

Hymn to Rātri, the Goddess of Night

R̥g-Vēda, Maṇḍala X, 127

(circa 1500 BCE)

Rātri vy ākhyad āyatī purutrā dēvy ākṣābhīḥ | vīśvā ādhi śrīyō 'dhita
ōrv āprā āmartyā nivātō dēvy ūdvātāḥ | jyōtiṣā bādhatē tāmaḥ
nīr u svāsāram askrītōśāsam dēvy āyatī | āpéd u hāsate tāmaḥ
sā nō adyā yāsyā vayāḥ ní tē yāmann āvikṣmahi | vṛkṣē ná vasatīm váyaḥ
ní grāmāsō avikṣata ní padvāntō ní pakṣīṇaḥ | ní śyēnāsaṣ cid arthīnaḥ
yāvāyā vṛkyāḥ vṛkaḥ yavāya stēnām ūrmyē | āthā naḥ sutāra bhava
ūpa mā pépiṣat tāmaḥ kṛṣṇāḥ vyāktam asthita | ūṣa ṛṇēva yātaya
ūpa tē gā ivākaraḥ vṛṇīsvā duhitar divaḥ | rātri stōmam ná jigyúṣē

The Goddess Night has looked abroad with her eyes, everywhere drawing near.
She has put all her glories on.

The immortal Goddess now has filled wide space, its depths and heights.
Her radiance drives out the dark.

Approaching, the Goddess has expelled her sister Dawn.
Now darkness also disappears.

And so you have drawn near to us, who at your coming have come home,
as birds to their nest upon the tree.

The clans have now gone home to rest, home the beasts, and home the birds,
home even the hawks who lust for prey.

Guard us from the she-wolf and the wolf, and guard us from the thief, O Night,
and so be good for us to pass.

For darkness, blotting out, has come near me, black and palpable.

O Dawn, dispel it like my debts.

I have offered my hymn as a cow is offered, Daughter of Heaven.

O Night, accept it, as a victor praise.

Language Relationship

| | A | B | C | D | E | F | |
|----|---------|----------|---------|--------------|----------|---------|------------|
| 1 | child | mwana | mwana | umwana | bačeh | anak | bata? |
| 2 | cry | lia | dila | lila | giryeh | triak | iyak |
| 3 | drink | ñwa | nua | nwa | nušidan | minuman | inum |
| 4 | fire | moto | tiya | umulilo | ateš | api | apoy |
| 5 | five | tano | tanu | sanu | pænʃ | lima | lima |
| 6 | four | nne | ia | ne | čæhær | empat | ampat |
| 7 | hill | kilima | mogo | ulupili | tel | bukit | bukid |
| 8 | laugh | čeka | seva | seka | xændidan | tartawa | tawa |
| 9 | leg | mguu | kulu | ukuulu | saq | kaki | pa |
| 10 | lip | mdomo | diba | umulomo | læb | bibir | bibig |
| 11 | man | mtu | muntu | umuntu | mærd | orag | tau |
| 12 | news | habari | nsagu | ičeeβo | xæbær | xabar | balita |
| 13 | one | moja | mosi | mo | yek | satu | isa |
| 14 | prophet | nabii | mbikudi | umusimičisi | næbiy | nabi | propetas |
| 15 | rain | mvua | mvula | imfula | baran | hujan | ulan |
| 16 | ship | merikebu | maswa | ubwato | mærkæb | kapal | bapor |
| 17 | sin | dhambi | masumu | ičakuβifya | zamb | dosa | kasilangan |
| 18 | soldier | askari | kinwani | ičita | æskær | askar | suldado |
| 19 | sore | kidonda | mputa | ičilonda | zæxm | sakit | sakit |
| 20 | speech | hutoba | malongi | isiwi | xutbæh | xutbah | salita |
| 21 | story | hadhithi | řana | ičisimičisyo | hædis | čarita | istoria |
| 22 | temple | hekalu | kinlogo | itempuli | hæykil | rumah | templo |
| 23 | three | tatu | tatu | tatu | seh | tiga | tallo |
| 24 | tree | mti | nti | umuti | deræxt | pohon | puno? |
| 25 | two | billi | zole | řilli | do | dua | dalawa |

The data above consists of word lists from six different languages. The job is to determine the relationships. How many families are there? Which languages are in each family? One family is Indo-European; which is it? Give evidence, including cognates. Indicate some borrowings that cross family boundaries; why should they be considered borrowings and not cognates?

Grimm's Law

| A | B | Match | Correspondences: |
|--------------------|----------|-----------|---------------------------------|
| (1) <u>f</u> ool | cardiac | _____ | f...t <u>d</u> ...d |
| (2) <u>l</u> ooth | gentle | _____ | t...th ¹ _____ |
| (3) <u>f</u> ather | trauma | _____ | f...th ¹ _____ |
| (4) <u>k</u> ind | pedal | (1) _____ | k...n..... _____ |
| (5) <u>h</u> orn | grain | _____ | h...n..... _____ |
| (6) <u>h</u> earl | progeny | _____ | h...t..... _____ |
| (7) <u>h</u> ound | gorget | _____ | h...n..... _____ |
| (8) <u>k</u> in | paternal | _____ | k...n..... _____ |
| (9) <u>th</u> rash | canine | _____ | thr ¹ _____ |
| (10) <u>g</u> orn | denial | _____ | k ² ...n..... _____ |

Column A above contains English words descended from Old English. Column B contains English words **borrowed** from Latin and Greek. Each one of the words in Column A is related to, and means something related to, one of the words in Column B. They are not in the right order, so the first part of the problem is to match up the words in column A with the word in Column B you think it's related to, using the meaning of the words as the main clue. Number 1 has been matched for you.

Once you have matched the words, the second part of the problem is to compare the underlined letters in each pair of words. Every underlined letter in Column A corresponds to one in Column B. List the correspondences; again, Number 1 has been done for you as an example.

Finally, state any generalizations you can find about what letters in Column B correspond to what letters in Column A. Is there any regular pattern? Could you describe it in a chart?

¹ The letter combination "th" in (2), (3), and (9) really represents one sound instead of two, so treat it as if it were a single letter.

² The letter "c" in number (10) is really pronounced "k", as in (4) and (8), so treat it like a "k".

Proto-Indo-European Numerals

(PIE forms and selected reflexes, with Hungarian for contrast)

| PIE | Skt | Gk | Lat | Goth* | OIr | Hung |
|-----------------------------------|----------|----------|----------|--------|----------|--------|
| 1 *oykos, *oynos | ékas | heĩs | ũnus | ains | oĩn | egy |
| 2 *dwōw | dvāũ | dúō | duo | twai | da | kettő |
| 3 *treyes | tráyas | treĩs | trēs | preis | tri | három |
| 4 *k ^{wo} etwōres | catvāras | téttares | quattuor | fidwor | cethir | négy |
| 5 *peŋk ^{wo} e | pāñca | pénte | quinque | fimf | cóic | öt |
| 6 *seks | ṣái | héh | sex | saihs | sé | hat |
| 7 *septĩm | saptá | heptá | septem | sibun | secht n- | hét |
| 8 *oktōw | aṣṭāũ | oktō | octō | ahtau | ocht n- | nyolc |
| 9 *newm̥ | nāva | ennéa | novem | niun | noín n- | kilenc |
| 10 *de-km̥ | dása | déka | decem | taihun | deich n- | tíz |

| | | | | | | |
|--|-----------------------|-------------------------|---|----------------------|----|----|
| | *m̥ | → a | a | em | un | n- |
| | *d | → d | d | d | t | d |
| | *t | → t | t | t | p | t |
| | *k | → k / _{back} V | k | k | h | k |
| | <i>c, ṣ elsewhere</i> | | | | | |
| | *k ^{wo} | → " | t | k ^{wo} (qu) | f | k |
| | *p | → p | p | p | f | ∅ |
| | *s | → s | <i>h initially,</i> <i>s elsewhere</i> | s | s | s |

* Grimm's Law applies in Gothic, as in all Germanic languages.

Note the systematic changes in consonant reflexes in this column.

Some Culturally Important Proto-Indo-European Roots

| | | | |
|---------------------|---------|---------------------|--------------------|
| Willow | *wel | Cow | *g ^w ou |
| Birch..... | *bherag | Horse..... | *ekwo |
| Beech | *bhāgo | Sheep..... | *owis |
| Elm..... | *el | Dog..... | *kwon |
| Tree (oak)..... | *deru | Bear..... | *r̥kto |
| Grain | *grano | Field/plain..... | *agro |
| Pig..... | *su | Young pig..... | *porko |
| Town..... | *weik | Fortified town..... | *pela |
| Copper/bronze | *ayes | Whet(stone)..... | *k ^w ed |
| Yoke | *yeug | Boat..... | *nāu |
| Bow/arrow | *arku | Weave | *teks |

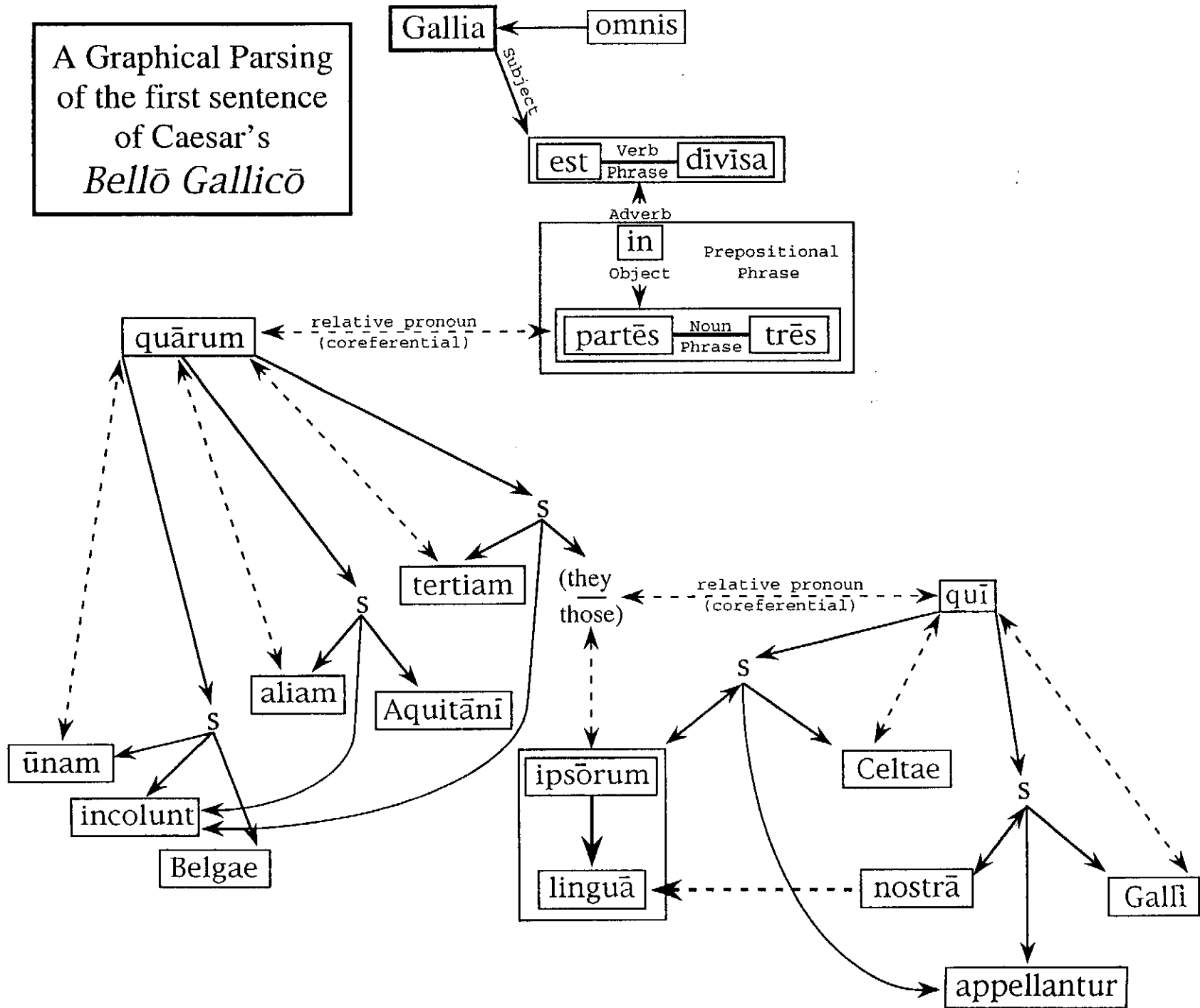
Greek Reflexes of PIE Stops

| PIE Root | Gloss | Greek | Reflex | Gloss | Borrowing |
|----------------------|---------------------|---------|--------|----------------|-----------------------|
| *bhā | 'to speak' | φῶνεν | φ | 'to speak' | <i>phonetics</i> |
| *aidh | 'to burn' | ἄϊθηρ | θ | 'air' | <i>ether</i> |
| *magh | 'to have power' | μηχάνη | χ | 'device' | <i>mechanism</i> |
| *g _h ren | 'to think' | φρήν | φ | 'mind' | <i>schizophrenia</i> |
| *g _h er | 'warm' | θερμός | θ | 'warm' | <i>thermodynamics</i> |
| *ang _h i | 'snake' | ἐχίνος | χ | 'hedgehog' | <i>echinoderm</i> |
| <hr/> | | | | | |
| * <u>b</u> ak | 'staff' | βάκτρον | β | 'staff' | <i>bacterium</i> |
| * <u>deru</u> | 'firm, solid; tree' | δρυός | δ | 'oak tree' | <i>dryad</i> |
| *gnō | 'to know' | γνώσκω | γ | 'to know' | <i>agnostic</i> |
| <hr/> | | | | | |
| *g _h ei | 'to live' | βίος | β | 'life' | <i>biology</i> |
| *g _h elbh | 'womb' | ἄδελφος | δ | 'brother' | <i>Philadelphia</i> |
| *g _h en | 'woman' | γυνή | γ | 'woman' | <i>gynophobe</i> |
| <hr/> | | | | | |
| * <u>dur</u> | 'fire' | πῦρ | π | 'fire' | <i>pyrotechnic</i> |
| * <u>teks</u> | 'to weave, make' | τέκτων | τ | 'carpenter' | <i>architect</i> |
| *k _{ak} ka | 'to defecate' | κάκα | κ | 'bad' | <i>cacophony</i> |
| <hr/> | | | | | |
| *k _{el} | 'to revolve' | πέλος | π | 'axis' | <i>pulley</i> |
| *k _{el} | 'to revolve' | τέλος | τ | 'end of cycle' | <i>teleology</i> |
| *k _{el} | 'to revolve' | κύκλος | κ | 'circle' | <i>cycle</i> |

Latin Reflexes of Proto-Indo-European Stops with examples in Latin and English borrowings

| PIE stop | | Latin reflex | PIE root | Latin cognate | English borrowing |
|------------------------|---|---------------------------|--|---------------------------|-------------------|
| *bh | → | f | *bher- ‘carry’ | fero ‘carry’ | <i>transfer</i> |
| *bh | → | b | *bhardha- ‘beard’ | barba ‘beard’ | <i>barber</i> |
| *dh | → | f | *dhe- ‘do, make’ | facere ‘make, do’ | <i>factory</i> |
| *gh | → | h | *ghabh- ‘give, receive’ | habere ‘have’ | <i>inhabit</i> |
| *g^wh | → | f | *g^wher- ‘heat, warm’ | fornax ‘furnace’ | <i>furnace</i> |
| *b | → | b | *leb- ‘lip’ | labium ‘lip’ | <i>labial</i> |
| *d | → | d | *deru- ‘firm, solid’ | durus ‘hard’ | <i>durable</i> |
| *g | → | g | *grāno- ‘grain’ | granum ‘grain’ | <i>grain</i> |
| *g^w | → | v [w] | *g^werə- ‘swallow’ | vorare ‘devour’ | <i>devour</i> |
| *g^w | → | gu | *g^werə- ‘swallow’ | gurgis ‘whirlpool’ | <i>gorge</i> |
| *p | → | p | *petə- ‘rush, fly’ | pinna ‘feather’ | <i>pen</i> |
| *t | → | t | *terə- ‘cross over’ | trans ‘across’ | <i>transfer</i> |
| *k | → | c [k] | *kap- ‘grasp’ | capere ‘seize’ | <i>capture</i> |
| *k^w | → | qu [k^w] | *k^weiə- ‘rest, be quiet’ | quietus ‘resting’ | <i>quiet</i> |

A Graphical Parsing
of the first sentence
of Caesar's
Bellō Gallicō



Indo-European Labiovelar Reflexes in Greek

g^wh...Φ..... *g^whren- 'to think'φρην, 'mind'schizophrenia
 g^wh...Θ..... *g^wher- 'warm'θερμος, 'warm'*thermodynamics*
 g^wh...Χ..... *ang^whi- 'snake'ἔχινος, 'hedgehog'*echinoderm*

g^w.....Β..... *g^wei- 'to live'βιος, 'life'*biology*
 g^w.....Δ..... *g^welbh- 'womb'ἄδελφος, 'brother'*Philadelphia*
 g^w.....Γ..... *g^wen- 'woman'γυνή, 'woman'*androgynous*

k^w.....Π..... *k^wel- 'to revolve'τολος, 'axis'*pulley*
 k^w.....Τ..... *k^wel- 'to revolve'τελος, 'end of cycle'*teleology*
 k^w.....Κ..... *k^wel- 'to revolve'κυκλος, 'circle'*cycle*

g^wh...Φ..... *ang^whi- 'snake'ὄφις, 'serpent'*ophidian*
 g^wh...Χ..... *ang^whi- 'snake'ἔχινος, 'hedgehog'*echinoderm*
 g^wh...Θ..... *g^wher- 'warm'θερμος, 'warm'*thermos*
 g^wh...Φ..... *g^whren- 'to think'φρην, 'mind'*schizophrenia*

g^w.....Β..... *bheg^w- 'to run away'φοβος, 'to fear'*phobia*
 g^w.....Β..... *g^wa- 'to come, go'βασις, 'stepping stone'*basis*
 g^w.....Β..... *g^wadh- 'to sink'βαθος, 'depth'*bathyscaphe*
 g^w.....Β..... *g^wēbh- 'to dip'βαπτειν, 'to dip'*baptize*
 g^w.....Β..... *g^wei- 'to live'βιος, 'life'*biology*
 g^w.....Γ..... *g^wei- 'to live'ὑγιης, 'healthy'*hygiene*
 g^w.....Δ..... *g^welbh- 'womb'ἄδελφος, 'brother'*Philadelphia*
 g^w.....Β..... *g^wela- 'throw'βαλλειν, 'to throw'*parabola*
 g^w.....Β..... *g^wou- 'ox, bull, cow'βους, 'ox, bull, cow'*bucolic*
 g^w.....Β..... *g^wela- 'heavy'βαρυσ, 'heavy'*baritone*
 g^w.....Γ..... *g^wen- 'woman'γυνή, 'woman'*androgynous*

k^w.....Κ..... *kek^w- 'to excrete'κοπρος, 'dung'*coprolith*
 k^w.....Π..... *k^wel- 'to revolve'ρολος, 'axis'*pulley*
 k^w.....Τ..... *k^wel- 'to revolve'τελος, 'end of cycle'*teleology*
 k^w.....Κ..... *k^wel- 'to revolve'κυκλος, 'circle'*cycle*
 k^w.....Π..... *k^wei- 'to pay, atone'ποινη, 'penalty'*pain*
 k^w.....Π..... *k^wel- 'far away'παλαι, 'long ago'*paleolithic*
 k^w.....Τ..... *k^wel- 'far away'τηλε, 'far off'*telephone*