

## **Major distinctive characteristics of Germanic: morphology.**

Most of the distinctive innovations in Germanic morphology involved restructuring of the verb system; in order to understand them it is necessary to have some idea of what the (late) PIE verb system was like. The system ancestral to Germanic can be reconstructed in great detail from Indo-Iranian and Greek. Here is a sketch of its general architecture.

A given underived verb could make up to three stems. The “present” stem was actually an imperfective, stating explicitly that an event had some internal structure; the “aorist” was a perfective, describing an event without reference to its internal structure; and the “perfect” was a stative, indicating a continuing state. Thus the system was built around the category of aspect, not tense.

By contrast, derived verbs made only present stems. How the perfectives of such verbs were expressed is not known.

To the present (imperfective) stem were formed a past indicative, called the “imperfect indicative,” and a nonpast indicative, called the “present indicative”. The aorist (perfective) stem formed only a past indicative (called simply the “aorist indicative”); the perfect (stative) apparently formed a single indicative which did not express tense at all. In addition, each aspect stem had an imperative, a subjunctive (used to indicate future time and for uncertain statements), and an optative (used to indicate desired or counterfactual states or events). Thus mood was actually more important than tense, which was restricted to the indicative and effectively to the present stem.

In Germanic this system underwent a lengthy restructuring and reduction to yield a much simpler tense-based system, as follows.

### **1. Development of the perfect (stative) stem.**

A small group of perfects retained the inherited stative meaning; these are the “preterite-present” verbs of early Germanic languages. Nine were inherited from PIE:

PIE \*wóyde ‘(s)he knows’ (cf. Skt. *véda*, Gk. οἶδε /*ôide*/) > PGmc. \*wait (cf. Goth. *wait*,

- ON *veit*, OE *wāt*, OHG *weiʒ*);
- PIE \*d<sup>h</sup>ed<sup>h</sup>órse ‘(s)he dares’ (cf. Skt. *dad<sup>h</sup>árṣa*) >→ PGmc. \*(ga)dars (cf. Goth. *gadars*; OE *dearr*, OHG *gitar* have generalized \*-rz- from the plural);
- PIE \*memónē ‘(s)he remembers’ (cf. Gk. μέμونه /mémone/ ‘(s)he is eager’, Lat. *meminit* ‘(s)he remembers’) >→ PGmc. \*(ga)man ‘(s)he remembers’ (cf. Goth. *(ga)man*, ON *man*, OE *(ġe)man*);
- PIE \*h<sub>2</sub>eh<sub>2</sub>nó(n)kē ‘(s)he is at / has reached’ (cf. Skt. *ānāśa* ~ *ānámśa*; OIr. *tánaic* ‘(s)he arrived, (s)he came’ with prefix \*to-) >→ PGmc. \*ganah ‘it is enough’ (cf. Goth. *ganah*, OE *ġeneah*, OHG *ginah*);
- PIE \*h<sub>2</sub>eh<sub>2</sub>óyke ‘(s)he possesses’ (zero grade \*h<sub>2</sub>eh<sub>2</sub>ik- >→ \*HiHiċ- in Skt. mid. *īśe*, reanalyzed as a present) >→ PGmc. \*aih (cf. Goth. *aih*, ON *á*, OE *āh*, OHG 3pl. *eigun*);
- PIE \*h<sub>2</sub>eh<sub>2</sub>óg<sup>h</sup>e ‘(s)he is upset’ (cf. OIr. *ad-ágathar* ‘(s)he is afraid’, remodelled as a present; for the meaning and the laryngeal cf. Gk. pres. ἄχυνται /ák<sup>h</sup>nutai/ ‘(s)he is upset’) > PGmc. \*ōg ‘(s)he is afraid’ (cf. Goth. *og*);
- PIE \*tetórpe ‘(s)he enjoys’ (?; cf. Skt. 3pl. *tātipúr* ‘they are satisfied’; for the root cf. Gk. pres. τέρπεσθαι /térpest<sup>h</sup>ai/ ‘to enjoy oneself’) >→ PGmc. \*þarf ‘(s)he needs’ (cf. Goth., ON *þarf*, OE *þearf*, OHG *darf*);
- PIE \*d<sup>h</sup>ed<sup>h</sup>ówg<sup>h</sup>e ‘it is productive’ (not preserved outside of Gmc., but the semantics are exactly as expected; cf. pres. \*d<sup>h</sup>éwgh<sup>h</sup>ti ‘produces’, reflected in Skt. *dógd<sup>h</sup>i* ‘(s)he milks’ and (thematized) Homeric Gk. τεύχει /téuk<sup>h</sup>ei/ ‘(s)he fashions’) >→ PGmc. \*daug ‘it is useful’ (cf. Goth. *daug*, OE *dēag*, OHG *toug*);
- PIE \*h<sub>1</sub>eh<sub>1</sub>óre ‘(s)he is there, (s)he has arrived’ (cf. Skt. *āra* ‘(s)he has come’)—or \*h<sub>1</sub>óre? (cf. Hitt. *āri* ‘(s)he arrives’)— >→ PGmc. \*ar ‘(s)he is’ (?; cf. OE 2sg. *eart*, Mercian *earþ*, 3pl. Northumbrian *arun*; Old Swedish 3pl. *aru*).
- A tenth example, also stative, was formed to a present stem with a nasal infix within the separate prehistory of Germanic:
- PIE \*ġneh<sub>3</sub>- ‘to recognize’ (cf. Gk. aor. ἔγνω /égnō:/ ‘(s)he recognized’): pres. \*ġn<sup>h</sup>-né-h<sub>3</sub>-ti ‘(s)he recognizes’ (cf. Skt. *jānāti*, OIr. *ad-ġnin*, Toch. A 2sg. *knānat*, all with various remodellings) > pre-PGmc. \*gunnāti; whence new pf. \*gegónne

>→ PGmc. \*kann ‘(s)he recognizes, (s)he knows how’ (cf. Goth., ON *kann*, OE *cann*, OHG *kan*).

Of the remaining five preterite-present verbs reconstructable for PGmc., three have clear root-etymologies, but there is not enough information to reconstruct the PIE inflection of the verb:

PIE root \*h<sub>3</sub>neh<sub>2</sub>- ‘to benefit’ vel sim. (cf. Gk. pres. ὀνίησι /oníη:si/ ‘it benefits’ (trans.)): a perfect similar in shape to that of ‘recognize’ was eventually formed and developed into PGmc. \*ann ‘(s)he grants’ (cf. ON, OE *ann*, OHG *an*);

PIE root \*mog<sup>h</sup>- ‘to be able’ (cf. OCS pres. *možetŭ* ‘(s)he can’, OIr. *do-formaig* ‘it adds, it increases’, *mochtae* ‘mighty’): ?pf. \*memóg<sup>he</sup> (identical in meaning with the present? or is this the original inflection?) >→ PGmc. \*mag ‘(s)he can’ (cf. Goth., OHG *mag*, ON *má*, OE *mæġ*);

(post-)PIE root \*skel- ‘to owe’ (cf. Old Lith. pres. 1sg. *skelù*): ?pf. >→ PGmc. \*skal ‘(s)he owes’ (cf. Goth., ON *skal*, OE *sceal*, OHG *scal*).

The etymologies of the remaining two are obscure:

PGmc. \*mōt ‘(s)he is allowed to’ (cf. OE *mōt*, OHG *muoz*; Goth. *gamot* ‘(s)he finds room’);

PGmc. \*lais ‘(s)he knows’ (cf. Goth. 1sg. *lais*); securely reconstructable because the derived causative \*laizīpi ‘(s)he teaches’ is widely attested (cf. Goth. *laiseip*, OE *lærþ*, OHG *lērit*).

Aside from these relics, the perfect underwent a series of shifts in meaning which are also exemplified in other subgroups of IE. Schematically, there are three stages of development:

- a) stative (the inherited stage);
- b) “resultative”, expressing a past event and the present state that it gave rise to, like a modern English perfect;
- c) simple past, expressing only the past event.

Homeric Greek is still mostly at stage (a); Classical Greek is at stage (b), though with dozens of relics of stage (a); Latin straddles stages (b) and (c) (since its perfect can be used in either sense); Sanskrit and Proto-Germanic have reached

stage (c).

Accompanying this shift in meaning was a great increase in productivity. Many PIE underived verbs had no perfect, but in the course of the development to PGmc. almost all underived verbs acquired one.

Whether any inherited perfects shifted to the new function in PGmc. is not entirely clear; the following examples are at least plausible. I give them with all their reconstructable aspect stems for the sake of context:

PIE pres. \*b<sup>h</sup>éydh-e/o- ‘to trust, to believe (someone)’ (cf. Lat. *fīdere*; Gk. πείθεσθαι /péith<sup>h</sup>est<sup>h</sup>ai/ ‘to believe, to obey’), pf. \*b<sup>h</sup>eb<sup>h</sup>óydh<sup>e</sup> ‘(s)he is trusting / confident’ (cf. Gk. πέποιθε /pépoit<sup>h</sup>e/) >→ pre-PGmc. pres. \*b<sup>h</sup>éydh-e/o- ‘to wait for’, pf. \*b<sup>h</sup>eb<sup>h</sup>óydh<sup>e</sup> ‘(s)he has waited for’ >→ PGmc. pres. \*bīdaną ‘to wait (for)’, past \*baid ‘(s)he waited (for)’ (cf. Goth. *beidan*, ON *bíða*, *beið*, OE *bīdan*, *bād*, OHG *bītan*, *beit*);

PIE pres. \*linék<sup>w</sup>- ~ \*link<sup>w</sup>- ‘to leave behind (severally or repeatedly), to be leaving behind’ (cf. Skt. 3sg. *riṇákti*, 3pl. *riñcánti*, Lat. *linquit*, *linquont*), aor. \*léyk<sup>w</sup>- ~ \*lik<sup>w</sup>- ‘to leave behind’ (cf. Lat. pf. *līquisse*, Gk. aor. λιπέϊν /lipê:n/), pf. \*lelóyk<sup>w</sup>e ‘(s)he is missing’ (cf. Gk. λέλοιπε /léloipe/) >→ pre-PGmc. pres. \*léyk<sup>w</sup>-e/o- ‘to leave’ (← aorist subjunctive, see below), pf. \*lelóyk<sup>w</sup>e ‘(s)he has left’ >→ PGmc. \*līhwanaą ‘to lend’, \*laih<sup>w</sup> ‘(s)he lent’ (cf. Goth. *leihuan*, OE *līon*, *lāh*, OHG *līhan*, *lēh*);

PIE pres. \*g<sup>w</sup>ṃské/ó- ‘to walk’ (cf. Gk. βάσκειν /báske:n/, Skt. 3sg. *gácc<sup>h</sup>ati*), aor. \*g<sup>w</sup>ém- ~ \*g<sup>w</sup>ṃ- ‘to step’ (cf. Skt. 3sg. *ágan* ‘(s)he has gone’), pf. \*g<sup>w</sup>eg<sup>w</sup>óme ‘(s)he has the feet planted’ (Skt. *jagáma* ‘(s)he went’; for the meaning cf. Homeric Gk. ἀμφιβέβηκας /amphibébe:kas/ ‘you stand astride’, made to the synonymous root \*g<sup>w</sup>eh<sub>2</sub>-) >→ pre-PGmc. pres. \*g<sup>w</sup>ém-e/o- ‘to come’ (← aorist subjunctive, see below), pf. \*g<sup>w</sup>eg<sup>w</sup>óme ‘(s)he has come’ >→ PGmc. \*k<sup>w</sup>emanaą ‘to come’, \*k<sup>w</sup>am ‘(s)he came’ (cf. Goth. *qiman*, *qam*, OHG *queman*, *quam*);

PIE pres. \*wert-, mostly thematized \*wért-e/o- ‘to be turning’ (cf. Lat. *vertere*, Skt. 3sg. *vártate*), pf. \*wewórt<sup>e</sup> ‘is turned toward’ (cf. Skt. *ánu vavarta* ‘he rolled after’) >→ pre-PGmc. \*wért-e/o- ‘to turn into’. pf. \*wewórt<sup>e</sup> ‘it has turned into’ >→

PGmc. \*werþanaǵ ‘to become’, \*warþ ‘it became’ (cf. Goth. *wairþan*, *warþ*, ON *verða*, *varð*, OE *weorþan*, *wearþ*, OHG *werdan*, *ward*).

More typically a PGmc. strong past is a post-PIE innovation and was probably resultative when it was first formed. Note the following examples, all of which have (probably independent) parallels in other IE languages:

post-PIE \*b<sup>h</sup>eb<sup>h</sup>óyde ‘(s)he has split’ (cf. Skt. *bib<sup>h</sup>éda* ‘(s)he split’) >→ PGmc. \*bait ‘(s)he bit’ (cf. Goth. *bait*, ON *beit*, OE *bāt*, OHG *beiz*);

post-PIE \*ǵégówse ‘(s)he has tasted’ (cf. Skt. *jujóṣa* ‘(s)he enjoyed’) >→ PGmc. \*kaus ‘(s)he tested’, PNWGmc. ‘(s)he chose’ (cf. ON *kaus*, OE *ċēas*, OHG *kōs*);

post-PIE \*b<sup>h</sup>eb<sup>h</sup>ónd<sup>h</sup>e ‘(s)he has tied’ (cf. Skt. *babánd<sup>h</sup>a* ‘(s)he tied’) >→ PGmc. \*band ‘(s)he tied’ (cf. Goth., OE *band*, ON *batt*, OHG *bant*);

post-PIE \*sesóde ‘(s)he has sat down’ (cf. Skt. *sasáda* ‘(s)he sat down’) >→ PGmc. \*sat ‘(s)he sat’ (cf. Goth., ON *sat*, OE *sæt*, OHG *saʒ*);

post-PIE \*h<sub>1</sub>eh<sub>1</sub>óde ‘(s)he has eaten’, \*h<sub>1</sub>eh<sub>1</sub>dér ‘they have eaten’ (cf. Lat. *ēdēre* ‘they have eaten’) >→ PGmc. \*ēt ‘(s)he ate’, \*ētun ‘they ate’ (cf. Goth. *et*, *etun*, ON *át*, *átu*, OE *æt*, *æton*, OHG *āʒ*, *āʒun*).

Many others, of course, do not even have parallels outside of Germanic.

Though Latin and Sanskrit also preserve some relic stative perfects, it is only in Germanic that they became a structurally coherent class of verbs.

An important consequence of these developments is that the aorist indicative was lost in competition with the perfect, which had become synonymous; there are not even traces of the aorist indicative anywhere in Germanic. A further consequence is that ablaut became a central feature of underived verb conjugation, since the perfect exhibited distinctive ablaut both within its paradigm and in contrast to the other stems of the verb.

## 2. Loss of aspect.

At some point in the development of PGmc. the imperfective : perfective aspect opposition was lost. Consequently the contrast between the imperfect indicative (i.e. the past tense made to the present stem) and the aorist indicative (which was also a

past tense) broke down, bringing them into competition.

We can't reconstruct exactly what happened because the chronology isn't recoverable.

If the perfect had already become a simple past, it might already have driven the aorist indicative out of use; in that case it drove the imperfect out of use too. If the final stage in the development of the perfect occurred later, things might have been more complicated for a while.

In any case, the only imperfect that survived was the imperfect of 'put'. The indicative singular forms developed as follows by regular sound change:

PIE \*d<sup>h</sup>éd<sup>h</sup>eh<sub>1</sub>m = \*[d<sup>h</sup>éd<sup>h</sup>ēm] 'I was putting' (cf. Skt. *ádadhām*, Gk. ἐτίθην /etít<sup>h</sup>ē:n/, both with the "augment" prefix) > \*dedē > \*dedā > PGmc. \*dedō 'I did' (cf. OS *deda*, OHG *teta*) and weak past 1sg. \*-dō (cf. Goth. *-da*, Runic Norse *-do*, ON *-ða*, OE *-de*, OS *-da*, OHG *-ta*);

PIE \*d<sup>h</sup>éd<sup>h</sup>eh<sub>1</sub>s 'you were putting' (cf. Skt. *ádadhās*, Gk. ἐτίθης /etít<sup>h</sup>ē:s/) > PGmc. \*dedēz 'you did' (the ending of OS *dedōs* has been remodelled) and weak past 1sg. \*-dēz (cf. Goth. *-des*, ON *-ðir*; OE *-des(t)*, etc. exhibit remodelling);

PIE \*d<sup>h</sup>éd<sup>h</sup>eh<sub>1</sub>d '(s)he was putting' (cf. Skt. *ádadhāt*, Gk. ἐτίθη /etít<sup>h</sup>ē:/) > PGmc. \*dedē '(s)he did' (cf. OS *deda*, OHG *teta*, probably with remodelling) and weak past 1sg. \*-dē (cf. Goth. *-da*, ON *-ði*, OE *-de*, OS *-da*, OHG *-ta*).

Native learners reinterpreted the reduplicated sequence \*ded- as the root of the verb and introduced a long \*ē into the nonsingular indicative and the modal forms, apparently applying the rule appropriate to strong verbs of class V. (This change must have happened comparatively late in the development of PGmc.) The 3pl. indicative illustrates this development:

PIE 3pl. \*d<sup>h</sup>éd<sup>h</sup>h<sub>1</sub>nd 'they were putting' (cf. Av. *dadaṭ*; Skt. *ádadhur* has replaced the ending) > \*dedun → PGmc. \*dēdun 'they did' (cf. OS *dādun*, OHG *tātun*) and weak past 3pl. \*-dēdun (cf. Goth. *-dedun*).

Why this one imperfect survived is not known, but its survival had important consequences for Germanic verb inflection, since it is the source of the indicative 3pl. ending for all past tenses and of the weak past tense suffix.

### 3. Loss of the subjunctive.

The PIE subjunctive (which survives in its modal functions in Greek, in its temporal function as the Latin future, and in all functions in Vedic) was lost in Germanic by functional merger with the indicative, with the following consequences.

Since the subjunctive was a mood used to express future time and possible events, the loss of its functional identity brought it into competition with the present indicative rather than with any of the past tenses. Not surprisingly, the competition between present indicative and present subjunctive was won by the former.

But the *aorist* subjunctive also came into competition with the present indicative when the contrast of aspect was lost. Normally the present indicative won that competition too. But when the present stem had a nasal infix or was formed with the suffix \*-ské/ó-, the aorist subjunctive (which in those cases had no affix marking aspect) won out instead, as Karl Hoffmann established in 1955. The following examples are secure:

PIE \*g<sup>w</sup>m̥skéti ‘(s)he’s walking’ (cf. Skt. *gácchati*, Gk. βάσκει /báskei/, both ‘(s)he goes’), aor. subj. \*g<sup>w</sup>ém-e/o- (cf. Skt. 3sg. *gámat*) > PGmc. \*k<sup>w</sup>emanaŋ ‘to come’ (cf. Goth. *qiman*, OHG *queman*);

PIE \*b<sup>h</sup>inédsti ‘(s)he’s splitting (it)’, 3pl. \*b<sup>h</sup>indénti (cf. Skt. *b<sup>h</sup>inátti*, *b<sup>h</sup>indánti*; thematized in Lat. *findit*, *findunt*), aor. sub. \*b<sup>h</sup>éyd-e/o- (cf. Skt. 3sg. *b<sup>h</sup>édati*) > PGmc. \*bītaną ‘to bite’ (cf. Goth. *beitan*, ON *bíta*, OE *bītan*, OHG *bīzan*);

PIE \*skínédsti ‘(s)he’s cutting (it) off’, 3pl. \*skíndénti (cf. Skt. *c<sup>h</sup>inátti*, *c<sup>h</sup>indánti*; thematized in Lat. *scindit*, *scindunt* ‘(s)he splits, they split’), aor. sub. \*skéyd-e/o- > PGmc. \*skītaną ‘to defecate’ (cf. ON *skíta*, ME *shiten*, MHG *schizen*);

PIE \*línék<sup>w</sup>ti ‘(s)he’s leaving (it)’, 3pl. \*línk<sup>w</sup>énti (cf. Skt. *riṇákti*, *riñcánti*; thematized in Lat. *linquit*, *linquont*), aor. subj. \*léyk<sup>w</sup>-e/o- (cf. Gk. pres. λείπειν /léipe:n/) > PGmc. \*līh<sup>w</sup>anaŋ ‘to lend’ (cf. Goth. *leiħan*, OE *līon*, OHG *līhan*);

PIE \*Hrunépti ‘(s)he’s breaking (it)’ (thematized in Skt. *lumpáti*, Lat. *rumpit*), aor. subj. \*Hréwp-e/o- > PGmc. \*reufanaŋ ‘to tear’ (cf. ON *rjúfa*).

#### 4. Past participles.

PIE formed participles to aspect stems. The perfect participle was marked by a suffix \*-wos- ~ \*-us-; the other stems made active participles in \*-nt- and mediopassive participles in \*-mh<sub>1</sub>no-. Only the present active participle survives in Germanic. However, like Sanskrit and Latin (but not Greek), Germanic has made new past participles by attracting verbal adjectives into the verb paradigm. Those adjectives were originally derived lexemes; hence the past participle is made directly to the verb root, not to any tense stem.

The past participles of basic verbs are mostly old verbal adjectives in \*-nó- with zero-grade roots; at some point (by a process not now recoverable) the suffix was remodelled to \*-onó-. Some probably inherited examples:

PIE \*b<sup>h</sup>idnós ‘fissile’ (cf. Skt. *b<sup>h</sup>innás* ‘split’) → \*b<sup>h</sup>idonós > PGmc. \*bitanaz ‘bitten’ (cf. Goth. *bitans*, ON *bitinn*, OE *biten*, OHG *gibi<sub>3</sub>zan*);

PIE \*lugnós ‘fragile’ (cf. Skt. *rugnás* ‘broken’) → \*lugonós > PGmc. \*lukanaz ‘torn out’ (cf. OHG *arlohhan*; OE *locen* ‘weeded’);

PIE \*b<sup>h</sup>ud<sup>h</sup>nós ‘perceptible’ (vel sim.; contrast \*b<sup>h</sup>ud<sup>h</sup>stós in Skt. *budd<sup>h</sup>ás* ‘awake, aware’, Gk. ἄπυστος /*ápustos*/ ‘unheard-of’) → \*b<sup>h</sup>ud<sup>h</sup>onós > PGmc. \*budanaz ‘offered’ (cf. ON *boðinn*, OE *boden*, OHG *gibotan*; Goth. *anabudans* ‘commanded’);

PIE \*b<sup>h</sup>ṛnós ‘portable’ (contrast Skt. *b<sup>h</sup>ṛtás* ‘carried’) >→ PGmc. \*buranaz ‘carried, born’ (cf. Goth. *baúrans*, ON *borinn*, OE *boren*, OHG *giboran*).

This is why the past participles of strong verbs end in \*-ana- in PGmc.

It appears that a few verbs with presents in \*-ye- ~ \*-yo-, as well as preterite-presents (see above), developed past participles from verbal adjectives in \*-tó- instead:

PIE \*wṛg<sub>y</sub>éti ‘(s)he is working / making’, \*wṛg<sub>t</sub>ós ‘workable’ (cf. Av. *vərəziieiti*, ptc. *vərəštō*) >→ PGmc. \*wurkīþi ‘(s)he makes’, \*wurhtaz ‘made’ (cf. Goth. *waúrkeiþ*, *waúrhts*, ON *yrkir*, *ortr*, OE *wyrceþ*, *worht*, OHG *wurchit*, *giworaht*);

PIE \*seh<sub>2</sub>gieti ‘(s)he’s giving a sign’ (cf. Hitt. *sākizzi*; Lat. *sāgīre* ‘to be keen-nosed’) > PGmc. \*sōkīþi ‘(s)he seeks’ with innovative (?) ptc. \*sōhtaz ‘sought’ (cf. ON *sækir*, *sótr*, OE *sēceþ*, *sōht*, OHG *suohhit*, *gisuohht*);

PIE \*wóyde ‘(s)he knows’, \*widstós ‘knowable, known’ (Skt. *vittás*; see above for the finite verb) > PGmc. \*wait ‘(s)he knows’, \*(ga)wissaz ‘known’; the latter survives as an adj. in OE *gewiss*, OHG *giwissēr* ‘certain’, Goth. *unwiss* ‘uncertain’; PIE \*ǵnh<sub>3</sub>skéti and \*ǵnh<sub>3</sub>ti ‘(s)he recognizes’, \*ǵnh<sub>3</sub>tós ‘recognizable, known’ (cf. Skt. *jānāti*, *jātás*; Gk. *γιγνώσκει* /gignó:skei/, *γνωτός* /gnɔ:tós/); the adj. > \*guntós → \*gúntos > PGmc. \*kunþaz (cf. Goth. *kunþs*, ON *kuðr* ~ *kunnr*, OE *cūþ*, OHG *kund*); the reason for the shift in accent is not known.

The reason why a different adjective formation was chosen in these cases is not known, but there is a discernible pattern: these were verbs which probably had only a present stem or only a perfect stem, not a full conjugation.

Since verbal adjectives were derived directly from verb roots, there were none corresponding to derived verbs. But when they became participles, it became necessary to form them from derived verbs. Since most derived verbs (including all that were transitive) had present stems in \*-yé- ~ \*-yó-, past participles were constructed for them on the model of the handful of underived verbs listed immediately above: subtract the present-stem suffix and add \*-tó-.

In the case of a unique pair of derivationally related verbs, the result was past participles with no vowel before the \*-t-, like those listed above:

pre-PGmc. \*tongéyeti (or \*tongiéti?; the dialectal Latin derivative *tongitiō* ‘nōtiō, idea’ might suggest the former, but the only attested verb in a non-Gmc. language, OIr. *tongid* ‘(s)he swears’, has no derivational suffix at all) > PGmc. \*þankīþi ‘(s)he thinks’ (cf. Goth. *þagkeiþ*, OE *þencþ*, OHG *denchit*; ON *þekkr* ‘(s)he perceives’); ptc. \*tongtós > PGmc. \*þanhtaz (cf. OE *þōht*, OHG *gidāht*);

pre-PGmc. derived intransitive \*tŋgyéti > PGmc. \*þunkīþi ‘it seems’ (cf. Goth. *þugkeiþ*, ON *þykkrr*, OE *þyncþ*, OHG *dunchit*); ptc. \*tŋgtós > PGmc. \*þunhtaz (cf. ON *þótttr*, OE *þūht*, OHG *gidūht*).

Usually, however, subtraction of the present stem suffix left a “root” ending in a vowel to which the participial suffix was added. The following examples are typical (note that in these I use the shafted arrow by itself to indicate derivation, not change):

post-PIE \*solpā ‘ointment’ (see the phonological handout under Verner’s Law) → pres.

- \*solpā-yé/ó- ‘anoint’ → ptc. \*solpā-tó-s; > PGmc. \*salbō, \*salbō-, \*salbōdaz (cf. Goth. *salbo-*, *salboþs* (noun not attested), OE *sealf*, *sealfa-*, *sealfod*, OHG *salba*, *salbō-*, *gisalbōt*);
- PIE \*h<sub>2</sub>k-h<sub>2</sub>ows-iéti ‘(s)he is sharp-eared’ (cf. Gk. ἀκούειν /akóue:n/ ‘to hear’) → ptc. \*h<sub>2</sub>k̄-h<sub>2</sub>ows-i-tós ‘heard’; > PGmc. \*hauzīþi, \*hauzidaz (cf. ON *heyrir*, *heyrðr*, OE *hīerþ*, *hīered*, OHG *hōrit*, *gihōrit*; Goth. *hauseiþ*, *hausiþs* with analogical voiceless Verner’s Law alternant);
- PIE \*h<sub>1</sub>néh<sub>3</sub>m̥ ~ \*h<sub>1</sub>néh<sub>3</sub>m̥- ‘name’, collective \*h<sub>1</sub>néh<sub>3</sub>m̥ō ~ \*h<sub>1</sub>ṇh<sub>3</sub>m̥-’, (cf. Toch. B *ñem*, Lat. *nōmen*, etc.) → \*h<sub>1</sub>ṇh<sub>3</sub>m̥-yéti ‘(s)he names’ (cf. Gk. ὀνομαίνει /onomáinei/) >→ pre-PGmc. \*nómō ~ \*nomn-’, \*nomn-iéti; → ptc. \*nomn-i-tós ‘named’; >→ PGmc. \*namō, \*namnīþi, \*namnidaz (cf. Goth. *namo*, *namneiþ*, *namniþs*, OE *nama*, *nemneþ* ~ *nemþ*, *nemned*, OHG *namo*, *nemnit*, *ginemnit*);
- PIE \*séh<sub>2</sub>ti-s ‘satiety’ (cf. Lith. *sótis*, OIr. *sáith*) → \*seh<sub>2</sub>ti-(y)éti ‘it satisfies’ → ptc. \*seh<sub>2</sub>ti-tós > PGmc. \*sōþiz, \*sōdīþi, \*sōdidaz (cf. Goth. *sop* (dat. sg.; stem class unclear), *ga-sopeiþ*, *ga-sopiþs*, the latter two with analogical voiceless Verner’s Law alternant);
- post-PIE \*ko(m)moini-s ‘common’ (?; cf. Lat. *commūnis*) → \*ko(m)moini-(y)ónti ‘they hold in common’ → ptc. \*ko(m)moini-tós ‘held in common’ > PGmc. \*gamainiz, \*gamainijanþi, \*gamainidaz (why \*g-?; but cf. Goth. *gamains*, *gamainjand*, *gamainiþs*, OHG *gimeini*, *gimeinent*, *gimeinit*);
- PIE \*somHós ‘same’ (cf. Skt. *samás*, Gk. ὁμός /homós/) → \*somHe-yéti ‘(s)he makes them the same’ (cf. Skt. *samayáti*) → ptc. \*somHe-tós? or \*somH-i-tós?; in either case, >→ PGmc. \*sama-n- (weak inflection only), \*samiþi (with the converse of Sievers’ Law), \*samidaz (cf. Goth. *sama*, *samjīþ* ‘conforms’, *samiþs*, ON *sami*, *semr* ‘puts in order’, *samðr*);
- PIE \*tonéyeti ‘(s)he extends (it)’ (cf. Skt. *tānáyati*) → ptc. \*tonitós or \*tonetós?; in either case, >→ PGmc. \*þaniþi ‘(s)he stretches / extends’ (with the converse of Sievers’ Law), ptc. \*þanidaz (cf. ON *þenr*, *þanðr*, OHG *denit*, *gidenit*; Goth. compound *uþþanjiþ* ‘(s)he strives’, *uþþaniþs*).

These developments directly fed those described in the following section.

## 5. The formation of the weak past.

Since derived verbs had no perfect stem in PIE, they could have no strong past tense in PGmc. Instead a periphrastic past was developed using the past participle and the past tense of the verb which survives as ‘do’ in modern English, originally the PIE imperfect of ‘put’ (see section 2 above). In PGmc. (as still in OE and OHG) that verb could also mean ‘make’ or ‘cause’, so the phrase with the participle originally meant ‘made ... Xed’, where *X* is the lexical verb.

Note the following points: (1) since PGmc. was head-final below COMP, the auxiliary followed the participle; (2) the latter probably came to exhibit default agreement, which in PGmc. was acc. sg. neut.; (3) the relevant ending for a-stem adjectives was probably \*-a (less likely \*-a).

Here are some typical periphrastic pasts in the 3sg. and 3pl. indicative:

\*dōmida dedē ‘(s)he judged’

\*dōmida dēdun ‘they judged’

\*salbōda dedē ‘(s)he anointed’

\*salbōda dēdun ‘they anointed’

\*wurhta dedē ‘(s)he made’

\*wurhta dēdun ‘they made’

\*kunþa dedē ‘(s)he recognized’

\*kunþa dēdun ‘they recognized’

\*wissa dedē ‘(s)he knew’

\*wissa dēdun ‘they knew’

Note the successions of coronal obstruents separated by short vowels, which must have been vulnerable to haplology in allegro speech.

At least the phrases with participles in \*-da (that is, the vast majority) were eventually subject to a process of haplology that can be stated as follows:

Beginning immediately to the right of the participial suffixal consonant, delete all successive sequences of the shape \*VT, where \*V is a short vowel and \*T is a coronal obstruent.

Note the results (the haplogized sequences are given in parentheses):

- \*dōmid(a d)(ed)ē ‘(s)he judged’ > \*dōmidē (cf. Goth. *domida*);  
 \*dōmid(a d)ēdun ‘they judged’ > \*dōmidēdun (cf. Goth. *domidedun*);  
 \*salbōd(a d)(ed)ē ‘(s)he anointed’ > \*salbōdē (cf. Goth. *salboda*);  
 \*salbōd(a d)ēdun ‘they anointed’ > \*salbōdēdun (cf. Goth. *salbodedun*).

Possibly some of the minority types underwent the same process; if not, later generations of native learners constructed their weak pasts on the same model.

## 6. Appendix: the double paradigm of adjectives.

One major Germanic morphological innovation involved nominals: adjectives acquired two complete paradigms, one with the endings of determiners, the other n-stem. The former are called “strong”, the latter “weak”. The following pairs of stems are typical:

	<i>strong</i>	<i>weak</i>
‘alive’	*k <sup>w</sup> ik <sup>w</sup> a-, fem. *k <sup>w</sup> ik <sup>w</sup> ō-	*k <sup>w</sup> ik <sup>w</sup> an-, fem. *k <sup>w</sup> ik <sup>w</sup> ōn-
‘common’	*gamaini-, fem. *gamainijō-	*gamainijan-, fem. *gamainijōn-
‘heavy’	*kuru-, fem. *kurjō-	*kurjan- (?), fem. *kurjōn-
‘carrying’	*berand-, fem. *berandijō-	*berandan-, fem. *berandīn-

Weak adjectives are used in definite DP’s, including vocatives and comparatives; thus it is reasonable to suspect that the n-stem suffix was in functional terms the first definite article in Germanic (replaced by later innovations in all the daughters).

Though weak adjectives are similar in function to the definite adjectives of Balto-Slavic (originally formed with a fully inflected clitic \*-ji- or \*-jo-), their formal details are peculiar to Germanic; thus the developments must have been independent and parallel, not a single historically shared change.