major concern is that it is often problematic to objectively determine whether a shared CG shift in meaning is significant and therefore shared, or in fact trivial and independent. As trivial shifts can have plausibly occurred in C and G independently, these Celto-Germanicisms could represent semantically nonexclusive isoglosses, in which case we have labeled them with a question mark.

- AXE – PC \**beiatli-* (OIr. *biail*, W *bwyall*, MCo. *bool*, MB *bouhazl* ‘axe’) ~ PG \**bīpla-* (ON *bīldr* ‘knife for bloodletting’, MDu. *bijl*, OHG *bīhal* ‘axe’) < \**b<sup>h</sup>(e)iH-tl-*; cf. Slavic \**bidlo* ‘hammer, pole’.
- BESTOW? – PC \**link<sup>w</sup>-o-* (OIr. *léicid* ‘leaves, lets, allows, grants’) ~ PG \**līhwan-* (Go. *leihvan* ‘to loan’, ON *ljá* ‘to lend; to give, grant’, OE *lēon*, OS *far-līhan*, MDu. *lien*, OHG *līhan* ‘to lend’) < \**li-n-k<sup>w</sup>-*; cf. Skt. *riṇákti* ‘leaves’.
- CHOOSE? – PC \**gus-o-* (OIr. *do-goa* ‘chooses, selects, elects’) ~ PG \**keusan-* (Go. *kiusan* ‘to put to a test, prove by trial’, ON *kjósa*, OE *cēosan*, OHG *kiosan* ‘to choose, elect, examine’) < \**g(e)us-*; cf. Gr. γεύομαι ‘to taste’.

- COAL – PC \**goulo-* (Mir. *gúal* ‘coal’) < \**goulH-o-* ~ PG \**kula-* (ON *kol*, OE *col*, OHG *kol* ‘coal’) < \**gulH-o-*; cf. Skt *jvālati* ‘burns’.
- FORTIFICATION? – PC \**brig-* (OIr. *brí* ‘hill’), \**brigā* (W, MB, Co. *bre* ‘hill’, Gaul. place names in *-briga* ‘hillfort’) ~ PG \**burg-* (Go. *burgs* ‘fortified place; city’, ON *borg* ‘town, citadel; small hill’, OE *burg*, OHG *burg* ‘city’) < \**b<sup>h</sup>rg<sup>h</sup>-*; cf. Av. *bərəz-* ‘mountain’. Possibly independent; cf. the Insular Celtic meaning.
- LOUSE – PC \**lu(u/s)ā* (W *llau*, B *laou*, Co. *low* ‘lice’) ~ PG \**lūs-* (OE *lūs*, ON *lús*, OHG, MDu. *lūs* ‘louse’) < \**luH(s)-*; cf. ToA *lu*, pl. *lwā*, B *luwo*, pl. *lwāsa* ‘animal’ < \**luH-(s)-*. The semantic shift does appear significant but is possibly more indicative of an early Tocharian split-off rather than an exclusively Celto-Germanic subnode.
- ONE-EYED? – PC \**kaiko-* (OIr. *cáech* ‘one-eyed’, W *coeg-ddall* ‘half-blind’, OCo. *cuic* ‘one-eyed’) ~ PG \**haiha-* (Go. *haihs* ‘one-eyed’) < \**keh<sub>2</sub>iko-*; cf. Lat. *caecus* ‘blind’. Possibly trivial; cf. Skt. *kekara-* ‘squint-eyed’.
- SPEAK? – PC \**rādī-* (OIr. *ráidid*, W *adrodd* ‘to speak’) ~ PG \**rōdjan-* (Go. *rodjan* ‘to speak’, ON *ræða* ‘to speak, converse’) < \*(H)*rōh<sub>2</sub>d<sup>h</sup>-eie-*; cf. Lith. *rōdyti* ‘to show, indicate’. Possibly trivial; cf. Lat. *dīcere* ‘to talk, speak’ < \**deik<sup>h</sup>-* ‘to show’.
- YEW – PC \**iuo-* (OIr. *eó* ‘stem, shaft, yew tree’, W *yw*, B *ivin*, OCo. *hiuin* ‘yew, yew wood’) ~ PG \**īwa/ō-* (ON *yr*, OE *īw*, *ēow*, OHG *īwa* ‘yew’) < \**h<sub>1</sub>eiH-u-*; cf. Gr. *ῥα*, *ῥη* ‘elderberry tree, mountain ash’, Lith. *ievà*, Latv. *iēva* ‘bird cherry’. This isogloss appears strong because the formal incongruence excludes mutual borrowing. The semantic shift to ‘yew’ must be posterior to the migration into the natural range of this tree, which is limited to Western and Central Europe.

Again, some of the relevant material contains possible pseudo-Indo-Europeanisms, i.e., isoglosses that show a uniquely shared semantic innovation that could theoretically go back to dialectal Indo-European, but which alternatively may be a mirage, i.e., a result of post-split, mutual borrowing.

- FREE – PC \**φriio-* (W *rhydd*, OCo. *rid* ‘free’) ~ PG \**frī(j)a-* (Go. *freis*, OE *frēo*, OHG *frī*, ON *frjals* ‘free’) < \**priH-o-*; cf. Skt. *priya-* ‘dear’. The isogloss may have arisen due to a Stratum I (before the loss of PIE \**p* in C) CGL in view of the original semantics being preserved within G; cf. Go. *frijon* ‘to love’, *frijonds* ‘friend’.
- MEDICINE – PC \**lub-ī* (OIr. *luib* ‘wort, plant; healing herb, remedy’) ~ PG \**lubja-* (Go. *lubja-leisei* ‘witchcraft’, ON *lyf* ‘medicine, healing herb’, OE *lyb* ‘medicine, drug, potion’).
- OATH – PC \**oito-* (OIr. *óeth* ‘oath’, W *an-udon* ‘perjury’) ~ PG \**aīpa-* (Go. *aīps*, OE *āð*, ON *eiðr*, OHG *eid* ‘oath’). If related to Gr. *οἶτος* ‘fate, destiny’ (< ‘course’?) < \**h<sub>1</sub>oi-to-*, the semantic change to ‘going under oath’<sup>5</sup> is more likely to have occurred in C, as G preserves this formation with more primary semantics in ON *eið* ‘isthmus’. This makes it a possible Stratum I or II C to G loan.
- PHANTOM – PC \**skāxslo-* (OIr. *scál* ‘phantom, giant, hero’, MW *yscawl* ‘young hero, warrior’) ~ PG \**skōhslo-* (Go. *skohsl* ‘evil spirit, demon’). The meaning ‘phantom’ can possibly be derived from OIr. *scuichid* ‘to move, to stir’ < PC \**skok-ī-*, pret. \**skōk-*, making it a likely borrowing from C to G, although the date of borrowing cannot be established.
- RIDE – PC \**reid-* (Gaul. *rēda* ‘wagon’, OIr. *réidid* ‘rides’, W *rhwydd* ‘easy, quick’) ~ PG \**rīdan-* (ON *rīða*, OE *rīdan*, OFri.

- rīdan*, OS *rīdan* ‘to ride, drive’) < \**Hreid<sup>h</sup>-e-*; cf. Lith. *riedėti* (*riedū*) ‘to roll’. Since the original semantic range is largely preserved in G (cf. ON *rīða* ‘to ride; to reel, stagger; to rise’, OE *rīdan* ‘to ride; to move, rock’), the specific meaning ‘to ride’ may have developed within this branch, and spread from there to C.
- WOOD – PC \**uidu-* (OIr. *fid*, W *gwýdd*, B *gwez*, OCo. *guid-en* ‘trees, wood’) ~ PG \**wīdu-* (ON *viðr*, OE *wīdu*, wudu, OHG *witu* ‘wood’) < \*(h<sub>1</sub>)*ui-d<sup>h</sup>(h<sub>1</sub>)-u-*; cf. Skt. *vidhú-* ‘isolated’, Lith. *vidūs*, Latv. *vidus* ‘interior, middle’. Although the semantic change from ‘middle’ to ‘wood’ may plausibly have happened in dialectal PIE, at a stage when originally nomadic groups became more sedentary, strictly speaking, a Stratum III loan in either direction cannot be excluded on formal grounds.

### 13.3.1.3 Etymologically Isolated Celto-Germanicisms

Especially remarkable is the existence of a set of verbal roots that conform to the PIE root structure, and sometimes even display the effects of PIE sound changes, but lack any cognates outside C and G. In most of these cases, mutual borrowing is unlikely or at least not demonstrable because the two branches make use of dissimilar suffixes and ablaut patterns. This seems to imply that these isoglosses represent roots that were lost in the other branches, or roots that were present in only part of the original PIE dialect continuum.

- DARE – PC \**n(e/a)nti-* (OIr. *néit* ‘battle’) ~ PG \**ninþan-* (OHG *gi-nindan* ‘to dare’), \**nanþjan-* (Go. *ana-nanþjan* ‘to dare, take courage’, ON *nenna* ‘to be willing’, OE *nēðan* ‘to have courage, dare’).
- DEBT – PC \**dlig-o-* (OIr. *dligid* ‘is entitled to, is owed’, W *dyllyaf* ‘to be obliged, owe, ought’, B *dleout* ‘should’) ~ PG \**dulga-* (Go. *dulgs* ‘debt’) < PIE \**d<sup>h</sup>lǵ<sup>h</sup>-*. In both branches, \**l* is vocalized regularly.
- QUARREL – PC \**bāg-ī-* (OIr. *bág* ‘boast, threat, fight’, *báigid* ‘boasts’), \**bāgio-* (MW *bei* ‘fault, transgression’) ~ PG \**bēg-* (OHG *bāgan* (pret. *biag*) ‘to quarrel’, ON *bágr* ‘contest, resistance’, *bægjast* ‘to quarrel, strive’). The seeming ablaut \**b<sup>h</sup>eh<sub>2</sub>g<sup>h</sup>-* ~ \**b<sup>h</sup>oh<sub>2</sub>g<sup>h</sup>-* is suggestive of an archaism, but it may also be a late borrowing with Germanic /ē/ = [æ:] being borrowed as Celtic /ā/ or Celtic /ǎ/ being borrowed as the lowered continuant of Germanic /ē/, North-West Germanic [a:].
- SEEP – PC \**leg-o-* (OIr. *legaid* ‘melts, dissolves’, W *llaith*, B *leizh* ‘damp’, W *dadlaith* ‘to melt’) ~ PG \**lekan-* (ON *leka*, OHG *lehhan* ‘to leak’) < ?PIE \**leǵ<sup>h</sup>-*.
- VOW – PC \**lugio-* (OIr. *lugae*, *luige*, W *llw* ‘oath’) ~ PG \**leugō-* (Go. *liuga* ‘marriage’), \**lugōn-* (OFri. *logia* ‘to arrange, allot’) < ?PIE \**leuǵ<sup>h</sup>-*.

In addition, we can discern a small cluster of nominal formations that too consists of isoglosses that are borderline Indo-European. They cannot plausibly be considered mutual borrowings, but the roots from which they are derived lack an evident Indo-European etymology, although in most of the cases proposals have been made.

- FRUIT – PC \**agronā* (W *aeron* ‘berries’) ~ PG \**akrana-* (Go. *akran* ‘fruit’, ON *akarn*, OE *æcern*, MHG *ackeran* ‘acorn’). The origin of the element \**agr-* is unclear: it could be PIE \**h<sub>2</sub>eǵro-* ‘field; wild’, but the semantic link is not compelling. The suffix \**-on-* is productive for fruits and berries in G.

<sup>5</sup> Cf. Sw. *gå ed* ‘to swear’.



- SKIN – PC \**sekio-* (OIr. *seiche* ‘skin, hide’) ~ PG \**segja-* (ON *sigg* ‘hard skin’) < ?PIE \**sek-io-*. Sometimes derived from the root \**sek-* ‘to cut’, but this is uncertain. The word is unlikely to be a Stratum II CGL loan in view of the occurrence of Verner’s law in G, which points to oxytone accentuation.
- WILD – PC \**g<sup>w</sup>elti-* (Mlr. *geilt* ‘panicked person, lunatic’, W *gwyllt*, ‘wild, mad’) ~ PG \**welþja-* (Go. *wilþeis*, ON *villr*, OE *wild*, OHG *wildi* ‘wild, uncultivated’) < \**g<sup>w</sup>el-ti-*. The root \**g<sup>w</sup>el-* is obscure, but in view of the regular development of \**g<sup>w</sup>* in both C and G, this is hardly a borrowing.

Finally, there is another cluster of pseudo-Indo-Europeanisms, viz. isoglosses that can technically be projected back into the protolanguage, perhaps even as archaisms, but which may equally well have come about through borrowing from each other or from a third, unknown source. However, as these cases lack the specifically Celtic, Germanic, or non-Indo-European features that we use in our diagnostics, we must accept that no further classification is feasible at this point.

- CUT – PC \**snad-o-* (OIr. *snaidid* ‘cuts, chips, hews, carves’, W *naddu* ‘to chip, cut’) ~ PG \**snadwō-* (OHG *snatta* ‘weal, scar’).
- HORSE 1 – PC \**marko-* (Mlr. *marc*, W *march*, B *marc* ‘h, OCo. *march*, Gaul. *markan* (acc. sg.) ‘horse’) ~ PG \**marha-* (ON *marr*, OE *mearh*, OFri. *mar*, OHG *marh*, *marah* ‘horse, stallion’).
- MALICIOUS – PC \**elko-* (OIr. *elc* ‘mischievous, bad’) ~ PG \**elhja-* (ON *illr* ‘ill, evil, bad, mean’) < ?PIE \*(*h*)*elk-*.
- RIDGE – PC \**roino-* (OIr. *róen* ‘way, path’, OB *rumt*, B *run* ‘mound, plateau’, MCo. *runyow* ‘hills’) ~ PG \**raina-* (ON *rein* ‘strip of land’, MHG *rein* ‘border wall, edge of a field’).
- SAIL – PC \**siglo-* (OIr. *seól*, W *hwyl* ‘sail, covering’) ~ PG \**sigla-* (ON *segll*, OE *segel*, OS *segal*, OHG *segil* ‘sail, canvas’).
- SECRET – PC \**rūnā/o-* (OIr. *rún* ‘secret’, W *rhin* ‘spell, enchantment’) ~ PG \**rūnō-* (Go. *runa* ‘secret’, OE *rūn*, OS *rūna* ‘whisper, secret’, ON *rún* ‘rune, secret’).
- SLAUGHTER – PC \**boduo-* (OIr. *Bodb*, *Badb* ‘war-goddess; hooded crow’) ~ PG \**badwa/ō-* (OE *beadu*, ON *bōð* ‘battle, war’).
- TIP 1 – PC \**brozdo-* (OIr. *brot* ‘goad, spike’) ~ PG \**brazda-* (Icel. *bradd* ‘edge’, OE *breard* ‘brim, margin’, OHG *brart* ‘edge’), \**bruzda-* (ON *broddr* ‘spike’, OE *brord* ‘point, grass shoot’).

### 13.3.1.4 Non-Indo-European Celto-Germanicisms

An intriguing subset consists of demonstrably non-Indo-European lexical elements. These elements are identifiable as such because no cognates are found in other Indo-European languages, including the Asian branches. More importantly, their PC and PG forms resist unification into a single proto-form, which precludes both inheritance from PIE and mutual borrowing. As a result, independent borrowing from a third, unknown source is left as a plausible explanation. A striking fact of the demonstrably non-IE Celto-Germanic isoglosses in this category is that they fall within the usual semantic fields that are cross-linguistically liable to substrate borrowing, such as local flora and fauna.

- BADGER – PC \**tazgo-*, \**tasko-* (Mlr. PN *Tadg*, Gaul. PN *Tascos*, Fr. dial. *taisse*, Sp. *tejón* ‘badger’) ~ PG \**þahsu-* (MDu. *das*, MHG *dahs* ‘badger’).

- CLOVER – PC \**semmVr-* (OIr. *semar* ‘clover, shamrock’) ~ PG \**smēran-* (Icel. *smári* ‘clover’), \**smērjōn-* (Icel., Far. *smæra*, Nw., Da. *smære*, Sw. dial. *smäre* ‘clover’).
- COPSE – PC \**k<sup>w</sup>resti(o)-* (W *prys(g)* ‘copse, grove’ (>> ScG *preas* ‘bush, shrub, thicket’)) ~ PG \**h(w)ursti-* (OE *hyrst*, OS *hyrst*, OHG *hurst* ‘crest, copse’). OCS *xvrastije*, Ru. *xvórost* ‘brushwood, bush’ < PSI. \**xvorstb* can be compared as well.
- HEDGE – PC \**kagio-* (W *cae*, B *kae*, Co. *ke*, Gaul. (Endlicher) *caio* ‘hedge, fence’) ~ PG \**hagja-* (ON *hæggr* ‘bird cherry’), \**hagjō-* (OE *hecg*, OHG *heckia*, *heggia* ‘hedge, fence’). A connection to the European root \**kag<sup>h</sup>-* ‘to hold’ is possible, but this requires the semantic shift ‘to hold’ > ‘enclosure’ > ‘hedge’.
- HOLLY – PC \**kolinno-* (Ir. *cuilenn*, W *celyn*, MB *queleunnenn* (sglt.) ‘holly’) < \**kolis-n-* ~ PG \**hulisa-* (MDu. *huls*, OHG *hulis*, *huls* ‘holly’) < \**kulis-*. Formally irregular, but closer to each other than to the Celto-Germanic forms are Basque *gorosti*, Sard. *golosti*, *colostri*, Gr. κήλαστρος, and Arm. *kostli*.
- LARK – PC \**alaudā* (Gaul. \**alauda* > Lat. *alauda* ‘lark’) ~ PG \**laiwiz-akōn-* (OE *lāwrice*, WFri. *ljurk*, OHG *lērähha* ‘lark’).
- OATS – PC \**korkio-* (Mlr. *corca*, *coirce*, W *ceirch*, B *kerc* ‘h ‘oats’, OCo. *bara keirch* gl. *panis avena*) ~ PG \**hagran-* (OSw. *hagri*, Nw. dial. *hagre* ‘oats’), \**hagrja-* (Da. *hejre* ‘brome grass’).
- PINE – PC \**gisusto-* (OIr. *giús*, ScG *giuthas*, MoIr. *giumhas*, *giúis* ‘fir tree, pine’) ~ PG \**kizna-* (OE *cēn* ‘pine tree, spruce’, MLG *kēn* ‘pine cone, pinewood’, OHG *kien* ‘pine tree, pinewood torch’).
- RUSHES – PC / PG \**sem-* (OIr. *sim(a)* ‘stalk, stem’, *simin(n)*, *seimen(n/d)* ‘rush, reed’) / (OS *semith*, OHG *semida* ‘rushes, reed’, G *Simse* ‘(bul)rush’) ~ PC / PG \**seb-* (Mlr. *sibin(n)*, *sifin(n)* ‘rush, reed’ / ON *sef*, MHG *sebede* ‘rush, reed’).
- SHOOT – PC \**slattā* (Mlr. *slat* ‘stalk, stem, branch’, W *llath* ‘rod, staff’, B *lazh* ‘pole, rod’) ~ PG \**lap(h)a/ōn-*, \**latta(n)-* (OE *lætt*, ME *lappe*, MoE *lath*, *lat*, MDu. *latte* ‘lath’, OHG *lad(d)a/o*, *lat(t)a/o* ‘lath, shoot’).
- SILVER – Celtib. *silabur* ‘silver, money’ ~ PG \**silubra-* (Go. *silubr*, ON *silfr*, *sylfr*, OE *seolfor*, OHG *silabar* ‘silver’). An old *Wanderwort* in view of B *zilhar*, Semitic \**šarp-*. The Basque word seems to point to \**silpar-* and Celtiberian to PC \**silabur-*. PG \**silubra-* is ambiguous, continuing either \**silupró-* (with Verner’s law) or \**silub<sup>h</sup>ro-*.
- SLOPE – PC \**glendos-* (OIr. *glend*, W *glyn* ‘glen, valley’, MB *glenn* ‘land’), \**glandā* (W *glan*, B *glann*, Co. *glan* ‘shore’) ~ PG \**klinta-* (ON *klettr* ‘rock, cliff’, MLG *kliint* ‘shore’), \**klanta-* (Nw. dial. *klant* ‘cliff; peak’, Sw. dial. *klant* ‘cliff’). The shared root \**glend-* violates PIE root constraints, making an ultimate non-IE origin likely.
- WILDERNESS – PC \**kaito-* (W *coed*, B *koad*, MCo. *coys* ‘wood’) ~ PG \**haiþi-* (Go. *haiþi* ‘open field’, ON *heiðr* ‘heath, moor’, OE *hæð*, MLG *hēde* ‘heather’), ?*haiþa-* (dial. early MoE *hothe*).

Although some of the non-Indo-European elements are restricted to Celtic and Germanic (BADGER, LARK), others have a potentially wider distribution, which links them to the Neolithic linguistic landscape that existed prior to the Indo-European expansion. Of these, COPSE, PINE, HOLLY, and CLOVER are especially noteworthy. CG \**k<sup>w</sup>r(e)sti-*, in combination with PC \**k<sup>w</sup>renno-*, potentially exhibits an alternation between *n-* and *st-* suffixes, which is also found in other pre-Indo-European dendronyms

across Europe. Two such other tree names are in fact CG isoglosses as well. The doublet PINE (\**gisusto-* ~ \**kizna-*) appears to be based on a stem \**gis-*, followed by an *st*-suffix in Celtic and a *n*-suffix in Germanic. For HOLLY (\**kolinno-*/\**hulis-*), irregular lexical correspondents are found across Europe, viz. Gr. κήλαστρος, Arm. *kostli*, Sard. *golosti*, *colostri*, and Basque *gorostri*. These forms can in turn be contrasted with the Celto-Germanic doublet PC \**kolinno-* (< \**kolis(t)-no-*?) ~ PG \**hulis-* (< \**kulis-*), which stands out within the wider European cluster because they can both contain the formally more comparable stem \**kVlis(t)-*. Finally, the CLOVER isogloss, technically reconstructable as the formally irregular doublet G \**smēr-* : C \**semmar-*, should be mentioned here.

### 13.3.1.5 Mutual Celto-Germanic Loanwords

The final class of Celto-Germanicisms consists of lexical elements that can be demonstrated to have been borrowed either from Celtic to Germanic, or – far less often – from Germanic into Celtic.

Stratum II loans can be detected because they participate in known sound changes in both Celtic and Germanic. For Celtic, these are the merger of aspirated and nonaspirated voiced stops as well as the raising of the vowel \**ē* to \**ī*, and for Germanic, the sound shifts of Grimm's, Verner's, and Kluge's law as well as the vocalic changes \**o* > \**a* and \**ā* > \**ō*.

- ENCLOSURE – PC \**dūno-* (OIr. *dún*, W *din*, OB *din* 'fort') ~ PG \**tūna-* (ON *tún* 'enclosure, home field, town', OE *tūn* 'yard; town', OFri. *tūn* 'fence, enclosure', MLG *tūn* 'fence'). The intra-Goidelic etymological link with OIr. *doé* 'wall, mound' < \**d<sup>h</sup>uH-io-* may point to a C origin for this word (unless this is etymologically related to OIr. *doé* 'shoulder').
- HAYSTACK 2 – PC \**dassi-* (OIr. *daiss*, W *das* 'heap, stack') ~ PG \**tassa-* (Mdu. *tas*, *tasse*, MLG *tas* 'haystack'). PC \**dassi-* may continue \**dh<sub>2</sub>-sti-*, from PIE \**deh<sub>2</sub>-* 'to cut', meaning that G borrowed this word after C \**-st-* > \**-ts-/-ss-*, but before the consonant shifts.
- JESTER – PC \**drūto-* (OIr. *drúth* 'jester, buffoon, vagrant; courtesan, harlot') ~ PG \**trūpa-* (ON *trúðr* 'juggler', OE *trúð* 'trumpet player, actor, buffoon'). Borrowed by G before Grimm's law. The native G form is continued by PG \**drūda-*; cf. OHG *trūt*, NHG *traut* 'dear, beloved' < \**d<sup>h</sup>ruH-tó-*; cf. OIr. *drúth* 'extravagant, wanton', Lith. *drútas* 'thick, strong, deep (of voice)').
- LEECH – PC \**leCVgi-* (OIr. *līaig*, gen. *lego*, *lega* 'leech, doctor, physician') ~ PG \**lĕkja-* (Go. *lekeis*, ON *lækir*, OE *læce* 'doctor', ODu. *lake*, OHG *lāhhi*, *lāchi* 'leech'). Generally assumed to be a C to G loan, although the C word admittedly does not have an etymology.
- LEATHER – PC \**ϕle/itro-* (OIr. *lethar*, W *lledr*, MB *lezz* 'leather') ~ PG \**le/īpra-* (ON *leðr*, OE *leðer*, OHG *ledar* 'leather'). The C word can be from \**ϕlitro-* < PIE \**ϕl-*tro-** if we assume generalized lowering of the vowel in the collective \**ϕlitrā* in Brittonic, for which compare the neuter gender of G \**le/īpra-*.
- KING – PC \**rīg-* (OIr. *rí*, W *rhi* 'king', Gaul. PN *Catu-rix*, Celtib. PN *Teiuo-reikis*) ~ PG \**rīk-* (Go. *reiks* 'king').

Stratum III loans postdate the Germanic sound shifts, but they may participate in the vocalic changes \**o* > \**a* and \**ā* > \**ō*. PC \**nn* from earlier \**sn* appears to have been substituted by

G with a single *n*, despite the fact that geminates must already have been present in G in this phase.

- BADGER(HOUND) – PC \**brokko-* (MÍr. *brocc*, W *broch*, MB *broc'h*, OCo. *broch* 'badger') ~ PG \**brakkan-* (OHG *bracko* 'hound').
- BREAST(PLATE) – PC \**brunnio-* (OIr. *bruinne* 'breast', W *brynn* 'hill') ~ PG \**brunjon-* (Go. *brunjo* 'breastplate', ON *brynja*, OE *byrne*, OS *brunnia*, OHG *brunja* 'coat of mail'). Demonstrably Celtic in view of the change \**-sn-* > \**-nn-*, borrowed as single *n* in G.
- BREECHES – PC \**brākā* (Gallo-Lat. *brācae*, *brācēs*, Gallo-Gr. pl. βράκος 'trousers, breeches') ~ PG \**brōk-* (ON *brōk* 'leg of a pair of breeches', pl. *brækr* 'breeches', OE *brōc* 'behind, breech', OFri. *brēk*, OHG *bruoh* 'trousers'). Early loans are often borrowed as root nouns in G, which favors a C origin for this word.
- BRISTLE – PC \**granno-* (MÍr. *grend*, MW *grann* 'beard, chin, cheek', Provençal *gren* 'mustache' < Gaul.) ~ PG \**granō-* (ON *grōn* 'hair of the beard; spruce', OE *granu* 'mustache', OHG *grana* 'hair of the beard'). Given the single *n* in G as opposed to C *nn* (cf. BREAST(PLATE)), more likely to have transferred from C to G than the other way around.
- HILLTOP – PC \**dūno-* (OIr. *dún*, W *din*, OB *din*, Co. *dyn* 'fort') ~ PG \**dūna-* (OE *dūn* 'hill', E *down* 'rolling hill, dune', Du. *duin* 'dune') < \**d<sup>h</sup>uH-no-*; cf. OIr. *doé* 'wall, mound' < \**d<sup>h</sup>uH-io-*.
- HOSTAGE – PC \**geisslo-* (OIr. *giall* 'hostage', W *gwystl*, B *gouestl* 'surety, hostage, pledge') ~ PG \**gīsla-* (ON *gīsl*, OE *gīsel*, OFri. *jēsel-*, OS *gīsal*). Native in C in view of the ablauting OIr. *gell*, *gill* 'pledge' < PC \**gisslo-*.
- IRON – PC \**īsarno-* (Gaul. PN *Isarnus*, OIr. *īarn*, W *haearn*, B *houarn* 'iron') ~ PG \**īsarna-* (Go. *eisarn*, ON *ísarn*, OE *īsern*, *īsen*, *īren* 'iron'). Borrowed by G from C (or a third source?), as inherited unstressed \**-rn-* should have yielded PG \**-rr-* by regular assimilation of the *n* and subsequent shortening in unstressed syllables.
- LEAD – PC \**ϕludio-* (MÍr. *lúaide* 'lead') ~ PG \**lauda-* (OE *lēad*, OFri. *lād*, Du. *lood* 'lead').
- SERVANT – PC \**ambaxto-* (Gaul. *ambaktos*, *ambactus* 'vassal', W *amaeth* 'farmer') ~ \**ambahta-* (Go. *andbahts*, OHG *ambaht* 'servant, representative'), \**ambahtō-* (ON *ambátt* 'bondwoman').

Some G to C loanwords can be identified with relative certainty. There are at least seven candidates, almost all from Stratum III, when the major sound shifts as well as the change \**o* > \**a* had taken place. Proto-Celtic had already broken up by Stratum III, yet a Proto-Celtic form is nevertheless reconstructible for these borrowings. These reconstructions, while anachronistic, demonstrate that Celtic was phonologically stable in the period when Germanic underwent its major consonant shifts.

- BOY – PC \**magu-* (OIr. *mug* 'slave, servant', W *meu-dwy* 'hermit < servant of god', MCor. *maw* 'lad', B *mau* 'happy, active') ~ PG \**magu-* (Go. *magus* 'boy', OE *magu* 'child, son'). In view of PG \**mag-āpi-* 'girl' (Go. *magaps*, OE *mæg(e)ð*, OHG *magad*), the *u*-stem appears to have been created in G.
- CROOKED – PC \**krumbo-* (MÍr. *cromm*, W *crwm*, B *kromm*, Co. *crom* 'bent, curved, crooked') ~ PG \**krum(b/p)a-* (OE *crump*, OS *krumb*, OHG *krumpf* 'bent, crooked'). Probably native in G given the clear link with the verb \**krimpan-* 'to shrink'.
- FORK – PC \**gablo/ā-* (OIr. *gabul* 'fork; forked beam, rafter; thighs', W *gafl* 'fork; lap, groin', B *gaol* 'fork, bifurcation;

- crotch') ~ PG \**gablō-* (OHG *gabala*, OE *geafol* 'fork'). Probably from G in view of the possible etymological identity with ON *gabl* 'gable' < PIE \*(*ǵ*<sup>h</sup>)*ob*<sup>h</sup>*h*<sub>2</sub>-l-; cf. Go. *gibla* 'gable, pinnacle', ToA *špāl* 'head', Gr. κεφαλή 'head, top' < PIE \*(*ǵ*<sup>h</sup>)*eb*<sup>h</sup>*h*<sub>2</sub>-l-.
- HAYSTACK 1 – PC \**krouko-* (Mir. *crúach* 'stack (of corn), rick, heap, hill', W *crug* 'hillock, cairn, heap', B *krug* 'haystack', OCo. *cruc* gl. *collis*) ~ PG \**hrauka-* (ON *hrauk*, OE *hrēac* 'stack, haycock, rick'). The word has some pedigree in G, as shown by Verner and Kluge variants, e.g. PG \**hrūha-* (ON *hró* 'hillock'), \**hrūgōn-* (ON *hrúga* 'pile'). Likely borrowed after \**kn* > \**kk* and simplification of geminates in overlong syllables in G, but before the change \**o* to \**a*. This scenario presupposes sound substitution, whereby PG [xr] was adopted as C \**kr-*.
  - HE-GOAT – PC \**bukko-* (OIr. *boc*, W *bwch*, B *bouc* 'h, OCo. *boch* 'he-goat') ~ PG \**bukka(n)-* (ON *bokkr*, *bukkr*, OE *bucca*, OHG *bock* 'he-goat'). Since gemination is regular and expected in G *n*-stems through Kluge's law, while in C the equivalent Stokes' law is much more speculative, assuming a G to C loan seems reasonable.
  - SAVOR – PC \**suek-* (W *chweg*, B *c'hwek* 'sweet') ~ PG \**swekan-* (OS *suecid* gl. *olet*, OHG *swehhan* 'to gush, smell (bad)'), \**swak(k)u-*, \**swak(k)ja-* (OE *swecc*, *swæcc* 'sweet) taste or smell', OS *suec* 'smell'). Germanic has a related verbal root meaning 'to smell', the strong verb suggesting a G origin; a precise donor form is not securely attested in G, however.
  - SPEAR – PC \**gaiso-* (Gallo-Gr. γαῖσον, Gallo-Lat. *gaesum*, OIr. *gae*, W *gwayw* 'spear, javelin') ~ PG \**gaiza-* (OE *gār*, OHG *gēr*, ON *geirr* 'dart, spear'). If this word is related to Skt. *heṣā-* 'missile' < \**ǵ*<sup>h</sup>*ois-ó-*, PC \**gaiso-* must be from PG in view of the regular development \**o* > \**a*.
  - TIP 2 – PC \**brazdo-* (W *brath* 'bite, prick, stinging') ~ PG \**brazda-* (Icel. *bradd* 'edge', OE *breard* 'brim, margin', OHG *brart* 'edge').

Finally, it should be acknowledged that many of the aforementioned pseudo-Indo-Europeanisms may in fact be Celto-Germanic loans. However, since the (mutual?) borrowing of these words may have taken place early in Stratum II or even in Stratum I, when the phonologies of C and G would still have been largely compatible, it cannot be determined at this point whether these isoglosses were horizontally or vertically transmitted.

## 13.3.2 Linguistic Palaeontology

Here we provide a discussion as to how the linguistic evidence of the Celto-Germanic isoglosses can be correlated with the archaeological record.

### 13.3.2.1 Flora and Fauna

Native flora and fauna form a striking cluster within the Celto-Germanicisms: BADGER, CLOVER, COPSE, HOLLY, LARK, PINE, RUSH, SHOOT, and YEW. None of these isoglosses except YEW are in compliance with the known sound changes, meaning that no Indo-European form can be reconstructed, and that they may rather have arisen through independent borrowing by C and G from a third language, of which we otherwise have no evidence. These loans appear to be early on average, dating to either Stratum I or II, which implies that they are a reflection of the earliest cultural exchanges and linguistic contact between

incoming Indo-European and local-non-Indo-European groups (cf. Iversen & Kroonen 2017).

Although the details of the different isoglosses vary, the general picture that these terms for flora and fauna offer is one of linguistic contact. The different Indo-European dialects that later evolved into C and G adopted similar words from previous populations that were culturally more embedded in the natural environment of Western Europe (cf. also WILDERNESS and SLOPE). The practice of coppicing, i.e., the repeated yearly cutting of stems (cf. STALK?) from the same stump, is known from the Neolithic onwards (Noble 2017: 132). HOLLY and RUSHES are known sources of hay, i.e., winter fodder for animals (Robinson 1986: 281). The call of the LARK is heard around the beginning of spring and may have aided early farmers in following an agricultural calendar. Other species may simply have been absent in the steppe ecozone from which the Indo-European languages dispersed, such as the BADGER and HOLLY, which could have provided the motivation for adopting a nonnative term into the lexicon. The word for YEW (\**iwo-*/\**īwa/ō-*) can actually be reconstructed for PIE, but its cognates mean 'berry' or 'bird cherry' in the other IE languages. The uniquely CG semantic shift to YEW can similarly be understood from the fact that this species has a Western European natural range, as shown in Figure 13.2.

### 13.3.2.2 Farmstead Life

Three CG isoglosses are related to haymaking: HAYSTACK 1 (\**krouko-*/\**hrauka-*), HAYSTACK 2 (\**dassi-*/\**tassa-*), and FORK (\**gablo-/ā*/\**gablō-*). Indirect evidence of hay meadows in Northwestern Europe from the Iron Age and the Roman period includes scythes suitable for mowing, buildings that could be used to stable animals, and increased animal size, which may reflect improved feeding and housing through winter (Hodgson et al. 1999: 261). More direct evidence comes from plant macrofossils and pollen. For example, plants with an intermediate canopy height thrive in hay meadows, because these plants are best suited to a period of abandonment followed by the hay harvest. The Iron Age saw an increase in this type of plants (Hodgson et al. 1999: 266; French 2017).

It is conceivable that the shared Celto-Germanic vocabulary relating to haystacks represents the transfer of this technology from one language community to another in the Iron Age. The linguistic details indicate that the exchange of HAYSTACK 2 in the early first millennium BCE predates Stratum III.

The invention of haymaking marked a profound change, both economically and socially. The number of animals that can be kept is constrained by the availability of grazing and fodder. By preparing hay for winter when little grazing material is available, more cattle can be kept per unit of land. However, in order to produce hay with it, one must physically fence off the land in such a way that animals do not graze on it, and a social mechanism was required to control who had access to pasture or meadow. This, in turn, could play a role in shaping and strengthening social inequalities (Hodgson 1999: 261).

The earliest evidence for land division predates the BA. Stone boundary walls dating to the Neolithic are found across

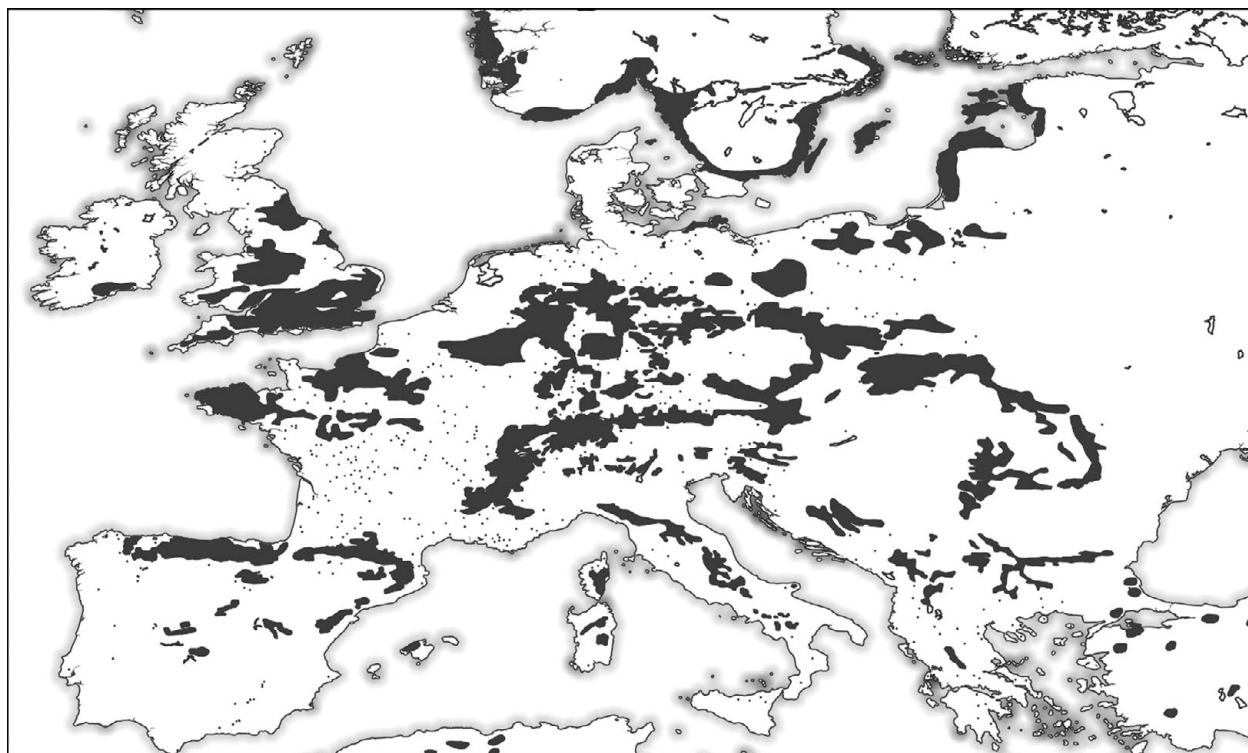


FIGURE 13.2. Distribution range of the common yew (*Taxus baccata*). Data from Caudullo et al. (2017) CC-BY

large tracts of land in western Ireland. Further east, such boundaries both become scarcer and appear later, but this may be a feature of more intensive land use rather than at later dates than an actual spread in eastward direction. Still, the evidence for second- and first-millennia BCE fields is much more common than earlier instances (Johnston 2013: 316–318). More intensively managed landscapes through the creation of field systems occurred in Atlantic Europe toward the middle of the second millennium BCE (Cleary & Gibson 2019: 81–82). The comparative scarcity of field boundaries in the Early Bronze Age compared to the LBA and IA means that the adoption of this technology by C and G language communities clearly postdates the Indo-Europeanization of Northwestern Europe. The isogloss RIDGE (at the edge of a field) (*\*roino-|\*raina-*) may have referred to a ridge or elevated path along the field boundary of the so-called “Celtic” fields. Excavation of a field boundary ditch at Fengate in England has uncovered blackthorn leaves with a right-angled bend carbon-dated to 2500 BCE; this bend has been argued to have been caused by hedge trimming (Pryor 2010: 89). Remains of thorny vegetation in an Oxfordshire site dating to the Late Bronze Age or Early Iron Age were found near a ditch with postholes marking a fence, suggesting a prehistoric hedge. In spite of this, it is not known when hedges started to be used extensively (Wright 2016: 27, 199). The isogloss HEDGE (*\*kagio-|\*hagja/ō-*) possibly reflects shared land management practices. This, in turn, implies that the concept of a hedge entered Celtic and Germanic in Western Europe. Due to a lack of linguistic diagnostic features, the period when this word entered Celtic or Germanic cannot accurately be established: the strata I to early III apply.

The Celto-Germanicism ENCLOSURE (*\*dūno-|\*tūna-*) is a clear Stratum II loan from C into G. G *\*tūna-* ‘enclosure, fence’ exhibits a meaning that only partially reflects the combined semantic range of W *din* ‘city, fort(ress), stronghold’ and OIr. *dūn* ‘fort, fortified place, dwelling, residence’. It is therefore possible that G preserves a more primary meaning, in which case the meaning ‘fort’ must have evolved in C after the borrowing into Germanic, i.e., during the surge of hillforts in LBA or the rise of Celtic *oppida* in the IA. The latter scenario is potentially supported by the much later, second borrowing of C *\*dūno-* into (W)G, where *\*dūna-* still means ‘(unfortified) hill’ (cf. OE *dūn*, E *down*), resulting in the Stratum III (or IV) isogloss HILLTOP. It cannot be excluded, however, that the meaning ‘hill’ evolved from ‘hillfort’ secondarily, in British Celtic, through semantic bleaching, i.e., after the hillforts had fallen into disuse. Chalcolithic fort sites are found in Iberia, but only a part of them continued to be occupied into the Bronze Age, and in Central Europe, the building of hill forts almost completely disappeared in the Middle Bronze Age. Hill forts as defended settlements only became widespread again in LBA Europe, particularly in the Urnfield period. The earliest hill forts in Britain also date to the BA (Thorpe 2013: 239–240). Palisaded and ditched enclosure settlements became more common in Atlantic Europe near the turn of the first millennium BCE (Cleary & Gibson 2019: 83).

### 13.3.2.3 Societal and Legal Organization

The Celto-Germanic isoglosses contain a small cluster of Stratum I or II loanwords from C to G that are associated with

societal and legal organization, pointing to a BA/EIA cultural exchange. These are KING (\**rīg-*|\**rīk-*), JESTER (\**drūto-*|\**trūpa-*), FREE (\**φriio-*|\**frī(j)a-*), OATH (\**oito-*|\**aīpa-*), and LEECH (\**leCVgi-*|\**lēkja-*). One way to observe social stratification in the archaeological record is through luxury goods in graves: the presence of many luxury goods in a single grave indicates that single individuals were able to accumulate considerable wealth and prestige. It is tempting to connect these isoglosses with the rise of elite burials (*Fürstengräber*) in the LBA/EIA Hallstatt Culture of Central Europe, which are thought to mark a rise in social inequality. The JESTER isogloss may be associated with an otherwise undocumented institution of entertainers at halls of local KINGS. The presence of elite burials in the Low Countries several hundreds of kilometers to the north, with evidence of grave goods being imported from Southern Germany and Upper Austria (Van der Vaart-Verschoof 2017: 17), provides a potential vector for the introduction of these terms into early G.

Other such terms with societal and legal connotations are more difficult to date due to the absence of linguistically decisive diagnostic features: LAW (\**rextu-*|\**rehtu-*), SERVANT (\**ambaxto-*|\**ambahta-*), INHERITANCE (\**orbio-*|\**arbja-*), HOSTAGE (\**geisslo-*|\**gīsla-*), VOW (\**lugio-*|\**leugō-*). If these Celto-Germanicisms likewise arose by borrowing from C into G, Strata I and III are possible windows. Since no unambiguous Stratum I loans are extant in the entire corpus, however, Stratum III appears the more economical choice.

### 13.3.2.4 Equestrianism

Celto-Germanicisms related to horsemanship consist of HORSE 1 (\**marko-*|\**marha-*), MANE (\**mongo-*|\**mankan-*), RIDE (\**reid-o-*|\**rīdan-*), and possibly HORSE 2 (\**kanxsikā-*|\**hanh/gista-*). These isoglosses may have been associated with the spread of changes in equestrian practices, such as the introduction of new horse breeds and the introduction of (new techniques in) horse riding (Fages et al. 2019). Unfortunately, no exact dating can be established for these linguistic features other than that they postdate the PIE period and predate Stratum III, which positions them in the M/LBA. The oldest undisputed archaeological evidence for horse riding appears in the same period.

Roman authors refer to OATS (\**korkio-*|\**hagran-*) as a food crop for horses (McClatchie 2018). An agricultural innovation possibly associated with horsekeeping is therefore the domestication of this species. Remains of oats are found in EBA settlements, but only single finds are reported, and these settlements often also contain common wild oats beside common oats (Stika & Heiss 2013: 362). The earliest evidence for cultivated oats is found across Germany from the LBA (McClatchie 2018). This period and location fit our isogloss, which can be dated to Stratum II at the latest. The spread of this word between C and G may consequently have been well associated with the adoption of the crop in West-Central Europe.

### 13.3.2.5 Maritime Vocabulary

A possible early isogloss is ROW (\**rā-*|\**rōan-*), which has the appearance of a PIE archaism. Since rowing is an unspecific cultural marker, we will refrain from discussing it here.

A culturally significant nautical innovation was the introduction of sails. It is therefore likely that the Celto-Germanicism SAIL (\**siglo-*|\**sigla-*) arose by contact between C and G following the diffusion of sailing technology across the North Atlantic. The direction of borrowing cannot be established on linguistic grounds, but one scenario that can be excluded with certainty is a Stratum II Celtic to Germanic loan, as Celtic \**siglo-* should have yielded PG \*\**sikla-*.

From the archaeological perspective, a Germanic to Celtic loan is unlikely. There is little evidence for sails in the prehistoric Germanic-speaking world. Direct archaeological evidence, pictorial records, or written references are lacking until well into the Middle Ages. Tacitus moreover explicitly mentions that the Suiones at the southern Baltic coast did use sails (Thier 2011: 187).<sup>6</sup> Evidence for sails in the Iron Age Celtic-speaking world is more direct. Examples include a boat model in first-century BCE Northern Ireland, Caesar's report of sailing craft in Armorica, and a pre-Roman coin from first-century CE Canterbury. Roman-era sailing ships in Northwestern Europe appear to be developments of native Celtic shipbuilding traditions (Thier 2011: 187–188). Taking the archaeological and the linguistic evidence together, the only remaining scenario for the exchange of the word for 'sail' is a Stratum III IA loan from Celtic to Germanic.

Another intriguing Celto-Germanicism is HARBOR (\**kauno-*|\**hafna-*). It may initially have referred to a natural inlet only, and usage of this word to denote a manmade structure probably postdates the initial exchange of this word. On linguistic grounds, the isogloss cannot possibly have been exchanged after the complete loss of PIE \**p* in Celtic in order to correspond to PG \**f*. Since the word is etymologically more rooted in Germanic than in Celtic, a relatively straightforward hypothesis is that it was borrowed by Celtic from Pre-Germanic \**kapno-* in Stratum I or II. A suitable archaeological context consistent with the linguistic evidence for exchange of this maritime word is contact between the Atlantic and the Nordic Bronze Age. Alternatively, the word could have been borrowed into Celtic as the Urnfield culture spread toward the North Sea.

### 13.3.2.6 Metallurgy

The adoption of iron metallurgy can by its very definition be associated with the start of the Iron Age. For Proto-Indo-European, no word for 'iron' can be reconstructed, as the spread of iron-smelting techniques to Central Europe postdated the disintegration of the protolanguage by roughly two

<sup>6</sup> More circumstantial evidence for earlier use of sails consists of stone settings shaped like ships in Scandinavian graves from the Bronze Age. A ship suitable for rowing has a higher length-width ratio than a ship suitable for sailing, and considerable variation in this ratio is found (Artursson 2013).

millennia (cf. Gnesin 2016). A wide set of non-Indo-European words entered the different linguistic subgroups at various postmigration stages, usually as a *Wanderwörter* accompanying the diffusion of the technology across Europe. The CG isogloss IRON (\**īsarno-*|\**īsarna-*) has no convincing Indo-European etymology, but likely arose by borrowing of the word from C into G at Stratum III. A potentially suitable archaeological context for such linguistic contact is found in the so-called “Schmiedegräber” in the core of the Jastorf culture and Nienburg group where, in the La Tène period, burials appear with iron ore, slags, anvils, and even complete sets of blacksmith tools (Brumlich 2005). The appearance of these burials has been interpreted as a reflection of the rise of a La Tène-icized “caste” of blacksmiths. If indeed the language contact between Celtic and Germanic can be attributed to these craftsmen, they may have either spoken Proto-Celtic themselves or mediated the terminology from Celtic-speaking specialists further to the south.

Another innovation associated with iron metallurgy finds a potential lexical reflection in the isogloss BREAST(PLATE) (\**brunnio-*|\**brunjō-*), which can be connected with the technique of making mail shirts often credited to the Celts. The oldest archaeological mail shirts occur in a La Tène context dated to ca. 300 BCE in Ciumești, Romania (Rusu 1969: 267–269). Mail shirts may have developed from older ring mail, a fragment of which has been found in a Hallstatt grave from eighth-century BCE Bohemia, and which is usually made of iron coils (Williams 1980). Linguistically, the borrowing of PC \**brunnio-* as PG \**brunjō-* must postdate the PC change of \**-sn-* to \**-nn-* as well as the PG sound shifts, which makes it a Stratum III IA borrowing.

LEAD (\*(*φ*)\**loudio-*|\**lauda-*) represents another metallurgical Celto-Germanicism. The exclusively West Germanic, but possibly Proto-Germanic \**lauda-* is clearly a loan from Proto-Celtic \*(*φ*)\**loudio-* that cannot predate Stratum III.<sup>7</sup> Since lead is not naturally available in Scandinavia (cf. Johannsen 2016), the appearance of an originally non-Germanic term is to be expected.

The linguistic history of the word for SILVER (Celtib. *silabur*|\**silubra-*) is complex and difficult to disentangle (cf. Mallory & Huld 1984). The word is not a Celto-Germanicism strictly speaking, as it occurs in various other IE and non-IE languages in West Eurasia and North Africa. Still, the Celtiberian and PG forms are somewhat similar and might therefore be considered as belonging to a separate subcluster within the wider set of corresponding forms. With formally irreconcilable attestations ranging from Baltic (Lith. *sidābras*), Slavic (\**srěbro*), Basque *zil(h)ar* (< \**zilpar*), Berber (\**zrīp-*|\**zrūp-*), and perhaps even Semitic (Akk. *šarp-*, Arab. poet. *šarīf*), it is clear that the word petered through multiple languages and cultures as a *Wanderwort*, and cannot possibly be correlated with the spread of Indo-European (Boutkan & Kossmann 2001). This additionally follows from the fact that PIE itself had an entirely different word for ‘silver’ that is continued by YAv. *ərəzata-*, Arm. *arcat*<sup>c</sup>, Lat. *argentum*,

Celtib. *arkatobezom* ‘silver mine’, OIr. *argat*, MW *aryant* < \**h<sub>2</sub>rǵ-nt-ó-*. Interestingly, the preservation of this word in Celtic suggests that there was a continuous tradition for silver metallurgy within this language community between the PIE stage and the historical period. Germanic and Balto-Slavic, on the other hand, lost the PIE word, probably because they first migrated out of the “silver sphere” in the third millennium BCE, and readopted the metal together, perhaps, with the Atlantic *Wanderwort* when it became known in North Europe from the second millennium BCE (Johannsen 2016; see Figure 13.3). The timing of the borrowing event into Germanic can on linguistic grounds be set to either Stratum I or III. Given the fact that the Insular Celtic languages did not participate in this borrowing, it is tempting to assume that the *Wanderwort* spread from the West Mediterranean along the Atlantic coast to Germanic before the Celtic expansion to the British Isles. In this scenario, the Celtic expansion would be relatively late (LBA/IA), and as such incompatible with the much earlier Bell Beaker phenomenon. Of course, the Bell Beakers are a priori an unlikely cultural vector because they did not seem to have known this metal in the first place.<sup>8</sup>

## 13.4 Conclusions

### 13.4.1 The Linguistic Mechanisms behind the CG Isoglosses

In this study, we explored three mechanisms that may have given rise to the corpus of Celto-Germanic isoglosses that has puzzled linguists for over a century: (1) a monophyletic stage for both branches, i.e. a Celtic-Germanic subnode; (2) shared mutual contact; and (3) contact with other, potentially non-Indo-European languages.

#### 13.4.1.1 Mechanism 1: Monophyleticity

The majority of the Celto-Germanic isoglosses cannot be ascribed to any shared linguistic past beyond the PIE dialectal stage, as they are often associated with cultural (ideological, technological) innovations that postdate the dissolution of the Proto-Indo-European linguistic unity.

We have found little evidence for a period of shared linguistic evolution. Some of the Celto-Germanic isoglosses that are derivationally isolated are potential archaisms, such as COVER (\**tog-ī-*|\**pakjan-*), FAT (\**tegu-*|\**peku-*), FEAR (\**āg-ī-*|\**ōgan-*), FIGHT (\**uik-o-*|\**wihan-*), ROW (\**rā-*|\**rōan-*), and STICK (\**gli-na-*|\**klinan-*), which show archaic PIE morphology or semantics. Given the clear IE origin of these formations, it is not certain that they can be used as evidence for a shared Celto-Germanic subnode beyond the PIE stage.

<sup>7</sup> The common Germanic word for ‘lead’ was \**blīwa-* (ON *blý*, OS *blī*, OHG *blīo*), possibly an ancient *Wanderwort*.

<sup>8</sup> A more suitable vector for the spread of silver along the Atlantic and Mediterranean could be the El Argar culture (ca. 2200–1550 BCE), in which silver is circulating from 2000 BCE and appears to have been one of the main materials used to express wealth (Lull et al. 2014).



FIGURE 13.3. The spread of silver in Europe. Map data from Mallory and Huld (1984).

Some derivationally isolated isoglosses appear more innovative. These are THIRST? (\**tartu-*|\**burstu-*), FATHOM (\**ḡatamV-*|\**ḡapma-*), LEFT (\**kl(e)io-*|\**hlja-*), SIEVE (\**sīlo-*|\**sēpla-*), DISTANT COUSIN (\**kom-nēḡot-*|\**ga-nēfan-*), THROAT (\**brāgant-*|\**k(w)ragan(b)-*), and UTTERANCE (\**iexti-*|\**jehti-*). Still, since all of these formations make use of PIE elements, it is difficult to determine to what extent these formations represent additional archaisms or mere independent innovations. LEFT is probably the most convincing candidate for a real shared innovation, especially in view of the specific semantics.

A similar dilemma is posed by etymologically isolated isoglosses. Since they have no cognates outside C and G, but at the same time do not violate PIE phonotactics, it often seems impossible to determine whether they represent archaisms or late IE dialectalisms. Many of these isoglosses consist of obscure verbal roots: DARE (\**n(e/a)nti-*|\**ninḡan-*), DEBT (\**dlig-o-*|\**dulga-*), SEEP (\**lek-o-*|\**lekan-*), VOW (\**lugio-*|\**leugō-*). In addition, there are some purely nominal formations that appear etymologically isolated, but at the same time cannot be identified with certainty as (non-IE) loans: FRUIT (\**agronā-*|\**akran-*), HAYSTACK 1 (\**krouko-*|\**hrauکا-*), SKIN (\**sekio-*|\**segja-*), WILD (\**g<sup>w</sup>elti-*|\**welḡja-*).

Semantically isolated formations have likewise proven hard to analyze, as determining whether a CG shift in meaning results from shared or independent innovations remains intuitive. Potentially significant semantic shifts are found in AXE (\**beiatli-*|\**bīḡla-*), COAL (\**goulo-*|\**kula-*), LOUSE (\**lu(u/s)ā-*|\**lūs-*), WOOD (\**uidu-*|\**widu-*), and YEW (\**iuo-*|\**īwa/ō-*), the shifts in BESTOW, CHOOSE, FORTIFICATION, ONE-EYED, and SPEAK appearing more trivial.

Finally, we identified a large number of what we call pseudo-Indo-Europeanisms, i.e., isoglosses that can technically be projected back into the protolanguage, but which may equally have come about through mutual borrowing or from a third, unknown source due to a lack of any distinctively IE or non-IE features.

In conclusion, it should be clear that the evidence for a shared Celto-Germanic subnode is exceedingly limited in comparison to, for instance, the evidence for Italo-Celtic, Balto-Slavic or Indo-Iranian. Celtic and Germanic may have evolved from dialects that were located not too distantly from each other in the original Indo-European dialect continuum. It can even be surmised that C and G arose from groups that were part of the westward Yamnaya expansion toward the Balkans and the Carpathian Basin. It is intriguing to see, at any rate, that some of the isoglosses we encounter appear to be linked to potentially shared adaptations to a more sedentary way of life. Here we mention the semantic shift of PIE \**(h<sub>1</sub>)ui-d<sup>h</sup>(h<sub>1</sub>)-u-* ‘isolated, middle’ to WOOD (\**uidu-*|\**widu-*), which is understandable from the perspective of inhabitants of settlements with uncultivated lands between them, but not from that of mobile steppe pastoralists. Furthermore, the shift from PIE \**h<sub>1</sub>(e)iH-u-* ‘berry; bird cherry’ to YEW (\**iuo-*|\**īwa/ō-*) can only have taken place in an area where this tree species has its natural range, which is Western Europe.<sup>9</sup> The easiest way to account for such isoglosses is to assume that they reflect some kind of shared dialectal

<sup>9</sup> The fact that the formation displays ablaut seems to prove that this shift took place at an early stage.

development when the Yamnaya culture was expanding from the Don-Volga region to the west. Across the board, however, the number of reliable Celto-Germanic isoglosses does not appear significantly more numerous than that of any two branches of the Indo-European family, so no post-IE Celto-Germanic subclade can be postulated.

### 13.4.1.2 Mechanism 2: Mutual Contact

In Section 13.3.1.5 we have outlined the numerous identifiable mutual loans between C and G, and provided them with archaeological backgrounds in Section 13.3.2. It is clear from this that a large part of the CG borrowing events took place in the M/LBA and IA. Only one borrowing with an ultimate IE source, i.e. FREE, can be plausibly dated to Stratum I, i.e. the preceding period directly following the divergence from the IE protolanguage as a result of one or several movements toward Europe.<sup>10</sup> A question that presents itself is whether some of the remaining isoglosses – the many pseudo-Indo-Europeanisms such as BOY, MANE, MEDICINE, OATH, RIDE, WOOD, HORSE 1 & 2, SLAUGHTER, RIDGE, SECRET, TIP 1 – can be dated to the EBA or preceding period. The fact is, however, that many of these isoglosses are not just etymologically ambiguous in that they may be IE archaisms – dialectalisms as well as mutual loans – but also chronologically ambiguous, being datable to multiple strata, typically I/II or I/III. Given the amount of evidence that we have analyzed, and since late M/LBA and IA contact is well established, the default explanation for these pseudo-Indo-Europeanisms should be that they are late (Strata II–III) rather than old (Stratum I). There is, in other words, no compelling evidence for the claim that there were intimate linguistic contacts between C and G in the period directly following the departure from the IE language community until the demonstrable linguistic exchange that started from the BA. Admittedly, it is more difficult to identify loanwords the further one goes back in time, as the languages were more similar the closer they were in time to the PIE parent language. Nevertheless, no support can be offered either for the existence of such contacts during or within the third-millennium BCE Bell Beaker network, which connected the precursors of Celtic and Germanic as well as potential non-IE groups along the Atlantic coast under the Celtic from the West hypothesis.

The Bell Beaker maritime network is not the only archaeological context for which the diffusion of linguistic features between these early IE groups can be hypothesized. For the earliest possible Celtic and Germanic contacts, the remarkably persistent coexistence of Bell Beaker and Corded Ware burial customs east of the late-third-millennium Harz mountains provides an equally if not more attractive geographic setting. Here the Corded Ware, after a sustained period of separation, merged into the Bell Beaker culture, which was directly succeeded by the syncretic Únětice culture (Meller 2019), famed for the Nebra sky disk. Since the genomic evidence shows that the

Yamnaya pastoralist components of the Corded Ware and Bell Beaker groups arrived from the Pontic–Caspian steppe by separate migrations (Allentoft et al. 2015; Olalde et al. 2018), the pre-Únětice mixed cultural setting likely formed a linguistic convergence zone for originally divergent Indo-European dialects. However, the scarcity of compelling evidence for Stratum I contact again does not warrant the identification of these dialects as C and G, despite the setting being uniquely suitable for the horizontal exchange of cultural and linguistic features: as with the Atlantic Bell Beakers, the time depth appears unnecessarily great. We may instead assume that some of the shared features of the combined North-West Indo-European languages, Germanic, Balto-Slavic, Italic, and Celtic, which previously have been interpreted as evidence for a post-Indo-European shared sub-clade (cf. Oettinger 1997; 1999), were exchanged at this stage.

### 13.4.1.3 Mechanism 3: Shared Contact with Non-Indo-European Languages

As argued above, a modest amount of lexemes suspected to be non-Indo-European have entered C and G. These words are largely limited to the landscape features WILDERNESS (\**kaito-*/\**haiþ̥-*) and SLOPE (\**glendos-*/\**klinta-*) and indigenous flora and fauna including BADGER, CLOVER, COPSE, HOLLY, LARK, PINE, RUSH, and SHOOT. On the basis of linguistic criteria, the isoglosses CLOVER, COPSE, HOLLY, and PINE must be dated to Stratum I or II, which corresponds to the period between the disintegration of the PIE language community and the formation of the descendant subgroups in their different locations in Europe. Interestingly, the three non-IE dendronyms that we identified among these isoglosses all make use of an *st*-suffix that alternates with an *n*-suffix. This non-IE derivational pattern is best explained by assuming that the areas where Indo-European speakers ancestral to Celtic and Germanic settled were populated by speakers of (dialects of) the same substrate language. This scenario has important implications for the possible areas where Celtic and Germanic prehistoric language communities were located. The easiest way to account for the possibility that one substrate language or at least closely related dialects of this substrate language transferred words to both Celtic and Germanic is that the prehistoric Celtic and Germanic language communities resided not too distantly from each other.

## 13.4.2 On the Celtic Homeland

The Celto-Germanic lexicon may be used to weigh the possibility of an Atlantic origin of Celtic against a Central European origin. Under the “Celtic from the West” hypothesis, in which the Bell Beaker phenomenon plays a central role, Proto-Celtic emerged as a Bronze Age lingua franca of Indo-European-speaking traders during the Atlantic Bronze Age. This sea-based connectivity also reached Scandinavia, and this contact with Scandinavia is how Celtic and Germanic exchanged vocabulary. Hypotheses connecting Proto-Celtic with the

<sup>10</sup> One scenario in which an early Stratum II CGL can be imagined for FREE is by assuming sound substitution of PC \**þ-* to pre-PG \**p-*.



Urnfield and Hallstatt/La Tène cultures imply land-based contact in Germany as the source of the Celto-Germanicisms.

Archaeological evidence for sea-based connectivity should coincide with an exchange of maritime lexicon. The Celto-Germanic lexicon contains the isoglosses ROW, HARBOR, and SAIL and possibly MAST. However, ROW (\**rā*-|\**rōan*-) could be an Indo-European archaism, or alternatively a late Indo-European dialectalism formed just prior to the migration to Western Europe. The combined archaeological and linguistic analysis of the isogloss SAIL (\**siglo*-|\**sigla*-) points to an IA loanword from C to G, sails only becoming common in Scandinavia during the same period. HARBOR (\**kauno*-|\**hafna*-) is clearly of earlier date, i.e., Stratum I or early II, but if it is a mutual loanword, it is most likely to be a G loanword into C, which would be more understandable if Celtic prior to its expansion was a landlocked language. There is nothing in the shared maritime vocabulary, in other words, that suggests a linguistic spread ensuing from the maritime expansion of the mid-third-millennium BCE Bell Beaker identity.

Other parts of the vocabulary confirm this picture. The fact that C and G share the word for OATS (\**korkio*-|\**hagran*-) probably indicates they were close to where the plant was domesticated in Central Europe in the LBA. The *Wanderwort* SILVER is shared by Celtiberian and Germanic, but not by Insular Celtic. This may be taken as an indication that the spread of the West Mediterranean word along the Atlantic coast to Scandinavia predated the Celtic settlement of the British Isles, which again would be easily understandable if Proto-Celtic was still located on the mainland during that time. The isogloss ENCLOSURE (\**dūno*-|\**tūna*-) further constitutes a clear association of Celtic with the LBA hilltop-defended sites, and not with the late Celtic phenomenon of the La Tène *oppida*, as the latter period would be too late for a C loanword to be affected by the G mid-first-millennium BCE sound shift from \**d* to \**t*. These archaeolinguistic indications all point to a Central European location for Proto-Celtic or at least for the Proto-Celtic that can be reconstructed on the basis of the evidence offered by the Insular Celtic languages, and late second- or early first-millennium expansion to the British Isles.

Finally, the shared non-Indo-European vocabulary can be adduced to approximate the pre-Celtic center of dispersal. According to one model, this subcluster of isoglosses could have been absorbed by C and G through the culturally, but not necessarily linguistically and demonstrably not genetically uniform Bell Beaker phenomenon, which straddled a south-to-north continuum between Neolithic farmers and Yamnaya pastoralists (Olalde et al. 2018). A linguistically diverse but culturally homogenous sphere would after all offer highly suitable conditions for the diffusion of non-Indo-European features into Indo-European dialects (and *vice versa*). However, we are not able to find indications for such a scenario in the non-Indo-European elements from our corpus of isoglosses. The isogloss HOLLY (\**kolinno*-|\**hulisa*-) rather demonstrates that C and G formed a northern substrate cluster as opposed to a related but more divergent Mediterranean cluster consisting of Gr. κήλαστρος, Arm. *kostli*, Sard. *colostri*, and Basque *gorostri*. The isoglosses COPSE (\**k<sup>w</sup>resti*-|\**hursti*-) and PINE (\**gisusto*-|\**kizna*-) make use of the same non-IE derivational

components as the ones found in HOLLY, but they too are isolated to North Europe, the only additional link consisting of Proto-Slavic \**xvǫrstb* ‘brushwood, osier’. Scanty as the evidence for non-IE elements remains, the elements that can be identified do not clearly exhibit any direct links to the pre-Indo-European West Mediterranean linguistic landscape (including Basque), and as such offer no direct support for a Bell Beaker-associated linguistic diffusion of non-Indo-European features from Southwest to Northwest and Central Europe. Rather, these features were absorbed in Northern Europe during the period when the different Indo-European dialects that would ultimately develop into C and G settled among local European groups, i.e., Stratum I in our chronology. We may surmise that the impact of any non-IE languages spoken within the Bell Beaker horizon was limited outside Southern Europe, or if any Indo-European dialects were impacted, that they were later superseded by other Indo-European groups.

### 13.4.3 Tentative Chronology of the Strata

Finally, one may tentatively assign an absolute chronology to the linguistic strata by comparing the words exchanged for various cultural and technological innovations with the archaeological record, as one may assume that a word was exchanged when the corresponding concept was exchanged between the language communities. Words whose exchange appears likely in Stratum I include HOLLY and FREE. The likely adoption of originally non-IE vocabulary for the Western European natural environment makes it attractive to date this stratum to the first contact with non-Indo-European speakers in this area in the Early Bronze Age. Celto-Germanicisms positively attributable to this stratum are scarce. Vocabulary positively identifiable to Stratum II includes KING, LEATHER, ENCLOSURE, LEECH, and JESTER. On the basis of these words, one may identify a shared shift toward more stratified and sedentary societies. These shifts are well attested in the Middle to Late Bronze Age. It follows that the sound laws leading up to Proto-Celtic, e.g. PIE \**ē* > PC \**ī*, PIE \**p* > PC \**φ*, may be dated to this period at the latest. Stratum III borrowings such as BREAST(-PLATE), IRON, LEAD, and SAIL must postdate these Iron Age inventions, so the Germanic consonant shifts that define Stratum III can be dated to the beginning of the Iron Age.

#### Linguistic Abbreviations

Arm.: Armenian, Av.: Avestan, B: Breton, Celtib.: Celtiberian, CG: Celto-Germanic, Celto-Germanicism, Co.: Cornish, dial.: dialectal, Dor.: Doric, Du.: Dutch, G: German, Gaul.: Gaulish, Go.: Gothic, Gr.: Greek, Hes.: Hesychius, Hitt.: Hittite, Icel.: Icelandic, IE: Indo-European, Ir.: Irish, Lat.: Latin, Latv.: Latvian, Lith.: Lithuanian, MB: Middle Breton, MCo.: Middle Cornish, MDu.: Middle Dutch, ME: Middle English, MFr.: Middle French, MHG: Middle High German, Mir.: Middle Irish, MLG: Middle Low German, MW: Middle Welsh, N: Norse, NFri.: North Frisian, Nw.: Norwegian, OB: Old Breton, OCo.: Old Cornish, OCS: Old Church Slavonic, OE: Old English,

OFr.: Old French, OFri.: Old Frisian, OHG: Old High German, OIcel.: Old Icelandic, OIr.: Old Irish, OLFra.: Old Low Franconian, ON: Old Norse, OPr.: Old Prussian, OS: Old Saxon, OSw.: Old Swedish, OW: Old Welsh, PBr.: Proto-Brittonic, PC: Proto-Celtic, PG: Proto-Germanic, PIE: Proto-Indo-European, Pit.: Proto-Italic, Prim.: Primitive, PSI.: Proto-Slavic, Ru.: Russian, ScG: Scottish Gaelic, SCr.: Serbo-Croatian, Skt.: Sanskrit, Sw.: Swedish, To: Tocharian, W: Welsh, WFri. West Frisian

### Archaeological Abbreviations

EBA: Early Bronze Age, MBA: Middle Bronze Age, LBA: Late Bronze Age, IA: Iron Age

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## 13.6 Appendix

### 13.6.1 Onomastic Material

Onomastic material discussed in previous articles not discussed here comprises the following instances: the British tribal name *Coriono-tōtae* and ON *Herjann* (epithet of Óðinn) < PG *\*harjana-* ‘?army commander’ (H3), PC *\*nerto-* ‘strength’ and the Germanic theonyms *Nerthus*, ON *Njǫrðr* (H10), the Celto-Lat. place-name *Hercynia Silva* and PG *\*fergunja-* ‘mountain’ (L251), names formed as PC *\*uiro-kwū* (OIr. *Ferchú*) and PG *\*wera-wulfā-* ‘werewolf’ (H9, Koch 13), PC *\*magos-* ‘field’ and Austrian place-name *Mach-land* (L253), Gaul. place name *Vesontio* and PG *\*wisund-* (L253), the *-bona* and *-lanum* suffix in e.g. the place names *Bonn*, *Milan* (Kr126), river names such as the *Rhine*, *Meuse*, *Waal*, *Glane*, *Main*, *Danube* and river names ending in *-apa* (Kr128–131, Schmidt 1991 145), OIr. *fili* ‘seer, diviner’ and the name of a Germanic seer *Veleda* (Kr139).

### 13.6.2 Compelling Celto-Germanicisms

#### AXE

- PC: *\*beiatli-* (OIr. *biall*, W *bwyall*, MCo. *boell*, MB *bouhazl* ‘axe’)
- PG: *\*biþla-* (ON *bíldr* ‘knife for bloodletting’, MDu. *bijl*, OHG *bīhal* ‘axe’)
- REF: EDPG 66, Ko9
- Isogloss typology: SM
- Interpretation: IE(?) (0)

An instrumental noun to the PIE verbal root *\*b<sup>h</sup>eiH-* ‘to strike’, cf. OIr. *benaid* ‘to strike, hit’, MB *benaff* ‘to cut’ < *\*b<sup>h</sup>i-neH-*, OCS *biti* ‘to beat’, Icel. *bjá* ‘to fight, struggle’ < *\*b<sup>h</sup>(e)iH-*. This formation is rather trivial and shared with Slavic *\*bidlo* ‘hammer, pole’, which makes the isogloss formally nonexclusive, but the specific meaning ‘knife, axe’ is uniquely CG. Borrowing between the branches can be excluded given the vocalization of the laryngeal in C as opposed to G.

#### BADGER

- PC: *\*tazgo-*, *\*tasko-* (Mlr. PN *Tadg* (king with badger as totem), Gaul. PN *Tascos*, Fr. dial. *taisse*, Sp. *tejon* ‘badger’)
- PG: *\*pahsu-* (MDu. *das*, MHG *dahs* ‘badger’)
- REF: EDPC 372, EDPG 531
- Isogloss typology: LX
- Interpretation: 3L (I-II)

A CG *\*tasC-* may be reconstructed; the multiple reflexes of medial consonant cluster in *\*-sk-/-zg-/-ks-* may point to a substrate borrowing; a dissimilation against the initial *\*t-* in Goidelic proposed by EDPC is ad hoc.

#### BADGER(HOUND)

- PC: *\*brokko-* (Mlr. *brocc*, W *broch*, MB *broc’h*, OCo. *broch* ‘badger’)
- PG: *\*brakkan-* (OHG *bracko* ‘hound’)
- REF: IEW 108-109, EDPC 80, EDPG 74
- Isogloss typology: LX
- Interpretation: CGL (III)

The *n*-stem in Germanic may be understood as an agent suffix, so the original meaning in Germanic appears to have been ‘badger-er, badger-hound’, which is paralleled by German *Dachshund*, lit. ‘badger-dog’. If the Germanic word was borrowed from Celtic, it may have happened after the major consonant shifts, but before the change *\*o > \*a*.

#### BOY

- PC: *\*magu-* (OIr. *mug* ‘slave, servant’, W *meu-dwy* ‘hermit < servant of God’, MCor. *maw* ‘lad’, B *mau* ‘happy, active’)
- PG: *\*magu-* (Go. *magus* ‘boy’, OE *magu* ‘child, son’)
- REF: L259, Kr135–136, Boutkan 2003, EDPC 274, H39, EDPG 347, Panaino 2016, Ko13
- Isogloss typology: MO
- Interpretation: GCL (III)

A Celto-Germanic *\*mag<sup>h</sup>-u-* may be reconstructed. Prim. Ir. *MAQQI*, OIr. *macc* ‘son, boy’ and W, B, Co. *map*, *mab* ‘son’ may be related, although the root-final consonant differs; they project back to PC *\*makk<sup>wo</sup>-* and *\*mak<sup>wo</sup>-/\*magg<sup>wo</sup>-*, respectively. The combination of matching semantics and differing root-final consonants might be indicative of borrowing from a substrate language. However, in view of PG *\*mag-abi-* ‘girl’ (Go. *magaps*, OE *mæg(e)ð*, OHG *magad*) the *u*-stem appears to have been created in G, and therefore native in this branch. OIr. *macc-dacht* ‘young full-grown’, OCo. *mahtheid* ‘virgo’, W *machdaith*, B *matez* ‘servant-girl’ are unrelated; the OIr. consists of *macc* ‘son, boy’ derived with adjectivalizing *-dae* and the abstract suffix *-acht*, while the Brittonic forms are rather compounds of PC *\*makko-* ‘surety’ and *\*tixtā* ‘(female) who travels’, cf. OIr. *techt* ‘messenger’. The Av. hapax *mayava-* ‘unmarried’ is corrupt.

#### BREAST(PLATE)

- PC: *\*brunnio-* (OIr. *bruinne* ‘breast’, W *brynn* ‘hill’)
- PG: *\*brunjōn-* (Go. *brunjo* ‘breastplate’, ON *brynja*, OE *byrne*, OS *brunnia*, OHG *brunja* ‘coat of mail’)
- REF: L264, EDPG 80
- Isogloss typology: MO
- Interpretation: CGL (III)

The Celtic is from PIE *\*b<sup>h</sup>rus-n-io-* and borrowing into Germanic must follow PIE *\*-sn- > -nn-* in Celtic. Internally in Celtic, it is derived from PC *\*brusū > OIr. brú*, gen.sg. *\*brus-n-os > \*brunnos > OIr. bronn* ‘belly, womb’. For the mismatch between C *-nn-* and Germanic *-n-*, cf. PC *\*granno-* and PG *\*granō-*.

**BREECHES**

PC: \*brākā (Gallo-Lat. *brācae*, *brācēs*, Gallo-Gr. pl. βράκας ‘trousers, breeches’)

PG: \*brōk- (ON *brōk* ‘leg of a pair of breeches’, pl. *brækr* ‘breeches’, OE *brōc* ‘behind, breech’, OFri. *brēk* OHG *bruoh* ‘trousers’)

REF: L264, Kr141, Pl284, Schm143, Stifter 2009 275-277, Kroonen 2012, EDPG 74

Isogloss typology: LX

Interpretation: L (III)

The consonantism suggests borrowing after Grimm’s law, although the direction of the borrowing is difficult to establish. Early loanwords are sometimes borrowed as root nouns in G, which may tip the balance in favor of a C origin. The word is unattested in Insular Celtic, however.

**BRISTLE**

PC: \*granno- (Mir. *grenn*, MW *grann* ‘beard, chin, cheek’, Provençal *gren* ‘mustache’ < Gaul.)

PG: \*granō- (Go. (Isidor, *Origines* XIX.23.7) *granos* ‘?’, ON *grōn* ‘hair of the beard; spruce’, OE *granu* ‘mustache’, OHG *grana* ‘hair of the beard’)

REF: IEW 440, H91

Isogloss typology: LX

Interpretation: CGL (III)

An almost complete formal and semantic match. Celtic and Germanic only differ in the length of the nasal, which could be a feature of borrowing, cf. PC \*brunnio- >> PG \*brunjō- ‘breast plate’ after the C change \*-sn- > \*-nn- and the PG sound shifts.

**CLOVER**

PC: \*semmVr- (OIr. *semar* ‘clover, shamrock’)

PG: \*smēran- (Icel. *smári* ‘clover’), \*smērjōn- (Icel., Far. *smæra*, Nw., Da. *smære*, Sw. dial. *smäre* ‘clover’)

REF: Schrijver 1997, 304, EDPG 457

Isogloss typology: LX

Interpretation: 3L (I)

A single CG proto-form cannot be reconstructed, but the precise semantic match and the identical consonantal skeleton nevertheless make a connection compelling. The variation in vowel placement between Celtic \*sVm- and Germanic \*smV-r requires an explanation. In Proto-Indo-European terms a doublet can be reconstructed as \*semh<sub>1</sub>-r- vs \*smeh<sub>1</sub>-r-, but the implied *Schwebeablaut* remains problematic, which makes this isogloss a candidate for a shared loan from a third language. A root \*smh<sub>1</sub>-r bears a remarkable resemblance to Georgian *sam-q’ura*, which synchronically can be analyzed as a compound of *sam* ‘three’ + *q’ur* ‘ear, handle’ (cf. Lat. *trifolium* ‘three-leaf’). This resemblance, however, may be coincidental.

**COAL**

PC: \*goulo- (Mir. *gúal* ‘coal’)

PG: \*kula- (ON *kol*, OE *col*, OHG *kol* ‘coal’)

REF: L252, EDPC 165, H93, EDPG 309, Stifter 2018, Ko8

Isogloss typology: SM

Interpretation: IE(?) (0)

Both the C and G formations can be related to the PIE root \*guelH- ‘to burn’, cf. Skt *jvālati* ‘burns’, but they uniquely show the meaning ‘coal’. The Celtic vocalism is unexpected, but may represent a secondary full grade. Stifter, on the other hand, suggests a reduplicated formation PC \*guglo- or \*goglo- from the root \*g<sup>h</sup>leh<sub>3</sub>- ‘to glow’, which is incompatible with PG \*kula-.

**COPSE**

PC: \*k<sup>w</sup>resti(o)- (W *prys(g)* ‘copse, grove’ (>> ScG *preas* ‘bush, shrub, thicket’))

PG: \*h(w)ursti- (OE *hyrst*, OS *hyrst*, OHG *hurst* ‘crest, copse’)

REF: IEW 633, EDPC 181

Isogloss typology: LX

Interpretation: 3L (I-II)

A CG \*k<sup>w</sup>r(e)sti- may be posited. If the PSI. \*xvorstb, OCS *xvrastije*, Ru. *xvórost* ‘brushwood, bush’ is somehow connected, it would be a non-Indo-European loanword with a wider distribution than just Celtic and Germanic. A further connection may exist within Celtic: PC \*k<sup>w</sup>renno- < \*k<sup>w</sup>res-no(?), cf. Gaul. *prennen*, OIr. *crann*, W, B *prenn*, Co. *pren* ‘tree, wood’.

**COVER**

PC: \*tog-ī- (OIr. *tuigithir* ‘covers’)

PG: \*bakjan- (ON *þekja*, OE *þeccan*, OS *bi-thekkia*, OHG *decken* ‘to cover’)

REF: L263, IEW 1013-1014, EDPC 376, EDPG 531-532

Isogloss typology: MO

Interpretation: IE (0)

Celtic and Germanic uniquely share a formation \*tog-eie- of the PIE root \*(s)teg-, cf. Lat. *tegere* ‘to cover’. This may be a causative-iterative formation inherited from PIE. Assuming independent creations seems less likely in view of the isolation of the verbal root in C and G.

**CROOKED**

PC: \*krumbo- (Mir. *cromm*, W *crwm*, B *kromm*, Co. *crom* ‘bent, curved, crooked’)

PG: \*krum(b/p)a- (OE *crump*, OS *krumb*, OHG *krumpf* ‘bent, crooked’)

REF: EDPC 227, EDPG 307

Isogloss typology: MO

Interpretation: GCL (III-IV)

The Celtic words are probably borrowed from Germanic and not vice versa, because the Germanic adjective may belong in a cluster with PG \*krimpan- ‘to shrink’. Formally, the borrowing may have been post-PG, but the widespread distribution within Celtic makes prehistoric borrowing likely.

**CUT**

PC: \*snad-o- (OIr. *snaidid* ‘cuts, chips, hews, carves’, W *naddu* ‘to chip, cut’)

PG: \*snadwō- (OHG *snatta* ‘weal, scar’)

REF: L262, IEW 972-973, KPV 594-5, EDPC 348, H62

Isogloss typology: RT

Interpretation: IE? (0), L (I)

A CG *\*snadh-* may be reconstructed. The G suffix *\*-wō-* looks archaic, making late borrowing into Germanic unlikely, as does the difference in usage as a verb and noun in C and G, respectively.

#### DARE

PC: *\*n(e/a)nti-* (OIr. *néit* ‘battle’)  
 PG: *\*ninþan-* (OHG *gi-nindan* ‘to dare’), *\*nanþjan-* (Go. *ananþjan* ‘to dare, take courage’, ON *nenna* ‘to be willing’, OE *nēðan* ‘to have courage, dare’)  
 REF: L248, EPDC 283, H40, EDPG 383, 391  
 Isogloss typology: RT/MO  
 Interpretation: IE? (0)

A CG root *\*nent-* may be adduced. The root connection with ToA *nati* ‘might, strength’, ToB *nete* ‘power’ is uncertain and hinges on the CG root being reduplicated *\*ne-nt*. Even then, a morphological Celto-Germanicism remains.

#### DEBT

PC: *\*dlig-o-* (OIr. *dligid* ‘is entitled to, is owed’, W *dilyaf* ‘to be obliged, owe, ought’, B *dleout* ‘should’)  
 PG: *\*dulga-* (Go. *dulgs* ‘debt’)  
 REF: L245, Kr136, KPV 281-3, EDPC 101, Pronk-Tiethoff 2012, 142, EDPG 108  
 Isogloss typology: RT  
 Interpretation: IE? (0), L (I)

A CG root *\*dʰlgʰ-* may be reconstructed, whose root structure conforms to Indo-European root constraints. Despite its lexical isolation, it must be old in view of the regularity of vocalization of the resonant in both branches. Outside of Germanic and Celtic, the word is found in Slavic, cf. OCS *dlъgъ*, Ru. *dolg*, SCr. *dûg* ‘debt’. However, the Slavic word appears to have been borrowed from Germanic in view of dial. Bulgarian *dālg*, *dlāg* ‘debt’, which must go back to a borrowed PSI. *\*dʰlgʰ* with a back yer (an inherited front yer would be expected to yield an occasional palatal reflex in South Slavic, as it does in PSI. *\*dʰlgʰ* ‘long’ > Bulgarian *dlek*, *dlik* beside *dālg*, *dlāg*). The Slavic accent paradigm, C instead of expected A, may be due to adoption of the word by Slavic as a mobile *u*-stem. B *dellit* ‘to merit’ adduced by Lane is unrelated.

#### DISTANT COUSIN

PC: *\*kom-neþot-* (MW *keifn*, W *caifn* ‘third or distant cousin’, MB *quifniant* ‘distant cousin’), *\*kom-neþtī-* (W *cyfnither*, MB *queniteru* ‘first cousin (female)’)  
 PG: *\*ga-nefan-* (OE *ge-nefa* ‘nephew; son of a cousin’)  
 Isogloss typology: MO  
 Interpretation: IE (0), L (I)

A CG compound *\*kom-nepot-* may be reconstructed. However, since the prefix *\*kom-* may have been productive in kinship terms, cf. Lat. *con-sobrīnus* ‘mother’s sister’s son, cousin’ < *\*kom-suesr-iHno-*, independent formation in Celtic and Germanic cannot be excluded.

#### ENCLOSURE

PC: *\*dūno-* (OIr. *dún*, W *din*, OB *din*, Co. *dyn* ‘fort’)  
 PG: *\*tūna-* (ON *tún* ‘enclosure, home field, town’, OE *tūn* ‘yard; town’, OFri. *tūn* ‘fence, enclosure’, MLG *tūn* ‘fence’)

REF: L247, Kr124, 140, IEW 261-267, PI283, EDPC 108, H51, EDPG 526, Ko12  
 Isogloss typology: MO  
 Interpretation: CGL (II)

The C is from PIE *\*dʰuH-no(s)-*, which is perhaps related to Lat. *fūnus, -eris* ‘burial’ < ? ‘mound’. It was probably borrowed from Celtic into Germanic before the G consonant shifts. G probably preserves the original semantics, which means the meaning ‘fort’ must have arisen late within Celtic.

#### FAT

PC: *\*tegu-* (Mlr. *tiug* ‘thick, dense, solid’, W *tew*, B *tev* ‘fat’)  
 PG: *\*þeku-* (ON *þykkir*, OE *þicce*, OHG *dicki* ‘fat, thick’)  
 REF: L263, IEW 1013-1014, EDPC 377, EDPG 537  
 Isogloss typology: MO  
 Interpretation: IE? (0)

A shared and possibly archaic formation *\*tegu-* may be posited, a formally and semantically perfect isogloss consisting of a *u*-stem adjective exclusively found in Celtic and Germanic. It has been suggested that the meaning ‘dense, thick’ developed from ‘to cover’ in view of the potential formal link with *\*teg-* ‘to cover’. However, in view of semantic parallels such as G *dicht machen* ‘to seal, close’, the meaning ‘dense, tight’ may be archaic.

#### FATHOM

PC: *\*þatamV-* (W *edef*, pl. *adafedd* ‘thread, yarn’, and with secondary palatalization, ScG *aitheamh* ‘fathom’)  
 PG: *\*fapma-* (ON *faðmr*, OE *fæðm*, OHG *fadam*, *fadum* ‘fathom’, OS *fathmos* ‘two stretched arms’)  
 REF: L248, IEW 824-825, Bjorvand & Lindeman 2000, 248-249, H84, EDPG 132  
 Isogloss typology: MO  
 Interpretation: IE (0)

The Welsh paradigm of *edef*, pl. *adafedd* points to PC *\*þatamī*, pl. *\*þatamiīās*, although some remodeling of the *i*-affection in the singular must be proposed; the expected MW form is *\*\*edeif*. ScG *aitheamh* points to PC *\*þatimā* if taken at face value, but it is possible that that the palatalization is secondary. Hence a common PC form *\*þatamV-* may be reconstructed. This may be compared to PG *\*fapma-* < *\*poth<sub>2</sub>-mV-*, to PIE *\*peth<sub>2</sub>-* ‘to spread (the arms)’. For the meaning ‘thread’ in W, cf. G *Faden*.

#### FEAR

PC: *\*āg-ī-* (OIr. *-āgadar* ‘fears’)  
 PG: *\*agan-*, 3sg. pret.-pres. *\*ōge* (Go. *ogan* ‘to fear’)  
 REF: L257, KPV 206-10, LIV<sup>2</sup> 257, EDPC 26, EDPG 3  
 Isogloss typology: MO  
 Interpretation: IE (0)

Both branches continue a reduplicated perfect form of *\*h<sub>2</sub>egʰ-* with the shared meaning ‘fear’ as opposed to e.g., Gr. ὄχυνμα ‘I am sad’. It is uncertain whether the shared reduplication is significant: reduplication is the expected form of perfects in PIE, so this may well be archaic. The assumption of an archaism is further supported by the Germanic verb being a preterite-present, an otherwise moribund category.

**FIERCE**

PC: \**abro-* (Mlr. *abar-*, *amar-*, W *afī-* ‘very’)  
 PG: \**abra-* (Go. *abrs* ‘great, severe’, ON *afār-* ‘very, exceedingly’)  
 REF: L258, IEW 2, EDPG 1  
 Isogloss typology: LX  
 Interpretation: IE? (0), CGL (I/III), GCL (I-III)

A CG \**ab<sup>h</sup>ro-* or \**apró-* may be reconstructed, perhaps from PIE \**h<sub>2</sub>ep-ró-* (cf. Skt. *ápāra-* ‘posterior, later; extreme, strange’ < \**h<sub>2</sub>ep-ero-*). This could be an early shared innovation or borrowing at any stage. The word is attested as a free lexeme only in Germanic, which could mean it may have spread from here. The connection, as suggested by Lane, between the Germanic and Ir. *óbar*, *úabar* ‘vanity’, W *ofer* ‘worthless, vain’, B *euver* ‘bland’ < PC \**aubero-* is formally impossible.

**FIGHT**

PC: \**uik-o-* (OIr. *fichid*, W *amwyn* ‘to fight, contend, seize’)  
 PG: \**wihan-* (Go. *waihan\**, *weihan*, ON *vega*, OE *wīgan*, OHG *wīgan* ‘to fight, do battle’)  
 REF: L247, Kr136, IEW 1128, KPV 683-8, LIV<sup>2</sup> 670, EDPC 421, H35, EDPG 586, Ko10  
 Isogloss typology: MO  
 Interpretation: IE (0)

Celtic and Germanic uniquely share a zero-grade thematic present of the PIE stem \**ueik-*. This so-called *tudāti*-verbal type is moribund in Germanic, so the CG formation is likely to be archaic. The meaning ‘to fight’ is Celto-Germanic, but Lat. *vincō* ‘win, conquer’ appears close enough to dismiss a semantic isogloss, especially in light of W *amwyn*, which may mean ‘to seize’ as well as ‘to fight’.

**FLOOR**

PC: \**φlāro-* (OIr. *lár* ‘ground, surface, middle’, MW *llawr*, B *leur* ‘floor, ground’)  
 PG: \**flōra-* (ON *flórr* ‘floor of a cowshed’, OE *flōr* ‘floor’, OHG *fluor* ‘field’)  
 REF: L250, Kr140, IEW 805-807, Pr119, EDPC 132, H82, EDPG 148, Ko12  
 Isogloss typology: MO/SM  
 Interpretation: IE (0), L (I)

Celtic and Germanic uniquely expand the PIE root \**pleh<sub>2</sub>-* ‘flat; to spread’ with \**-ro-* to create the meaning ‘floor’.

**FORK**

PC: \**gablo/ā-* (OIr. *gabul* ‘fork; forked beam, rafter; thighs’, W *gafl* ‘fork; lap, groin’, B *gaol* ‘fork, bifurcation; crotch’)  
 PG: \**gablō-* (OHG *gabala*, OE *geafol* ‘fork’)  
 REF: L249, IEW 409, Lubotsky 1988, 142, EDPC 147, H81  
 Isogloss typology: MO  
 Interpretation: CGL (I, III), GCL (III)

On the one hand, PC \**gablo/ā-* can technically be derived from the European root \**g<sup>h</sup>ab<sup>h</sup>-* or \**g<sup>h</sup>Hb<sup>h</sup>-* ‘to grasp’ with an *l*-suffix, which would imply that it was native in that branch and borrowed by G. This root is comparatively well attested in Celtic in e.g., PC \**gab-i-* ‘to grasp, take hold of’. On the other

hand, it is not certain that PG \**gabla-* ‘fork’ can be separated from ON *gafl* ‘gable, gable-end’ < \**gabla-* and the closely related Go. *gibla* ‘gable, pinnacle’ (etc.) < \**geblō-*, which derive from PIE \**ǵ<sup>h</sup>eb<sup>h</sup>h<sub>2</sub>-l-*, cf. ToA *śpāl* ‘head’, Gr. κερφαλή ‘head, top’. The original meaning could, for instance, have been ‘pitched beam’. This would rather suggest that the borrowing occurred in the opposite direction (after G \**o* > *a*).

**FREE**

PC: \**φriio-* (W *rhydd*, OCo. *rid* ‘free’)  
 PG: \**frī(j)a-* (Go. *freis*, OE *frēo*, OHG *frī* ‘free’)  
 REF: L246, Kr136, Pr119, Pl282, Schm143, Schu177, EDPG 141, H30, EDPG 155, Ko12  
 Isogloss typology: SM  
 Interpretation: IE(?), CGL (I)

CG semantic shift to ‘free’ from PIE \**priH-o-* ‘dear’; the original meaning is found in Skt *priyá-* ‘dear’. Since G preserves the original meaning in the cluster of \**frī(j)ōn-* ‘to love’, \**frī(j)ōnd-* ‘friend’ (see FRIEND), while the word is isolated in Celtic, it seems more likely that the semantic shift took place in C than in G. This could point to an early borrowing from C to G at a stage when C had not yet lost the initial labial (Stratum I or early II).

**FRUIT**

PC: \**agronā* (W *aeron* ‘berries’)  
 PG: \**akrana-* (Go. *akran* ‘fruit’, ON *akarn*, OE *æcern*, MHG *ackeran* ‘acorn’)  
 REF: EDPC 27, EDPG 18  
 Isogloss typology: MO  
 Interpretation: IE? (0), L (I-II)

The shared formation \**agrono/eh<sub>2</sub>-* seems to consist of an unknown element \**agr-* (PIE \**h<sub>2</sub>eǵ-ro-* ‘field; wild?’) and a suffix \**-on-*. This suffix appears to have enjoyed some productivity in G berry and tree fruit names, cf. ON *aldin* ‘acorn’ < \**aldana-*. In C we may see an originally neuter plural of the same suffix (\**-on-eh<sub>2</sub>-*) in collective use, cf. Go. *ahana* ‘chaff’, Lat. *agna* f. ‘ear of grain, straw’ < \**h<sub>2</sub>ek-on-eh<sub>2</sub>-*. Lith. *uoga*, Russ. *jágoda* ‘strawberry’ may have a root connection to these words, but represent dissimilar formations. The formation is further reminiscent of PC \**agrīnio-* (OIr. *áirne*, W *eirin*, B *irin* ‘sloe(s)’).

**HARBOR**

PC: \**kauno-* (Mlr. *cián* ‘harbor, bay’)  
 PG: \**hafnō-* (ON *hafn*, OE *hæfen*, MLG *havene* ‘harbor, bay’)  
 REF: L254, Pr120, EDPC 197, H36, EDPG 196, 240, Ko8, Stifter (this volume)  
 Isogloss typology: MO/LX  
 Interpretation: IE? (0), L (I)

A CG formation \**k(a/o)p-no/eh<sub>2</sub>-* may be reconstructed. This may be a shared derivational innovation, provided that the connection with PIE \**keh<sub>2</sub>p-* ‘to take’ is accepted, but the semantic link is unclear. Within G it is possible to connect ON *haf*, OE *hæf*, OFri. *hef* ‘sea, lake’ < \**kh<sub>2</sub>p-o-*, MHG *habe* ‘harbor, haven, sea’, Swi. G. *Hab* ‘harbor’ < \**kh<sub>2</sub>p-éh<sub>2</sub>-* and ON *hóp* ‘small bay’ < \**ke/oh<sub>2</sub>p-nó-*, which makes it appear native at least within this branch.



## HAYSTACK 1

PC: \**krouko-* (?Lus. top. *crougo-/crouco-*, Mlr. *crúach* ‘stack (of corn), rick, heap, hill’, W *crug* ‘hillock, cairn, heap’, B *krug* ‘haystack’, OCo. *cruc gl. collis*)  
 PG: \**hrauka-* (ON *hrauk*, OE *hrēac* ‘stack, haycock, rick’)  
 REF: L260, IEW 938, EDPC 226, Kroonen 2011, 268-270, EDPG 243  
 Isogloss typology: MO  
 Interpretation: GCL (III)

The various ablaut grades and Verner and Kluge variants in PG \**hrūha-* (ON *hró* ‘hillock’), \**hrūgōn-* (ON *hrúga* ‘pile’), \**hrukan-* (ON *hroki* ‘pile’), and \**hrukka-* (MDu. *rock* ‘haystack’) show that the word has some pedigree in this branch. It therefore appears borrowed into C with [xr] adopted as C \**kr-*, but there is only a narrow time window during which borrowing of \**hrauka-* could have resulted in PC \**krouko-*, i.e., after the sound shifts (including the simplification of geminates in overlong syllables), but before the change \**o* > \**a*. A further connection with Lat. *crux* ‘tree, frame, cross’ is semantically unconvincing.

## HAYSTACK 2

PC: \**dassi-* (OIr. *daiss*, W *das* ‘heap, stack’)  
 PG: \**tassa-* (MDu. *tas*, *tasse*, MLG *tas* ‘haystack’)  
 REF: Falileyev 2000, 40, Kroonen 2011, 227-228  
 Isogloss typology: MO/SM  
 Interpretation: CGL (II)

A CG \**dassV-* may be posited. It is possible to derive both from a PIE root \**deH-*, cf. Skt. *dāti* ‘mows, cuts off (plants)’. It is possible that PC \**dassi-* continues \**dh<sub>2</sub>-sti-*, and that G borrowed this word after C \**-st-* > \**-ss-*. ON *des* ‘haystack’ is probably a borrowing from Old Irish.

## HEDGE

PC: \**kagio-* (W *cae*, B *kae*, Co. *ke*, Gaul. (Endlicher) *caio* ‘hedge, fence’)  
 PG: \**hagja-* (ON *heggr* ‘bird cherry’), \**hagjō-* (OE *hecg*, OHG *heckia*, *heggia* ‘hedge, fence’)  
 REF: L249, IEW 518, EDLI 99, 123, EDPC 184, H33, EDPG 198  
 Isogloss typology: LX/MO  
 Interpretation: L (I), GCL (II)

A Celto-Germanic shared formation \**kag<sup>h</sup>-io/eh<sub>2</sub>-* with a Celto-Germanic meaning ‘hedge’ may be inferred, which may be related to the verbal root \**kag<sup>h</sup>-* as found in W *cael* ‘to get’, Oscan *kahad* ‘takes’.<sup>11</sup> In G this base is derivationally more deeply rooted than in C, cf. PG \**haga(n)-* ‘enclosure; hedge’ (ON *hagi*, OE *haga*, OS *hago*, OHG *hag*), but borrowing from G into C is phonologically problematic. Lat. *caulae* ‘railing or lattice barrier’, if from \**kag<sup>h</sup>-ela* (with diminutive suffix?), is compatible with the latter variant, but the connection is formally less straightforward than the one with C. A further possible connection is Alb. *thanë* ‘cornel; winter stall for sheep’

<sup>11</sup> In Celtic the root has been connected to W *caer* ‘fortress’, B *kêr* ‘town’, but these words may be borrowings from Lat. *castrum* ‘fort’ (SBCHP 447-8).

< \**ka/o(C)-neh<sub>2</sub>-*, which is formally and semantically close to PG \**hag(V)na-* ‘briar, fencing’. If correct, it would give the CG formation a non-exclusively CG derivational base, but the root-final consonant of the Albanian form is obscured by the contiguous nasal.

## HE-GOAT

PC: \**bukko-* (OIr. *boc*, W *bwch*, B *bouc<sup>h</sup>*, OCo. *boch* ‘he-goat’)  
 PG: \**bukka(n)-* (ON *bokkr*, *bukkr*, OE *bucca*, OHG *bock* ‘he-goat’)  
 REF: L264, Schu174-175, EPDC 83, EDPG 82  
 Isogloss typology: MO  
 Interpretation: GCL (III)

The Germanic is inflected as an *n*-stem and may go back to PIE \**b<sup>h</sup>uǵ-ōn*, gen. \**b<sup>h</sup>uǵ-n-ós*, cf. YAv. *būza-* ‘he-goat’ < \**b<sup>h</sup>uǵ-o-*. The Celtic must have been borrowed from Germanic after the operation of Kluge’s law.

## HILLTOP

PC: \**dūno-* (OIr. *dún*, W *din*, OB *din*, Co. *dyn* ‘fort’)  
 PG: \**dūna-* (OE *dūn* ‘hill’, E *down* ‘rolling hill, dune’, Du. *duin* ‘dune’)  
 REF: IEW 261-267  
 Isogloss typology: MO  
 Interpretation: CGL (III-IV)

A shared \**d<sup>h</sup>uH-no-* may be adduced. IEW connects this formation with a root \**d<sup>h</sup>ueh<sub>2</sub>-* ‘to blow’, but OIr. *doé* ‘wall, mound’ < \**d<sup>h</sup>uH-io-* provides a better intra-Celtic etymology. In view of ON *dúnn* ‘feather down’ being the native G outcome of a PIE \**d<sup>h</sup>uh<sub>2</sub>-no-*, it is likely that (W)G \**dūna-* was borrowed from Celtic in Stratum III or IV. Stratum I borrowing is formally possible, but fails to account for its restriction to West Germanic. For an earlier borrowing, see PC \**dūno-* ~ PG \**dūna-* ‘enclosure’.

## HOLLY

PC: \**kolinno-* (Ir. *cuilenn*, W *celyn*, MB *queleunnenn* (sglt.) ‘holly’)  
 PG: \**hulisa-* (MDu. *huls*, OHG *hulis*, *huls* ‘holly’)  
 REF: EDPC 213, H19, EDPG 253  
 Isogloss typology: MO  
 Interpretation: 3L (I)

H proposes that PC and PG share a PIE root \**kel-*, which shifted in meaning from ‘sharp, prickly’ to ‘holly’. EDPG suggests a substrate origin, which is supported by words found in the Mediterranean: Basque *gorosti*, Sard. *golosti*, *colostri*, Gr. κήλαστρος, Arm. *kostli*. The geminate in PC \**-nn-* may be from \**-sn-* (the geminate \**-nn-* is confirmed by Middle Breton). In that case, the Celtic and Germanic forms uniquely share the element \**-is-* as opposed to *-Vst(r)-* in the South European languages.

## HORSE 1

PC: \**marko-* (Mlr. *marc*, W *march*, B *marc<sup>h</sup>*, OCo. *march*, Gaul. *markan* (acc. sg.) ‘horse’)  
 PG: \**marha-* (ON *marr*, OE *meahh*, OFri. *mar*, OHG *marh*, *marah* ‘horse, stallion’)

REF: L253, Kr140, IEW 700, Pl284, EDPC 257, H74, EDPG 354, Ko8  
 Isogloss typology: LX  
 Interpretation: L (I-II)

A word *\*marko-* may be reconstructed. It is uniquely shared between Celtic and Germanic within IE.

### HOSTAGE

PC: *\*geisslo-* (OIr. *giáll* ‘hostage’, W *gwystl*, B *gouestl* ‘surety, hostage, pledge’)  
 PG: *\*gīsla-* (ON *gisl*, OE *gīsel*, OFri. *jēsel-*, OS *gīsal*)  
 REF: L248, IEW 426-427, Pl283, Schm140, EDPC 159, H50, EDPG 179, Ko13  
 Isogloss typology: MO  
 Interpretation: CGL (I, III)

A CG *\*g<sup>h</sup>eisslo-* may be reconstructed, perhaps from PIE *\*g<sup>h</sup>eid<sup>h</sup>-tlo-*, from PIE *\*g<sup>h</sup>eid<sup>h</sup>-* ‘to desire’. Celtic also has the word in the zero grade: OIr. *gell*, *gill* ‘pledge’ (< PC *\*gisslo-*), meaning the word is likely to be Celtic in origin if borrowed into Germanic.

### INHERITANCE

PC: *\*orbio-* (OIr. *orbae* ‘inheritance, legacy’)  
 PG: *\*arbja-* (Go. *arbi*, OE *ierfe*, OFri. *erve* ‘inheritance, patrimony’, ON *erfi* ‘ritual burial celebration’)  
 REF: L246, Kr136, IEW 781-782, Pr121, Pl283, Schm143, EDHIL 311, EDPC 299, H23, EDPG 33, Ko12  
 Isogloss typology: MO  
 Interpretation: IE (I), ML (I), GCL (II)

From the PIE root *\*h<sub>3</sub>erb<sup>h</sup>-* ‘to change allegiance, status’, cf. Hitt. *ḫarp-* ‘id’. The formation *\*h<sub>3</sub>orb<sup>h</sup>-io-* is CG. Germanic and Celtic also share a morphologically and semantically identical formation *\*h<sub>3</sub>orb<sup>h</sup>-o-* in OIr. *orb* ‘heir; patrimony’ < PC *\*orbo* and ON *\*arfr* < PG *\*arba-* ‘inheritance, patrimony’. The meaning ‘inheritance, heir’ is also Celto-Germanic.

### IRON

PC: *\*īsarno-* (Gaul. PN *Isarnus*, OIr. *īarn*, W *haearn*, B *houarn* ‘iron’)  
 PG: *\*īsarna-* (Go. *eisarn*, ON *ísarn*, OE *īsern*, *īsen*, *īren* ‘iron’)  
 REF: L264, Kr122, Pl284, Lühr 1988, Schm140, EDPC 172, Kroonen 2011, EDPG 271, Ko8  
 Isogloss typology: LX  
 Interpretation: CGL (III)

This word entered Germanic after the consonant shifts; borrowing at an earlier time would give PG *\*īsara-* < pre-PG *\*īsarra-* < *\*īsarno-*. It has been suggested that the word was derived from the PIE word for ‘blood’, cf. Hitt. *ēšḫar*, gen. *išḫanāš*, ToA *ysār*, B *yasar*, Gr. *ἔσφα*, gen. *-ροσ* < *\*h<sub>1</sub>esh<sub>2</sub>-r/n-*, but this lexeme does not otherwise survive in Celtic, making this etymology speculative. An ancient *Wanderwort* with unknown origins is likely in view of the semantics.

### JESTER

PC: *\*drūto-* (OIr. *drúth* ‘jester, buffoon, vagrant; courtesan, harlot’, *\*drūto-* (OIr. *drúth* (adj.) ‘wanton, unchaste’)  
 PG: *\*trūpa-* (ON *trúðr* ‘ juggler’, OE *trūd* ‘trumpet player, actor, buffoon’)

REF: L261, EDPG 523, 524, Ko13  
 Isogloss typology: MO  
 Interpretation: CGL (II)

A borrowing from PC *\*drūto-* < PIE *\*d<sup>h</sup>ruHto-* (see Dear among the rejected CGs) to Germanic following the Celtic merger of voiced stops and voiced aspirates but preceding the Germanic consonant shifts.

### KING

PC: *\*rīg-* (OIr. *rí*, W *rhi* ‘king’, Gaul. PN *Catu-rix*, Celtib. PN *Teiuo-reikis*)  
 PG: *\*rīk-* (Go. *reiks* ‘king’)  
 REF: L264, Kr137, Pl283, Schm142, EDPC 310, EDPG 333, Ko11  
 Isogloss typology: MO  
 Interpretation: CGL (II)

The Celtic is from PIE *\*h<sub>3</sub>rēg<sup>s</sup>-*, so borrowing from Celtic to Germanic postdates PIE *\*ē* > *ī* in Celtic but predates the Germanic consonant shifts. Proto-Celtic also has *\*rīgīom* ‘kingship’, and Proto-Germanic also has the derivatives *\*rīk(j)a-* ‘rich’, and *\*rīkja-* ‘realm’, which may have been borrowed along with the base form, or it may have formed independently.

### LARK

PC: *\*alaudā* (Gaul. *\*alauda-* > Lat. *alauda* ‘lark’)  
 PG: *\*laiwiz-akōn-* (OE *lāwrice*, WFri. *ljurk*, OHG *lērahha* ‘lark’)  
 REF: Schrijver 1997, 309-310, EDPG 324  
 Isogloss typology: LX  
 Interpretation: 3L (III)

The correspondence between Celtic intervocalic *\*d* [ð] and Germanic *\*z* suggests that the word entered Celtic after phonetic lenition of voiced stops and after Verner’s law, as Germanic had no *\*z* before then. A substrate origin is likely because of the alternation between forms with and without the “*a*-prefix.”

### LAW

PC: *\*rextu-* (OIr. *recht*, W *cyf-raith*, MB *reiz* ‘law, justice’)  
 PG: *\*rehtu-* (ON *rétrr* ‘justice, law’)  
 REF: L246, IEW 854-857, Pr122, Schu177, EDPC 310, H86, Ko11-12  
 Isogloss typology: MO/SM  
 Interpretation: IE(?) (0), ML (I-III)

CG derivation of PIE *\*h<sub>3</sub>rēg<sup>s</sup>-* ‘to straighten, direct’ with *\*-tu-* and semantic shift from ‘straight, direct’ to ‘law, justice’. This semantic shift has a parallel in Lat. *dīrēctus* ‘laid straight, upright’ to French *droit* ‘right, entitlement, law’, which may indicate that the semantic shift from ‘straight’ to ‘just’ is trivial. Nevertheless, the combination of a shared derivation and a shared semantic development appears to make for a compelling isogloss.

### LEAD

PC: *\*φloudio-* (Mlr. *lúaide* ‘lead’)  
 PG: *\*lauda-* (OE *lēad*, OFri. *lād*, Du. *lood* ‘lead’)

REF: L264, Kr140, IEW 837, Fraenkel 1962-1965, 378,  
Birkhan 1970, 147-152, Pl284, EDLI 339, 474, EDPC 135,  
EDPG 328  
Isogloss typology: LX  
Interpretation: CGL (III-IV)

The Celtic word can be etymologically connected with Lat. *plumbum* ‘lead’, in which case it would be a prehistoric *Wanderwort*, cf. possibly also Proto-Berber *\*būldūn* ‘lead’. Alternatively, derivation from the PIE root *\*pleu-* ‘to flow’ is possible, but a formation *\*plou-d<sup>h</sup>o-* hinges on the assumption of an ad hoc suffixation in *\*d<sup>h</sup>*. In either scenario, the Germanic word must have been borrowed from Celtic after Celtic loss of PIE *\*p*. Within Germanic, the word is exclusively attested in West Germanic, which could point to borrowing in the period between PG and PWG. However, since the word may have been lost in North Germanic and remained unattested in Gothic, it cannot be excluded that the borrowing occurred prior to the Proto-Germanic split, in which case it would be attractive to assume adoption before to the PG change *\*o > \*a*.

### LEATHER

PC: *\*ϕle/itro-* (OIr. *lethar*, W *lledr*, MB *lezzr* ‘leather’)  
PG: *\*le/īpra-* (ON *leðr*, OE *leðer*, OHG *ledar* ‘leather’)  
REF: L264, Kr140, Schm145, EDPC 134, EDPG 332  
Isogloss typology: MO  
Interpretation: CGL (II)

The Celtic appears to be a derivative of PIE *\*pel-* ‘to skin’ with the abstract or instrumental *tro-* suffix. The word is likely to have been loaned into Germanic after Celtic loss of *\*p*, but before the Germanic sound shifts. The *e*-vocalism of the Celtic reflexes may be accounted for by assuming a zero-grade neuter PIE *\*pl-tro-* > PC *\*ϕlitrom*; evidence for an original neuter comes from the fact that the word is overwhelmingly neuter in Germanic. In British Celtic the lowering occurring in the collective *\*ϕlitrā* must then have been generalized to the singular.

### LEECH

PC: *\*leCVgi-* (OIr. *līaig*, gen. *lego*, *lega* ‘leech, doctor, physician’)  
PG: *\*lēkja-* (Go. *lekeis*, ON *lækir*, OE *lāce* ‘doctor’, ODu. *lake*, OHG *lāhhi*, *lāchi* ‘leech’)  
REF: L264, Pl283, EDPG 321  
Isogloss typology: LX  
Interpretation: CGL (II)

A Pre-Grimm borrowing from Celtic to Germanic. The Old Irish was disyllabic, meaning a now-lost consonant must be reconstructed, which was likely *\*ϕ* or *\*j*. For PG, a form *\*le.egi-* would be optimal.

### LEFT

PC: *\*kl(e)io-* (OIr. *clé* ‘left (side); malign’, W *cledd*, B *kleiz*, Co. *cladh* ‘left (hand)’)  
PG: *\*hlī(j)a-* (Go. *hleiduma* comp. ‘left’)  
REF: L260, IEW 600-602, EDPC 207  
Isogloss typology: MO/SM  
Interpretation: IE(?) (0)

The PIE root *\*klei-* ‘to lean, be slanted’ only has the meaning ‘left (side, hand)’ in Celtic and Germanic. The comparative suffix *\*-duman-* (< PIE *-tmHo-*) is infrequent in Germanic, which suggests that both the formation and its meaning are old.

### LOUSE

PC: *\*lu(u/s)ā* (W *llau*, B *laou*, Co. *low* ‘lice’)  
PG: *\*lūs-* (OE *lūs*, ON *lūs*, OHG, MDu. *lūs* ‘louse’)  
REF: L253, IEW 692, EDPC 250  
Isogloss typology: SM  
Interpretation: IE(?)

Celtic and Germanic are compatible with a shared root *\*luH(s)-* ‘louse’. The connection with ToA *lu*, pl. *lwā*, B *luwo*, pl. *lwāsa* ‘animal’ is not semantically evident, but if correct, Celtic and Germanic would still share a semantic innovation ‘animal > louse’. This innovation may have occurred already in late Proto-Indo-European, however, i.e., after the departure of the Tocharian branch.

### MALICIOUS

PC: *\*elko-* (OIr. *elc* ‘mischievous, bad’)  
PG: *\*elhja-* (ON *illr* ‘ill, evil, bad, mean’ (>> Finnish *elkiä* ‘mean, malicious’))  
REF: L262, IEW 307, EDPG 117  
Isogloss typology: LX/SM  
Interpretation: IE (0), ML (I-II)

Both forms may continue a possibly archaic CG root *\*(h<sub>1</sub>)elk-* ‘bad’. A relation with *\*h<sub>1</sub>e/olk-* ‘to be hungry’, cf. OHG *ilki* gl. *fames vel stridor dentium*, Lith. *ālkti*, Latv. *ālkt* ‘to be hungry’ is semantically tenuous. Even if accepted, it would still leave a semantic isogloss between Celtic and Germanic.

### MANE

PC: *\*mong-o-ā* (OIr. *mong*, W *mwng*, OB. *mogou* ‘mane, hair’, MB. *moe*)  
PG: *\*mankan-* (ON *makki*, Elfd. *maunke*, Da. *manke* ‘mane’)  
REF: L257, IEW 747-748, EDPC 275, H77, EDPG 353  
Isogloss typology: LX/MO  
Interpretation: IE (0), (M)L (I-II)

A CG *\*mong-* may be reconstructed. This is typically treated as a derivative of PIE *\*mon-* ‘neck’ with a velar suffix *\*g*. However, such a suffix is not otherwise attested, leaving the ultimate origin of the word uncertain.

### MEDICINE

PC: *\*lub-ī* (OIr. *luib* ‘wort, plant; healing herb, remedy’, W *llu-arth*, MB *lu-orz*, MCo. *low-arth* ‘garden’)  
PG: *\*lubja-* (Go. *lubja-leisei* ‘witchcraft’, ON *lyf* ‘medicine, healing herb’, OE *lyb* ‘medicine, drug, potion’)  
REF: L250, Kr140-141, Pl283, EDPC 246, H21, EDPG 341  
Isogloss typology: MO/SM  
Interpretation: IE? (0), CGL (I, III), GCL (I-II)

A CG *\*(H)lub<sup>h</sup>-i-* can be reconstructed with the meaning ‘herb, medicine’. Further connection with Ru. *lub* ‘bark’, Go. *lauf(s)* ‘foliage’ < *\*(H)loub<sup>h</sup>-o-* and Lat. *liber* ‘bark; book’ < *\*(H)lub<sup>h</sup>-ro-* is formally possible.

## NUMBER

PC: \**rīmā* (OIr. *rím*, W *rhif* ‘number’)  
 PG: \**rīma-* (ON *rím* ‘number’, ON *rím* ‘computation’, OHG  
*rīm* ‘account, series, number’)  
 REF: L258, EDPC 313, H13, EDPG 413, Ko8  
 Isogloss typology: MO  
 Interpretation: IE (0), ML (I-III)

A CG formation \**h<sub>2</sub>riH-m(o-eh<sub>2</sub>)* may be reconstructed, from \**h<sub>2</sub>reiH-* ‘to fit, fix’, cf. with a different suffix Gr. ἀριθμός ‘number, payment’. However, it cannot be excluded that this isogloss arose as a result of mutual borrowing, in which case the formation would have to be native to only one branch.

## OATH

PC: \**oito-* (OIr. *óeth* ‘oath’, W *an-udon* ‘perjury’)  
 PG: \**aiþa-* (Go. *aīþs*, OE *āð*, ON *eiðr*, OHG *eid* ‘oath’)  
 REF: L246, P1283, Schm143, Schu176–177, EDPC 305, H2,  
 EDPG 15  
 Isogloss typology: SM  
 Interpretation: IE(?) (0), CGL (I-II)

A CG \**oito-* ‘oath’ may be reconstructed. This formation has previously been derived from the PIE root \**h<sub>1</sub>ei-* ‘to go’ (cf. Sw. *ed-gång*). This is just one possibility, but if correct, Gr. οἶτος ‘fate, destiny’ (< “course”?) would be morphologically parallel, making the development to ‘oath’ a semantic isogloss. On the other hand, given the preservation of a more primary meaning in the PG parallel formation \**aiþ/da-* ‘isthmus’ (cf. ON *eið*), it could perhaps be argued that this semantic shift is more likely to have occurred in Celtic. This would be an argument for postulating a CGL.

## OATS

PC: \**korkio-* (OIr. *corcae*, Mlr. *corca*, *coirce*, W *ceirch*,  
 B *kerc’h* ‘oats’, OCo. *bara keirch* gl. *panis avena*)  
 PG: \**hagran-* (OSw. *hagri*, Nw. dial. *hagre* ‘oats’), \**hagrja-*  
 (Da. *hejre* ‘brome grass’)  
 REF: L252, EDPC 216, EDPG 199  
 Isogloss typology: LX  
 Interpretation: 3L (I-II)

A CG \**kork-* or \**kokr-* may be reconstructed. To explain the variants, a form \**korkrio-* has been posited, but the alternation between \**kr* and \**rk* may also indicate adoption from a third language. If connected, the similar-looking but formally irreconcilable Fi. *kattara* ‘brome’ may be a parallel substrate borrowing.

## PHANTOM

PC: \**skāxslo-* (OIr. *scál* ‘phantom, giant, hero’, MW *yscawl*  
 ‘young hero, warrior’)  
 PG: \**skōhsla-* (Go. *skohsl* ‘evil spirit, demon’)  
 REF: EDPC 340, H17, Ko14  
 Isogloss typology: MO  
 Interpretation: ML (I-III)

A CG formation \**skōkslo-* may be adduced, which may be a derivation of the PIE root \**skek-* ‘jump’ with an instrument noun suffix. The original meaning may have been “startler” or

“vanisher,” for which cf. OIr. *scuichid*, perf. *scáich* ‘to move, vanish’, W *ysgogi* ‘to move, tremble’. The peculiar ablaut grade and suffix \*-*slo-* (for usual \*-*tlo-*) finds a parallel in OIr. *tál* ‘adze’ from PIE \**tek-* ‘to build’.

## PINE

PC: \**gisusto-* (OIr. *giús*, ScG *giuthas*, MoIr. *giumhas*, *giúis* ‘fir tree, pine’)  
 PG: \**kizna-* (OE *cēn* ‘pine tree, spruce’, MLG *kēn* ‘pine cone, pinewood’, OHG *kien* ‘pine tree, pinewood torch’)  
 REF: EDPG 289  
 Isogloss typology: LX  
 Interpretation: 3L (I-II)

A CG \**gis-* may be reconstructed. The Germanic may be segmented as pre-PG \**gis-nó-*, where the second element may perhaps be the \*-*no-* suffix often found in plants and trees (cf. PC \**kolis-no-* ‘holly’). The Goidelic vocalism appears identical to OIr. *siúr*, MoIr. *siúr*, ScG *piuthar* ‘sister’ < PC \**suesūr*, suggesting a lost medial \**s* or \**p*, but the lost medial consonant cannot be established with certainty. The inferred *st-* suffix is obscure, but also found in other non-Indo-European dendronyms, cf. Basque *gorosti* ‘holly’ vs. the aforementioned \**kolis-no-* and PC \**k<sup>w</sup>resti-* ~ PG \**h(w)ursti* ‘copse’ vs. PS \**k<sup>w</sup>res-no-* ‘tree’.

## QUARREL

PC: \**bāg-ī-* (OIr. *bág* ‘boast, threat, fight’, *báigid* ‘boasts’),  
 \**bāgio-* (MW *bei* ‘fault, transgression’)  
 PG: \**bēg-* (OHG *bāgan* (pret. *biag*) ‘to quarrel’, ON *bágr*  
 ‘contest, resistance’, *bægjast* ‘to quarrel, strive’)  
 REF: L246, Van Windekens 1941, 85, EDHIL 618, Bomhard  
 2014, H45  
 Isogloss typology: RT/LX  
 Interpretation: IE? (0), ML (III-IV)

There are three plausible explanations for this lexical correspondence: (1) An IE archaism with ablaut \**b<sup>h</sup>eh<sub>1</sub>g<sup>h</sup>-* / \**b<sup>h</sup>oh<sub>1</sub>g<sup>h</sup>-*, (2) a loanword from early Germanic \**bēg-* with Germanic /ē/ = [æ:] being borrowed as Celtic /ā/, (3) a Celtic loanword into (North-West) Germanic with Celt. /ā/ being borrowed as the lowered continuant of Germ. /ē/, North-West Germanic [a:]. None of the involved vocalic loan substitutions have any parallels, however, which could favor inheritance of a root in both branches. Cognacy with Hitt. *paknu-zi* ‘to defame, slander’ (< \**b<sup>h</sup>h<sub>1</sub>g<sup>h</sup>-neu-*?) or ToB *pakwāre* ‘evil, bad’ (< \**b<sup>h</sup>oh<sub>1</sub>g<sup>h</sup>-uōro-*?) is possible but less certain and the often-adduced Latv. *buōžus* (*buōzties*) ‘to become angry’ could perhaps ultimately go back to Low German *bōs* ‘angry’.

## RIDE

PC: \**reid-* (Gaul. *rēda* ‘wagon’, OIr. *réidid* ‘rides’, W *rhywydd*  
 ‘easy, quick’)  
 PG: \**rīdan-* (ON *ríða*, OE *rīdan*, OFri. *rīdan*, OS *rīdan* ‘ride, drive’)  
 REF: L255, Kr140, Pr120, LIV<sup>2</sup> 502, EDPC 307, H68, EDPG  
 412, Ko9  
 Isogloss typology: SM  
 Interpretation: IE(?), GCL (I-II)

Germanic and Celtic reflexes of *\*(H)reid<sup>h</sup>*- share the meaning ‘to ride’, which may have developed from a more original meaning ‘to move unsteadily’, cf. Lith. *riedėti (riedù)* ‘to roll’, with the original range of meanings preserved in ON *riða* ‘to ride; to reel, stagger; to rise’, OE *rīdan* ‘to ride; to move, rock’. Since the verb is less polysemous in Celtic, it seems unlikely that Germanic borrowed the verb from that language at any point in time, but the reverse borrowing is more difficult to reject.

### RIDGE

PC: *\*roino-* (OIr. *róen* ‘way, path’, OB *runt*, B *run* ‘mound, plateau’, MCo. *runyow* ‘hills’)  
 PG: *\*raina-* (ON *rein* ‘strip of land’, MHG *rein* ‘border wall, edge of a field’)  
 REF: L253, Kr140, IEW 857-859, EDPC 316, H87, EDPG 403  
 Isogloss typology: LX  
 Interpretation: IE? (0), L (I-III)

A CG *\*roino-* may be reconstructed. The original meaning may have been ‘(walkable) ridge at edge of field’, which then developed into ‘path’, ‘mound’, ‘strip of land, boundary’. A root connection to PIE *\*(H)rei-* ‘to scratch, cut’ suggested by IEW is speculative.

### ROW

PC: *\*rā-* (OIr. *ráid* ‘rows’)  
 PG: *\*rōan-* (ON *róa*, OE *rōwan* ‘to row’)  
 REF: L254, IEW 338, KPV 529-30, LIV<sup>2</sup> 251, EDPC 306, EDPG 414, Ko7  
 Isogloss typology: MO (0)  
 Interpretation: IE (0)

Celtic and Germanic uniquely continue an *o*-grade formation to the PIE root *\*h<sub>1</sub>reh<sub>1</sub>-* ‘to row’, cf. e.g. Lith. *irti*, Latv. *īrt* < *\*h<sub>1</sub>rh<sub>1</sub>-*. According to LIV<sup>2</sup>, these are independent innovations based on a reduplicated perfect *\*h<sub>1</sub>re-h<sub>1</sub>roh<sub>1</sub>-* (cf. OIr. *rer(a)is*, ON *rera*), but it is alternatively possible to reconstruct a primary *o*-grade iterative verb (type *\*molh<sub>1</sub>-* ‘to grind’) for Proto-Indo-European. That would make it either an archaism or an early, shared innovation.

### RUSHES

PC: *\*sem-* (OIr. *sim(a)* ‘stalk, stem’, *simin(n)*, *seimen(n/d)* ‘rushes, reed’), *\*seb-* (*sibin(n)*, *sifin(n)* ‘rushes, reed’)  
 PG: *\*sem-* (OS *semith*, OHG *semida* ‘rushes, reed’, G *Simse* ‘(bul)rush’), *\*seb-* (ON *sef*, MHG *sebede* ‘rushes, reed’)  
 REF: EDPG 432, Stifter 2015, 101  
 Isogloss typology: LX  
 Interpretation: 3L (I-III)

A CG *\*sem-*, *\*seb<sup>h</sup>*- may be reconstructed. The reconstruction of both the Celtic and the Germanic forms are problematic in that both branches have an irregular alternation between root-final *m* and *b* and in both branches this root is sometimes but not always suffixed with a poorly understood suffix. The OIr. *-in(n)* suffix may be analyzed as a diminutive suffix, but if the suffix was originally *-ind*, it may be compared to the suffix in G *Simse* < PG *\*semñ-* (OS *semith*, OHG *semida* seem to

contain the *-ep-* suffix denoting groups of trees and plants). The vacillation between *b* and *m* found in both branches as well as the poorly understood suffixes could point to a shared substrate origin (for an additional potential link, cf. Hitt. *šumanza-* ‘(bul)rush’ < *\*sm-nt-io-*). Stifter proposes an internal Irish account for the variation between *b* and *m*.

### SAIL

PC: *\*siglo-* (OIr. *séol*, W *hwyl* ‘sail, covering’)  
 PG: *\*sigla-* (ON *segl*, OE *segel*, OS *segal*, OHG *segal*, *segil* ‘sail, canvas’)  
 REF: L264, Kr141, Schm143, SBCHP 357, Thier 2011, 187-190, EDPG 430, Ko7  
 Isogloss typology: LX  
 Interpretation: IE? (0), ML (I, III), GCL (II)

A C *\*siglo-* must be reconstructed, as *\*seglo-* would yield W *\*\*hail*, cf. PC *\*u-reg-n-* > W *dyrain* ‘to rise’. This is mirrored by PG *\*seigla-*, leaving only *\*sig<sup>h</sup>lo-* as Celto-Germanic isogloss. This reconstruction is incompatible with the traditionally compared PIE root *\*sek-* ‘to cut’, which through Verner’s law could have resulted in PG *\*segla-*. As a result, it seems impossible to establish the direction of borrowing on linguistic grounds.

### SAVOR

PC: *\*suek-* (W *chweg*, B *c’hwek* ‘sweet’), *\*suekk-* (W *chwech* (?) ‘sweet’)  
 PG: *\*swekan-* (OS *suecid* gl. *olet*, OHG *swehhan* ‘to gush, smell (bad)’), *\*swak(k)u-*, *\*swak(k)ja-* (OE *swecc*, *swæcc* ‘(sweet) taste or smell’, OS *suec* ‘smell’), *\*swak(k)jan-* (OE *sweccan* ‘to smell’), *\*swēkjōn-* (Icel. *svækja* ‘sweltering heat; drizzle; heavy air’)  
 REF: L258, IEW 1043, Seebold 1970, 487, EDPC 364, H88  
 Isogloss typology: LX  
 Interpretation: GCL (III)

PG *\*swek-* perhaps from an earlier obscure element *\*sueg-*, may be reconstructed. The root looks native in Germanic in view of the strong verbs and its productivity. Within Celtic, a related verb is not found and it is restricted to Brittonic. This points to borrowing from Germanic to Celtic after the consonant shifts, as does the un-Celtic-looking variation between word-final single and geminate consonants. MW *chweith* ‘taste, savor’ < PC *\*suex-to/tu-/tā* also seems related to *chweg*. If it is, then a connection between *chweith* and PIE *\*suek<sup>w</sup>*- ‘sap, juice’ must be abandoned (*contra* EDPC). The Germanic semantics ranging from ‘to gush, drizzle’ to ‘to smell’ are paralleled by ON *rjúka* ‘to smoke, steam’, Du. *ruiken* ‘to smell’.

### SECRET

PC: *\*rūnā/o-* (OIr. *rún* ‘secret’, W *rhin* ‘spell, enchantment’)  
 PG: *\*rūnō-* (Go. *runa* ‘secret’, OE *rūn*, OS *rūna* ‘whisper, secret’, ON *rún* ‘rune, secret’)  
 REF: L260, Kr139, IEW 867, EDPC 316, H5, Ko13  
 Isogloss typology: LX  
 Interpretation: IE? (0), ML (I-III)

A CG formation *\*rūnā-* (*\*HruH-neh<sub>2</sub>-?*) may be reconstructed. Further parallel formations are found in OHG *gi-rūni*, MHG

*ge-riuni*, MoG *Geraune* ‘whisperings’ < \**ga-rūn(j)a-* and MÍr. *comrún*, *cobrún*, W *cyfrin*, MB *queffrin* ‘(joint) secret’ < *kom-rūno-*. A connection with PIE \**h<sub>3</sub>reuH-* ‘to roar’ (cf. Lat. *rūmor*) is semantically weak.

### SEEP

PC: \**leg-o-* (Oír. *legaid* ‘melts, dissolves’, W *llaith*, B *leiz* ‘damp’, W *dadlaith* ‘to melt’)

PG: \**lekan-* (ON *leka*, OHG *lehhan* ‘to leak’)

REF: L261, KPV 449, IEW 657, LIV<sup>2</sup> 397, EDPG 331

Isogloss typology: RT

Interpretation: IE? (0), L (I-II)

A possibly archaic CG root \**le(ǵ)-* ‘to seep’ may be reconstructed. A further connection with Arm. *lič* ‘lake’ seems more speculative because of the formal and semantic differences.

### SERVANT

PC: \**ambaxto-* (Gaul. *ambaktos*, *ambactus* ‘vassal’, W *amaeth* ‘farmer’)

PG: \**ambahta-* (Go. *andbahts*, OHG *ambaht* ‘servant, representative’, ON fem. *ambátt* ‘bondwoman’)

REF: L263, Kr137, Pl283, Schm142, EDPC 32, EDPG 24, Ko13

Isogloss typology: MO

Interpretation: CGL (III)

The Celtic is from PC \**ambi-* + \**ax-to-* ‘one sent around’, so the direction of borrowing was from Celtic to Germanic.

### SHOOT

PC: \**slattā* (MÍr. *slat* ‘stalk, stem, branch’, W *llath* ‘rod, staff’, B *lazz* ‘pole, rod’)

PG: \**lap(b)a/ōn-*, \**latta(n)-* (OE *lætt*, ME *lappe*, MoE *lath*, *lat*, MDu. *latte* ‘lath’, OHG *lad(d)a/o*, *lat(t)a/o* ‘lath, shoot’)

REF: Kroonen 2011, 214, EDPC 345

Isogloss typology: LX

Interpretation: ML/3L (I-II)

A CG \*(*s*)*lat(t)-* may be reconstructed. The forms do not match up precisely, as there is no trace of initial \**s-* in Germanic. The Germanic appears to go back to an original *n*-stem, i.e. nom. \**lapō*, gen. \**lattaz* < pre-PG \**lat-ōn*, \**lat-n-os*, which can explain the geminated forms by Kluge’s law. A borrowing from Germanic to Celtic would explain the Celtic geminate. However, the initial *s-* in Irish complicates this scenario.

### SLAUGHTER

PC: \**boduo-* (Oír. *Bodb*, *Badb* ‘war-goddess; hooded crow’)

PG: \**badwa/ō-* (OE *beadu*, ON *bōð* ‘battle, war’)

REF: L246, IEW 113, Pl284, H37, Ko10

Isogloss typology: MO/LX

Interpretation: IE? (0), CGL (I, III), GCL (I-III)

Although the Oír. is best attested as a specific theonym, it simply means ‘vulture, carrion-crow’ in MoÍr. The connection with PG \**badwō-* is suggestive of a uniquely CG battle deity associated with the slain. This association technically allows for derivation from the root PIE \**b<sup>h</sup>ed<sup>h</sup>-* ‘to poke, dig’, but the semantics are non-compelling.

### SLOPE

PC: \**glendos-* (Oír. *glenn*, W *glyn* ‘glen, valley’, MB *glenn* ‘land’), \**glandnā* (W *glan*, B *glann*, Co. *glan* ‘shore’)

PG: \**klinta-* (ON *kleitr* ‘rock, cliff’, MLG *klint* ‘shore’),

\**klanta-* (Nw. dial. *klant* ‘cliff; peak’, Sw. dial. *klant* ‘cliff’)

REF: EDPC 160

Isogloss typology: LX

Interpretation: 3L (I-II)

CG \**glend-* may be reconstructed. According to David Stifter (p.c.) there are two Celtic formations from this ‘root’, namely \**glendos-* (the source of W *glyn*, MB *glenn*) and \**glannā* < \**glandnā* < \**glnd-nā* (W *glan*, Old British *glanna* in place names), of which Oír. *glenn* appears to be a hybrid. Borrowing from a third language appears likely because the root contains two plain voiced stops in PIE terms, which violates PIE root constraints.

### SIEVE

PC: \**sītlo-ā* (W *hidl*, MB, *sizl* ‘sieve’)

PG: \**sēpla-* (ON *sáld* ‘sieve, riddle’)

REF: L250, EDPC 338, H83, EDPG 430

Isogloss typology: MO

Interpretation: IE (0)

From PIE \**seh<sub>1</sub>-tlo-*, an instrumental noun to PIE \**seh<sub>1</sub>-* ‘to sift’. The formation must be fairly old, as the base verb does not survive in Germanic.

### SILVER

PC: Celtib. *silabur* ‘silver, money’

PG: \**silubra-* (Go. *silubr*, ON *silfr*, *sylfr*, OE *seolfor*, OHG *silabar* ‘silver’)

REF: Mallory & Huld 1984, Boutkan & Kossmann 2001, EDPG 436, Ko8

Isogloss typology: LX (I, III)

Interpretation: 3L (I, III)

A non-IE *Wanderwort* that appears to have come to Germanic via Celtic, cf. Basque *zilhar*, Proto-Semitic \**šarp-* ‘silver’. Within Indo-European it is also found in Balto-Slavic, cf. OCS *šrebro*, Lith. *sidābras* ‘silver’, but these forms are slightly more divergent.

### SKIN

PC: \**sekio-* (Oír. *seiche* ‘skin, hide’)

PG: \**segja-* (ON *sigg* ‘hard skin’)

REF: L257, EPDC 331, Stifter 2011, 558, EDPG 430

Isogloss typology: MO/SM

Interpretation: IE?

Celtic and Germanic may uniquely share an archaic formation \**sek-ió-* with the meaning ‘(animal) skin’, possibly derived from PIE \**sek<sup>h</sup>-* ‘cut’. The Irish is inflected as a *t*-stem. However, as noted by Stifter, this type enjoys some productivity and may have replaced an older *io*-stem.

### SPEAR

PC: \**gaiso-* (Gallo-Gr. γαῖσον, Gallo-Lat. *gaesum*, Oír. *gae*, W *gwayw* ‘spear, javelin’)

PG: \**gaiza-* (OE *gār*, OHG *gēr*, ON *geirr* ‘dart, spear’)  
 REF: L248, IEW 410, EDPC 155, H29, EDPG 164, Ko9  
 Isogloss typology: MO  
 Interpretation: GCL (III)

A PIE formation \**ǵʰois-ó-* may be reconstructed for PG \**gaiza-* and Skt. *heṣá-* ‘some weapon’, from a root \**ǵʰeis-* also found in Skt. *hinásti* ‘wounds’ < \**ǵʰi-n-es-* (with no laryngeal). The Germanic word was borrowed into Celtic after Germanic \**o* > \**a*. If this is correct, Gr. *χαῖος* ‘shepherd’s staff’, which is semantically more remote, cannot be related because of its vocalism.

## STICK

PC: \**gli-na-* (OIr. *glenaid* ‘adheres, cleaves’, W *glynu*, MB *englenaff* ‘to adhere, stick, bind’)  
 PG: \**klinan-* (OHG *klenan* ‘to baste, stick together’)  
 REF: L261, KPV 337-339, IEW 362-363, LIV<sup>2</sup> 290  
 Isogloss typology: MO  
 Interpretation: IE (0)

A PIE root \**gleiH-* ‘to smear, stick’ is attested as a nasal present \**gli-ne-H-* in Celtic and Germanic only. This nasal infix must have been inserted before the loss of the laryngeals, which makes this a likely archaism inherited from Proto-Indo-European.

## THROAT

PC: \**brāgant-* (OIr. *brāgae*, MW *breuant* ‘neck, throat’)  
 PG: \**k(w)ragan(p)-* (ON *kragi*, MHG *krage*, E *craw* ‘throat, collar’)  
 REF: IEW 474-6, EDPC 72, EDPG 301  
 Isogloss typology: MO/SM  
 Interpretation: IE (0), L (I)

Celtic and Germanic appear to be formed to a verbal root \**gʷrogʰ-* ‘to gulp’, cf. Gr. *βρόχω\** ‘to gulp down’ < \**gʷrogʰ-*, although this root is not otherwise attested in either Celtic or Germanic. Both formations may be unified into a common proto-form \**gʷrōgʰ-ont-* (with expected loss of \**p* in absolute *Auslaut* in Germanic), although an unexplainable difference in vowel length remains. The semantic shift from ‘to gulp’ to ‘throat’ seems trivial, cf. Gr. *βρόγχος* ‘windpipe, throat’, but is nevertheless shared by Celtic and Germanic.

## TIP 1

PC: \**brozdo-* (OIr. *brot* ‘goad, spike’)  
 PG: \**brazda-* (Icel. *bradd* ‘edge’, OE *breard* ‘brim, margin’, OHG *brart* ‘edge’), \**bruzda-* (ON *broddr* ‘spike’, OE *brord* ‘point, grass shoot’)  
 REF: EDPG 54, 74, 77, 81  
 Isogloss typology: LX  
 Interpretation: IE? (0), ML (I), GCL (II)

The variety in vocalism presents a problem in positing a shared common form (cf. TIP 2). Reanalyzed ablaut may account for the variation in Germanic, cf. ON *barð* ‘brim, prow, beard’, OE *beard* ‘beard’ < PG \**barzda-* (whence probably Lith. *barzdà*, Latv. *bārda*, OCS *brada* ‘beard’). The intra-Celtic alternation between vocalism in *a* (see TIP 2) and *o* (in OIr. *brot*) is more difficult to account for. Perhaps the Celtic forms are borrowings

from different Germanic forms in \**a* and \**u*, or Germanic \**a* could be interpreted as both \**a* and \**o* in Celtic.

## TIP 2

PC: \**brazdo-* (W *brath* ‘bite, prick; cut, wound’)  
 PG: \**brazda-* (Icel. *bradd* ‘edge’, OE *breard* ‘brim, margin’, OHG *brart* ‘edge’)  
 REF: EDPG 54, 74, 77, 81  
 Isogloss typology: RT  
 Interpretation: GCL (III)

It appears that Celtic \**brazdo-* was borrowed from PG \**brazda-*.

## VOW

PC: \**lugio-* (OIr. *lugae*, *luige*, W *llw* ‘oath’)  
 PG: \**leugō-* (Go. *liuga* ‘marriage’), \**lugōn-* (OFri. *logia* ‘to arrange, allot’)  
 REF: L245, Kr134–135, Pr121, Pl281–282, EDPC 247, EDPG 333, Ko13  
 Isogloss typology: RT  
 Interpretation: IE? (0), ML (I)

A CG root \**leugh-* may be reconstructed. Although the phonotactics of this root do not preclude an IE origin, the lack of cognates in the other branches is unfavorable. Recent borrowing is unlikely because identical formations are lacking.

## WILD

PC: \**gʷelti-* (Mlr. *geilt* ‘panicked person, lunatic’, W *gwyllt*, ‘wild, mad’)  
 PG: \**welþja-* (Go. *wilþeis*, ON *villr*, OE *wild*, OHG *wildi* ‘wild, uncultivated’)  
 REF: L261, IEW 1139-1140, EDPC 146, H46, EDPG 579  
 Isogloss typology: RT/MO  
 Interpretation: IE? (0)

A CG adjective \**gʷʰel-ti-* may be reconstructed. Given the regular development of PIE \**gʷʰ* in both branches, it seems likely that the root was inherited from PIE.

## WILDERNESS

PC: \**kaito-* (W *coed*, B *koad*, MCo. *coys* ‘wood’)  
 PG: \**haiþi-* (Go. *haiþi* ‘open field’, ON *heiðr* ‘heath, moor’, OE *hæð*, MLG *hēde* ‘heather’), ?\**haiþa-* (dial. early MoE *hothe*)  
 Isogloss typology: LX  
 Interpretation: 3L (I-II)  
 REF: L252, EDPC 198, H95, EDPG 202

A CG lexical element \**kait-* may be reconstructed that is found in no other IE branch. Within G the *i*-stem has parallels in other feminine terrain names such as ON *elfr* ‘river’ < \**albī-*, ON *eyrr* ‘shoal’ < \**aurī-* and ON *mýrr* ‘swamp’ < \**meuzī-*.

## WOOD

PC: \**uidu-* (OIr. *fid*, W *gwydd*, B *gwez*, OCo. *guid-en* ‘trees, wood’)  
 PG: \**widu-* (ON *viðr*, OE *widu*, *wiodu*, *wudu*, OHG *witu* ‘wood’)  
 REF: L252, Kr140, ALEW 1423, EDPC 420, EDPG 585  
 Isogloss typology: SM

Interpretation: IE(?), CGL (I, III), GCL (I-II)

A PIE formation *\*(h<sub>1</sub>)ui-d<sup>h</sup>h<sub>1</sub>-u-* ‘put apart’ may be reconstructed. This formation may be parsed as containing *\*(h<sub>1</sub>)ui-* ‘apart’ and *\*d<sup>h</sup>eh<sub>1</sub>-* ‘to put’, implying an original meaning ‘put apart’, with a Celto-Germanic semantic shift to ‘wood’. This exact formation is also found in Skt. *vidhú-* ‘isolated’, Lith. *vidùs*, Latv. *vidus* ‘interior, middle’.

#### YEW

PC: *\*iuo-* (OIr. *eó* ‘stem, shaft, yew-tree’, W *yw*, B *ivin*, OCo. *hiuin* ‘yew, yew-wood’)

PG: *\*īwa/ō-* (ON *ýr*, OE *īw*, *ēow*, OHG *īwa* ‘yew’)

REF: L252, EDPC 173, EDPG 271

Isogloss typology: SM

Interpretation: IE?

The European languages show different reflexes of a word with different ablaut grades: 1) *\*h<sub>1</sub>eiH-u-* (PG *\*īwa/ō-*), 2) *\*h<sub>1</sub>iH-u-* (PC *\*iuo-*), 3) *\*h<sub>1</sub>oiH-ueh<sub>2</sub>-* (Gr. *ῥα*, *ῥη* ‘elderberry tree, mountain ash’, Lith. *ievà*, Latv. *iēva* ‘bird cherry’). However, the specific meaning ‘yew’ is Celto-Germanic.

### 13.6.3 Doubtful Celto-Germanicisms

#### BATTLE

PC: *\*keldāko-* or *\*kellāko-* (Mlr. *cellach* ‘strife, contention’)

PG: *\*helþī-* (OE *hild* ‘war, battle’, OHG *hiltia*, ON *hildir* ‘battle’)

REF: L247, EDPC 199, H31

Isogloss typology: SM

Interpretation: IE(?)

Derivatives of PIE *\*kelh<sub>2</sub>-* or *\*keld-* ‘to strike’ meaning ‘battle’ may be found in CG, but the exact formations differ. This semantic shift is likely also trivial, cf. OCS *klati* ‘to kill’ < *\*kolh<sub>2</sub>-*.

#### BESTOW

PC: *\*link<sup>w</sup>-o-* (OIr. *léicid* ‘leaves, lets, allows, grants’)

PG: *\*līhwan-* (Go. *leiḥwan* ‘to loan’, ON *ljá* ‘to lend; to give, grant’, OE *lēon*, OS *far-līhan*, MDu. *lien*, OHG *līhan* ‘to lend’)

REF: Pr121, KPV 454-6, EDPG 336

Isogloss typology: SM

Interpretation: IE(?)

A CG semantic innovation of the PIE root *\*leik<sup>w</sup>-* ‘to leave, abandon, release’ to ‘to loan, bestow, grant, allow’ may be adduced. However, the related Skt. *riṇákti* has a rather close range of meanings, including ‘leaves’, but also ‘gives up, lets go, sells’.

#### BREAK

PC: *\*brest-* (OIr. *bres* ‘fight, blow’, *brissid* ‘breaks’, B, Co. *bresel* ‘war’)

PG: *\*brestan-* (ON *bresta* ‘to break’, OE *berstan* ‘to burst’, OS *brestan* ‘burst, break’)

REF: EDPC 76, EDPG 75

Isogloss typology: LX

Interpretation: IE? (0) ML (I), ML(III)

If related, a CG *\*b<sup>h</sup>rest-* ‘to break’ may be reconstructed. However, the Celtic material allows for many reconstructions; an alternative reconstruction to PIE *\*b<sup>h</sup>rd<sup>h</sup>-(t)-* allows comparison with Gr. *περθεω* ‘to destroy, devastate’.

#### BRIGHT

PC: *\*ber(x)to/ā* (W *berth* ‘beautiful, splendid, rich, bright; wealth, treasure’, MB *berz*, MoB *berzh* ‘power, authority’)

PG: *\*berhta/ō* (Go. *bairhts* ‘bright, clear, manifest, evident’, ON *bjartr* ‘bright, shining; illustrious’, OE *beorht*, OS *berht*, OHG *beraht*, MHG *berht* ‘bright, shining’)

REF: IEW 139-140, EDPG 61

Isogloss typology: MO

Interpretation: IE (0), ML (I), GCL (II), ML (III)

Celtic and Germanic potentially share a unique formation *\*b<sup>h</sup>erh<sub>1</sub>ǵ-to/eh<sub>2</sub>* to the root *\*b<sup>h</sup>erh<sub>1</sub>ǵ-* ‘to shine, white’, but the Celtic may alternatively be connected to other roots such as *\*b<sup>h</sup>er-* ‘to carry’, or *\*b<sup>h</sup>erǵ<sup>h</sup>-* ‘to be high, hill’; both of these alternatives have semantically attractive comparanda within Celtic, e.g. W *aberth* ‘offering’, W *braint* ‘privilege; value’.

#### CHOOSE?

PC: *\*gus-o-* (OIr. *do-goa* ‘chooses, selects, elects’)

PG: *\*keusan-* (Go. *kīusan* ‘to put to a test, prove by trial’, ON *kjósa*, OE *cēosan*, OHG *kiosan* ‘to choose, elect, examine’)

REF: L258, Pr122, KPV 356-361, EDHIL 497, EDPC 169, EDPG 286

Isogloss typology: SM

Interpretation: IE(?)

The CG meaning ‘to choose’ contrasts with Skt. *juṣate* ‘enjoys’, Gr. *γεύομαι* ‘to taste’, Lat. *gustō* ‘to taste’, all from PIE *\*ǵeus-* ‘to taste’. The original meaning is preserved in Gothic, which may mean that the semantic shift to ‘to choose’ occurred independently. It is also possible that languages other than Celtic and Germanic underwent a semantic shift from ‘to try’ toward ‘to taste’, leaving a CG archaism.

#### CLAY

PC: *\*ūrā/i-* (OIr. *ú(i)r* ‘mold, earth, clay, soil’)

PG: *\*ūra-* (Du. *oer* << LG *ūr* ‘ferrous sand, bog iron’)

REF: EDPG 561

Isogloss typology: LX

Interpretation: IE? (0), L (I-IV)

If related CG *\*ūr-* may be an isogloss or loanword of any age. However, the cognates are too short to exclude chance resemblance.

#### CREAM

PC: *\*flouVno-* (OIr. *lōon*, *lōan*, *lón* ‘fat, provisions, food’)

PG: *\*flauma(n)-* (OHG *floum* ‘cream, raw leaf-lard’, LG *Flom* (*en*) ‘belly fat’)

REF: L262

Isogloss typology: MO/SM

Interpretation: IE(?)

CG semantic expansion of PIE *\*pleu-* ‘to swim, float, flow’ to the meaning ‘cream, fat, lard’. However, it is trivial to derive ‘cream’ from a verb meaning ‘to float’, because cream naturally



floats on top of the milk from which it is extracted. Lard may similarly be rendered by cooking offal in water and allowing the fat to float to the top. Celtic and Germanic may share a *mn*-stem, cf. PG *\*reuman-*, *\*rauma(n)-* ‘cream’. This requires that *\*m* was lost in Celtic in the vicinity of the root-final labial, as it was in Av. *raoyna-* ‘butter’ < *\*Hroug<sup>(h)</sup>-mno-*. However, OIr. *lōon* was disyllabic, implying that this loss of *\*m* was after the Celtic vocalization of syllabic *\*m* to *\*am*, or that Celtic received an unexplained root extension in a laryngeal.

#### DARK

PC: *\*dergo-* (OIr. *derg* ‘red’)  
 PG: *\*derka-* (OE *deorc* ‘dark’)  
 REF: L258, IEW 251, EDPC 95, EDPG 93  
 Isogloss typology: MO  
 Interpretation: IE (0)

Celtic and Germanic share an adjective *\*d<sup>h</sup>erg-o-*. Due to their divergent meanings, however, it is uncertain that the two adjectives are etymologically related. Germanic has semantically more attractive cognates in ToA *tärkär*, ToB *tarkär* ‘cloud’ < *\*d<sup>h</sup>rg-ru-* and Lith. *dargà* ‘bad weather’ < *\*d<sup>h</sup>org-eh<sub>2</sub>-*. The appurtenance of the Celtic word to this root is less certain; even if it shares the root connection, the dissimilar semantics imply that usage as an adjective is independent.

#### DIRT

PC: *\*korkāko-* (MÍr. *corcach* ‘moor’)  
 PG: *\*hurhwa-* (ON *horr* ‘mucus’, OE *horh*, *horg*, *horu* ‘spit’, OS *horu* ‘mud’, OHG *horo* ‘dirt, mud, manure’)  
 REF: IEW 573-574, EDPG 258  
 Isogloss typology: RT  
 Interpretation: IE? (0)

Perhaps a CG *\*k(o)rk* was expanded with *\*-uo-* in Germanic and *\*-āko-* in Celtic. However, the original meaning in Germanic is not secure. If the original meaning in Germanic was ‘spit’, then the isogloss may be rejected in favor of a sound-symbolic origin.

#### EVIL

PC: *\*uφelo-* (OIr. *fel* ‘evil’)  
 PG: *\*ubila-* (Go. *ubils*, OE *yfel*, OS *ubil*, OHG *ubil* ‘evil, bad’)  
 REF: IEW 1106-1107, EDPC 396, H65, EDPG 557  
 Isogloss typology: MO  
 Interpretation: IE (0), ML (I)

Celtic and Germanic uniquely share a formation *\*h<sub>2</sub>up(h<sub>1</sub>)-elo-* ‘evil’ from the PIE root *\*h<sub>2</sub>uep(h<sub>1</sub>)-* ‘to treat badly’ or perhaps *\*upo-* ‘under, below’. The isogloss is doubtful because OIr. *fel* is only found in glossaries and may be back-formed from *felbas* ‘sorcery’, which may in turn be analyzed as a compound of *fell* ‘treacherous deed’ and *fis* ‘knowledge’. However, the single *-l* in *fel* and *felbas* remains unexplained in the latter scenario.

#### FAULT

PC: *\*loxtu-* (OIr. *locht* ‘shame, fault, offense’)  
 PG: *\*lahan-* (Icel. *lá*, OE *lēan*, ‘blame’, OS *lahan*, OHG *lahan* ‘blame, prohibit’)

REF: H67, EDPG 322  
 Isogloss typology: RT  
 Interpretation: IE? (0)

If related, a CG root *\*lok-* may be posited. This isogloss is not compelling, however, because OIr. *locht* can also be explained as having split off from OIr. *lucht* ‘charge’ by generalization of the lowered root vowel in gen. sg. *lochtae*. The root vowel of *lucht* cannot be reconciled with the Germanic.

#### FIBULA

PC: *\*delgos-* (OIr. *delg* ‘thorn, peg, spike, brooch fastening the mantle’, W *dala* ‘sting, bite’)  
 PG: *\*dalka-* (OE *dalc*, *dolc* ‘clasp, buckle, brooch’, ON *dalkr* ‘cloak-pin’)  
 REF: L249, EDPC 94, LIV<sup>2</sup> 113-114  
 Isogloss typology: SM  
 Interpretation: IE(?)

With Lith. *dilgėti* (*dilga*, *-jo*) ‘to sting, ache, itch’ < *\*d<sup>(h)</sup>lg-* and additional Baltic comparanda, there appears to be a shared root *\*d<sup>(h)</sup>elg-* ‘to sting’, which in Celtic and Germanic acquired the meaning ‘cloak-pin’ or ‘brooch’. A caveat is that this is only one out of a range of meanings in Irish and Welsh appears to preserve the older meaning ‘sting’. This could indicate that the meaning ‘brooch’ developed independently in Irish and Germanic.

#### FORTIFICATION

PC: *\*brig-* (OIr. *bri* ‘hill’), *\*brigā* (W, MB, Co. *bre* ‘hill’, Gaul. toponymical *-briga* ‘hillfort’)  
 PG: *\*burg-* (Go. *baurgs* ‘fortified place; city’, ON *borg* ‘town, citadel; small hill’, OE *burg*, OHG *burg* ‘city’)  
 REF: L251, Kr125, IEW 140-141, EDPC 77, EDPG 85, Ko12  
 Isogloss typology: SM  
 Interpretation: IE(?)

PC *\*brig(ā)* ‘(fortified) hill’ and PG *\*burg-* ‘fortified place, town’ continue a zero-grade root noun of PIE *\*b<sup>h</sup>erǵ<sup>h</sup>-* ‘to be high, hill’ (cf. Av. *bərəz-* ‘mountain’) and uniquely expand the meaning with ‘fortified hill, settlement’. However, this meaning is only inferred from Continental Celtic toponyms, as Insular Celtic reflexes retain the bare meaning ‘hill’. The evidence for the meaning ‘hillfort’ in Continental Celtic may be skewed by the fact that place names for built-up places are more likely to be transmitted in our sources than bare hills.

#### FRIEND

PC: *\*karant-* (OIr. *cara*, W *car* ‘friend’, B *kar* ‘parent’, OCo. *car* gl. *amicus*)  
 PG: *\*frī(j)ōnd-* (Go. *frijonds*, ON *frændi*, OE *frēond*, OHG *friunt* ‘friend’)  
 REF: IEW 515, 844, Schu178, EDPC 190, EDPG 155  
 Isogloss typology: MO/SM  
 Interpretation: IE

Both Celtic and Germanic have a nominalized present participle of the verb ‘to love’ in the meaning ‘friend’, however the base verb differs. If these forms are related, it must be a calque from Germanic to Celtic because nominalized present participles are common in the former and not the latter, cf. PG

\*f<sup>h</sup>(j)and- ‘enemy’. However, the isogloss is judged as doubtful because nominalized present participles are not completely unparalleled in Celtic, cf. OIr. *cana* ‘poet, chanter’, *náma(e)* ‘enemy’. The derivational parallelism may therefore be coincidental, cf. Oss. *lymaen* | *limæen* ‘friend, lover’ < PIr. \*f<sup>h</sup>riamna- ‘the beloved one’.

## HAIR

PC: \*dog<sup>wo</sup>lo- (Mlr. *dial* ‘native, fitting; lock, tress, plait, fold’), \*dog<sup>wo</sup>lio- (W *dull* ‘manner, method, arrangement, pattern, line; plait, fold’, B *duilh* ‘handful, bundle, bale of straw’)  
 PG: \*tagla- (Go. *tagl*, ON *tagl*, OE *tægl* ‘(horse’s) hair’, OHG *zagal* ‘tail, sting, penis’)  
 REF: L256, EDPG 102, H78, EDPG 504, Hyllested 2014, 143–4  
 Isogloss typology: LX  
 Interpretation: IE (0), ML (I–II)

If related, and assumed that the C reflex of PIE \*g<sup>wh</sup> merged with \*u in this position, a CG isogloss \*dog<sup>wh</sup>lo- may be reconstructed. The hitherto accepted proto-form \*doklo- must be rejected in view of the Brittonic evidence, cf. PC \*moniklo- > W *mwnwgl* ‘neck’ for the development of PC \*-kl-; therefore Skt. *daśā* ‘fringe’ cannot be cognate with the Celtic. The comparison is semantically imperfect: in Celtic it appears to have meant ‘arrangement (e.g. of hair, thread); mode’ originally, whereas the Germanic meaning is simply ‘hair’.

## HIDE

PC: \*skanto- (B *skant* ‘scales’)  
 PG: \*skinþa- (ON *skinn* ‘skin’, OS *biscindian* ‘to skin, flay’, OHG *scindan*, *scintan* ‘to skin, flay, peel off’)  
 REF: L257, IEW 929–930  
 Isogloss typology: RT/LX  
 Interpretation: IE? (0), L (I)

If related, a CG \*sken- ‘skin, to peel’ may be reconstructed. The isogloss is non-compelling: the Celtic word is restricted to Breton and the semantic connection is imperfect. Alternatively, Lat. *scandula* ‘shingle (for a roof)’ > MFr. *escande* ‘shingle’ might be the source of the Breton, but this would require a semantic shift from ‘shingle’ to ‘scale’.

## HORSE 2

PC: \*kankist-ikā or \*kanx-s-ikā (W *caseg*, B *kazeg* ‘mare’)  
 PG: \*hanhista- (ON *hestr* ‘stallion, horse’), \*hangista- (OE *hengest*, *hengst*, OFri. *hengst*, *hangst*, *hingst*, ODu. *hingest*, OHG *hengist* ‘gelding, horse’)  
 REF: Pedersen 1913, 29, IEW 522–523, Pl284, Jørgensen 2006, 64–66, H76, EDPG 209, Ko9  
 Isogloss typology: SM/MO  
 Interpretation: CGL (I–II)

Pedersen and IEW reconcile the Germanic and Celtic by assuming a CG formation \*kankisto-. This form is directly continued by Germanic with Verner alternation. The Celtic would be a derivative \*kankist-ikā. However, this form can only yield the attested Celtic forms by assuming an irregular early syncope to \*kankstikā, and even then the medial consonant cluster would probably yield \*-st-, not \*-s- in British Celtic. Assuming that

\*kankist-ikā went through regular syncope at a later date is also problematic, as post-syncope clusters containing a nasal and *s* generally retain the nasal, so the expected outcome would be e.g. W \*\**can(g)seg*, cf. PC \*ammV(n)-sterā > W *amser* ‘time’. A shared proto-form \*kankisto- therefore comes at the cost of assuming one or more ad hoc sound laws. Jørgensen’s etymology derives the Brittonic forms from PC \*keng- ‘to go, step’ through a formation \*kanx-s-ikā. Here, the expansion in \*-s- may be compared to the \*-s- in \*kanx-s-man ‘step’, from the same root, and \*-ikā denotes a feminine noun derived from the adjectivalizing \*-iko-. This pre-form \*kanx-s-ikā is then equated by Koch to PG \*hangista- ~ \*hanhista-, where the Germanic presumably goes back to pre-PG \*kank- followed by a superlative suffix. While this equation through a shared pre-form \*kank- is formally possible, it has a number of disadvantages. For Celtic, such a pre-form cannot be reconciled with the root \*keng-, and the segmentation of the Celtic as \*kanx-s-ikā becomes arbitrary in absence of this root connection. For Germanic, segmentation into pre-PG \*kank-isto- implies a superlative suffix, but this suffix implies that the word was originally an adjective, but no trace of usage as an adjective exists.

## INGOT

PC: \*tin(n)V- (OIr. *tinne* ‘ingot, bar, rod of metal’)  
 PG: \*tina- (ON *tin*, OE *tin*, OS *tin*, OHG *zin* ‘tin’)  
 REF: McManus 1991, 37, EDPG 517  
 Isogloss typology: LX  
 Interpretation: ML (III–IV)

Within Germanic, the word appears connected with an ablauting variant \*taina-, cf. MHG *zein(e)* and MLG *tēn*, which besides ‘twig, rod’ also means ‘ingot, bar of metal’. OIr. *tinne* has been analyzed as a derivative of *tind* ‘brilliant’ or *tend* ‘strong’, but this derivation is rather more speculative because no single formation meaning both ‘strong’ and ‘bar, ingot’ is found. The geminate -nn- in OIr. *tinne* may be analyzed as from a singulative \*tin-inio-, giving the meaning ‘single item made of tin’; alternatively, the double \*-nn- in Celtic was original, and Germanic borrowed it as a single \*-n-, as in e.g., PC \*granno- ~ PG \*granō- ‘beard’. A correspondence between Germanic \*-t- and Celtic \*-t- implies a loanword one way or another, and because the Germanic has the more plausible intra-Germanic connections, Germanic to Celtic is the more likely direction of borrowing. However, the language-internal etymologies in both branches make chance resemblance equally likely. It is also possible that the Irish is a Stratum IV borrowing from OE *tin* ‘tin’ or *tinn* ‘beam, rafter’.

## LABOR

PC: \*fidu- (OIr. *idu* ‘pain, pangs (of childbirth)’)  
 PG: \*fitan- / \*fetan- (Go. *fitan* ‘to be in labor’)  
 REF: L256, IEW 830, EDHIL 420, EDPG 127  
 Isogloss typology: RT  
 Interpretation: IE? (0)

A CG root \*ped- may be proposed on the basis of these forms. However, OIr. *idu* may also be connected to Arm. *erkn* ‘pains of childbirth’, Gr. ὀδύνη ‘pain’ < PIE \*h<sub>2</sub>eduōn. A direct reflex

of this root should have given OIr. *\*idb*, however, the final vocalism may have been restored on the basis of oblique forms *\*h<sub>1</sub>dun-*.

### LEPROUS

PC: *\*tru(d)sko-* (OIr. *trosc* ‘leprous, leper’, W *trwsgl*, ‘awkward, crude, rash’, Co. *trosgan*, B *trouskenn* ‘scab’)  
 PG: *\*brūt(s)-* (Go. *bruts-fill*, OE *brüst-fell* ‘leprosy’)  
 REF: L257, IEW 1096-1097, EDPC 391, H28  
 Isogloss typology: SM  
 Interpretation: IE?

Derivatives of PIE *\*treud-* ‘to push, thrust’ may mean ‘leprosy’ in both C and G. However, the derivations meaning ‘leprosy’ differ, and the long vowel in G is likely the result of secondary ablaut, implying that the G derivative meaning ‘leprosy’ is rather late and likely independent from the Celtic.

### MEMBRANE

PC: *\*kenno-* (OIr. *cenn*, W *cen*, B *kenn* ‘skin, membrane, dandruff’)  
 PG: *\*hin(d)nō(n)-* (ON *hinna*, OE *hion(ne)* ‘thin skin, membrane’), *\*hindō-* (Far. *hind* ‘membrane’)  
 REF: L256, IEW 567, EDPG 226  
 Isogloss typology: LX  
 Interpretation: IE? (0) L (I)

If related, a Celto-Germanic *n*-stem *\*kent-on-* may be reconstructed, where an oblique case form, e.g., gen. *\*kent-n-es*, was generalized in Celtic. In lack of any good parallels, it is unclear, however, whether *\*-ntn-* gives *\*-nn-* in Celtic. The appurtenance of the formally identical Lat. *centō* ‘blanket, patched cloth’ is less certain in view of the semantic difference. For Celtic, an alternative reconstruction to PC *\*kisnā* is possible, which could then be related to Lith. *šikšnà* ‘hide, leather, belt’ < *\*kis-neh<sub>2-</sub>*, but this requires that the medial *k* is intrusive in Lithuanian.

### ONE-EYED

PC: *\*kaiko-* (OIr. *cáech* ‘one-eyed’, W *coeg-ddall* ‘half-blind’, OCo. *cuic* ‘one-eyed’)  
 PG: *\*haiha-* (Go. *haihs* ‘one-eyed’)  
 REF: L256, IEW 519-520, H55  
 Isogloss typology: SM  
 Interpretation: IE(?)

The meaning ‘one-eyed’ versus ‘blind’ is shared in Celtic and Germanic, cf. Lat. *caecus* ‘blind’. However, the original meaning may have been ‘one-eyed’ (cf. Skt. *kekara-* ‘squint-eyed’), and the semantic shift is trivial in either direction.

### PLEASANT

PC: *\*tek-o/ā-* (W *teg*, B *tek* ‘pretty’, MCo. *tek* ‘fair, pretty’), *\*an-teki-*, (OIr. *étig* ‘unnatural, unseemly’)  
 PG: *\*pakkja-* (ON *þekkr* ‘pleasant’, OHG (Hl. 25) *dechisto* (superl.) ‘dearest’)  
 REF: L263, Lühr 1988, 232, EDPG 532  
 Isogloss typology: LX  
 Interpretation: ML (I-II)

A CG adjective *\*tek-* ‘fair, pleasant’ may be adduced; however, the ON form is ambiguous, because it can also be analyzed as

continuing *\*panki-*, i.e., a gerund to PG *\*pankōn-* ‘to thank’. OHG *dechisto* is a hapax, which taken at face value points to *\*tok-ni-* through Kluge’s law. However, an OHG hapax alone is too small a base for assuming a compelling CG isogloss.

### POLE

PC: *\*mazdio-* (Mlr. *maide* ‘post, stick, bundle’)  
 PG: *\*masta-* (OE *mæst*, OS *mast*, OHG *mast* ‘mast, pole, stick’)  
 REF: IEW 701-702, EDPC 260, EDPG 357, Ko7  
 Isogloss typology: LX  
 Interpretation: 3L (I-II)

If uniquely related, CG *\*mazd(i)o-* may be reconstructed. The status of this isogloss depends on whether Lat. *mālus* ‘mast, pole, beam’ is related. The Latin connection can be maintained by either reconstructing a shared proto-form *\*mazd-slo-* or by assuming an irregular development of earlier Lat. *\*mādus* to *mālus*.

### POOL

PC: *\*lindV-* (Gaul. *linda* ‘beverages’, OIr. *lind* ‘liquid; pool, lake’, W *llyn* ‘drink; lake’)  
 PG: *\*linda-* (ON, Far. (poet.) *lind* ‘spring, source’, ?OFri. *lind* ‘lake’, ?MHG *lünde* ‘wave’)  
 REF: L253, IEW 675, Kr140, H92, Ko8  
 Isogloss typology: LX  
 Interpretation: IE? (0), ML (III, IV), GCL (II)

If the connection between the Celtic and Germanic forms is accepted, a common root *\*lendh-* may be reconstructed. However, the Old Frisian attestation is uncertain, and MHG *lünde* ‘wave’, if not rather connected to OFr. *onde*, *l’onde* ‘(the) wave’, would presuppose an unrelated formation *\*lunþjō-*. In addition, there is a possibility that the West Norse words were borrowed from Celtic. In view of these objections, the Celto-Germanicism remains a possibility at best.

### QUICK

PC: *\*φeimi-* (OIr. *éim* ‘prompt, quick, timely’)  
 PG: *\*fima-* (ON *fimr* ‘nimble’)  
 REF: L261, Blöndal 1989, 175  
 Isogloss typology: RT/LX  
 Interpretation: IE? (0), L (I)

The isogloss presupposes a CG root *\*p(e)i-* suffixed with *\*-mo-* and *\*-mi-*, but the evidence for such a root is slim: it is not certain that the Celtic form had *\*p-* and otherwise only *\*-ei-* is left to compare. The paucity of the phonological material makes the isogloss conjectural even if no formal or semantic objections can otherwise be made.

### RAVE

PC: *\*uāti-* (Gaul. οὐάτις (pl.), OIr. *fáith* ‘prophet, seer’), *\*uātu-* (OIr. *fáith* ‘prophecy’, W *gwawd* ‘song’)  
 PG: *\*wōda-* (Go. *wods* ‘possessed’, ON *óðr* ‘frantic, furious, OE *wōd* ‘insane’), *\*wōdi-* (OHG *wuot*, MDu. *woet* ‘rage’), *\*wōþa/ō-* (ON *óðr* ‘mind, song’, OE *wōð* ‘sound, voice’)  
 REF: Kr139, EDPC 404, H12, EDPG 592, Ko13  
 Isogloss typology: RT  
 Interpretation: IE? (0)

The various formations in both branches allow reconstruction of a CG root *\*(H)ueh<sub>2</sub>-* or *\*(H)ueh<sub>3</sub>-*, and the variety of formations implies the word has considerable pedigree in both branches. The use of a *ti*-suffix in animate nouns is reminiscent of *\*g<sup>h</sup>os-ti-* ‘guest’. The Celto-Germanicism is doubtful because Lat. *uātēs* ‘foreteller, seer’ may be cognate, but may also be a borrowing from Celtic.

### ROCK

PC: *\*krak-ī-*, *\*krek-ī-* (W *craig* ‘rock’), *\*karrikā* (W *carreg*, B *karrek* ‘stone’)  
 PG: *\*hargu-* (ON *hōgr* ‘pile of rocks, sanctuary’, OE *hearg* ‘pagan temple, idol’, OHG *harug* ‘grove’, *\*harha(n)-* (Elfd. *ar* m. ‘bedrock’, Nw. *har(e)* ‘cliff, rocky bottom’, Du. dial. *hare* ‘hillock’)  
 REF: EDPG 211  
 Isogloss typology: LX  
 Interpretation: 3L (I-II)

A CG *\*kVr(r)Vk-* may be reconstructed, but Celtic *\*-ra/re- ~ \*-arri-* versus Germanic *\*-ar-* provide an imperfect formal match, and the correspondence of a consonant skeleton only makes a non-IE ultimate source possible. Semantically, the match is also imperfect in that the word refers to a single rock in Celtic versus a whole mound in Germanic. Mlr. *crec*, *crac*, Sc.G *creag* ‘crag, rock’ may be borrowed from Welsh.

### ROPE

PC: *\*kom-uorko-* or PBr. *\*kom-uarko-* (W *cywarch*, OB *coarcholion* gl. *canabina*, B *kouarc’h* ‘hemp’)  
 PG: *\*werka-* (WFri. *wurk*, MDu. *werc*, OHG *wer(i)h* ‘string of hemp, rope’)  
 REF: L249, IEW 1155, EDPG 580  
 Isogloss typology: RT/LX  
 Interpretation: IE? (0), GCL (III-IV)

The Germanic forms appear derived from *\*wergan-*, *\*wurgjan-* ‘to strangle’, where the final *\*k* can be the result of Kluge’s law *\*werka-* < *\*werkka-* < PIE *\*uerǵ<sup>h</sup>-nó-*. An *o*-grade PG *\*warka-* could be the source of W *cywarch*, B *kouarc’h*, but such an *o*-grade reflex is not actually attested, and even then the date of borrowing may well be post-PG. Alternatively PG *\*werka-* could be unrelated to *\*wergan-*, *\*wurgjan-* and a CG root *\*uerk-* ‘hemp’ was continued in the *o*-grade in Brittonic while PG *\*werka-* continues *\*uerk-nó-*. Both scenarios are doubtful because they presume that the Brittonic forms were prefixed with *\*kom-*, but this segmentation with a prefix may not be correct.

### SEDIMENT

PC: *\*grāuā* (W *gro* ‘pebbles, gravel, sand’, OCo. *grou* ‘sand’)  
 PG: *\*gruwwa-* (Icel. *grugg* ‘sediment’)  
 REF: IEW 460, Zair 2013, EDPG 193  
 Isogloss typology: LX  
 Interpretation: IE (0), L (I)

Celtic and Germanic appear to have two different formations *\*g<sup>(h)</sup>rHu-eh<sub>2</sub>-* and *\*g<sup>h</sup>ru(H)-o-* with similar meanings, but the implied laryngeal metathesis complicates the comparison. A connection with PIE root *\*g<sup>h</sup>reh<sub>1</sub>u-* (cf. Lith. *griūti* ‘to tear

down’ and *griūti* ‘to collapse’) is possible. However, the Celtic formation has more convincingly been connected to the root *\*grH-* as in *\*grH-no-* ‘grain, kernel’, cf. OIr. *grán*, Lat. *grānum*, Go. *kaurn* and *\*grH-ro-*, cf. Lat. *glārea* ‘gravel’ (< *\*grārea*).

### SLAY

PC: *\*slak-kV-* (OIr. *slacc* ‘sword’), *\*slak-to-* (Mlr. *slachta* ‘hit’)  
 PG: *\*slahan-* (Go. *slahan*, ON *slá*, OE *slēan*, OHG *slahan* ‘to beat, slay’)  
 REF: L248, H42, EDPG 345, EDPG 452  
 Isogloss typology: RT  
 Interpretation: L (I)

A CG root *\*slak-* can be adduced. The OIr. hapax *slacc* and its derivatives may alternatively have an intra-Celtic connection in PC *\*slad-* ‘to hit, slay’, cf. OIr. *slaidid* ‘strikes, slays’, destroying the Celto-Germanicism. This would require derivation with suffix *\*-kV-* for *slacc*, and then *slachta* would have to be derived from *slacc*. However, this derivation is poorly understood, because suffixes in *\*-kV-* are usually found in nouns derived from prepositions, cf. OIr. *aicce* ‘nearness, fosterage’, W *ach* ‘beside, lineage’ < PC *\*ad-* ‘to’. The geminate in *slacc* also requires a derivation with *\*-kV-* if the CG root *\*slak-* is to be maintained.

### SPEAK

PC: *\*rād-ī-* (OIr. *ráidid*, W *adrodd* ‘to speak’)  
 PG: *\*rōdjan-* (Go. *rodjan* ‘to speak’, ON *ræða* ‘to speak, converse’)  
 REF: L258, Kr140, Pr122, EDPG 305, H79, EDPG 415  
 Isogloss typology: SM  
 Interpretation: IE(?)

Celtic and Germanic uniquely use causative formations of the PIE root *\*(H)reh<sub>1</sub>d<sup>h</sup>-* ‘to take care of, arrange’ with the meaning ‘to tell, speak’. However, Lith. *rōdyti* ‘to show, indicate, demonstrate’ is rather close in meaning, as telling is merely a particular form of indicating.

### SPLIT

PC: *\*sφlissi-* (OIr. *slis* ‘shaving(s), splinter(s)’)  
 PG: *\*splūtan-* (MDu. *splīten*, MHG *splīzen* ‘to split’)  
 REF: L262, IEW 1000, EDPG 468  
 Isogloss typology: RT  
 Interpretation: IE? (0)

A CG root *\*spleid-* ‘to split’ has been argued to be continued as *\*splid-ti-* in Celtic and as *\*spleid-e-* in Germanic. If so, the occurrence of dental assibilation in the Celtic form implies that the root is exceedingly archaic, so this word may be a shared archaism. David Stifter (p.c.) instead proposes a connection with Ir. *sligid* ‘cuts, fells’, i.e. PC *\*sli(x)-sti-* ‘cuttings’ > *sliss*.

### SPRUCE

PC: *\*φ(o)uxtākā* (OIr. *ochtach* ‘pine, ridge-pole’)  
 PG: *\*feuhtjōn-* (OHG *fuhta* ‘spruce’)  
 REF: Pedersen 1913, 44, Birkhan 1970, 524, Pr118, EDPG 139  
 Isogloss typology: MO  
 Interpretation: IE

Celtic and Germanic uniquely expand the PIE root *\*peuk-* ‘to stab’ with *\*-t-*. The ablaut grades differ in Celtic and Germanic, but the Celtic may go back to a full grade by assuming a secondary shortening analogous to OIr. *ochtrach* ‘dung mound’ < *\*óchtrach*. The isogloss is not compelling because OIr. *ochtach* can also be derived from PC *\*oux(s)tākā*, and be related to OIr. *óchtar*, *úachtar* ‘upper part, top’ < PC *\*oux(s)tero-*. The semantic shift would be parallel to OIcel. *þoll* ‘pine’, if it is from PIE *\*telh<sub>2</sub>-* ‘to raise up’.

### STEEP

PC: *\*sterto-* (W *serth* ‘steep, slanted, obscene’, *syrrthio* ‘to fall’, B *serzh* ‘steep, vertical’, *serzhañ* ‘to sail upwind’)  
 PG: *\*sterþ/dja-* (Olc. *stivðr* ‘stiff’), *\*sturþ/dō* (Icel. *storð* ‘grass, green stem’)  
 REF: IEW 1022-1027, Blöndal 1989, 962, 967  
 Isogloss typology: LX  
 Interpretation: IE (0), ML (I-II)

If related, a CG *\*stert(i)o-* ‘steep, stiff’ may be reconstructed. The connection is uncertain because the Germanic is also compatible with a root *\*sterð<sup>h</sup>-*, which allows for a connection with Gr. *στόρθη* Hes., *στόρθυγξ* ‘point’ instead of the Celtic.

### STEP

PC: *\*keng-* (OIr. *cingid*, W *rhy-gyng* ‘tread, step, amble’)  
 PG: *\*hinkan-* (OE *hincian*, MDu. *hinken*, OHG *hinkan* ‘limp, hobble’)  
 REF: EDPC 200, EDPG 226  
 Isogloss typology: RT  
 Interpretation: IE? (0), ML (I-II)

CG *\*keng-* may be reconstructed. All other possible cognates have initial *\*s-*, cf. Pāli *khañjati* ‘to limp’ (< Skt. *\*skañjati*) and Gr. *σκάζω* ‘id.’, but this may be a case of *s*-mobile.

### STRENGTH

PC: *\*trexno-* (OIr. *trén* ‘brave, strong’), superlative *\*trexamo-* (OIr. *tressam*, W *trechaf*)  
 PG: *\*þrakja-* (OE *þrece* ‘force, oppression’, OS *wāpan-threki* ‘ability with arms’, ON *þrekr* ‘strength, bravery’)  
 REF: L248, IEW 1076, 1090, LIV<sup>2</sup> 632, EDPC 389, H32, Ko10  
 Isogloss typology: RT  
 Interpretation: IE? (0)

A CG root *\*treg-* would connect these forms, but the root-final consonant is unsure for Celtic, which leaves some alternative connections open. The Celtic forms may alternatively be connected to PIE *\*terg<sup>w</sup>-* ‘threaten, scare’, cf. Skt. *tarjati* ‘threatens, reviles’, Lat. *torvus* ‘grim, fierce’, Hitt. *tarkuuant-* ‘looking angrily’. A connection with *\*terg<sup>w</sup>-* would have the advantage that it appears to have an intra-Celtic cognate in W *tarfu* ‘to disturb, trouble, scare’, but it would require the assumption that the Celtic underwent *Schwebeablaut*, but such ablaut is paralleled by other root extensions in *\*s*, cf. *\*h<sub>2</sub>eug<sup>g</sup>-*, *\*h<sub>2</sub>ueg<sup>s</sup>-* ‘to grow’. Ru. *trógaty* ‘to touch’, Latv. *treksne* ‘thrust’ are semantically distant and require root-final *\*g<sup>h</sup>* which may be connected to the Celtic, but not to the Germanic.

### STRIPE

PC: *\*streibā* (OIr. *sriab* ‘stripe, line’)  
 PG: *\*strīpa/ōn-* (Far. *strīpa*, Nw., MDu. *stripe*, MHG *strīfe* ‘stripe’)  
 REF: L262, IEW 1028-1029, EDPG 485  
 Isogloss typology: LX  
 Interpretation: IE? (0), ML (I-II)

If CG, *\*s(t)reib-* may be reconstructed. The connection is speculative because the Germanic may also be from any other labial stop through Kluge’s law followed by shortening of overlong syllables. Evidence that the root-final *\*p* is secondary can be adduced from the possibly related MLG *streven* ‘to stretch, strive’, MHG *streben* ‘to get up, resist, strive’ < PG *\*stribōn-* < pre-PG *\*strib<sup>h</sup>-*. A root-final *\*b<sup>h</sup>* is compatible with the Celtic, but also invites comparison with the semantically imperfectly matching Gr. *σφιρπός* ‘dense, solid, firm’. The Celtic may alternatively be derived from PIE *\*streig-ueh<sub>2</sub>-*, cf. Lat. *striga* ‘strip, row’ < *\*strig-eh<sub>2</sub>-*.

### STRIVE

PC: *\*(φ)leid-o-* (W *llwyddo* ‘to succeed’), *\*(φ)loid-ī-* (Mlr. *laidid* ‘exhorts, incites’)  
 PG: *\*flūtan-* (OE *flūtan* ‘to contend, strive, scold’, OHG *flūzan* ‘to attempt, try hard’)  
 REF: IEW 666, KPV 521-522, EDPC 133, H49, EDPG 147  
 Isogloss typology: RT  
 Interpretation: IE? (0), ML (I)

If related, a Celto-Germanic root *\*pleid-* ‘to strive, succeed’ may be reconstructed. Mlr. *laidid* ‘exhorts, incites’ < *\*(φ)loid-ī-* would then be a causative formation, unless it is a denominal verb based on OIr. *loid* ‘(type of) poem, song’ (David Stifter, p.c.). This root and its formations are possibly archaic. However, the Celtic may also go back to PC *\*leid-*, a reflex of PIE *\*leid-* ‘to push, play, let go’, cf. Gr. Hes. *λιυδεσθαί* ‘to contend’, Lat. *lūdō* ‘to play’ and Lith. *léisti* ‘to let, publish, send, urge’. Because PIE *\*p-* is lost without a trace in this position in Celtic, the matter cannot be decided with certainty.

### SUFFERING

PC: *\*aglitā* (W *aeled* ‘pain, suffering, grief’)  
 PG: *\*aglibō-* (Go. *agliba* ‘tribulation’)  
 REF: L257, IEW 7-8, EDPC 27, H57, LIV<sup>2</sup> 257, EDPG 4  
 Isogloss typology: MO  
 Interpretation: GCL (I-II)

Both C and G appear to continue *t*-expansions of PIE *\*h<sub>2</sub>eg<sup>h</sup>-leh<sub>2</sub>-* (Skt. *aghrā-* ‘evil’, YAv. *ayrā-* ‘name of an illness’, Go. *aglo* ‘tribulation’). However, these expansions must be independent in PC *\*aglātu-* (Mlr. *álad* ‘wound’, W *aelawd* ‘grief, affliction’), as they appear to be derivations in *\*-tu-*, while the Germanic (highly productive) derivation in *\*-ipō* < *\*-i-tā* is secondary from *\*agl-jan-*, cf. G *agljan* ‘to hurt’. A pre-PG *\*aglitā* provides a suitable parallel formation or donor form for W *aeled*, but it requires the assumption that the W masculine noun was originally feminine.

### SWIFT

PC: *\*kribV-* (OIr. *crib*, *crim* ‘quickly, swiftly’)  
 PG: *\*hrappa-* (Icel. *hrapa* ‘to fall down’, Nw. *rapa* ‘crash down’, MDu. *rap*, ‘swift, fierce’)

REF: Blöndal 1989 366, EDPG 243  
 Isogloss typology: LX  
 Interpretation: 3L (I)

This isogloss presumes a CG root *\*kreb<sup>(h)</sup>-* that is continued in the zero grade in Celtic, and in the *o*-grade in Germanic. This root violates PIE root constraints and is therefore unlikely to be of Proto-Indo-European age. The spelling *crim* is also attested in OIr., which, if original, would remove the isogloss and allow for a connection with *W cryf*, B *kreñv* ‘strong’ instead.

### SWIRL

PC: *\*s(t)rit-antī* (OIr. *srithit* ‘stream (of milk, blood)’)  
 PG: *\*streþan-* (OHG *stredan* ‘to seethe, swirl’), *\*strapma-* (MHG *stradem* ‘swirl’), *\*strubla-* (NHG *Strudel* ‘whirl, vortex’)  
 REF: IEW 1001-1002, EDPG 484  
 Isogloss typology: RT  
 Interpretation: IE? (0), L (I)

A CG root *\*s(t)re(i)t-* ‘to flow’ may be posited, but the precise formation of OIr. *srithit* is unclear, making the root connection uncertain as well. OCo. *stret*, MCo. *streith* ‘stream, brook’ must be read as containing a final /ð/ < PC *\*d*, so they are unrelated.

### TESTICLES

PC: *\*kallio-* (W *caill*, B *kell* ‘testicle’), *\*kallu-* (OIr. *caull* ‘testicle’), *\*kalluko-* (OIr. *cullach* ‘boar, stallion’, MB *callouch* ‘uncastrated’)  
 PG: *\*skalla(n)-* (OE *sceallan*, MHG *schellen*, OFri. *skall* ‘testicle(s)’), *\*skelhan-* (OHG *scel(ah)o*, OLFra. *skelo*, MLG *schele* ‘stallion’ (whence NHG *be-schälen* ‘to cover (a mare)’)  
 REF: L256, IEW 292  
 Isogloss typology: RT  
 Interpretation: L (I-II)

A CG root *\*(s)kal-* may be reconstructed. However, another possibility is that the Celtic word is related to Gr. κῆλων, -ωνος, Dor. κάλων ‘stallion, male ass’ (< “having testicles?”), through a shared root *\*k(e)h<sub>2</sub>l-*. This root would be incompatible with PG *\*skelhan-* on account of the latter’s *e*-vocalism.

### THIRST

PC: *\*tartu-* (OIr. *tart* ‘dryness, thirst’, W *tarth* ‘steam’)  
 PG: *\*burstu-* (OE *burst*, *þyrst*, OS *thurst*, OHG *durst* ‘thirst’)  
 REF: L259, EDPG 371, EDPG 553  
 Isogloss typology: MO  
 Interpretation: IE (0)

Celtic and Germanic share a *tu*-derivation to the PIE root *\*ters-* ‘dry’, but it is unclear whether this represents a PIE archaism or could be due to independent innovations. The semantic shift of ‘dryness’ to ‘thirst’ is trivial and shared with e.g., Avestan *taršna-* ‘thirst’.

### TROOP

PC: *\*drungo-* (OIr. *drong* ‘troop’, MW *dronn* ‘multitude’, Gallo-Lat. *drungos* ‘group of enemies’)  
 PG: *\*druhta-* (Go. *driugan* ‘to serve as a soldier’, OE *dryht* ‘companion’, OHG *truht* ‘troop’, ON *drótt* ‘company, following’)  
 REF: L247, IEW 255, H34

Isogloss typology: SM  
 Interpretation: IE(?)

A semantic isogloss has been proposed on the basis of a shared development of a military sense to the root *\*d<sup>h</sup>reugh<sup>h</sup>-*, which in Balto-Slavic just means ‘friend’, cf. OCS *drugъ*, Lith. *draũgas*. It is not certain that the Celtic form goes back to this root, however. As no nasal present is associated with this root in Celtic, the form *\*drungo-* would require a rare metathesis of pre-PC *\*drug-no-* to *\*drungo-* (“Thurneysen’s law”), which is otherwise only found in PIE *\*b<sup>h</sup>ud<sup>h</sup>-no-* ‘bottom’ > PC *\*bundo-* (cf. Skt. *budhná-* vs Mlr. *bond*, *bonn*) and perhaps PIE *\*tud-no-* ‘broken’ > PC *\*tundo-* (Skt. *tudná-* vs W *twn*). Another possible objection to assuming a Celto-Germanicism is the fact that the Balto-Slavic meaning ‘friend’ itself may have developed from (the then primary meaning) ‘military ally’.

### TROUBLE

PC: *\*saitro-* (OIr. *saethar* ‘work, labor’), *\*saitu-* (OIr. *sáeth* ‘trouble’, W *hoed* ‘pain’)  
 PG: *\*saira-* (OE *sārig* ‘sorry’, OHG *serō* ‘painfully’, ON *sárr* ‘painful’, *sár* ‘wound’)  
 REF: IEW 877, H63  
 Isogloss typology: SM  
 Interpretation: IE(?)

Reflexes of PIE *\*seh<sub>2</sub>i-* ‘to rage, be in pain’ may mean ‘pain’ in Celtic and Germanic only, cf. Lat. *saevus* ‘wild’, W *hoiwy* ‘lively’, Hitt. *šāi-zi* ‘to become sullen, angry’. However, the range of meanings and formations is wide in both branches, so this semantic development, which anyway seems trivial, may well be independent in each branch.

### TUB

PC: *\*drukontio-* (OIr. *drochta* ‘tub, vessel’)  
 PG: *\*truga-* (OE, ON *trog*, OHG *troc* ‘trough’)  
 REF: Stokes 1901, 468-469, IEW 214-217, H75  
 Isogloss typology: SM  
 Interpretation: IE(?)

A derivation of PIE *\*dreu-* ‘tree’ in *\*kó-* is attractive for the Germanic, but a PC derivative *\*druxtio-* as has been suggested would require an irregular loss of the thematic vowel in *\*-ko-*. An alternative *\*drukontio-* could yield the attested form, leaving a root connection and a semantic isogloss. OIr. *droichet* ‘bridge, causeway’ is unrelated, and must be a compound of *droch* ‘wheel’ and *sét* ‘path’.

### UTTERANCE

PC: *\*iexti-* (OIr. *icht* ‘people, tribe’, W *iaith*, B *yez*, MCo. *yēth* ‘language’)  
 PG: *\*jehti-* (OHG *jih* ‘confession; praise’, OFri. *jecht* ‘confession’)  
 REF: L257, Kr140, IEW 503-504, SBCHP 106-107, 268, EDPG 435, H85, EDPG 272  
 Isogloss typology: MO  
 Interpretation: IE (0)

Celtic and Germanic uniquely expand the PIE root *\*iek-* ‘to speak’ with *\*-ti-*. OIr. *icht* may either be an *i*-stem or a *u*-stem; the cluster *-cht-* resists palatalization, so the distinction between a PC *\*-tu-* and

a *\*-ti-* suffix is neutralized. For W *iaith*, B *yez*, both suffixes are impossible: the sound law Brittonic *\*ie > ia* applied regularly, so a suffix that caused *i*-affection to this secondary stem vowel *\*a* must be postulated. Short *\*i* did not cause *i*-affection of *\*a* in Brittonic, but the yod in *io*-stems did, as did long *\*ī < PC \*ī, \*ū*. The suffix most consistent with either of the Irish options would be a secondary thematization of a *\*-ti-* suffix, giving PBr. *\*iextio-*. The combined evidence of Brittonic and Goidelic therefore makes PC derivation in *\*-ti-* more likely than any alternative; derivation in *\*-tu-* would only work if this word were an exception to Brittonic *\*ie > ia*. The Celto-Germanicism could be due to shared inheritance from PIE or to independent innovations to the inherited root *\*iek-*.

## WIRE

PC: *\*uirīā-* (Celtib. *viriae* ‘arm-ornament’), *\*ueiro-* (Mlr. *fiar*, W *gwȳr*, B *gwar* ‘curved’)  
 PG: *\*wīra-* (OE *wīr*, ON *vīrr* ‘ornament of wire’)  
 REF: L251, Kr140, Birkhan 1970, 152-155, Pl284, EDPC 414  
 Isogloss typology: MO/SM  
 Interpretation: IE(?)

Although the Germanic word is usually described as a borrowing from Celtic, this Celto-Germanicism is doubtful because *viriae* and *viriolae* ‘arm-ornaments’ are only indirectly attested in Pliny the Elder’s *Natural History* (Book 33, 12), which describes these words as Celtic. Only if Pliny correctly identified these words as Celtic, a Celto-Germanic connection to PG *\*wīra-* ‘ornament of wire’ may be adduced. However, the Insular Celtic languages provide no semantic match to Pliny’s words. Similarly, OHG *wiara* < PG *\*wiara-* could be a post-PG Stratum IV borrowing from a Gaulish equivalent of *\*weiriā*, but no such word is attested from any Celtic language. The only possible cognate, the adjective *\*weiro-* ‘curved’, is found in Insular Celtic, but it is uncertain that it is etymologically relevant to *viriae*. Even these PG *\*wīra-* and PC *\*weiro-* do not technically constitute a morphological isogloss in the form of a formation *\*ueih<sub>1</sub>-ro-* (< PIE *\*ueih<sub>1</sub>-* ‘to turn’) because G has a noun and C an adjective.

## WRINKLE

PC: *\*grunko-* (OIr. *gruc* ‘wrinkle’)  
 PG: *\*kreukan-*, *\*krūkan-* (MDu. *crōken* ‘to wrinkle, break, tear’, ME *crowke* ‘to bow’, Nw. *krjuka* ‘to cringe, crawl’)  
 REF: IEW 389, EDPG 304  
 Isogloss typology: RT  
 Interpretation: IE? (0)

A CG root *\*gruk-* would connect these forms, but the meaning ‘wrinkle’ appears to be secondary to ‘to be bent’ in Germanic, so the comparison is semantically imperfect. OIr. *gruc* is moreover compatible with many other proto-forms, e.g. PC *\*g<sup>w</sup>riggu-*.

## 13.6.4 Rejected Celto-Germanicisms

### About

REF: L260, IEW 34-35, EDPC 32, EDPG 352

PC *\*ambi* ‘about’ is cognate with PG *\*umbi* ‘about’, but further cognates exist elsewhere in Indo-European, e.g. Gr. ἀμφί ‘for, about’.

## Angelica

REF: Dinneen 1904, L252, Marstrander 1910, IEW 262, Birkhan 1999, Pl284, H20

Ir. *cuinneog* ‘angelica’ has been connected with ON *hvōnn* ‘angelica’. This connection would require a Celtic-Germanic *\*k<sup>w</sup>os-n-* that had a derivative *\*k<sup>w</sup>onn-iā* early on in Celtic, and later received a diminutive suffix *-og* in Irish. No further reflexes of this *\*k<sup>w</sup>onn-* are found in Celtic. *Cuinneog* may also mean ‘churn, bucket’, and it was borrowed into Welsh as *cunnog* ‘bucket’, where Ir. /u/ followed by a palatal consonant was adopted as Welsh /u/ (cf. W *drum*, *trum* ‘crest, peak’ < OIr. *druimm*).<sup>12</sup> The meaning ‘churn, bucket’ must be older: it is the only meaning found in Welsh, and it is found in Irish from the Middle Ages onwards, while meaning ‘angelica’ is first attested in Dinneen’s dictionary. Moreover, the meaning ‘angelica’ is often found only in compounds, e.g. ScG *cuinneag* ‘bucket’, *cuinneag-mhidhe* ‘angelica’, so it is likely a later derivation motivated by its hollow stem.

## Anger, quarrel

REF: L247, EDPG 527

A CG semantic isogloss between Mlr. *drenn* ‘quarrel, combat’ and PG *\*tur(z)na-* (OE, OS *torn*, OS *torn*, Du. *toorn*, OHG *zorn* ‘anger, rage’) has been proposed as containing PIE *\*derh<sub>2</sub>-* ‘to split’ in the meaning ‘anger, conflict’, cf. Skr. *dir̥ṇa-* ‘split’. However *drenn* cannot be formally reconciled with this root: a pre-form *\*drh<sub>2</sub>-no-* would be expected to yield PC *\*drāno-* > Mlr. *\*\*drān* while a pre-form *\*drh<sub>2</sub>-sno-* would yield PC *\*\*dranno-* > Mlr. *\*\*drann* (cf. OIr. *flann* ‘blood red’ < *\*wlanno-* < PIE *\*ulH-sno-*).

## Apple

REF: L251, IEW 1-2, EDPG 31

PC *\*abVI-* ‘apple’ is cognate with PG *\*apla-* ‘apple’, but this formation has cognates in Balto-Slavic, e.g. Lith. *obuolys* ‘apple’.

## Army

REF: L247, Kr136, IEW 615-616

PC *\*korio-* ‘troop’ may be connected to PG *\*harja-* ‘army’, but cognates are found in e.g. Lith. *kāriās* ‘army’. Even if the latter is borrowed from Germanic, the *io*-stem of this root is also found as a derivational base in the Gr. personal name Κοίρανος.

## Awl

REF: IEW 18-22, EDPG 44

The PIE root *h<sub>2</sub>ek-* ‘sharp’ has been posited to contain a CG derivation in *\*-uol-* in W *ebill* ‘piercer, pin’ and PG *\*awala-* ‘awl’, but this derivation leaves the Welsh vocalism and the

<sup>12</sup> Shared inheritance may be excluded because Irish *u* should correspond to Welsh *w*, and Welsh *u* should correspond to Irish *ó, úa* or *oí*.

fortis *ll* unexplained. Whatever the exact derivation of the Welsh, it is unlikely to be closer in derivation or meaning to the Germanic than to VLat. *\*acūcla* ‘needle’ (OFr. *aguille*, Span. *aguja*).

### Axle

REF: IEW 6, H71, Ko9

Formations of PIE *\*h<sub>2</sub>eks-i-* with *\*-l-* in PC *\*axsilā*, PG *ahsula-* ‘axle’ have been argued to constitute a morphological CG isogloss, but Lat. *āla*, dim. *axilla* ‘armpit; wing’ has the same formation. The meaning ‘axle’ is archaic, cf. Gr. ἄξων, Lat. *axis*, Skt. *ākṣa-* ‘axle’.

### Bag

REF: L255, IEW 125-126, EDPC 70, EDPG 49

PC *\*bolgo-* ‘sack, bag, stomach’ and PG *\*balgi-* ‘skin bag’ both continue the PIE root *\*b<sup>h</sup>elǵh-* ‘to swell’ and some reflexes in both branches have the meaning ‘belly’, cf. OE *belg*, WFri. *bealch*, W *bola*. However the wide range of meanings necessitates a shared IE proto-form meaning ‘swollen object, bag’, a meaning shared with other cognates, cf. Ru. *bólozen* ‘callus, bump’, Av. *barəziš* ‘pad, pillow’.

### Bald

REF: EDPC 260

PC *\*mailo-* ‘bald’ cannot be connected to PG *\*maitan-* ‘to hew, cut’ through a supposed shared root *\*mai-*, because the Germanic, along with the related verbs *\*mittōn-* ‘to cut’ and *\*maidjan-* ‘to hurt’, requires an earlier PG *\*maiþan-*, with the *\*þ* as part of the verbal stem. There is no trace of a dental in Celtic, so the forms can only be compared after arbitrary segmentation.

### Battle

REF: L246–247, Kr136, IEW 534, Schm140, EDHIL 466

PC *\*katu-* ‘battle’ can be connected to PG *\*hapu-* ‘battle’, but IE cognates are numerous, e.g. Hitt. *kattu-* ‘enmity, strife’ < *\*kh<sub>3</sub>-tu-*, Gr. κότος ‘spite, anger’ < *\*kh<sub>3</sub>-(e)to-*.

### Bellow

REF: L258, IEW 255-256

Mlr. *dresacht* ‘creaking noise’ cannot be related to LG *drunsan* ‘to bellow’ because the first *e* in the Mlr. form is short, showing that the stem did not contain an *n*. Gallo-Lat. *drensō* ‘to cry (of swans)’ is not absolutely certain to be Gaulish in origin. All the forms may be sound-symbolic in origin, but there is no indication that forms were shared between Celtic and Germanic.

### Berry

REF: IEW 105, EDPC 58, EDPG 54

The Mlr. glossary word *basc* ‘red’ has been connected to OE *basu* ‘purple’ < PG *\*baswa-*. However, the *wa-* suffix is productive in Germanic chromonyms, making it more likely that *\*baswa-* was derived from *\*bas/zja-* ‘berry’, cf. Go. *-basi*, ON

*ber*, OHG *beri*, within Germanic itself, and that the meaning ‘purple’ also arose secondarily, i.e. from ‘berry-colored’.

### Boar

REF: Jackson 1953, 324-330, Schrijver 1997, 304, EDPG 48

W *baedd*, OCo. *bahet* ‘(wild and domesticated) boar’ as well as PG *\*baiza-* ‘id.’ have been argued to constitute borrowings from an unknown substrate language. However, the British Celtic forms may have been borrowed from West Germanic instead after British monophthongization of PC *\*ai* > *\*ē*, but before rhotacism in Germanic. Jackson dates this monophthongization to the first century CE. This date is most likely post-Proto-Germanic, which means it is outside the scope of this study.

### Booty

REF: L246, Kr136, Schm140, IEW 163, EDPC 72, H48

PC *\*boudi-* ‘booty, victory’ appears related to ON *býta* ‘to deal out’, MLG *būte*, MHG *biute* ‘booty’, but the relationship cannot be one of a shared root. The ON must be borrowed from West Germanic, and the West Germanic requires a vowel *\*ū*, which would imply a PIE *\*uH*, but a laryngeal cannot be reconciled with the Celtic forms. A borrowing from Celtic to Proto-Germanic would be expected to yield PG *\*au*, cf. PG *\*lauda-* ‘lead’ < PC *\*loud-*, so it is equally unattractive. Therefore the word can be borrowed from Gaulish into a West Germanic dialect. Gaul. *ou* may have been heard as *ū* in West Germanic which lacked an *ou*-diphthong, or Gaul. *ou* had shifted to *\*ū* in parallel with Brittonic. This borrowed form then underwent the High German Consonant Shift whereby the *d* became a *t*; this High German form was then borrowed into Low German and from there into other Germanic languages.

### Branch

REF: L256, Blöndal 1989 529, EDPC 66

A formation *\*g<sup>w</sup>istis* is proposed to be unique to W *bys* ‘finger’ B *biz* ‘finger’, Mlr. *biss ega* ‘icicle’ and ON *kvistr* m. ‘branch’. However, *kvistr* is a *u*-stem and may have undergone a change of *\*tw* > *\*kw*, in view of ME *twist* ‘bifurcation, branch of a tree’, in which case it must go back to PG *\*twistu-* by dissimilation. The cognate set of ON *kvisl* ‘branch, fork’ vs. OE *twisla* ‘fork of river, road’ and OHG *zwisila* ‘twig’ offers a parallel for this change.

### Break

REF: L260, IEW 171, H54

The PIE root *\*b<sup>h</sup>reus-* has reflexes in OIr. *bronnaid* ‘spends, consumes, injures, damages’, OIr. *bruíd* ‘breaks in pieces, smashes, crushes’ W *briv* ‘wound, shreds; shattered’ as well as OE *brýsan* ‘to bruise, break to pieces’ and OHG *brōsma* ‘crumb’, but the archaic meaning ‘to break, shatter’ is well-preserved in both branches and is shared with Lat. *frustum* ‘fragment’ as well as with Shughni *virayǵ-* ‘to break’ (M. Kümmel, *Addenda und Corrigenenda zu LIV<sup>2</sup>*). The rise of



the meaning ‘to wound’ therefore appears independent in both branches.

### Breast

REF: L256, De Bhaldraithe 1981, 151, EDPG 76

MÍr. *brúasach* has been connected with PG *\*breusta-* in the meaning ‘strong-breasted’, giving a shared proto-form *\*b<sup>h</sup>reus-to-*. However, the OÍr. *brúasach* rather means ‘thick-lipped’, cf. ModÍr. (dial.) *bruas* ‘(thick) lip’. Hence the semantic connection is too weak to maintain the comparison.

### Bridge

REF: L253, IEW 173, EDPC 79, EDPG 81

Gaul. *briva* top. ‘bridge’, *brío* gl. *ponte* (Endlicher glossary) and PG *\*bru(w)ī-*, *\*brujjō-* ‘bridge’ both appear to continue PIE *\*(h<sub>3</sub>)b<sup>h</sup>ruH-* in the meaning ‘bridge’, but this meaning is shared with Slavic, cf. Slovenian *brv* ‘foot-bridge’.

### Bring

REF: L254, IEW 168, EDPC 76, EDPG 77

W *hebrwng* ‘to bring’, OCo. *hebreñchiat* ‘leader’, MCo. *hembronk* ‘leads’, B *ambroug* ‘escort’ with PG *\*bringan-* ‘to bring’ have been suggested to continue a shared contamination of PIE roots *\*b<sup>h</sup>er-* ‘to bring’ and *\*h<sub>2</sub>nek-* ‘to reach’. However the Brittonic forms may rather be parsed as W *heb-r-yng* < PC *\*sek<sup>w</sup>V-ro-enk-*, leaving no similarity. Similarly, the Germanic strong verb may have evolved from the univerbation of *\*pro* + *\*Henk-*, for which cf. OAv. *frqštā* 3sg.aor.med. < *\*pro-Henk-* may be adduced as a parallel.

### Broom

REF: IEW 104-105, H80

PC *\*banatlo* ‘broom-plant, broom’ and PG *\*bōñjan-* ‘to decorate, scrub, polish’ are considered CG expansions of *\*b<sup>h</sup>eh<sub>2</sub>-* ‘to shine’ with *\*-n-*. However, in Celtic the semantic and morphological connection with this root is uncertain. Even if it is correct, the G verb is most probably a secondary factitive formation to an adjective *\*bōna-* ‘shining’ < *\*b<sup>h</sup>e/oh<sub>2</sub>-no-*. Expansions with *\*-n-* also appear in other branches, cf. Gr. φαίνω ‘to shine’, Arm. *banam* ‘to open, reveal’.

### Cauldron

REF: L249, IEW 642, LEIA C-74, EDPG 265

PC *\*k<sup>w</sup>ar-io-* (Ir. *coire*, W *pair*, Co. *pêr* ‘cauldron’) has been compared to PG *\*hwera-* (ON *hverr* ‘kettle’), as well as their respective expansions with *\*-n-*: MÍr. *cern* ‘dish’, ON *hverna* ‘pan, basin’. However the root is probably Indo-European, cf. Skt. *carú-* ‘kettle, pot’ < *\*k<sup>w</sup>er-u-*. The extension with *\*-n-* is also found in OCS *črěňbъ* ‘frying pan’, and MÍr. *cern* can be a borrowing from Latin.

### Cavalry

REF: Kr140, LEIA R-2, H69, Ko9

A morphological isogloss between PC *\*ek<sup>w</sup>o-reido-* (OÍr. *echnad* ‘steeds; cavalcade’, Gaul. PN *Epo-rēdo-rīx*,

W *ebrwydd* ‘swift’) and PG *\*ehwa-raidō-* (OE *ēo-red* ‘cavalry, band, troop’, OS *eo-rid-fole* ‘cavalry’, ON PN *Jó-reiðr*) must be rejected on the grounds that their ablaut grades differ, so their formation must be independent.

### Clever

REF: L257, IEW 358, Heidermanns 1993, 336

A direct connection between OÍr. *glicc* ‘acute, shrewd, skilled’ and MDu. *cloec* ‘smart, brave’, MLG *klōk* ‘fine, dainty; cunning, wise’ (whence MHG *kluoc*, NHG *klug*) < *\*klōka-* is unlikely, because the Germanic adjective is more likely to be related to OHG *klecken* ‘to suffice, be of use, succeed’ < *\*klakjan-*. The semantic shift toward ‘cunning, wise’ appears peripheral within Germanic and therefore late.

### Club

REF: Marstrander 1915, 95, L262

An isogloss has been proposed for PC *\*lorgo-* (MÍr. *lorg*, W *llory* ‘staff, stick, club’, OCo. *lorch* gl. *baculus*) and ON *lurkr* ‘club, bludgeon’. However the Germanic word is not found outside of Nordic, and may be explained as a borrowing from Irish. The *u*-vocalism in ON *lurkr* may be accounted for by assuming an Old Irish oblique case form as the source, e.g. gen. sg. *luirg*, cf. ScG *luirg*.

### Command

REF: IEW 150-152, Pr122, EDPC 83, EDPG 61

PIE *\*b<sup>h</sup>eud<sup>h</sup>-* ‘to be awake, aware’ has undergone a semantic shift to ‘to notify, warn, command’ in Celtic and Germanic, cf. OÍr. *ad-boind* ‘proclaims, gives notice’, MÍr. *robud*, W *rhybudd* ‘warning’ and Go. *biudan* ‘to command, offer’, ON *bjóða*, OE *bēodan* OS *biodan* ‘to offer’. However, the same semantic range is also found in Baltic, cf. Lith. *baūsti* ‘to incite, move, compel’.

### Conceal

REF: L262, H44

OÍr. *for-múigthe*, *formúchta* ‘smothered, concealed’ is compared with OHG *mūhen* ‘lie in ambush for’ and ME *micher* ‘thief’, among others. However, the Irish verb *for-múcha* is clearly derived from *múchaid* ‘covers, suffocates, extinguishes’ (cf. B. *migañ* ‘to snuff’) and the meaning ‘conceal’ is most likely secondary within Irish. Furthermore, the root-final consonants are incompatible, Celtic requiring older *\*k*, Germanic older *\*g*.

### Covering

REF: L264, IEW 690-691, Blöndal 1989 583

OÍr. *lumman* ‘cloak, mantle’ is close to D *lomme* (whence Icel. *lumma*, Sw. dial. *lomme* and NFri. *lomm* ‘pocket’), whence the assumption of a Celto-Germanic isogloss. An objection consists of the fact that in Germanic the word is restricted to Nordic, which makes it more likely to be a medieval loanword, possibly from Irish. The lack of Irish final *-n* in the Nordic languages may be the result of reanalysis as the definite article.

Alternatively, in view of the imperfect semantic match, we may be dealing with a chance resemblance.

### Crooked

REF: IEW 601-602, H66, Orel 1998, 364, LIV<sup>2</sup> 332

OIr. *cloen* ‘crooked, sloping; unfair, evil’ from PC *\*kloino-* and Go. *hlain(s\*)* ‘hill’, Icel. *hlein(n)* ‘part of the loom; rest’, Far. *leinur* m. ‘side post of the (upright) loom’, Nw. dial. *lein* f. ‘steep slope; side; part of the loom’, from PG *\*hlaina-* ‘hill’ both continue the PIE root *\*klei-* ‘to tip, incline, lean’ with a *-no-* suffix. However, at least the *no-* stem noun has potential parallels in Ossetic (I) *asin*, (D) *asinæ* ‘stairs, ladder’ < Proto-Iranian *\*ā-srainā-* and Alb. *qye* m. ‘peak, summit’ < PALb. *\*klaina-*.

### Curds

REF: L250, IEW 406, Irslinger 2002, 144, EDPG 306

A connection between OIr. *gruth* ‘curds, cheese’ and Nw. *krodde* ‘dregs, boiled cheese’ and ME *crudde*, *curde* ‘curds’ has been suggested. However it is preferable to reconstruct OIr. *gruth* as PC *\*g<sup>w</sup>ritu-* < PIE *\*g<sup>w</sup>hr-tu-*, cf. Skt. *ghṛtá-* ‘ghee’. This root cannot be connected to the Germanic forms, which may in turn be derivatives of *\*kruttōn-*, *\*kruddōn-* ‘to pack, become dense’, which is in turn derived from *\*kreudan-*, *\*krūdan-* ‘to press, push forward’.

### Dark

REF: IEW 247-248, EDPC 95, EDPG 96

A connection between PG *\*dimma-* ‘dark’, cf. ON *dimmr*, OE *dimm* ‘dark,’ and Mlr. *deime* ‘darkness’ must be rejected because the PG appears to go back to a pre-PG *\*d<sup>h</sup>émb<sup>h</sup>-no-*, cf. Elfd. *dimba* ‘to fume, dust’. Mlr. *deime* appears to have a single lenited *\*m* which cannot go back to an earlier *\*mb* < *\*mb<sup>h</sup>*.

### Dear

REF: L261, EDPC 106

OIr. *drúth* ‘extravagant, wanton, harlot’ < PC *\*drūto-* appears cognate with OE, OS *drút* ‘friend, beloved one’, OHG *trūt*, NHG *traut* ‘dear, beloved’ < PG *\*drūda-*. W *drud* ‘dear, daring, rash, fool’ must be borrowed from Goidelic in an early stratum to account for the vocalism, whereas B *druz* ‘fat, fit, fertile’ must be borrowed from early OFr. *\*dryð(ə)* (OFr. *dru* ‘fat’), itself presumably from Gaul. *\*drūto-*. The formation *\*d<sup>h</sup>ruH-to-* appears shared with Lith. *drūtas* ‘thick, strong, deep (of voice)’.

### Death

REF: Trautmann 1923, 285, IEW 1022-1027, LEIA U-31, H22,

A CG semantic shift PIE *\*sterb<sup>h</sup>-* ‘to be stiff’ to ‘to die’ has been proposed for OIr. *ussarb* ‘death’ and OHG *sterbo*, OE *steorfa* ‘plague’. However the meaning ‘to die’ is also found in the related Ru. *stérbnutb* ‘to stiffen, die’, which shows that the proposed semantic shift is either trivial or archaic.

### Destruction

REF: IEW 545-547, EDPC 212, H59, EDPG 205

PC *\*kollo-* ‘destruction, loss’ (W *coll*) and PG *\*halta-* ‘lame, limping’ (Go. *halts*, etc.) are argued to contain a Celtic-Germanic isogloss whereby PIE *\*keld-* ‘to strike, cut’ is uniquely continued by a formation *\*koldo-*. However, *\*koldo-* is not the only possible source of PC *\*kollo-* and the poor semantic match does not warrant positing a unique root. Also, the formations are not strictly identical: Celtic would have to be a noun, i.e. PIE *\*kóld-o-*, and the Germanic is an adjective, i.e. PIE *\*kold-ó-*.

### Die

REF: L255, IEW 471, KPV 211-2, EDPC 53, EDPG 316

A semantic isogloss between OIr. *at-baill* ‘dies’ and PG *\*kwe-lan-* ‘to suffer’ must be rejected because the OIr. contains a synchronically meaningless neuter infix pronoun. A connection with PIE *\*g<sup>w</sup>elh<sub>1</sub>-* ‘throw’, (cf. Gr. βάλλω ‘throw’) is therefore preferable, because it allows for the reconstruction of an originally euphemistic ‘throws it (out)’ > ‘dies’. Even if a root connection between Celtic and Germanic exists, the isogloss is not exclusive in view of Lith. *gālas* ‘end, butt, tip, finish, distance, death’, Latv. *gālas* ‘end, tip, top, room, misery, death’, OPr. EV *golis* ‘death’, and OPr. Cat. *gallan* ‘death’ < *\*g<sup>w</sup>olH-o-*.

### Disease

REF: Demiraj 1997, 198; H16

PC *\*klamo-* (OIr. *clam* ‘leprous’, W *claf*) has been connected with PG *\*skalmō* (OHG *scelm*, *scelmo*, *scalmo* ‘pest, plague, dying off of cattle’, MLG *schelm* ‘cadaver’, ON *skelmis-drep* ‘plague, murrain’). However the Germanic forms are better reconstructed as *\*skel-man-*, an *mn-* stem, and with the more common *\*e*, not *\*a*. Perhaps the G formation is rather related to Alb. *helm* m. ‘poison, toxin; venom, bane; sorrow’ < PALb. *\*skalma-*, *\*skalmi-* or PIE *\*skelh<sub>1</sub>-* ‘to dry up, wither’, cf. Gr. σκληρός ‘dry, withered’ < *\*sklh<sub>1</sub>-ró-*, σκελετός ‘mummy, skeleton’ < *\*skelh<sub>1</sub>-eto-*.

### Dregs, draff

REF: L249, IEW 251-252

A connection between Mlr. *drab* ‘draff’, Ir. *drabh*, *dramh* ‘refuse’ and PG *\*drabiz-* ‘dregs’ has been suggested, but Mlr. *drab* appears to be a ghost word, while Ir. *drabh*, *dramh* may be a loanword from English.

### Drink

REF: L261, LIV<sup>2</sup>: 405-406, EDPC 241, EDPG 340,

PC *\*lītu-* (OIr. *lith*, B *lid* ‘feast, rite’, W *llid* ‘anger, ferocity, passion’) and PG *\*līpu-* (Go. *leiþu*, ON *lið*, OE *līð*, OFr. *līth*, OHG *līd* ‘strong drink’) both continue PIE *\*liH-tu-*, but this formation is also found in Lith. dial. *lytūs*, Latv. *līts* ‘rain’. The original verbs are found in Balto-Slavic, e.g. Lith. *lieti* (*lejù*), Latv. *liēt* ‘to pour’, OCS *-li* ‘poured’; these verbs show that

Lith. dial. *lytūs*, Latv. *līts* must originally have meant ‘pouring’. This meaning is rather close to Germanic ‘drink’, while the Celtic meaning ‘feast; anger’ is more distantly removed from both the Balto-Slavic and the Germanic. This leaves no Celto-Germanic morphological or semantic isogloss. In fact, the semantic distance makes it uncertain whether the Celtic forms belong to this root at all.

### Drive 1

REF: L254, IEW 392-393

W *gyrru* ‘to drive (cattle)’ has been connected to OE *cierran* ‘to turn, go’, MHG *kerren* ‘to turn’ through an alleged root *\*gers-*. It is true that the OE and MHG words can continue PG *\*karzjan-* < *\*gors-eie-*, but then they would have to be disconnected from ON *keyra* ‘to drive, ride’ < *\*kaizwjan-*, cf. Nw. *keis* ‘turn, corner’.

### Drive 2

REF: L261, EDPG 103

PG *\*drīban-* ‘to drive’ may be connected to Ir. *drip* ‘bustle’, ScG *drip* ‘hurry, confusion’ if one accepts that PIE *\*-bʰn-* developed into PC *\*pp*. However, *\*pp* is not reconstructable for PC and the Goidelic words are attested so late that the similarity is likely to be accidental.

### Drop

REF: L261, IEW 274-275, LEIA D-202, H94, EDPG 105

OIr., MoIr. *drúcht* ‘dew, drop’ has been reconstructed to PC *\*druxtu-* < *\*drup-tu-*, which has been compared to PG *\*drup(p)an-* ‘drop’. However, OIr. *drúcht* has a long *ú*, which would have to be secondary to allow for a formal match.

### Enemy

REF: IEW 795, H41, EDPG 123

OIr. *oech* ‘enemy’ and PG *\*faiha-* (OE *fāh*, *fāg* ‘guilty, outlawed, hostile’, OHG *fēhida* ‘hate, enmity’, Go. *faih* ‘deceit’) possibly continue the PIE root *\*peik-* ‘hostile’ in the *o*-grade, but the Celtic is a noun while the Germanic may be an adjective. An *o*-grade adjective of this root is also found in Lith. *paikas* ‘foolish’. OIr. *oech* is only attested in glossaries in the Old Irish period, and these glossary entries might be back-formations of OIr. *oigi* ‘stranger’, making the root connection uncertain.

### Eye

REF: L263, IEW 775-777, EDPG 41

Mlr. *úag* ‘hole’ has been connected to PG *\*augōn-* ‘eye’, but this connection would come at the unacceptable cost of abandoning a connection between the Germanic word and PIE *\*h<sub>3</sub>ok<sup>w</sup>-* ‘eye’.

### Fall

REF: L254, IEW 542

W *cwyddo* ‘fall’ and PG *\*hittjan-* ‘hit’ do not constitute an isogloss, because Lat. *caedo* ‘cut, fell’ may be plausibly related to either word.

### Fat

REF: IEW 970-971, Adams 2013, 731-732, EDPG 458

PIE *\*smeru-* is shared between PC *\*smeru-* ‘marrow’ and PG *\*smerwa-* ‘butter, grease’, but also with TB *šmare* ‘smooth; oil’.

### Fever

REF: EDPG 225, H27, EDPG 248

PC *\*kritu-* ‘trembling’ (W *cryd* ‘trembling, fever’) and PG *\*hrīpan-* ‘fever’ (OS *hrido*, OHG *rīdo*) have been argued to uniquely share a lexeme. However, both continue PIE *\*kreh<sub>1</sub>(i)-* ‘to sieve, separate’, cf. Lat. *crībrum* ‘sieve’. The basic meaning ‘to sieve, shake’ is still found in both branches, cf. W *crynu* ‘to shake’, *gogrynu* ‘to sift’, OHG *redan* ‘to sift’ (< *\*hrīpan-*), and while the meaning ‘fever’ is old in Germanic, it is restricted to Welsh in Celtic.

### First

REF: L260, IEW 563-564, EDPG 201

PC *\*kentu-* ‘first, lately’ has been compared to Go. *hindumists* ‘hindmost’. However, the latter is an internally Germanic formation built on the unrelated directional *\*hinē* ‘from here’ < *\*ki-neh<sub>1</sub>* (with the suffix *\*-duman-* < *\*-tmH-o-*). The Celtic form rather belongs to Lat. *re-cens*, *-tis* ‘new, recent, lately’, containing the PIE root *\*k(e)n-* ‘young’, cf. Gr. *καινός* ‘new, fresh’ < *\*kn-io-*.

### Fish

REF: Hellquist 1922, 21, L252, EDPG 119, EDPG 38

PC *\*esok-* ‘salmon’ looks somewhat similar OHG *asco* ‘grayling’, but a shared proto-form cannot be reconstructed. The ultimate origin of the Celtic is unknown and may well be of substrate origin (cf. Stifter, this volume). OHG *asco* may be derived from PG *\*askō-* ‘ashes’ or *\*aska-* ‘ash tree’; a parallel instance of a fish-name derived from a tree-name is Sw. *asp* ‘asp’ from its homophone meaning ‘asp’.

### Flower

REF: L251, IEW 122, EDPG 67, EDPG 70

PC *\*blātu-* ‘flower, blossom’ (OIr. *blāth*, W *blawd*) has been connected to PG *\*blōdi-* ‘bloom’ (OE *blēd* ‘shoot, branch, flower, fruit’, OHG *bluot* ‘blossom, blossoming’). However the root connection must be PIE through the root *\*b<sup>h</sup>leh<sub>3</sub>-* ‘to blossom, flower’, cf. Lat. *flōs* ‘flower’. Moreover, the formations are different: Celtic has a derivation in *\*-tu-* versus Germanic *\*-ti-*.

### Ford

REF: L255, Kr125, IEW 816-817, EDPG 141, EDPG 160

PC *\*φritu-* ‘ford’ is semantically and formally identical to PG *\*furdu-* ‘ford’, both from PIE *\*pr-tu-*. However, the same formation is also present in the semantically close Av. *pərətu-*, *pəštu-* ‘gangway, passage, ford, bridge’.

**Forehead**

REF: L256, IEW 48-50, Adams 2013, 49

OIr. *étan* ‘forehead’ is related to ON *enni*, OHG *andi*, *endi* ‘forehead’ < PIE *\*h<sub>2</sub>ent-*. Here a shared Celto-Germanic semantic shift from ‘front’ to ‘forehead’ has been assumed, but this meaning is also found in Anatolian, cf. Hitt. *hant-* ‘front, forehead’, Hieroglyphic Luwian *hant-* ‘face, forehead’ and Tocharian, ToA *ānt*, ToB *ānte* ‘surface, forehead’.

**Fortification**

REF: SBCHP 447, 454, EDPC 194

OE *heaðor* ‘restraint, confinement’ has been connected to OIr. *caithir* ‘fort, enclosure, settlement’. However, the semantic match is unconvincing, and Ir. *caithir* may anyway be borrowed from Lat. *castrum* ‘fort’, as was W *caer* ‘fortress’, W *ker* ‘town’.

**Frighten**

REF: L257

OIr. *fo-botha* ‘frighten’ appears similar to OS *under-badon* ‘to oppress, frighten’, but prototonic forms of the former verb in *-fubth-* show that the root contains *\*u*, not *\*o*, making it formally irreconcilable with the latter (David Stifter, p.c.). Moreover, the Old Saxon may have an intra-Germanic connection in Nw. *bada* ‘to weigh down, press; to knead’, which could be related to Skt. *bād̥hate* ‘presses, troubles, opposes’ < *\*b<sup>h</sup>eHd<sup>h</sup>-*. The laryngeal and the root-final *\*-d<sup>h</sup>-* would also eliminate OIr. *fo-botha* as a potential cognate.

**Furrow**

REF: L250, IEW 821, EDPG 160

PC *\*φrikā* ‘furrow’ (Gallo-Lat. *rica*, cf. Cat. *rega*, OFr. *roie*) and PG *\*furh-* ‘furrow’ (ON *for*, OE *furh*, OHG *furuh*) identically continue the zero grade of the PIE root *\*perk-*, but so does Lat. *porca* ‘ridge between furrows’ < *\*p(o)rk<sup>h</sup>-eh<sub>2</sub>-*.

**Genitalia**

REF: L255, Birkhan 2012

PC *\*buzdo-* ‘penis’ has been connected to the OE Runic name *peorð*, whose meaning is not directly attested. The meaning ‘vulva’ is inferred on the basis of a kenning by Lane, but ‘pear tree’ has been suggested as well by Birkhan. Either way, the connection with PC *\*buzdo-* seems impossible.

**Ghost**

REF: L259, H4

OIr. *air-drech* ‘ghost’ has been connected to ON *draugr* ‘ghost’, assuming that they uniquely share a semantic development of PIE *\*d<sup>h</sup>rough<sup>h</sup>-o-* ‘lie, deceit’ toward ‘ghost’. However the *-drech* in the OIr. form is more likely to be from *drech* ‘vision’. This leaves no shared etymology for *air-drech* and *draugr*.

**Goblin**

REF: L259, LEIA B62–63, H18

Mr. *boccánach*, W *bwg*, *bwga* ‘ghost, hobgoblin’, *bwgan* ‘bogey, ghost’ appears similar to Swabian *bockelman*, English *bogey*. However the Middle Irish appears derived from *boc* ‘he-goat’, whereas W *bwg*, *bwga* is attested only from the seventeenth century onwards, and is in all likelihood borrowed from ME *bugge* ‘bogey, hobgoblin; scarecrow’.

**Good**

REF: L257

OIr. *remor* ‘thick, fat’ has been connected to MHG *frum* ‘capable, good’, but the Germanic is more likely from PG *\*fruman-* ‘former, first’, with a semantic shift which is paralleled by the range of meanings found in English *prime* ‘first, most important, excellent’.

**Green**

REF: L258, IEW 429-434, EDPG 180

PC *\*glasto-* ‘blue, green, gray’ and PG *\*glasa-*, *\*glaza-* ‘glass’ have been connected. However, the Celtic and Germanic words are clearly different formations and the semantic gap points to derivation from two different roots, i.e. PIE *\*ǵ<sup>h</sup>elh<sub>3</sub>-* ‘green’ and *\*ǵ<sup>h</sup>leh<sub>1</sub>-* ‘to glow’.

**Grudge**

REF: L248, IEW 760, EDPC 291, Adams 2013, 291, H38

PC *\*nītu-* (OIr. *nīth* ‘battle, fury, anger’), *\*neitV-* (W *nwyd* ‘temperament’) and PG *\*nīpa-* (Go. *neip* ‘jealousy’, ON *níð* ‘libel’, OE *nīþ* ‘envy’, OHG *nīd* ‘battle-rage, hate’) are most likely etymologically related, but this root is not exclusively shared between C and G, cf. ToB *ñ(y)ātse* ‘danger, plague, distress’ < *\*niH-tio-*. A connection with Lat. *nīteo* ‘to be radiant, shine’ suggested by IEW is semantically unconvincing.

**Gull**

REF: Schrijver 1997, 305, EDPG 349

PG *\*maiwa-* and a Gaul. *\*maw-* have been suggested to be loanwords from a common substrate. However the Gaulish is only indirectly attested in Gallo-Romance, e.g. French *moue* ‘gull’ < *\*mawa-*. This Gallo-Rom. *\*mawa-* may simply be borrowed directly from Germanic, either because the word is borrowed from a Germanic dialect with PG *\*ai* > *ā* or due to limitations of Gallo-Romance phonology. A borrowing from Germanic to Romance would remove the need for an unattested Gaulish word without any Insular Celtic cognates.

**Guts**

REF: L256, IEW 344, EDPC 115

OIr. *inathar* ‘guts’ and OCo. *enederen* gl. *exstum* have been considered cognate to PG *\*ēprō-*, *\*ēdrō-* ‘vein, rivulet’, however another cognate is Gr. ἄτρον ‘abdomen’, which would make the isogloss a nonexclusive.

### Hand, fist, clutch

REF: Heinertz 1915, 319-322, L256

MIr. *glacc* f. ‘hand, grasp’ < \**glakkā* has been connected to OE *clyccean* ‘to grasp, seize’ < \**klukjan-*, Sw. *klyka* ‘crutch’, OFri. *kletsie* ‘spear’ < \**klūkjan-/kleukjōn-* (whence possibly PSI. \**kljuka*, cf. Ru. *kljuká* ‘crutch’, SCr. *kljūka* ‘hook, door-knob’). However the vocalism of these forms precludes a shared proto-form and no scenario for borrowing presents itself. As a last resort, one could assume independent borrowings from an unknown source, but there is nothing else in favor of this.

### Harrow

REF: L250, IEW 18-22, EDPG 4

PC \**oketā* ‘harrow’ has been argued form a morphological isogloss with OHG *egida*, OE *egede* ‘harrow’, but Lat. *occa* ‘id’ may also continue \**oketā-* (through metathesized \**otekā-*). In addition, if the PG forms go back to \**ageþjō-* rather than \**agiþō-* (allegedly regular from \**h<sub>2</sub>oketeh<sub>2-</sub>*), they would formally correspond to Baltic rather than Celtic, cf. OPr. *aketes*, Lith. *akėcios* ‘harrow’.

### Hatred

REF: L257, Birkhan 1967, Rübekel 2001, H64

Celtic and Germanic derivatives of PIE \**keh<sub>2</sub>d-* ‘uneasiness, displeasure’ have been suggested uniquely to mean ‘hatred’ in these branches. However some Celtic descendants have broader meaning, e.g. W *cawdd* ‘anger, wrath’, B *keuz* ‘regret, anguish’ and Oscan gen.sg. *cadeis* ‘hostility’ is within the range of meanings assumed to be specific to Celtic and Germanic.

### Heap

REF: L251, IEW 140-141, EDPG 60

W *bera* ‘rick, heap, stack’ and PG \**berga-* ‘mountain’ may both continue PIE \**b<sup>h</sup>erǵ<sup>h</sup>-* ‘high’, but reflexes of this root are also found in Arm. *barjr*, Hitt. *parku-*, Skt. *bṛhánt-* ‘high’. Use as a noun is also found in Arm. *berj* ‘height’.

### Heron

REF: Schrijver 1997, EDPG 241

PBr. \**kraxar-* has been reconstructed based on MW *crehyr*, B *querhair* ‘heron’ and has been identified along with PG \**hraigran-* (OE *hrāgra*, OS *hēgro*, OHG *reigar*, *heigar*), \**higran-* (ON *hegri*, OSw. *hægher*) ‘heron’ as a loanword from a common substrate language. However the Vannetais dialect in which *querhair* is found has a number of instances of \**ǰ* > *r*, which makes a connection with the usual Breton word for heron, *kerc’heiz* < \**kerxiǰ* more economical. Without the Breton cognate, there is no reason to consider MW *crehyr* the original form among a wide range of variants including *grehyr*, *cryr*, and *gryr*, some of which are attested as early as *crehyr*. Although a substrate origin cannot be rejected, it is likely that *crehyr* is of onomatopoeic origin.

### Hill

REF: L252, IEW 287-289, EDPG 518

OIr. *dind* ‘hill, height’ has been connected to ON *tindr* ‘spike, mountain peak’, OE *tind*, MHG *zint* ‘tine, prong’, OHG *zinna* ‘pinnacle’, but it is preferable to derive the Germanic from PIE \**h<sub>3</sub>dent-*, a full-grade formation of the PIE word for ‘tooth’. The Celtic word requires PIE \**-nd-* or \**-nd<sup>h</sup>-* rather than \**-nt-*, so a connection with the word for ‘tooth’ would have to be sacrificed for the isogloss to work.

### Ice

REF: L251, IEW 503, EDPC 435, EDPG 273

PC \**iegi-* ‘ice’ is cognate to PG \**jekan-* ‘ice’, but further cognates include Lith. *yžią* ‘ice-floe’ and Hitt. *eka-* ‘cold, frost, ice’, all from PIE \**ieǵ-*.

### Kindle

REF: L260, IEW 179-181, EDPC 171, EDPG 508

OIr. *ad-annai* ‘kindles, lights’ and PG \**tandjan-* ‘to kindle’ (Go. *tandjan*, ON *tenda*, OE *on-tendan*) have been derived from a similar univerbation of (in pre-laryngealistic terms) the prefix \**ad-* and a further non-attested root \**and<sup>h</sup>-* ‘to burn’. However, PG \**tandjan-* is to be analyzed as a causative to \**tind(n)an-* (cf. MHG *zinden*, *zinnen*) ‘to burn’ with *e*-vocalism, meaning that its *a* must continue \**o* rather than \**a*.

### Kindred

REF: L259, Kr135, Schm140, EDPC 413, EDPG 579

PC \**ueniā* (OIr. *fine* ‘kindred, progeny; kinsperson’) has a root connection to PG \**weni-* (ON *vinr*, OE *wine*, OFri. *wine*, OHG *wini* ‘friend’) through PIE \**uenh<sub>1-</sub>* ‘to love’, cf. Skt. *vánate* ‘to love’. However, the formations are dissimilar: \**uenh<sub>1-</sub>ieh<sub>2</sub>* and \**uenh<sub>1-</sub>i-* respectively. The semantic development from ‘to love’ to ‘loved one’ are trivial and do not warrant a Celto-Germanicism, cf. Skt. *vanitā*, YAv. *vañtā* ‘loved one, spouse’.

### Land

REF: L253, IEW 675, EDPC 232, EDPG 326

PC: \**landā* ‘open land’ (< \**lnd<sup>h</sup>-*) and PG \**landa-* ‘land’ (< \**lond<sup>h</sup>-*) are cognate, but so is OPr. *lindan* ‘valley’ (< \**lnd<sup>h</sup>-*).

### Light

REF: EDPC 339, EDPG 263, 438

OHG *scamm*, ON *skammr* ‘short’ is unlikely to be cognate with MIr. *scaim* ‘lungs’, W *ysgafn* ‘light’ *ysgyfaint* ‘lungs’, B *skañv*, Co. *scaff* ‘light’. The *a*-vocalism in the Celtic may be explained by a pre-PC root \**sKemH-*, which in the zero grade would yield PC \**skam-*. This root is incompatible with PG \**skamma-*, which may instead be from pre-PG \**skabma-*, to \**skaban-* ‘to shave, cut off’.

### Long

REF: IEW 891, EDPC 338, EDPG 435, 437

A morphological isogloss between PC \**siti-* ‘length’ and PG \**sīda-* ‘long’ and PG \**sīpu-* ‘late’ cannot be upheld because the

Celtic continues a zero-grade formation of the PIE root *\*seh<sub>1</sub>(i)-* ‘to let go, send’ while the Germanic continues the full grade. The full grade is shared with Lat. *sētius* ‘later’.

### Look

REF: L256

Lane compares OCo. *lagat*, B *lagad* ‘eyes’ to OHG *luogēn* ‘to peer’, OS *lōcōn*, OE *lōcian* ‘to see’. However, it is commonly accepted that the Celtic forms, including W *llygad*, are derived from PIE *\*leuk-* ‘bright’. The Germanic forms go back to PG *\*lōg-*, *\*lōkk-*, which cannot easily be reconciled with this PIE root.

### Lust

REF: L258, IEW 845, Fleuriot 1964, 220

OB *rogedou* ‘orgies’, W *rhewydd* ‘wantonness, lust’ and PG *\*freka-* ‘avaricious’ have been connected. However the Old Breton word is a misreading of *imrogalou* gl. *orgiis*. W *rhewydd* ‘lust’ alone cannot be plausibly connected to the Germanic word; it appears to require a medial *\*u* or *\*g<sup>wh</sup>*, which is incompatible with the Germanic *\*k*. The Germanic may be connected to Pol. *pragnąć* ‘to yearn for’, Czech *prahnouti* ‘to covet’ < *\*preg<sup>(w)</sup>-*.

### Magic

REF: L259, EDPC 352, H1, EDPG 421, Ko13

PC *\*soito-* ‘magic’ (W *hud*) is cognate with PG *\*saida-* ‘bond; magic, charm’ (ON *seiðr* ‘bond; magic’, and the strong verb *síða* ‘to work charms’), but also with Lithuanian *saĩtas* ‘bond; magic’. The formation *\*s(H)oi-to-* may be Indo-European, cf. Skt. *sētu-* ‘bond, fetter’, with more primary semantics. B *hud*, which is frequently brought up in this context, is in all likelihood introduced from Welsh by lexicographers.

### Mantle, tunic

REF: L250, IEW 874, EDPC 315, EDPG 250

W *rhuch* ‘layer, film, bran; (rough) garment, cloak, mantle’ cannot be cognate with OE *roc*, OS *hrok*, OHG *rock* ‘robe, skirt, coat’ < PG *\*hrukka-*, cf. Old French *froc* ‘frock’, where PG *\*hr-* was borrowed as *fr-*. The British word cannot be related to this Germanic formation in any period before the breakup of Proto-Germanic (following IEW). It may be borrowed from a West Germanic dialect in a similar timeframe as the French, although the vocalism with *u* is unexpected in this scenario. Ml. *rucht* ‘tunic’ is a glossary word whose final *t* is unclear.

### Milk

REF: L256, IEW 722-723

OIr. *mlicht*, W *blith* ‘milk’ (PIE *\*h<sub>2</sub>mlǵ-ti-*) has a root connection to ON *mjaltr* ‘giving milk’ (PIE *\*h<sub>2</sub>melǵ-to-*), but the formations are dissimilar. Celtic and Germanic form a noun from the PIE root *\*h<sub>2</sub>melǵ-* ‘to milk’, OIr. *melg* ‘milk’ and PG *\*meluk-* ‘milk’. However deriving a *\*-to-* stem in Germanic and a *\*-ti-* stem in Celtic from a verbal root is trivial.

### Mis-

REF: L262, LEIA M-46

OIr. negative and pejorative prefix *mis(s)-* has been connected to ON, OE, OS negative prefix *mis-*, OHG *missa-*, *missi-*. However, while the Germanic is from PIE *\*mith<sub>2</sub>-to-*, cf. Skt. *mīhita-* ‘having become hostile’ and OIr. *mis-* is only found in a few doubtful examples usually before consonants, the usual form being *mí-*. This suggests that the OIr. must be reconstructed to a root-final *\*s*, not *\*ss*, and that it is incompatible with the G.

### Monkey

REF: L264, IEW 2-3, Schrijver 2004, H11, EDPG 31

PC *\*abanko-* (OIr. *abac* ‘dwarf-like water-creature’, W *afanc* ‘beaver’) is most likely unrelated to PG *\*apan-* ‘monkey, ape’. (ON *api*, OE *apa*, OS *apo*, OHG *affo* ‘monkey, ape’). The Insular Celtic material may be parsed as *\*aban-ko-*, a derivative of *\*abon-* ‘river’, explaining the meaning ‘water-creature’ as from ‘pertaining to the water’. The Germanic word has no association with water, and is therefore more likely an early adoption of a *Wanderwort* meaning ‘monkey’, cf. Gr. κῆβος, κῆπιος, Hebrew *qōf*, Akkadian *uqūpu*, *iqūpu*, *aqūpu*. The appurtenance of the Hesychian ἄβράνας (perhaps for *\*ἄββάνας*), which is glossed as a ‘long-tailed monkey’ among the Celts, is uncertain as it must be emended to resemble the Insular Celtic material, and even then provides an imperfect formal match.

### Mortal

REF: IEW 260-361, H26

PC *\*doueno-* < OIr. pl. *dóini*, *doini* ‘men’ has been compared to PG *\*dewana-* > Go. *diwans* ‘mortal’, cf. OHG *touwen*, OS *dōian*, ON *deyja* ‘to die’. However, OIr. *doini* may rather be derived from PC *\*gdon-en-* with a later *i-* stem ending, which also explains why it is suppletive to the singular *duine*.

### Mound

REF: IEW 1160-1162, H25, EDPG 601

PC *\*uer-to-* > OIr. *fert* ‘mound; esp. a mound over a burial-place’ and its derivatives *fertae* ‘burial mound’, W *gwerthyr* ‘fort’, *gweryd* ‘earth, soil; grave’ has been compared with OE *weorð* ‘place’, *weard* ‘guarding’, ON *varða*, *varði* ‘milestone’ < *\*(H)uor-to/ti-*, *vǫrðr* ‘warden’ < *\*(H)uor-tu-*. The isogloss is supposed to lie in the uniquely shared morphology, but the ablaut is different and the application of the *to-* suffix is trivial. The Celtic forms are better connected with PG *\*wurþi-* ‘mound, elevation’ < PIE *\*h<sub>2</sub>ur-ti-*, which is further cognate with Skt. *vṛti-* ‘enclosure’, ToA *wärt* ‘forest’.

### Move 1

REF: L254, IEW 1046, Schrijver 2003, 20, H90

W *chwyfio* ‘to move’, *chwyf* ‘motion’ has been connected with PG *\*swimman-* ‘swim’, but the Welsh is better connected to OIr. *scibid* ‘moves’. PG *\*swimman-* has also been connected to OIr. *to-seinn* ‘pursues, drives, hunts’, verbal noun *tafann*,

following Pokorny's reconstruction *\*suem-d-n-*, but the *d*-suffix appears ad hoc.

## Move 2

REF: L262, IEW 853; Cheung 2007, 184

OIr. *reb* 'sport, game', *rebrad* 'trick, feat' and MHG *reben* 'to move, stir', MLG *reven* 'to talk nonsense', may be related, but the semantics are too weak to warrant an isogloss. Moreover, there is a potential cognate in Proto-Iranian *\*Hrab/f-* 'to go', cf. Persian *raftan* 'to go', Middle Parthian *raf-* 'to engage, fight'.

## Nourisher

REF: IEW 26-27, EDPC 31, EDPG 21

PC *\*altro-* (OIr. *com-altar* 'joint fosterage', *mi-altar* 'bad fosterage') and PG *\*aldra-* (ON *aldr*, OE *aldor*, OS *aldar*, OHG *altar*, *aldar* 'age, lifetime') demonstrate the extension of the verb *\*h<sub>2</sub>el-* with the instrumental suffix *\*-tro-*. However, while the meaning PC *\*altro-* can be derived from that of Lat. *alere*, OIr. *alt* 'to nourish, raise', the meaning of PG *\*aldra-* 'age, lifetime' rather follows from the semantically divergent *\*alan-* 'to grow up'. This incongruity points to independent derivation in each of the two branches.

## Obscene

REF: L262, IEW 911

A connection between W *serth* 'steep, slanted; obscene' and ON *serða* 'to sodomize', MHG *serten* 'to violate' must be rejected because the Welsh meaning 'obscene' is secondary to 'steep, slanted', as can be observed by comparison with its verbal derivative *syρθio* 'to fall' and the B *serzh* 'steep'.

## Plain, moor

REF: L253

Ir. *macha* 'plain, enclosure for milking cows' has been connected with ON *mór* 'moor' through an earlier *\*mākos*. However the ON word is in reality rather related to PG *\*mari* 'sea'.

## Poem

REF: H8

PC *\*daunā* > Mir. *dúan* 'poem' may be connected PG *\*tafna-* > ON *tafn* 'sacrificial animal', and they may continue an identical PIE formation *\*dh<sub>2</sub>p-n-*. However, the same formation is also found in Arm. *tawn* 'feast', Lat. *damnum* 'cost', Gr. δαπάνη 'cost'.

## Praise

REF: De Bernardo Stempel 2001, H6, KPV 369-371

Gaul. *ande-dion uediū-mi* 'I praise a god' and Go. *in-weitan gub* 'to praise god' have been proposed to share a formation whereby PIE *\*ueid-* 'see' is combined with semantically similar preverbs to form the meaning 'praise (a god)'. However, this parallel hinges on the analysis of *andedion uediūmi* as having

metathesis, whereby the preverb *ande* and the verb *uēdiūmi* are separated by *dion* 'god'. An alternative interpretation whereby *andedion* is interpreted as a single noun followed by a simplex verb would remove the Celtic-Germanic isogloss. Moreover, PIE *\*g<sup>wh</sup>* probably gives *\*w-* in Gaulish, so it is preferable to connect *uediū-mi* to PIE *\*g<sup>wh</sup>ed<sup>h</sup>-io*, because this verb is found elsewhere in Celtic, in e.g. OIr. *guidid*. De Bernardo Stempel rejects the connection with *guidid* because she analyses *guidid* as being in the o-grade, however the vocalism of *guidid* is better explained as the result of raising and rounding in Goidelic: PIE *\*g<sup>wh</sup>ed<sup>h</sup>-ie-* > PC. *\*g<sup>v</sup>ed-i-* > *\*g<sup>v</sup>iδi-* > *\*guδ'i-* > Ir. *guid-*.

## Protection

REF: L259, IEW 740-741, EDPC 276, EDPG 375

OIr. *muin* 'love, protection, patronage' and *muinter* 'family-group' have been connected to OE *mund*, OHG *munt* 'protection'. However, OIr. *muin* in the meaning of 'protection' appears to be specialized use of *muin* 'upper back below the neck', cf. W *mynydd* 'mountain' < *\*moniō-*. The Germanic forms, on the other hand, go back to the unrelated *\*mundō-* 'hand', cf. ON *mund*, and perhaps Lat. *manus* 'hand'. OIr. *muinter* is from VLat. *monisterium* 'monastery, church'.

## Pupil

REF: L264, Kr141, Wissmann 1961, Riecke 1996, 285, Stifter 2009, 273-274, 122

Otherwise unattested Gaulish derivatives of *\*sek<sup>w</sup>-* 'to follow' have been proposed as the sources of Go. *siponeis* 'pupil, disciple' and the hapax OHG *seffo* Prud. gl. *satelles*. However the derivation required to arrive to the Gaulish donor form (*\*sepānios*) that could be adopted as Go. *siponeis* is unparalleled as well as unattested, leaving the assumption of a Celtic origin speculative at best. OHG *seffo* does not necessarily constitute a Celtic loan either and can alternatively continue an *n*-stem to PG *\*saffjan-* 'to perceive' or *\*sapjan-*, cf. MHG *sepfen* 'to join, ally oneself with' (cf. Riecke).

## Reach

REF: L263, IEW 1057-1058, LEIA T41-42, EDPG 536

OIr. *techtaid* 'to own' and B *tizhout* 'to reach, overtake' have been connected with PG *\*pegjan-* 'to request'. However, the semantic distance is considerable and the Germanic word has a preferable cognate in Lith. *tenkù, tèkti* 'to reach for, suffice' through a root *\*tek-*. In addition, it is highly likely that the Celtic forms are instead derived from the root *\*steig<sup>h</sup>-* (LEIA), cf. OCS *po-stignōti* 'to attain, catch up with, grasp'.

## Ready

REF: L262, IEW 861, H70

The PIE root *\*(H)reid<sup>h</sup>-* 'to drive' is continued as *i*-stem adjectives meaning 'ready' in Celtic and Germanic. However the meaning 'ready' is also found in Latv. *raids* and usage as an *i*-stem is rather trivial.

**Reject, bud**

REF: L261, IEW 169, EDPG 76, 81

OIr. *fris-brudi* ‘rejects, refuses’ < \**brud-ī-* and PG \**breutan-* ‘to break open, bud’ (ON *brjóta*, OE *brēotan*) cannot be reconciled to a single root. The variant OE *brēoðan* ‘to break’ implies that the primary root was \**b<sup>h</sup>reut-* in pre-PG, and that the root-final consonantism of \**breutan-* is secondary from a geminate \**-tt-* (Kluge’s law), probably adopted from the iterative \**bruttōn-*. PC \**brud-ī-* requires PIE root-final \**-d-* or \**-d<sup>h</sup>-*. The semantic connection is furthermore tenuous at best.

**Right**

REF: L261, IEW 189-191, EDPC 97

The \**-uo-* suffix in PC \**dexs(i)uo-* ‘right’ and PG \**tehswō(n)-* ‘right’ has been suggested to be CG, but Gr. δεξιός ‘right (side)’ < \**deksiuo-* (cf. Myc. PN *de-ki-si-wo*, P amphyl. δεξιφος) is formed identically.

**Ring, clasp**

REF: L250, IEW 758, EDPC 282, EDPG 235

OIr. *nasc* ‘ring’, *naiscid* ‘binds, fastens’ and OHG *musca* ‘clasp’ (whence OFr. *nouche*, MoE *ouche*) have been inferred as CG cognates. However, OIr. *nasc* ‘ring’ is deverbal from *naiscid* (B *naskañ* ‘to tether’), cf. the corresponding verbal noun *naidm*, and derives from the PIE root \**neHd-* ‘to tie’. The Germanic forms, on the other hand, are possibly derived from \**hneudan-* ‘to rivet’ (implying PG \**hnudsk(j)ōn-*), which cannot be cognate with \**neHd-* for evident formal reasons.

**Road**

REF: L255, Kr140, IEW 908, SBCHP 29, EDPC 330, H73, EDPG 437

PC \**sentu-* ‘road’ (OIr. *sét*), PG \**sinþa-* (OE *sīð* ‘journey, way, course’) have been mentioned as a potential isogloss, but ToA *šont* ‘road’ provides a perfect morphological and semantic match with the Celtic.

**Rock**

REF: IEW 678, 683, EDPC 134, 242, EDPG 325

PG \**lajō-* ‘rock, slate’ (OFri. *laie*, MDu. *leye* ‘slate’, OS *leia*, MHG *leie* ‘rock’) cannot be cognate with or borrowed from PC \**φlikkā* ‘stone’ (OIr. *lecc* ‘slab’, W *llech*, B *lec’h* ‘slate’). A connection with OIr. *lia*, acc. *liaic* ‘stone’ is equally problematic: it is a disyllabic *nk*-stem, suggesting PC \**leφank-*, possibly with a root connection to Lat. *lapis*, gen. *-idis*, Gr. λίπας ‘stone’, or perhaps PC \**liuank-*, cf. Gr. λίπας ‘stone’.

**Roof**

REF: L250, Kr140, IEW 1013-1014, EDPC 376, 382, EDPG 531

PC \**togo-* ‘roof’ and Germanic \**paka-* ‘roof’ identically continue an *o*-grade thematic stem \**togo-* of the PIE root \*(*s*)*teg-* ‘to cover’, as opposed to e.g. Lat. *tectum* ‘roof’, but Lith. *stogas* ‘roof’ also continues the *o*-grade, albeit with *s*-mobile.

**Rushes, twig**

REF: L252, IEW 174

A deep Celtic-Germanic connection between W *brwyn*, OCo. *brunn-en*, B *broenn* ‘rushes’ and OE *brogn(e)* ‘twig, bush’, Nw. *brogn* ‘raspberry shrub’ is unlikely. The Norwegian connection must be rejected because it appears cherry-picked from a cluster whose variants are irreconcilable with the Celtic: *bragn* is also found, and a connection with Standard Nw. *bringe-bær* ‘raspberry’ separates it even further from the Celtic. OE *brogn(e)* may be a borrowing from Brittonic in the early first millennium CE.

**Sacred grove**

REF: L260, Kr139, Sahlgren 1953, EDPC 288, H7 Ko14

A Celto-Germanic morphological isogloss between PC \**nemeto-* (Gaul. νεμητον, OIr. *nemed* ‘sacred grove, sanctuary’) and *nimidās* ‘sacred grove’, a hapax attested in the *Indiculus superstitionum et paganiarum*. This *nimidās* may be Old Saxon or Old Low Franconian, but could ultimately be a West Germanic loan from Gaulish and hence fall outside the scope of this study. The Swedish farm name *Nymden*, whose original meaning is unclear, does not necessarily belong here.

**Settlement**

REF: L250, IEW 1090, Pl283, EDPC 338, EDPG 553, Ko12

PC \**trebā* ‘settlement’ is cognate with and semantically identical to PG \**þurpa-* ‘settlement’. It is noted that in other languages (cf. Lith. *troba* ‘house’) it refers to a single building, while Celtic and Germanic share a semantic extension to settlements of more than one building. However, the primary meaning of the Celtic appears to be ‘farm with surrounding buildings’, the ablaut grades differ between Celtic and Germanic, and the shift from ‘farm’ to ‘village’ is trivial, cf. Lat. *villa* ‘country house, farm’ to French *ville* ‘town’.

**Shadow**

REF: L262, IEW 957

PC \**skāto-* ‘shadow’ (< \**ske/oh<sub>3</sub>-to-*) has been considered a semantic isogloss with PG \**skadu-* ‘shadow’ (< \**skh<sub>3</sub>-tú-*), and contrasted with Gr. σκοτός (< \**skh<sub>3</sub>-(e)to-*) ‘darkness’, but the semantic difference seems trivial. Moreover, the Celtic and Germanic forms go back to two separate formations.

**Shake**

REF: L253, IEW 152-153

Mlr. *bocaid* ‘softens, shakes’, from Mlr. *boc*, MoIr. *bog* ‘soft’ < \**bo/uggo-*, has been compared to OE *cwacian* ‘to tremble’, *cweccan* ‘to turn, shake’ < \**kwak(ō)jan-*. However this is semantically unconvincing, because the meaning ‘to shake’ is derived from ‘soft’ in Goidelic. The Germanic verbs may be sound-symbolic in origin and may not go back to Proto-Germanic being only attested in English.



### Shape, manner

REF: L260, IEW 522, 597

A CG *o*-grade and derivation in *\*-tu-* of the PIE root *\*kék-* ‘to help, be able’ have been proposed for OIr. *cucht* ‘shape, form, color’ and ON *hōttr* ‘habit, mode, manner, meter’ < *\*hahtu-*. However this morphology would have resulted in OIr. *\*\*cocht*, because raising of *o* to *u* does not occur before *-cht*, cf. OIr. *ocht* ‘eight’ < PC *\*oxtū-*. The Irish requires a root with *\*u* in it instead, e.g. *\*kéuk-* ‘to shine’.

### Shield

REF: L247, H52

OIr. *clíab* ‘basket, wicker frame’ and ON *hlif* ‘shield, protection’, OHG *līpen*, *līppen* ‘to protect’, Go. *hreibjan* ‘to take good care of’ are formally reconcilable as a shared root, but this is semantically far-fetched both in Celtic and in Germanic. A proposed older meaning of *clíab* as ‘shield (of wickerwork)’ is not based on any further evidence, and the meaning ‘shield’ in Germanic appears derived from ‘to protect, to take care of’, and not the other way around.

### Shining

REF: L259, IEW 429-434

A CG expansion of PIE *\*ǵʰel-* ‘to shine’ in *\*ǵʰlus-(tu-)* is proposed for OIr. *glus* ‘light’ and ON *glys* ‘finery’, MHG *glosten*, *glosen* ‘to glow, shine’. However, OIr. *glus* outside compounds is only attested in glossaries, and must be back-formed from compounds such as *íarnglús* ‘afterglow, elderness’, *soglus* ‘bright light’. The second member of these compounds is most likely a derivative in *\*-stu-* of OIr. *glé* ‘clear, bright’, which is unrelated to the Germanic word.

### Shirt

REF: Kr142, Schm143, Schu176

OCo. *heuis* gl. *colobium*, B *hiñviz* ‘shirt’ are borrowed from early reflexes of PG *\*hamijja-* ‘shirt’ (OS *hemithi*, OHG *hemidi*, OE *hemedē*), but this borrowing most likely postdates Proto-Germanic, and therefore falls outside of the scope of this study. It was borrowed as Lat. *camisia* ‘shirt’ around the same period.

### Slave

REF: L246, IEW 527-528

The semantic shift of PC *\*kaxto-* and PG *\*hafta-* from ‘grasped, seized’ to ‘slave, prisoner, captive’ has been described as Celto-Germanic. The Latin term with the most similar meaning would be *captīvus*, rather than the exact cognate *captus* ‘grasped, seized’. However *captus* may also refer to prisoners and captives. Moreover, W *caeth* used as an adjective may mean ‘tight, close, strict’ in addition to ‘bond, captive’ and thus preserves the original meaning ‘grasped’.

### Slender

REF: L262, IEW 1047, EDPC 358, H89

OIr. *seng* ‘slender’ < PC *\*su(a/e)ngo-* and MHG, MLG *swanc* ‘slender’ < PG *\*swanka-* have been argued to contain a CG root *\*sueng-* ‘to bend’. However, Skt. *svájate*, ‘embraces’, fut. *svaṅkṣyate* must also be from *\*sueng-*. The meaning ‘slender’ is shared, but this innovation is trivial from the perspective of the original meaning ‘to bend’, because bendable objects are by definition slender. The Irish word does not need to derive from *\*sueng-*, but could equally well begin with *\*s-*, *\*sp-*, or *\*st-*. It is only the suggested etymology that supports a reconstruction with *\*su-*. A different root connection incompatible with Germanic could be with PC *\*stung-o-* ‘to bend’, which in the full grade would give *\*stuengo-* > OIr. *seng*.

### Snare, sling

REF: L248, IEW 1062, Blöndal 1989, 1181, EDPC 377, H53

PG *\*pelman-* (OE *þelma* ‘trap’, Icel. *þjálmi* ‘snare’) is formed identically to Gr. τελαμών ‘leather strap’, both from a PIE root *\*telh<sub>2</sub>-* ‘to bear, endure’ expanded with *\*-mn-*. This word is probably not related to OIr. *teilm*, *tailm* ‘sling’ < PC *\*telmi-*, because the root-final laryngeal would vocalize giving OIr. *\*\*talaim*. B *talm* ‘sling’, W *telm* ‘snare, trap’ contain an *-lm-* cluster that cannot be inherited from PIE *\*lm-*, so they must be borrowed from OIr., or perhaps from OE *þelma* ‘trap’.

### Sneak

REF: L255, IEW 974, EDPC 349

Ir. *snighid* ‘creeps, crawls’ has been connected to PG *\*snīgan-* ‘to crawl, creep’. However the Irish primarily means ‘to pour down, flow, drip’. Its ancestor OIr. *snigid* ‘drips, flows’ does not carry the semantics ‘creep, crawl’ at all, and is from PIE *\*sneig<sup>wh</sup>-* ‘to snow’.

### Soap

REF: Kr142, IEW 894, Birkhan 1970, 248-250, EDLI 550

PG *\*saipwōn-*, *saipjōn-* ‘soap’ has been argued to have been borrowed into Celtic because Pliny the Elder’s *Natural History* (Book 28, 51) describes *sāpō* ‘soap’ as an invention from the Gallic provinces. However, no descendant of *sāpō* is continued in Insular Celtic, so Lat. *sāpō* is best considered a loanword from Germanic. W *sebon* ‘soap’ may be a borrowing from Old Low Franconian or primitive Old Frisian, which underwent PG *\*ai* > *\*ē*.

### Soft

REF: L261, IEW 661-662

Mr. *lian* ‘soft’ and ON *linr* ‘soft, gentle, weak’, MHG *līn*, gen. *-wes* ‘tepid, exhausted, bad’ and Bavarian *len* ‘soft, exhausted, unsalted’ < *\*līnwa-* appear similar. However, the (rare) Irish word may be a borrowing from Lat. *lēnis* ‘soft’. Even if it is inherited from PIE, it has a perfect cognate in Lith. *leīnas* ‘lithe, slender, flexible’ < *\*leino-*.

**Spear**

REF: L248, IEW 681-682, H43

W *llost* ‘tail, spear’, B *lost* ‘tail’, Ir. *loss* ‘end, tail’ has been connected with ON *ljóstr* ‘fish-spear’, *ljósta* ‘to strike’, but the meaning ‘tail’ rather than ‘spear’ is primary in Celtic and therefore presumably older; the transferred sense ‘spear’ is only found in Welsh. The Celtic forms are masculine in Irish and Breton and feminine in Breton, so a reconstruction to masculine PC *\*losto-* rather than feminine *\*lustā* is to be preferred. This masculine proto-form is formally irreconcilable with the Germanic forms, which build on a root *\*leust-*.

**Speckled**

REF: Marstrander 1910, 371-373, L251, IEW 28, 30-31, EDLI 24

Ir. and ScG *ala* ‘speckled; trout’ (Kerry?), Mlr. *alad* ‘speckled, piebald’, ScG *áladh* ‘speckled, variegated’ < PC *\*alado-* and OHG *alant*, *alunt* ‘ide’, ON *qlunn* ‘mackerel’ < PG *\*alunþa-* have been alleged to contain a CG semantic shift of a root *\*h<sub>2</sub>el-* ‘to burn’ > ‘be speckled’, and perhaps thence to ‘speckled fish’. However, the meaning ‘trout’ is apparently restricted to dialectal modern Irish, and clearly developed from ‘variegated’. A semantic shift to ‘speckled’ is otherwise unattested in Germanic, cf. Sw. dial. (Småland, Kalmar län) *ala* ‘to smolder’, and the existence of a PIE root *\*al-* (*\*h<sub>2</sub>el-*) ‘to burn’ is itself doubtful.

**Steep**

REF: IEW 170-171, EDPG 74

A connection between PG *\*branta-* ‘high, steep’ and W *bryn* ‘hill’ has been suggested, but the Welsh word is rather connected to OIr. *bruinne* ‘breast’ < Pre-PC. *\*brusnio-* (cf. W *bron* ‘breast; hill-side, slope’), which means it is incompatible with the Germanic.

**Stem**

REF: L262–263, LEIA TU-25, IEW 1004-1010

OIr. *tamon* ‘stump, tree trunk’ and OHG *stam*, ON *stafn* ‘stem’ both continue PIE *\*(s)th<sub>2</sub>-mn-* from root *\*(s)teh<sub>2</sub>-* ‘to stand’. However the formation is found in many languages, e.g. Lat. *stāmen* ‘warp (of loom)’, and the semantics look archaic in view of ToA *ṣtām*, B *stām* ‘tree’. OIr. *tamon* can also be derived from *\*temh<sub>1</sub>-no-* ‘cut-off thing’.

**Stream**

REF: L252, IEW 161, EDPG 140-141, eDIL

OIr. *búal* ‘water; healing’ is compatible with a reconstruction PC *\*boglā* ‘stream’, which may then be compared to PG *\*bakja-* ‘creek’. However the OIr. appears to be a glossary word back-formed to *búalad* ‘bathing, healing, curing’, itself a verbal noun of *búailid* ‘strikes’ with semantic narrowing, as eDIL suggests. A third possibility is that OIr. *búal* was somehow back-formed to *fíal* ‘urine, foul water’. Even if *búal* were

related to PG *\*bakja-*, ORu. *bagъno* ‘mud, marsh’ provides a potential non-Celtic cognate (*pace* IEW). Alternatively, the Germanic word has been derived from *\*b<sup>h</sup>og<sup>w</sup>-io-*, i.e. a *io-*stem to the PIE root *\*b<sup>h</sup>eg<sup>w</sup>-* ‘to run’.

**Strike, wound**

REF: L248, IEW 491-493, H58, H61, EDPG 599

PC *\*g<sup>w</sup>an-o-* ‘to strike’ and PG *\*wunda-* ‘wound’ have been considered lexemes restricted to Celtic and Germanic. However both go back to the PIE root *\*g<sup>w</sup>hen-* ‘to strike’, cf. Hittite *kuenzi* ‘id.’.

**Tale, poet**

REF: Lidén 1891, 507-508, Wadstein, 1895, L258, IEW 897-898, Blöndal 1989, 826, H14

OIr. *scél* ‘tale’, W *chwedl* ‘saying, fable’ and (late) ON *skáld* have been adduced to hypothesize a shared element PC *\*sk<sup>w</sup>etlo-* ~ PG *\*sk<sup>w</sup>ētlo-* (the latter with *vrddhi*) derived from the PIE root *\*sek<sup>w</sup>-* followed by the abstract suffix *\*-etlo-*. However, despite secondary derivations such as *skaldinn* ‘skilled in poetry’, the long vowel of *skáld* is probably secondary due to the regular twelfth-century lengthening of back vowels before *-lC-*, which renders this analysis formally problematic. The older form *skäld* can alternatively be a derivation of the PG strong verb *\*skeldan-* ‘to announce, reproach’; this derivation seems preferable because it has intra-Germanic cognates in OHG *skelto*, MHG *schelte* ‘blamer, criticizer, satirist’.

**Talk**

REF: L257, IEW 831, EDPC 231

A connection between OIr. *labar* ‘talkative’, OIr. *labraithir* ‘to speak’, W *llafar* ‘loud, talkative’, W *llefaru* ‘to speak’ and LG *flappen* ‘to gossip’, ME *flappen* ‘to hit’ has been proposed, but a sound-symbolic origin is to be preferred. Since these types of words are constantly reinvented, one cannot base an isogloss on them, cf. Du. *babbelen* ‘to chatter’, Swiss German *plapperen* ‘to attempt to speak (as a baby)’.

**Thunder**

REF: IEW 1021, EDPC 384

PC *\*tonaro-* > *\*torano-* ‘thunder’ and PG *\*punra-* ‘thunder’ identically continue formations of PIE *\*(s)tenH-* ‘thunder’ expanded with *\*-r-*, but this appears shared with MoP *tundar* ‘thunder’.

**Tip 3**

REF: EDPG 141, Stifter 2018, fn. 10

OIr. *ind*, *inn* ‘end, tip, top’ and PG *\*fin(n)ōn-* (OSw. *finā* ‘fin’, MDu. *vinne* ‘fin, wing, prickle, awn’) could point to a CG *\*pinno-*. However there is a single early attestation of *ind* in the Milan Glosses (45d19), which requires a PC reconstruction with *\*-nd-*, removing the isogloss.

**Top**

REF: L260, IEW 96-97, EDPC 54

OIr. *benn* ‘peak, horn’ and MW *bann* ‘beacon, peak, top’, B *bann* ‘peak’ may go back to PC *\*ban(d)nā*. The Gaulish reflex of this root is borrowed into Occitan *bano* ‘horn’. Even if the Celtic is formally compatible with OE *pintel* ‘penis’, the semantics do not convince. MLG *pinne* ‘pin’ is most likely from Lat. *penna* ‘feather’.

**Tower**

REF: Kr141, PI283

Gaul. *celicnon* ‘?temple’ and Go. *kelikn* ‘tower, upper room’ may be a borrowing from Gaulish into Gothic, but this borrowing, if accepted, most likely postdates the Proto-Germanic period in view of the restriction to both Gothic and Gaulish. The Gothic word has been compared to MP *kl’k* ‘fortress’ and derived forms in Georgian, Armenian and Ossetic.

**Tree 1**

REF: L253, IEW 873, Stifter 1998

OIr. *riaim* ‘water alder, alder tree’ and OHG *ruzboum*, *ruost*, MoHG *rüster* ‘elm’ do not constitute an isogloss. The Irish is most likely related to OIr. *riam* ‘red dye’ < PIE *\*h<sub>1</sub>reud<sup>h</sup>-smon-* from *\*h<sub>1</sub>reud<sup>h</sup>-* ‘to redden’, and the Germanic word has a different suffix and appears to have PG *\*-ō-*.

**Tree 2**

REF: IEW 697, Neumann 1961, 77f., EDPC 369

OCo. *glas-tannen*, MBr. *glastannenn* ‘green oak’ has been connected to OS *danna* ‘pine’, OHG *tanna* ‘fir wood’. However, the initial consonants, PC *\*t-* vs. PG *\*d-* cannot be reconciled and the meanings ‘oak’ vs. ‘fir, pine’ are also dissimilar. A proposed PIE *\*(s)d<sup>h</sup>-* giving PC *\*st* followed by loss of *\*s-* in Celtic is ad hoc, because there is no evidence of such an *s*-mobile. In the absence of such an *s*-mobile, the Hitt. hapax *tanau-* ‘some kind of tree’ may be related to either Celtic or Germanic, but not both. A connection with Skt. *dhānuṣ-* ‘bow’, YAv. *θanuuarə*, *θanuuan-* ‘bow’ is formally compatible with the Germanic reflexes, but not the Celtic. The only way to save the isogloss would be to divorce it from the proposed IE cognates, and assume a substrate origin.

**Tribe**

REF: L259, IEW 503-504, EDPC 435, EDPG 9

OIr. *icht* ‘tribe, progeny’ appears similar to PG *\*aihti-* ‘property, family’, but the Irish may be connected within Celtic with W *iaith*, MB *yez* ‘language’, which is in turn connected with the PIE root *\*iek-* ‘to speak, utter’. The Germanic form, on the other hand, cannot be derived from this root.

**Twig**

REF: IEW 412-413, EDPG 172

OIr. *gat* ‘withe, osier’, OIr. *gas* ‘sprig, shoot, twig’ allow for reconstruction of PC *\*gazdo-*, *\*gasto-*, which in turn looks similar

to Go. *gazds* ‘sting, goad’, ON *gaddr* ‘goad, spike’ < PG *\*gazda-*. However Lat. *hasta* ‘spear’ may also be connected.

**Urine**

REF: L257

B *staot* ‘urine’ and MHG, MLG, MDu. *stal* ‘horse piss’, MHG, MLG, MDu. *stallen* ‘to piss (of horses)’ are clearly connected, but not as a Celto-Germanic isogloss. B *staot* < *\*stalt* (with the regular change of *\*alt* > *aot*) was likely borrowed from OFr. *estal* ‘urine’, even though the final *t* remains unexplained. This *estal*, in turn, was probably borrowed from Old Low Franconian *\*stall*, for which see the aforementioned West Germanic forms. Ir. *stalladh* ‘warm or stale drink’ cannot be inherited because PC *\*st-* regularly becomes *s-* in Goidelic.

**Uterus**

REF: L256

OW *gumbelauc* ‘womb’ and B *gwamm* ‘woman’ (jocular) have been connected to PG *\*wambō-* ‘womb, belly’. The OW appears to be a ghost word and the Breton word meant ‘(newly-)married woman; prostitute’ in Middle Breton, hence it provides a poor semantic match. Even if the Germanic and Breton words are related, the existence of Skt. *gabhā-* ‘vagina’ < *\*g<sup>wh</sup>mb<sup>h</sup>-o-* shows that this lexeme is not specific to Celtic and Germanic.

**Vessel**

REF: L249, IEW 351, H96, EDPG 280

PG *\*kannō* ‘can, jug’ has been connected to Mfr. *gann* ‘vessel, jug, pitcher’, but *gann* is only attested in glossaries and may well be a sideform of OIr. *cann*, *canna* ‘can, vessel’ < OE *canne* or Lat. *panna*.

**Wagon**

REF: L254, IEW 1118-1120, Pr120, H72, Ko9, EDPG 565

A Celto-Germanic formation of the PIE root *\*ueǵ<sup>h</sup>-* ‘to move, carry, drive’ with *\*-no-* in PC *\*uegno-* (OIr. *fén* ‘wagon’) and PG *\*wagna-* (ON *vagn*, OHG *wagan* ‘wagon’) has been proposed. However, ToA *wkām*, ToB *yakne* ‘way, manner’ continue an identical formation, and a semantic isogloss may be rejected on the basis of e.g. Gr. *ὄχος* ‘carriage’. OIr. *fén* ‘wagon’ may moreover be from PC *\*ued-no*, from PIE *\*ued<sup>h</sup>-* ‘to lead’. This root is better attested in Celtic in e.g. OIr. *feidid* ‘brings, leads’. The oft-quoted W *gwain* is a ghost word back-formed from *certwain* ‘wagon’, an OE loanword.

**Whirl**

REF: L254, IEW 1050-1051

W *chwerfu* ‘to whirl’ and *chwerfan* ‘whorl, pulley’ has been compared to PG *\*swerban-* ‘to wipe, sweep, swerve’, but *chwerfu* appears to be a ghost word not found outside dictionaries, and *chwerfan* is borrowed from OE *hweorfa*, obl. *-an m.* ‘joint, whorl’.

**Wild**

REF: IEW 1123-1142, H47

A uniquely shared root is proposed for PC *\*ueidu-* ‘wild’ and PG *\*waiþa-* ‘hunt’. However, the proto-forms do not match because of the different dentals. The Germanic word goes back to PIE *\*uoih<sub>1</sub>-to-*, see PIE *\*ueih<sub>1</sub>-* ‘to strive for’, cf. Skt. *véti* ‘turns toward, pursues’. The Celtic word is probably derived from *\*uidu-* ‘wood’ (q.v.).

**Wisdom**

REF: Irslinger 2002, 412ff., H15, EDPG 163

OIr. *gáes* ‘intelligence’ and PG *\*gaista-* ‘supernatural spirit’ appear superficially similar, however the Irish may be synchronically derived from *gáeth* ‘intelligent’, cf. *báes* ‘folly’ < *báeth* ‘foolish’. This means that there is no guarantee that the Irish formation goes back far enough to warrant a Celto-Germanicism. Moreover, EDPG reconstructs pre-PG *\*g<sup>h</sup>ois-do-* for *\*gaista-*, cf. Av. *zōižda-* ‘terrible’, which would have yielded an unattested OIr. *\*\*gáet*.

**Withered**

REF: IEW 578, LEIA C-236-237, KPV 420-422, H24

PC *\*krīno-* (OIr. *crín* ‘enfeebled, decrepit, withered’, W *crin* ‘withered, brittle’, B *krin* ‘dry, miserly’) and PG *\*hraiwa-*

(ON *hrae*, OE *hrǣ(w)*, *hrā(w)*, OFri. *hrē-* ‘corpse, remains’), have been argued to contain a Germano-Celtic extension of PIE *\*kerh<sub>2</sub>-* ‘to break’ to *\*kr(e/o)iH-*. However the Celtic most likely is from *\*krih<sub>1</sub>-no-*, derived from *\*kreh<sub>1</sub>(i)-* ‘to shake’.

**Wound 1**

REF: IEW 618, 933, EDPC 222, H60, EDPG 242

PC *\*kre(n)xtu-* ‘wound, scar’ (Mlr. *crécht*, W *craith*) has a cognate in Lith. *krèkti* ‘to coagulate’, so a uniquely CG connection with ON *skrá* ‘scroll’ or ON *hrekja* ‘to drive away, worry, damage’ would have to be based on a morphological or semantic similarity, which is not found.

**Wound 2**

REF: IEW 559-563, H56, EDPG 236

PC *\*knidā* ‘wound’ (OIr. *cned* ‘wound’), PG *\*hnītan-* ‘to wound, poke, butt’ (cf. OIcel. *hnīta* ‘to butt’), both from PIE *\*kneid-*, have been identified as containing a semantic isogloss with the meaning ‘wound’, as opposed to Gr. κνίζω ‘to scratch, tickle, provoke’. However the meaning ‘to gash’ is also found in Greek, and the range of meanings in Germanic is so broad that a chance resemblance with Celtic is likely.

