

The Indo-European language family

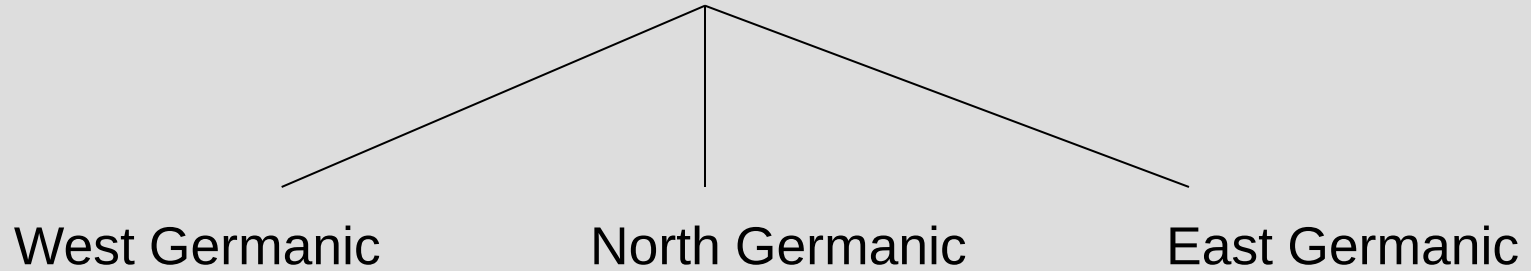
Principles of language change

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Germanic

Germanic



Germanic

Germanic

West Germanic

North Germanic

East Germanic

English

Frisian

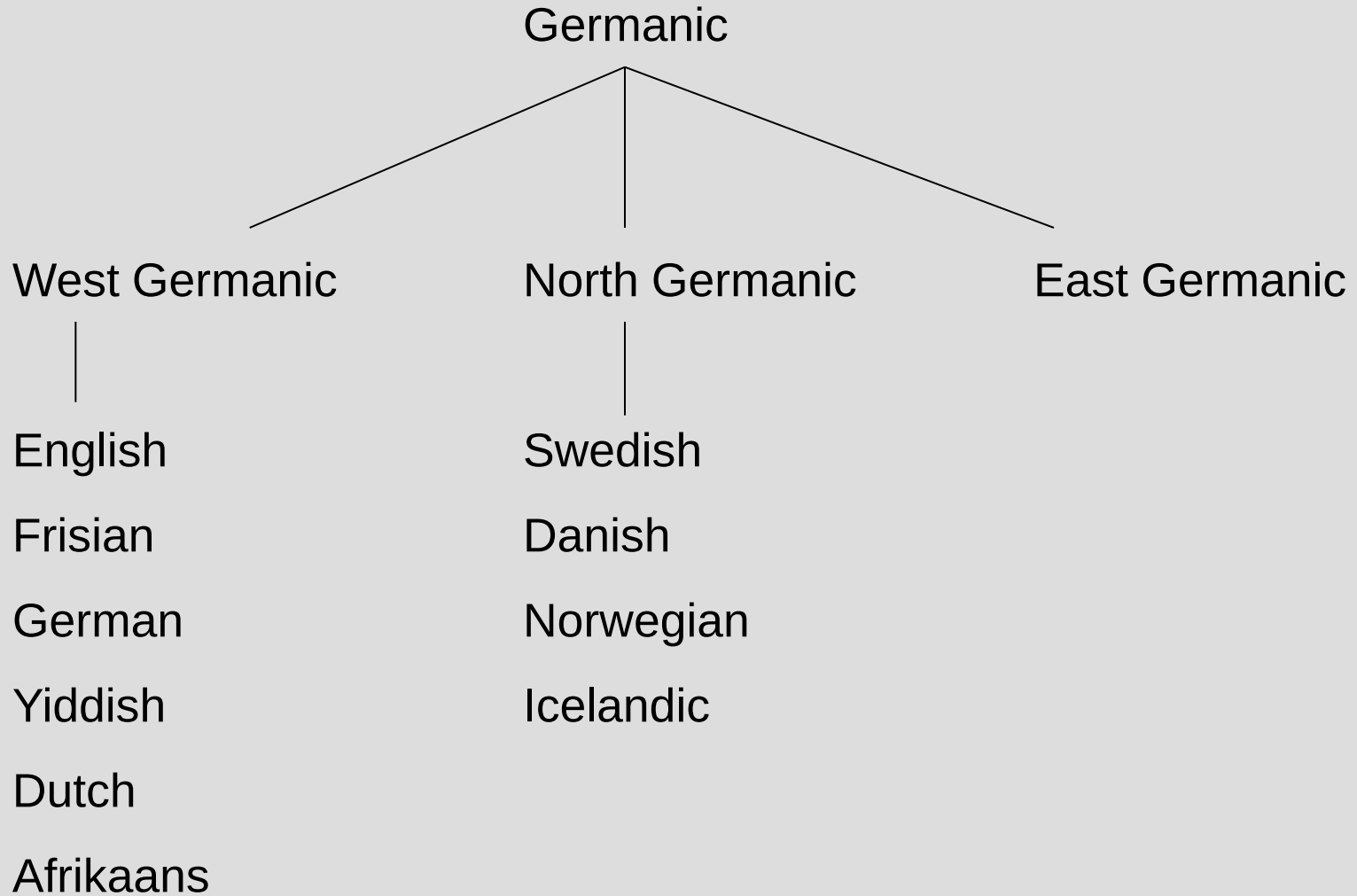
German

Yiddish

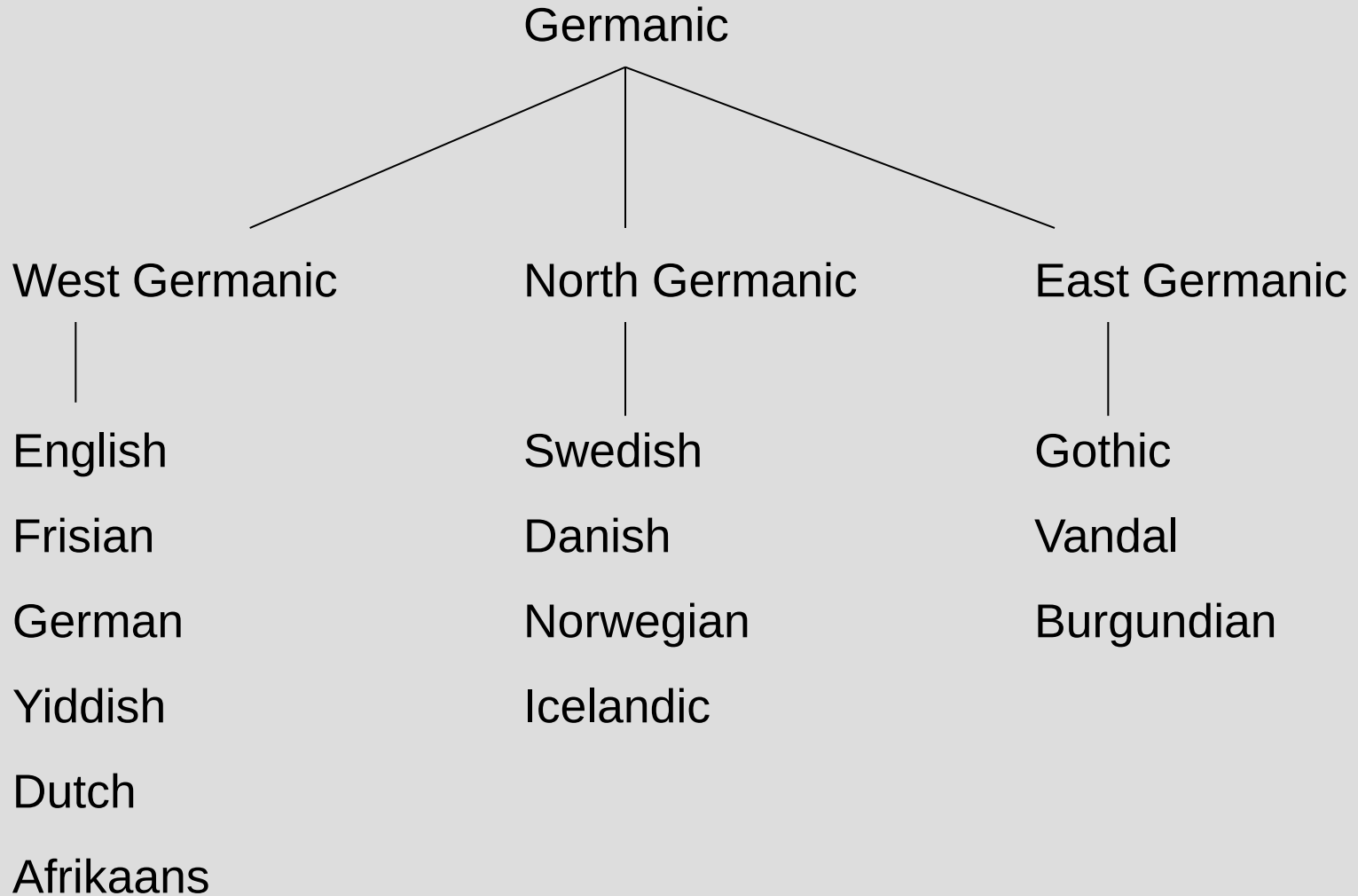
Dutch

Afrikaans

Germanic



Germanic





Romance

French

Italian

Spanish

Portuguese

Romanian

Catalan

Galician

Sardinian

Provençal

Rhomansh



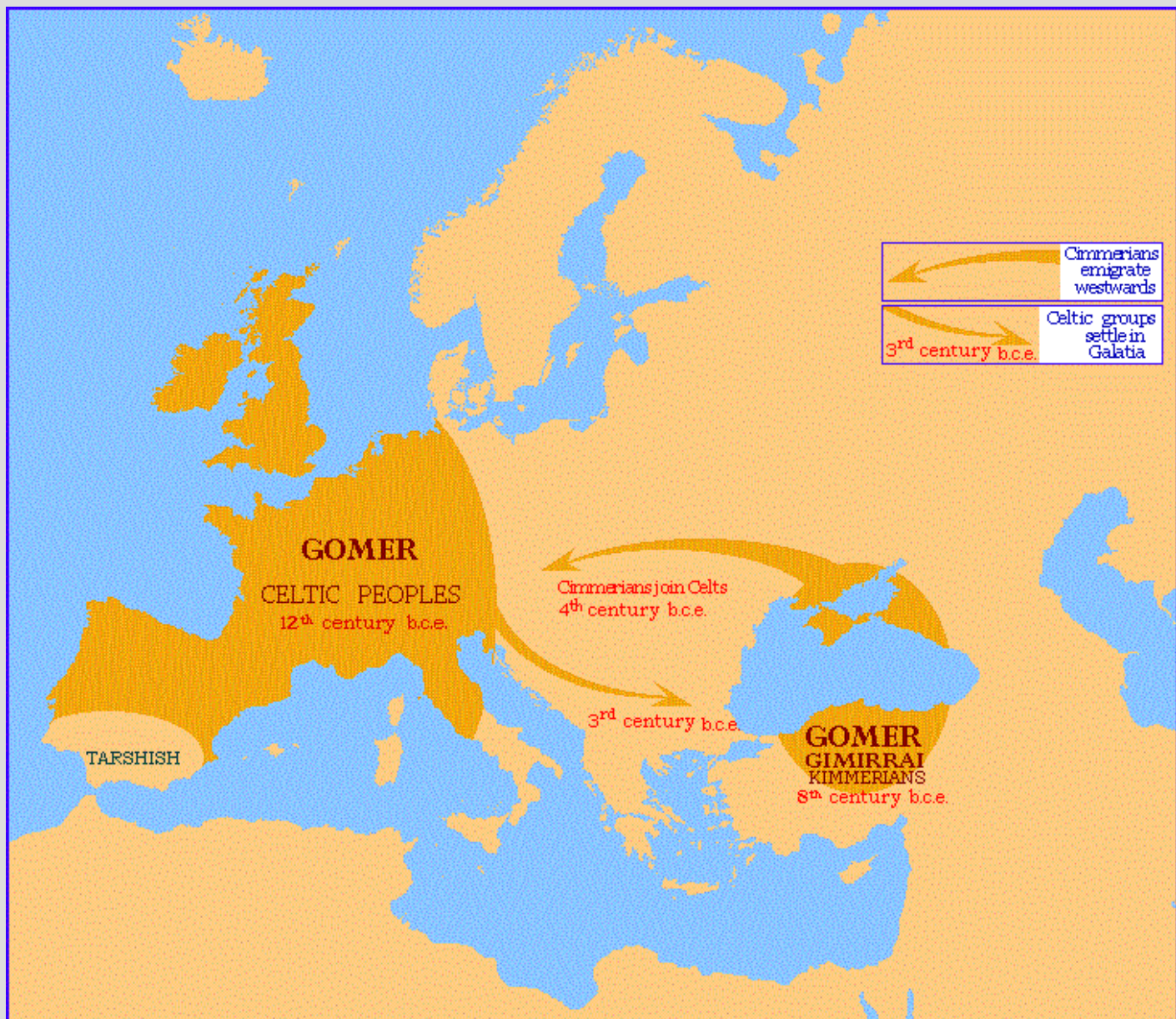
INDO-EUROPEAN LANGUAGES

Celtic	Baltic	Armenian
Germanic	Albanian	
Romance	Greek	Iranian
Slavic	Indo-Aryan (Indic)	

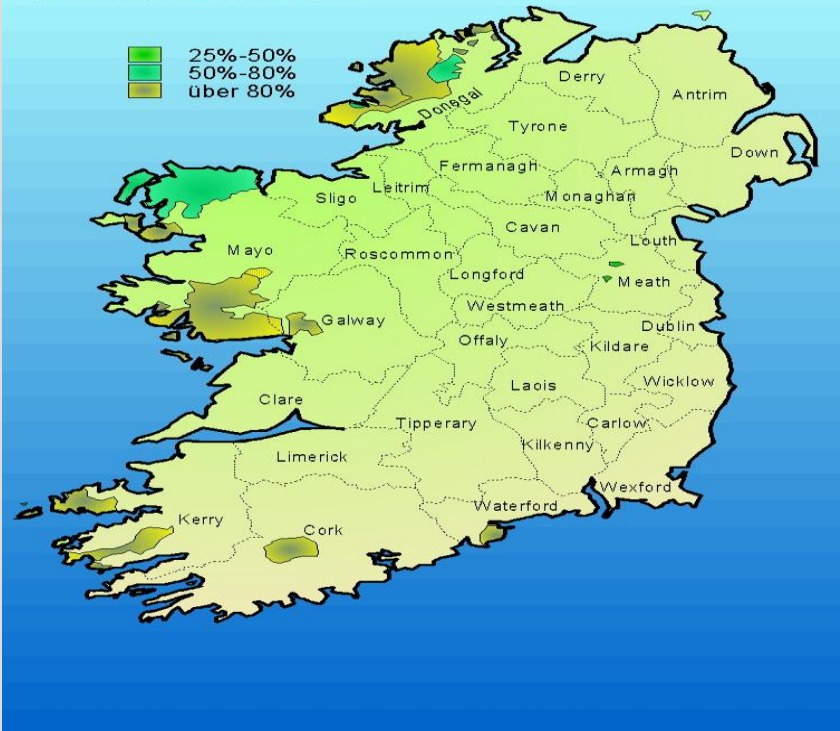
Non-Indo-European languages

Stripes indicate areas where bilingualism is common.

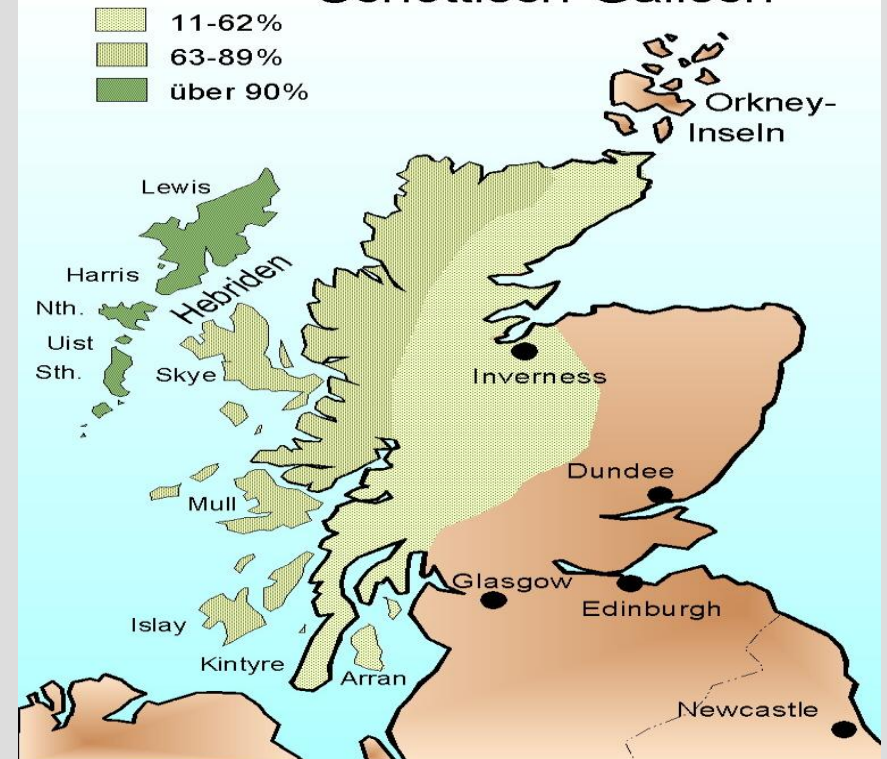




Irisch-Gälisch

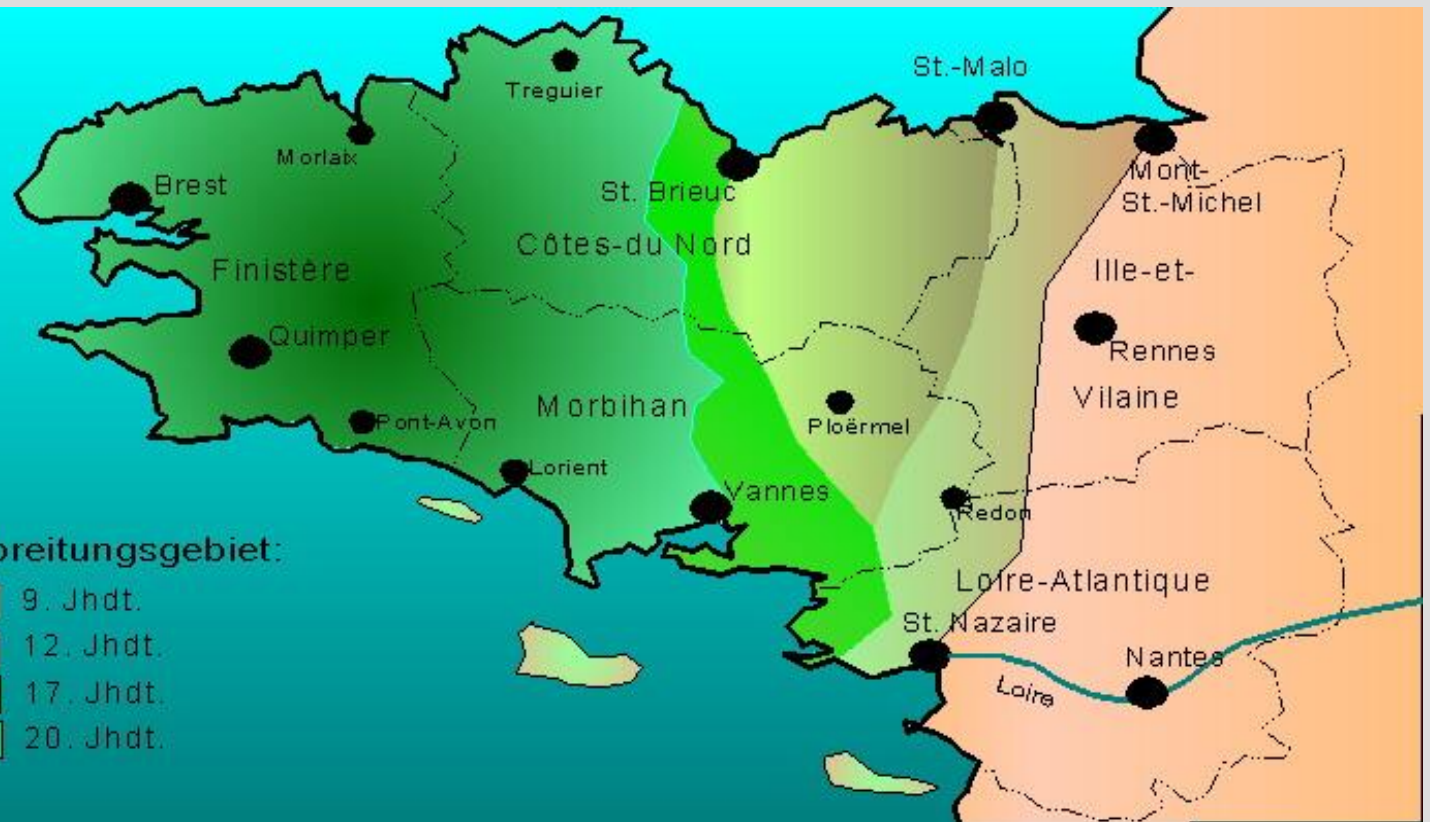
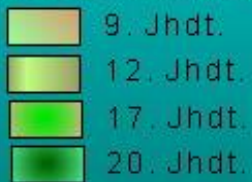


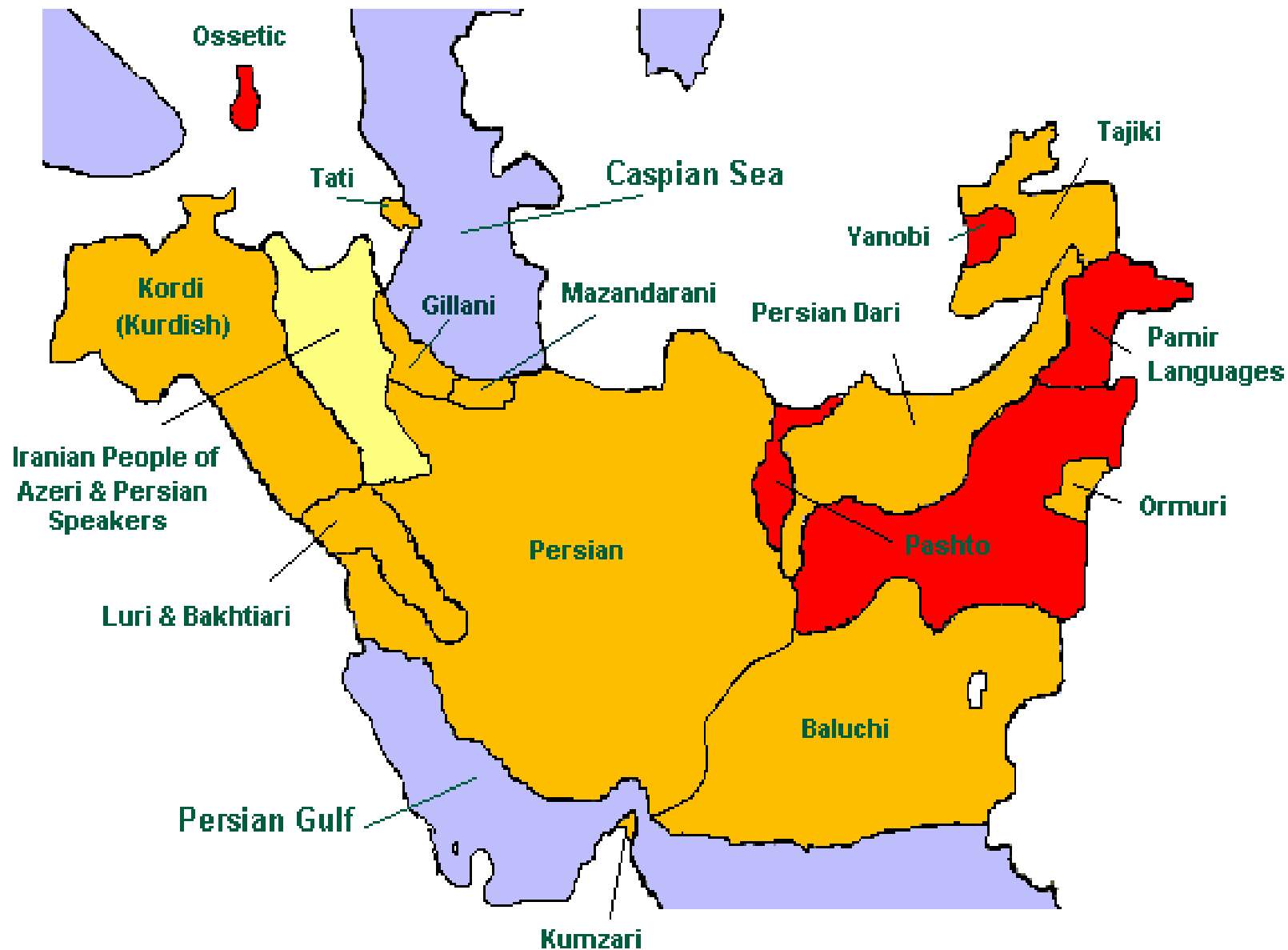
Schottisch-Gälisch



Bretonisch

Verbreitungsgebiet:





Sprachfamilien in Indien

- Dravidisch
- Sinotibetanisch
- Austronesisch
- INDOGERMANISCH
- Indoiranisch
- Indoarischer Zweig
- Iranischer Zweig
- Staatsgrenzen





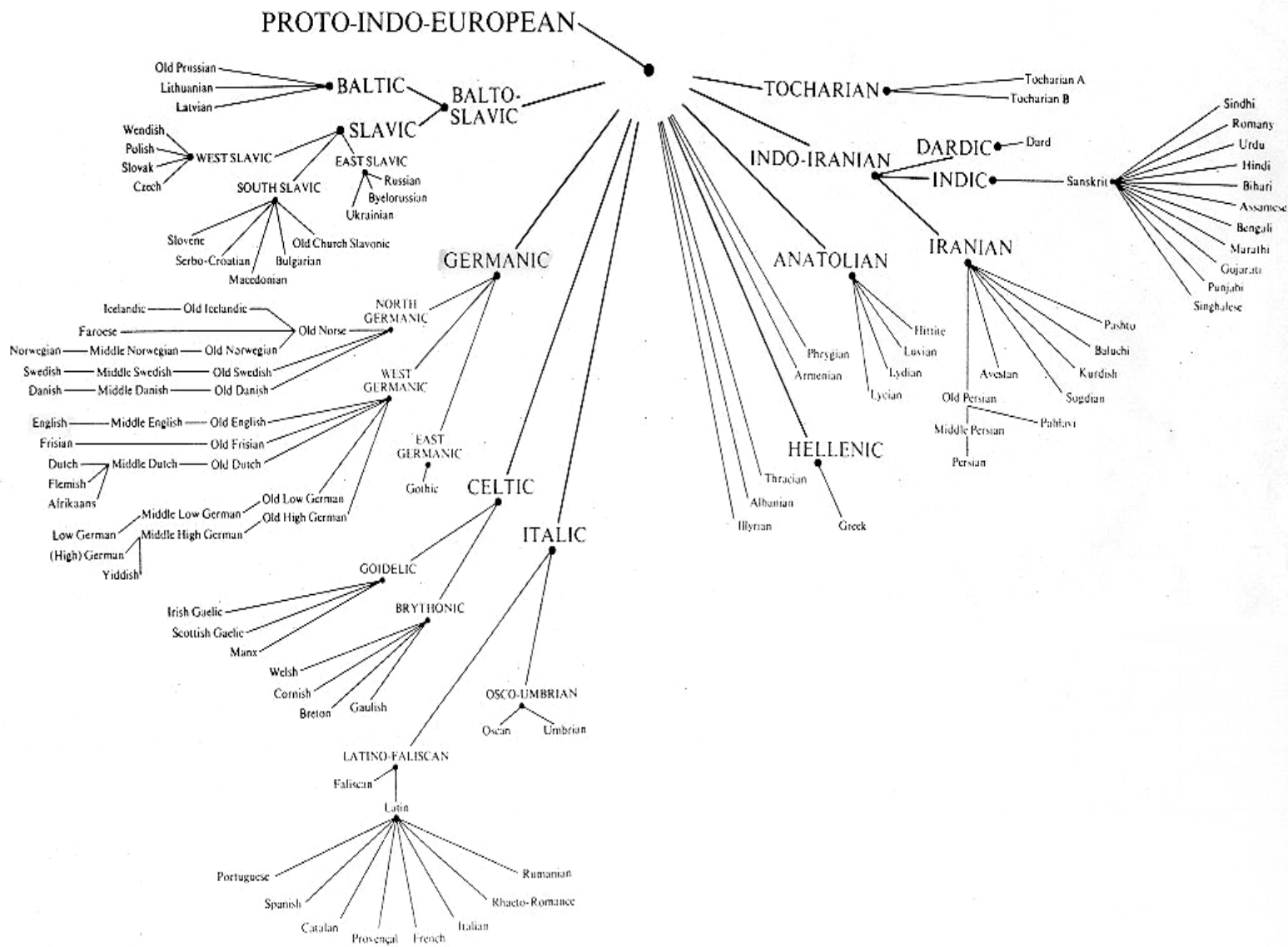




Sir William Jones (1786)



93. Jacob Grimm



The comparative method

'Old' Languages

Indo-European (3500)

Semitic (Hebrew, Arabic, Egyptian)

Chinese

Japanese

Turkish

Dravidian

African languages

Native American languages

Phonetic evidence

You spotted snakes with double **tongue**,
Thorny hedge-hogs, be not seen;
Newts, and blind-worms, do no **wrong**;
Come not near our fairy queen.
(Shakespeare)

Phonetic evidence

‘cosul’ consul

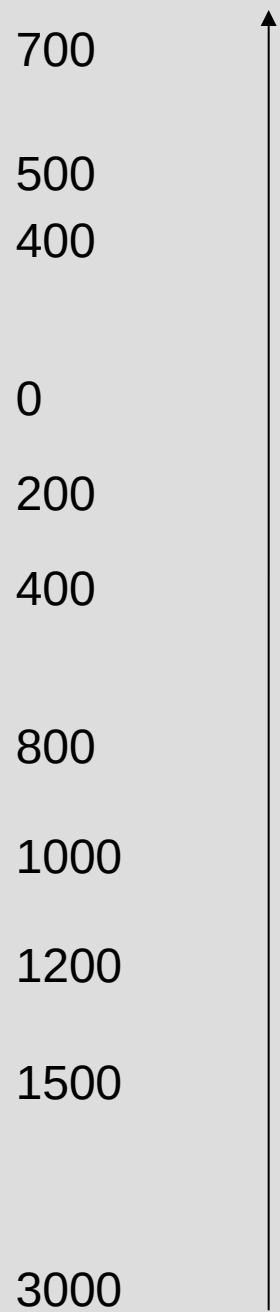
‘cesor’ censor

(Latin inscriptions)

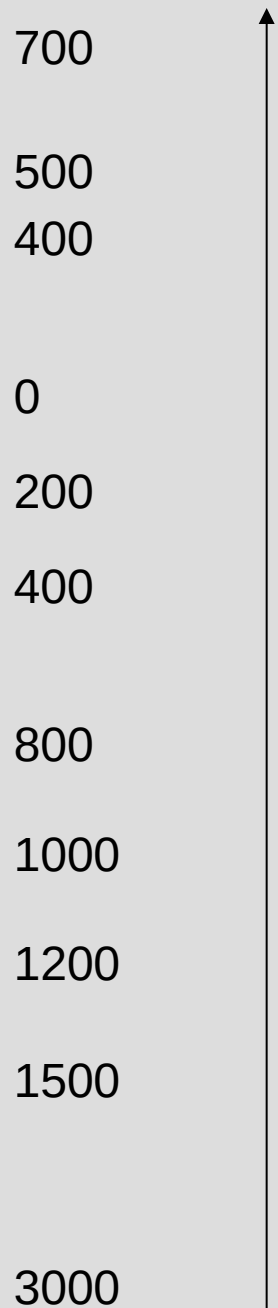
Phonetic evidence

‘We produce this letter by pressing the lower lip on the upper teeth. The tongue is turned back towards the roof of the mouth, and the sound is accompanied by a gentle puff of breath.’

(Roman grammarian)



Proto Indo-European



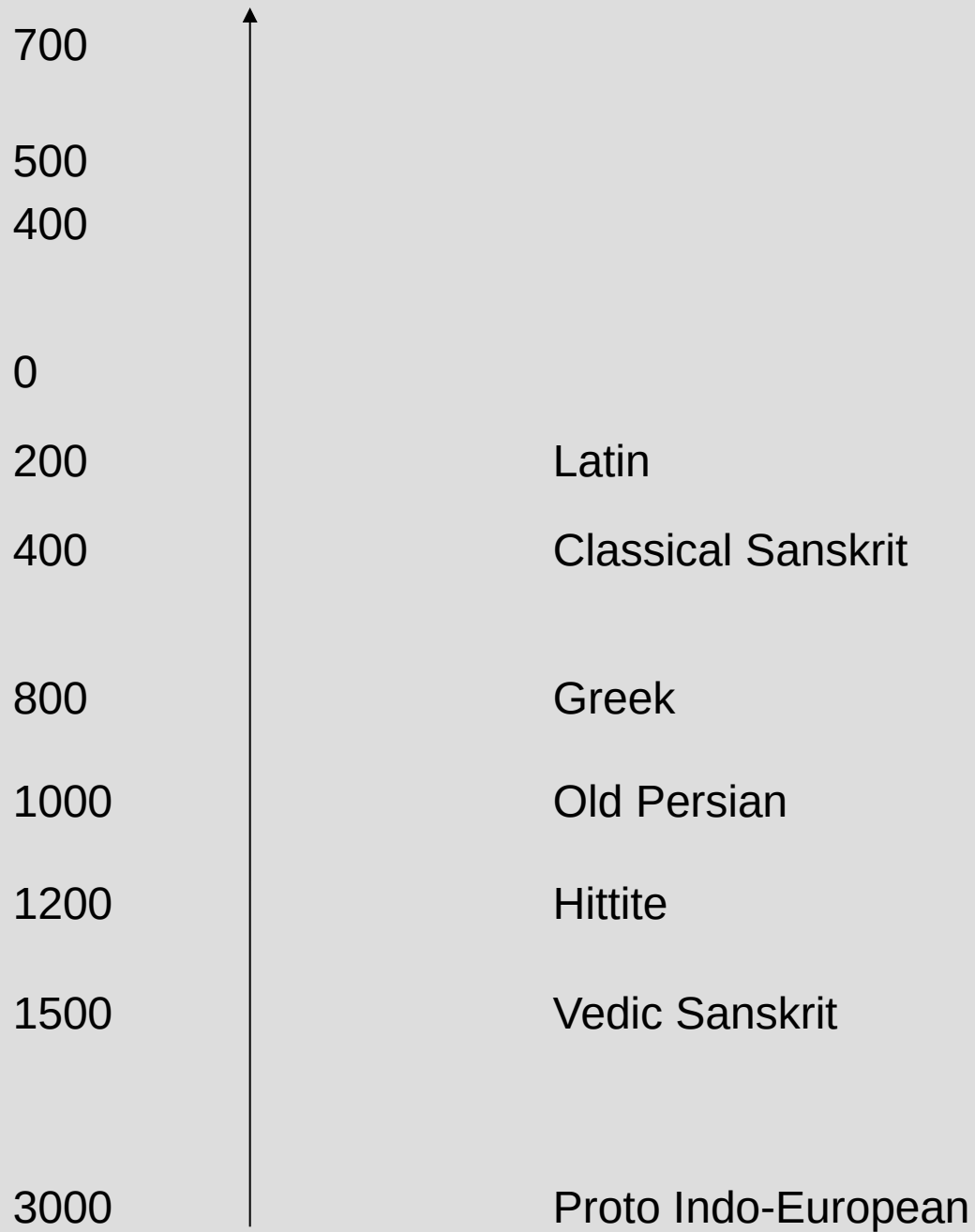
Vedic Sanskrit

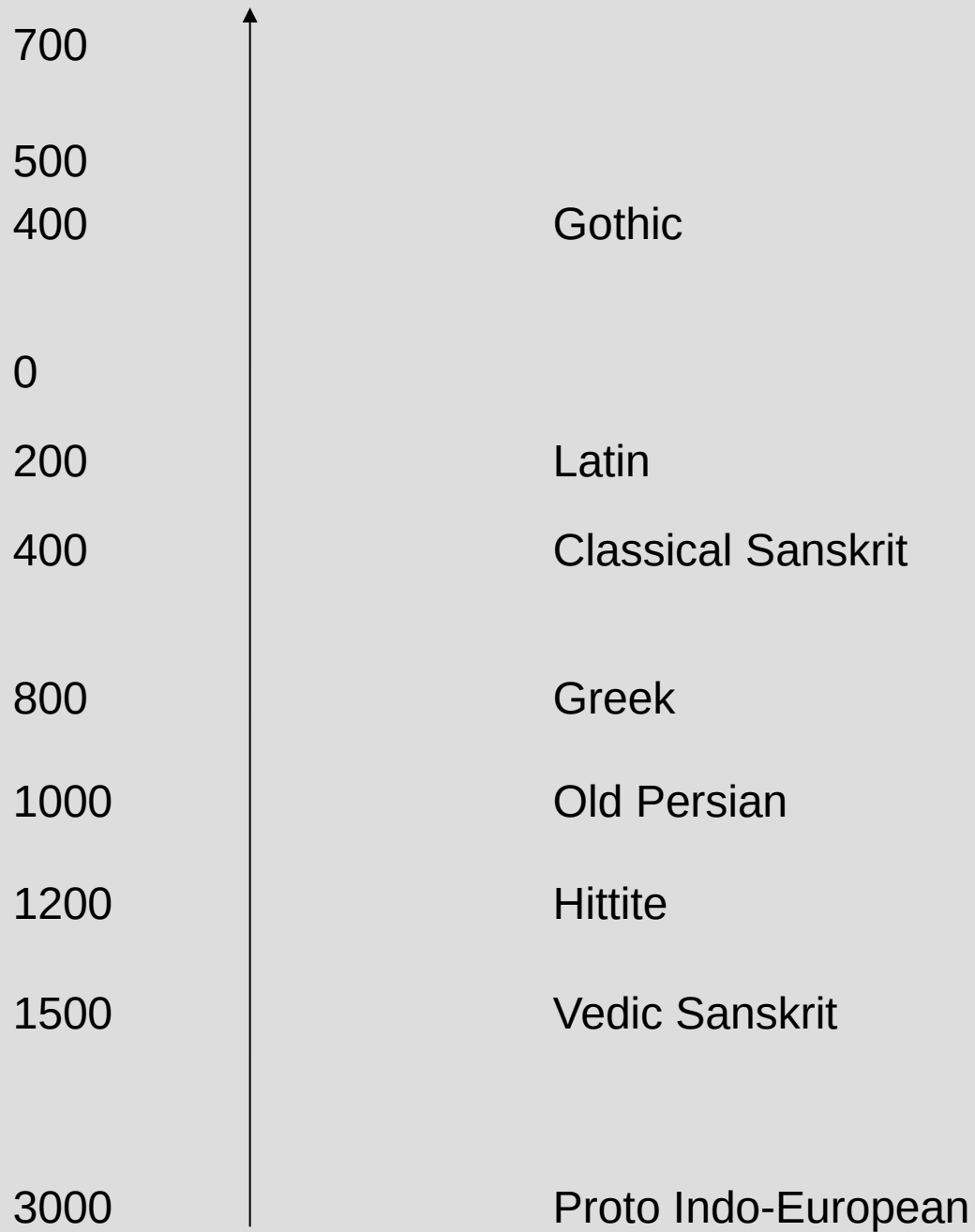
Proto Indo-European













Sound correspondences

Sanskrit	Latin	Greek
asmi	sum	eini
asi	es	ei
asti	est	esti
smas	sumus	esmen
stha	estis	este
santi	sunt	eisi

English

sun

house

cat

apple

father

hand

go

see

hear

run

dream

German

Sonne

Haus

Katze

Apfel

Vater

Hand

gehen

sehen

hören

rennen

träumen

Swedish

sol

hus

kat

äpple

fader

hand

går

sår

höra

rännar

drömar

Sound correspondences

time

Zeit

tongue

Zunge

ten

zehn

tame

zahn

tent

Zelt

to

zu

two

zwei

twins

Zwillinge



Second Germanic
Sound shift (3-5th
century AD – 9th
century)

Second Germanic sound shift

time
tongue
ten

Zeit
Zunge
zehn

hat
eat
let

hassen
essen
lassen

pan
path
pole

Pfanne
Pfad
Pfahl

ship
deep
sleep

Schiff
tief
schlafen

that
there
through

das
da
durch

Sound correspondences

cheese

Käse

child

Kind

chin

Kinn

cheery

Kirsche

church

Kirche

king

König

Sound correspondences

	Italian	Sardinian	Romansh	French	Spanish
<i>Hundred</i>	tʃnto	kɛntu	tsjɛnt	sa	tʃjen
<i>Sky</i>	tʃfelo	kɛlu	tsil	sjɛl	tʃjelo
<i>Stag</i>	tʃErvo	kɛrbu	tsɛrf	sɛR	tʃjerbo
<i>Wax</i>	tʃfera	kɛra	tsairaɛ	siR	tʃfera

Numerals in Indo-European

English	Gothic	Latin	Greek	Sanskrit
one	ains	unus	heis	ekas
two	twai	duo	duo	dva
three	θrija	tres	treis	trayas
four	fidwor	quattuor	tettares	catvaras
five	fimf	quinque	pente	panca
six	saihs	sex	heks	sat
seven	sibun	septem	hepta	sapta
eight	ahtau	octo	okto	asta
nine	niun	novembe	ennea	nava
ten	taihun	decem	deka	dasa

PIE numbers

Proto-Indo-European	English
<i>*sems, *oi-</i>	one
<i>*duwo / *dwo</i>	two
<i>*treyes</i>	three
<i>*kwetwores</i>	four
<i>*penkwe</i>	five
<i>*sweks / *seks</i>	six
<i>*septam</i>	seven
<i>*októ</i>	eight
<i>*newan</i>	nine
<i>*dekamt</i>	ten

Sound correspondences?

	Arabic	Urdu	Turkish	Swahili	Malay
<i>news</i>	xabar	xabar	haber	habari	khabar
<i>time</i>	waqt	vaqt	vakit	wakti	waktu
<i>book</i>	kitab	kitab	kitap	kitabu	kitab
<i>service</i>	xidmat	xidmatgari	hizmet	huduma	khidmat
<i>beggar</i>	faqir	faqir	fakir	fakiri	fakir

Grimm's law

The first Germanic sound shift

/p/ → /f/

Latin

pedum

piscis

Old English

fot

fisc

Gothic

fotus

fiskis

The first Germanic sound shift

	Latin	Old English	Gothic
/p/ → /f/	pedum	fot	fotus
	piscis	fisc	fiskis
/t/ → /θ/	tres	three [θri]	thrir
	tu	thou [θaʊ]	thuƿ

The first Germanic sound shift

	Latin	Old English	Gothic
/p/ → /f/	pedum piscis	fot fisc	fotus fiskis
/t/ → /θ/	tres tu	three [θri] thou [θaʊ]	thrir thuƿ
/k/ → /x/h/	cordem centum	heart hundred	hairto hund

The first Germanic sound shift

	Latin	Old English	Gothic
/p/ → /f/	pedum piscis	fot fisc	fotus fiskis
/t/ → /θ/	tres tu	three [θri] thou [θaʊ]	thrir thuƿ
/k/ → /x/h/	cordem centum	heart hundred	hairto hund
/d/ → /t/	edo decem	eat ten	itan taihun

The first Germanic sound shift

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/t/ → /θ/	tres tu	three [θri] thou [θaʊ]	thrir thu𐍄
/k/ → /x/h/	cordem centum	heart hundred	hairto hund
/d/ → /t/	edo decem	eat ten	itan taihun
/g/ → /k/	ager genus	acre kin	akrs kuni

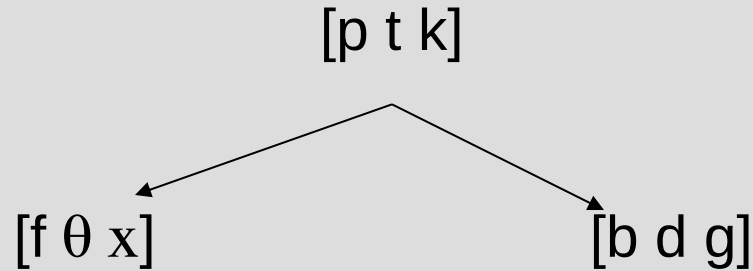
Grimm's law

*p t k → f θ x/h

*b d g → p t k

*bh dh gh → b d g

Exceptions to Grimm's law



Sanskrit

vár**t**ate

varár**t**a

vavr**t**imá

vavr**t**a:ná

Old English

weor**θ**an

wear**θ**

wur**d**on

word**e**n

Verner's law

[p t k] → [f θ x] / [stressed syllable] ____
→ [b d g] / [unstressed syllable] ____

Neogrammarian Hypothesis

Every sound change takes place according to laws that admit no exceptions.

[Karl Brugmann]

Internal Reconstruction

[ð]

father

mother

feather

heather

weather

bother

[θ]

think

thief

thick

thin

thigh

thank