Understanding Language Evolution Using an Event-Based Model

Appendices

1. Character Assignments
2. Partition Assignments
3. Concepts Used
4. Results

Appendix 1 - Character Assignments

Each segment gets a different number

1	e	2	g	3	oː	4	ʒ	5	ə	6	ɟ	7	o	8	i	9	w	10	ɔ	11	ʤ	12	ɪ	13	j
14	n	15	s	16	u	17	ʃ	18	oj	19	v	20	b	21	iː	22	ʎ	23	l	24	r	25	ɨ		
26	h	27	k	28	t	29	a	30	ɐ	31	uː	32	y	33	d	34	f	35	eː	36	m	37	ɾ		
38	œ	39	ɛ	40	x	41	ʁ	42	ɲ	43	o̯a	44	ẽj̃	45	ɔ̃	46	ɑ̃	47	ĩ	48	ɐ̃	49	ʧ		
50	p	51	z	52	ð	53	ʦ	54	aː	55	ɐ̃j̃	56	ʁ	57	aj	58	ɛː	59	θ	60	ej				
61	ɐj	62	õ	63	ɛ̃	64	ɐ̃w̃	65	ẽ	66	c	67	ɨj	68	β	69	ɬ	70	ɥ	71	g				
72	ɨw	73	ʤ	74	øː	75	gʷ	76	ŋ	77	õː	78	au̯	79	ø	80	e̯a	81	kʲ	82	ʧʲ				
83	ɟ	84	ŋʷ	85	kː	86	ç	87	ɣ	88	ẽː	89	ɑ	90	ɔː	91	ɛj	92	kʷ	93	ẽu̯				
94	o(w)	95	n̪	96	ʧ͡ʃ	97	ʦ͡s	98	ũ	99	ɻ	100	ɑː	101	j̃	102	œ̃	103	dː						
104	tː	105	u̯	106	ã	107	e̯	108	ʊ																

Model: “Linguistically Informed”

1 **Nasal Vowel**

ɛ̃ʲ ɔ̃ ɑ̃ ĩ ɐ̃ ɐ̃ʲ õ ɛ̃ ɐ̃ʷ ẽ õː ẽː ẽu̯ ũ œ̃ ã

2 **Vowel**

e oː ə o i ɔ ɪ u oj iː ɨ a ɐ uː y eː œ ɛ o̯a aː aj ɛː ej ɐj ɨj ɨw øː au̯ ø e̯a ɑ ɔː ɛj o(w) ɑː u̯ e̯ ʊ

3 **Nasal Consonant**

n m ɲ ŋ ŋʷ n̪ j̃

4 **Non Sylabic Sonorant**

w j l r

5 **Consonant**

g ʒ ʝ ʤ s ʃ v b ʎ h k t d f ɾ x ʁ ʧ p z ð ʦ ʁ θ c β ɬ ɥ g ʣ gʷ kʲ ʧʲ ɟ kː ç ɣ kʷ t͡ʃ t͡s ɻ dː tː

Appendix 3 - Concepts Used

	I	We	YouPlural	They
Latin	- e g oː	n oː - s -	w oː - s	e iː - -
French	ʒ ə - -	n u - - -	v u - -	
Spanish	ʝ - - o	n o - s -	b o - s	e ʎ o s
Italian	i - - o	n oː i - -	v oː i -	l oː r o
PortugueseBrazil	- e - w	n ɔ j - s	v ɔ j s	e l i s
Portuguese	- e - w	n ɔ - ʃ -	v o - ʃ	e l ɨ ʃ
Catalan	ʒ - - ɔ		b u - s	
Walloon	ʤ ɪ - -	n o - - -	v o - s	
Friulian	j - - o	n oː - - -	v oː - -	
Romanian	j e - w	n oj - - -	v oj - -	

	This	That	YouSingular	YouSingular-VostramMercedem
Latin	h i k - - -	i l l e - -	t uː	
French	s ə s i - -	s ə l a - -	t y	
Spanish	e s t e - -	e s e - - -	t u	- u s t e d
Italian	k w e s t o	k w e l l o	t u	
PortugueseBrazil	i s u - - -	a k i l u -	t u	v o s - e -
Portuguese	i ʃ t u - -	ɐ k i l u -	t u	v ɔ s - e -
Catalan			t u	v o s t e -
Walloon			t y	
Friulian			t u	
Romanian			t u	

	He	Woman	Woman-Mulier	Woman-Domina
Latin	i s -	f eː - m i - n - a	m u l i e r e m	d o m i n a
French		f a - m - - - - -		d a m - - -
Spanish	e l -	- e - m - b ɾ - a	m u x - e ɾ - -	d o - - ɲ a
Italian	l uː i	f e m m i - n - a	m o ʎ ʎ e - - -	d ɔ n - n a
PortugueseBrazil	e l i	f e - m e - - - ɐ	m u ʎ - e ʁ - -	d o - - n ɐ
Portuguese	e l ɨ	f e - m j - - - ɐ	m u ʎ - e ɾ - -	d o - - n ɐ
Catalan		f e - m - b ɾ - a	m u ʎ - e - - -	d ɔ - - n ə
Walloon		f œ - m - - - - -		d œ m - - -
Friulian		f ɛ - m i - n - ɛ	m u - - iː r - -	d ɔ - - n e
Romanian		f e - m e - - j e	m u - j e r e -	d o̯a m - n ə

	ManHumanBeing	ManHumanBeing-Homo	Child	Child-Ninnus
Latin	h o m i - n e m	h - o m oː	i n f a n t e m	
French	- ɔ m - - - - -	- - õ - -	ɑ̃ - f ɑ̃ - - - -	
Spanish	o m - b ɾ e - -		i n f a n t e -	n i ɲ o
Italian		- w ɔ m o	- - f a n t e -	n i n o
PortugueseBrazil	o m ẽj - - - - -		ĩ - f ẽ - ʧ i -	n e n ẽj
Portuguese	ɔ m ẽj - - - - -		ĩ - f ẽ - t ɨ -	n e n ẽj
Catalan	- ɔ m ə - - - -			n e n -
Walloon	- ɔ m - - - - -		ɛ - f ɑ̃ - - - -	
Friulian	- ɔ m - - - - -			
Romanian	- o m - - - - -			

Appendix 3 - Concepts Used

	Wife	Wife-Mulier	Husband	Husband-Sponsus
Latin	- s p o n s a	m u l i e r -	m a r iː t u s	- s p o n s u s
French	e - p u - z -		m a ʁ i - - -	e - p u - - - -
Spanish	e s p o - s a	m u x - e ɾ -	m a ɾ i ð o -	e s p o - s o -
Italian	- s p ɔ - z a	m o ʎ ʎ e - -	m a r i t o -	- s p ɔ - z o -
PortugueseBrazil	i s p o - z a	m u ʎ - e ʁ -	m a ɾ i d u -	i s p o - z u -
Portuguese	ɨ ʃ p o - z ɐ	m u ʎ - e ɾ -	m ɐ ɾ i ð u -	ɨ ʃ p o - z u -
Catalan	ə s p ɔ - z ə	m u ʎ - e - -	m a ɾ i t - -	ə s p ɔ - s - -
Walloon				
Friulian		m u - iː r - -	m a r iː t - -	- s p oː - s - -
Romanian		m u - j e r e	m ə r i t - -	

	Husband-Socius	Mother	Father	Father-Tata
Latin	s o k i u s	m aː t r e m	p a t r e	t a t a
French		m e - ʁ - -	p e - ʁ -	
Spanish		m a ð ɾ e -	p a ð ɾ e	t a t a
Italian	s ɔ ʧ - o -	m aː d r e -	p aː d r e	t a t a
PortugueseBrazil		m ɐ̃j - - - -	p aj - - -	t a t a
Portuguese		m ɐ̃j - - - -	p aj - - -	t a t a
Catalan		m a - ɾ ə -	p a - ɾ ə	
Walloon		m e - ʁ - -	p ɛː - r -	
Friulian		m a - r i -	p a - r i	
Romanian	s o ʦ - - -			t a t ə

	Animal	Animal-Bestia	Fish-Piskem	Fish-Pescion
Latin	a n i m a l i a	b eː s t i a	p i s k e m	
French	o - - m a - j -			p w a s õ
Spanish	a l i m a ɲ - a		p e θ - - -	
Italian		b i ʃ ʃ - a	p e ʃ ʃ e -	
PortugueseBrazil		b i - ʃ - ɐ	p ej ʃ - i -	
Portuguese		b i - ʃ - ɐ	p ɐj ʃ - ɨ -	
Catalan			p e ʃ - - -	
Walloon				p - ɛ h õ
Friulian	n e m aː l - - -	b i s - - -	p ɛ s - - -	
Romanian	- n ə m a - j e		p e ʃ t e -	

	Bird-Avem	Bird-Avicellum	Bird-Passerem	Dog
Latin	a w e m	- a w i - k - e l l ʊ	p a s s e r e m	k - a n e m
French		w a - - - z - o - - -		ʃ j ɛ̃ - - -
Spanish	a b e -		p a - x a ɾ o -	k - a n - -
Italian		- - u - t ʧ - ɛ l l o	p a s s e r o -	k - a n e -
PortugueseBrazil	a v i -		p a - s ɐ ɾ u -	k - ɛ̃ w̃ - - -
Portuguese	a v ɨ -		p a - s ɐ ɾ u -	k - ɐ̃ w̃ - - -
Catalan	a w - -	- - u - - s - e - ʎ -		k - a - - -
Walloon		- - uː - - h - ɛː - - -		ʧ - ɛ̃ - - -
Friulian		- - u - - ʧ j ɛ - l -		c - a n - -
Romanian			p a - s ə ɾ e -	k - ɨj n e -

Appendix 3 - Concepts Used

	Louse	Snake	Snake-Serpens	Worm
Latin	p - e d u - k l u s	s - e r p - e n t e n s	s - e r p e n s	w e r m e m
French	p - u - - - - - - -	s - e ʁ p - d̃ - - -		v e ʁ - - -
Spanish	p j o - - x - o - -	s - e ɾ p j e n t e	s j e ɾ p e - -	b e ɾ m e -
Italian	p - i d ɔ k k j o -	s - e r p - e n t e	s - ɛ r p e - -	v e r m e -
PortugueseBrazil	p - i - o - ʎ u - -	s - e ʁ p - ẽ - ʧ i -		v e ʁ m i -
Portuguese	p - i - o - ʎ u - -	s - i ɾ p - ẽ - t ɨ -		v e ɾ m ɨ -
Catalan	p - o - - - ʎ - - -	s - ə r p - e n - - -	s - e ɾ p - - -	v ɛ ɾ m - -
Walloon	p j u - - - - - - -	s j ɛ ʁ p - ẽ - - - -		v j ɛ ʁ - -
Friulian	p - e d o - l i - -	s - a r p - i n t - -		v j ɛ r - -
Romanian	p - ə d u - k j e -	ʃ - a ɾ p - e - - -	ʃ - a ɾ p e - -	v j e r m e

	Tree	Forest	Stick	Fruit
Latin	a r b o r e m	s i l w a	p aː l u s	f r uː - k t u s
French	a ʁ b - ʁ - -		p a l - -	f ʁ ɥ i - - - -
Spanish	a ɾ β o l - -	s e l b a	p a l o -	f ɾ u - - t o -
Italian	a l b e ɾ o -	s e l v a	p a l o -	f r u - t t o -
PortugueseBrazil	a ʁ v o ɾ i -	s ɛ w v a	p a w - -	f ɾ u - - t ɐ -
Portuguese	a ɾ v u ɾ ɨ -	s ɛ ɬ v ɐ	p a w - -	f ɾ u - - t ɐ -
Catalan	a - b - ɾ ə -	s e l b a	p a l - -	f ɾ u j - t - -
Walloon	oː - b - - - -			f ʁ y - - - - -
Friulian	a r b u l - -	s ɛ l v e	p aː l - -	f r u - - t - -
Romanian	a r b o r e -		p a ɾ - -	f r u - k t - -

	Seed	Seed-Sementis	Seed-Granum	Leaf
Latin	s eː m e n	s e m - e n t i s	g r aː n u m	f - o l i a
French		s ə m - d̃ - - - s	g ʁ ɛ n - -	f - œ j - -
Spanish		s i m j e n t e -	g ɾ a n o -	- - o x - a
Italian	s e m e -	s e m - e n t e -	g r a n o -	f - ɔ ʎ ʎ a
PortugueseBrazil		s e m - ẽ - ʧ i -	g ɾ ẽ w̃ - - -	f - o ʎ - ɐ
Portuguese		s ɨ m - ẽ - t ɨ -	g ɾ ẽ w̃ - - -	f - o ʎ - ɐ
Catalan		s ə m - e n - - -	g ɾ a - - -	f - u ʎ - ə
Walloon		s i m - ẽ - s - -	g r i n - -	f - ɔ j - -
Friulian		s e m - ɛ n ʧ ɛ -	g r a n - -	f w e - - e
Romanian		s ə m - ɨ n ʧ ə -	g r ɨ w - - -	f o̯a - j e -

	Leaf-Frondea	Root	Root-Radix	Root-Radicina
Latin	f r o n d e a	- r aː d iː k e m	r aː d iː k e	r aː d iː k iː n a
French			ʁ a d i - -	ʁ a - - s i n -
Spanish		- r a - i θ - -		
Italian	f r o n ʣ - a		r a d iː ʧ e	
PortugueseBrazil	f ɾ õ s - ɐ -	- ʁ a - i s - -		
Portuguese	f ɾ õ s - ɐ -	- ʁ ɐ - i ʃ - -		
Catalan		ə r ɛ - l - - -		
Walloon				ʁ ɛ - - s ɛ n -
Friulian				
Romanian	f ɾ u n z - ə			r ə d ə ʧ i n ə

Appendix 3 - Concepts Used

	BarkOfATree	BarkOfATree-Corticea	BarkOfATree-Skortea	Flower
Latin	k o r t i k e m	k o r t i k e a	- s k - o r t e a	f l oː r e m
French			e - k - o ʁ s - -	f l œ ʁ - -
Spanish		k o ɾ t e θ - a		f l o ɾ - -
Italian	k o r t i ʧ e -	k o r t e t ʧ a	- s k - ɔ r ʦ - a	f j oː ɾ e -
PortugueseBrazil	k ɔ ʁ ʧ i s i -	k o ʁ ʧ i s ɐ -		f l o ʁ - -
Portuguese	k ɔ ɾ t i s ɨ -	k u ɾ t i s ɐ -		f l o ɾ - -
Catalan			ə s k - ɔ r s - ə	f l ɔ - - -
Walloon			- s k w a s - - -	f l øː ʁ - -
Friulian			- s k w a r ʦ - e	f l oː r - -
Romanian			- s k - o̯a ɾ ʦ - ə	f l o̯a ɾ e -

	Grass	Grass-Gramen	Rope	Skin
Latin	- h e r b a	g r aː m e n	f uː n i s -	
French	- - ɛ ʁ b -	g ʁ a m ɛ n	k o ʁ d - -	k w a - - - n -
Spanish	ʝ - e ɾ b a	g ɾ a m a -	k w e ɾ ð a	
Italian	- - ɛ r b a		k o r d a -	k - o t e n n a
PortugueseBrazil	- - e ʁ v ɐ	g ɾ ẽ m ɐ -	k o ʁ d ɐ -	k - o ʤ i - - ɐ
Portuguese	- - ɛ ɾ v ɐ	g ɾ ɐ m ɐ -	k o ɾ ð ɐ -	k - o d i - - ɐ
Catalan	- - e r b ə	g ɾ a m - -		k - o - - n n ə
Walloon	ʝ - ɛ - p -			
Friulian	j - a r b e			
Romanian	j - a ɾ b ə			

	Skin-Pellis	Meat	Blood	Bone
Latin	p - e l l e m	k a r n ẽ	s a n gʷ - i n e m	o s - -
French	p - o - - - -	v j ɑ̃ d -	s ɑ̃ - - - - - - -	o s - -
Spanish	p j e l - - -	k a ɾ n e	s a ŋ g - ɾ e - -	w e s o
Italian	p - e l l e -	k a r n e	s a n g w e - - -	ɔ s s o
PortugueseBrazil	p - ɛ - l i -	k a ʁ n i	s ɐ̃ - g - i - - -	o s u -
Portuguese	p - e - l ɨ -	k a ɾ n ɨ	s ɐ̃ - g - ɨ - - -	o s u -
Catalan	p - e - ʎ - -	k a ɾ n -	s a ŋ - - - - - -	ɔ s - -
Walloon	p j a - - - -	ʧ oː ʁ - -	s õː - g - - - - -	ɔ h ɛː -
Friulian	p j ɛ l - - -	c aː r - -	s a ŋ k - - - - -	v w ɛ s
Romanian	p j e - l e -	k a ɾ n e	s ɨ n ʤ - e - - -	o s - -

	FatNoun	Egg	Horn	Tail
Latin	a d e p s - -	- oː w u m	k o r n uː -	k a d a -
				u̯
French	g ʁ e s - - -	- œ f - -	k o ʁ n - -	k ø - - -
Spanish	g ɾ a s a - -	w e b o -	k w e ɾ n o	k o l a -
Italian	g r a s s o -	w ɔ v o -	k ɔ r n o -	k o d a -
PortugueseBrazil	g o ʁ d u ɾ ɐ	- o v u -	ʃ i f ɾ i -	k a w d ɐ
Portuguese	g u ɾ ð u ɾ ɐ	- o v u -	ʃ i f ɾ ɨ -	k a w d ɐ
Catalan		- ɔ w - -	b a ɲ ə - -	k u - a -
Walloon		- uː - - -	k w ɛ n - -	k ɔ w - -
Friulian		- uː f - -	k w aː r - -	k ɔ d ɛ -
Romanian		- o w - -	k o ɾ n - -	c o̯a d ə -

Appendix 3 - Concepts Used

	Feather	Feather-Penna	Hair	Hair-Capillus
Latin	p l uː m a	p e n n a	p – i l u s	k a p i l l u s
French	p l y m –	p ɛ – n –	p w a l – –	ʃ ə v ø – – – –
Spanish	p l u m a	p e – ɲ a	p – e l o –	k a b e – ɟ o –
Italian	p j u m a	p e n n a	p – e l o –	k a p e l l o –
PortugueseBrazil		p e – n ɐ	p – e l u –	k a b e – l u –
Portuguese		p e – n ɐ	p – ɨ l u –	k ɐ β e – l u –
Catalan	p l o m ə	p ɛ – ɲ ə	p – ɛ l – –	k ə b ɛ – ʎ – –
Walloon	p l ɔ m –	p e – n –		ʧ i v j – – a –
Friulian	p l u m ɛ	p ɛ – n e	p – eː l – –	c a v ej – – – –
Romanian		p a – n ə	p – ə ɾ – –	

	Head	Head-Testa	Ear	Eye
Latin	k a p i – t i a	t e s t a	oː r i k l a –	– o – k u l u s
French	ʃ ə v ɛ – – – –	t ɛ – t –	o ʁ ej – – – –	– œ – j – – – –
Spanish	k a β e – θ – a		o ɾ e – x – a	– o – x – o – –
Italian	k a v e t t s a	t ɛ s t a	o r e k k j a	– ɔ k k – j o –
PortugueseBrazil	k a b e – s – ɐ	t ɛ s t ɐ	o ɾ e – – ʎ ɐ	– o – – – ʎ u –
Portuguese	k ɐ β e – s – ɐ	t ɛ ʃ t ɐ	o ɾ ɐj – – ʎ ɐ	– o – – – ʎ u –
Catalan	k a p – – – – –	t e s t ə	u ɾ ɛ – – ʎ ə	
Walloon		ʧ ɛ s – –	ɔ ʁ aj – – – –	– uː – j – – – –
Friulian	c aː f – – – – –	t ɛ s t e	o r e – – l e	v o – – l i – –
Romanian	k a p – – – – –	ʦ e̯a s t ə	u r e – k – e	– o – kʲ – – – –

	Nose	Nose-Nares	Mouth	Mouth-Gula
Latin	n aː s u s		b u k k a	g u l a
French	n e – – –		b u – ʃ –	g œ l –
Spanish	n a s o –	n a ɾ i θ –	b o – k a	g o l a
Italian	n aː s o –	n a r i ʧ e	b o k k a	g o l a
PortugueseBrazil		n a ɾ i s –	b o – k ɐ	
Portuguese		n ɐ ɾ i ʃ –	b o – k ɐ	
Catalan	n a s – –	n aː r ɪ s –	b o – k ə	g o l ə
Walloon	n e – – –		b ɔ k – –	g øː j –
Friulian	n aː s – –		b ɔ – c ɛ	g ɔ l e
Romanian	n a s – –		b u – k ə	g u ɾ ə

	Tooth	Fingernail	Foot	Leg
Latin	d e n t ẽ –	u ŋ gʷ i s –	p e d ẽ –	k r uː s – –
French	d ɑ̃ – – – –	õ g l – – –	p j e – –	ʒ ɑ̃ b – – –
Spanish	d j e n t e	u ɲ a – – –	p j e – –	p j e ɾ n a
Italian	d ɛ n t e –	u ŋ g j a –	p j ɛː d e	g a m b a –
PortugueseBrazil	d ẽ ʧ i – –	u ɲ ɐ – – –	p ɛ – – –	p e ʁ n ɐ –
Portuguese	d ẽ t ɨ – –	u ɲ ɐ – – –	p ɛ – – –	p ɛ ɾ n ɐ –
Catalan			p ɛ w – –	k a m ə – –
Walloon	d ẽ – – – –	õ g – – – –	p iː – – –	ʤ ɑ̃ b – – –
Friulian	d i n t – –	ɔ ŋ g u l ɛ	p iː t – –	ɟ a ŋʷ b e –
Romanian	d i n t e –	u n g j e –	p i ʧʲ o r	p i ʧʲ o ɾ –

Appendix 3 - Concepts Used

	Knee	Hand	Wing	Belly
Latin	ɡ e n uː - - -	m a n u m	aː l a	w e n t e r
French	ʒ ə n u - - -	m ẽ - - -	e l -	v q̃ t ʁ - -
Spanish	r o ð i ʎ a -	m a n o -	a l a	b a r i ɣ a
Italian	ʤ i n o kː j o	m aː n o -	a l a	p a n ʧ a -
PortugueseBrazil	ʒ u e ʎ u - -	m ẽ w̃ - - -	a - -	v ẽ t ɾ i -
Portuguese	ʒ u e ʎ u - -	m ẽ w̃ - - -	a - -	v ẽ t ɾ i̯ -
Catalan			a l ə	
Walloon	ɲ ɲ ɔ - - - -	m ẽ - - -	e l -	v ẽː t - - -
Friulian	ʤ e n o l i -	m a ŋ - -	a l e	p a n ʦ e -
Romanian	ʤ e n u n k ç	m i̯ n ə -		b u ɾ t ə -

	Guts	Neck	Back	Back-Spatula
Latin	w i s k u s - - -	k - o l l u m	d o r s u m	- s p a t u l a
French	q̃ t ʁ ɑ j - - - -	k - u - - - -	d o - - - -	e - p o - - l -
Spanish	t ɾ i p a s - - -	k w e - ʝ o -		e s p a l - d a
Italian	i n t e s t iː n o	k - o l l o -	d ɔ s s o -	- s p a l - l a
PortugueseBrazil	ẽ t ɾ ɐ ɲ ɐ s - -	k - ɔ - l u -		i ʃ p a d - w ɐ
Portuguese	ẽ t ɾ ɐ ɲ ɐ ʃ - -	k - ɔ - l u -		i ʃ p a d - w ɐ
Catalan		k - ɔ - ʎ - -	d o - s - -	ə s p a ʎ - ʎ ə
Walloon			d ɔ - - - -	- s p a - - l -
Friulian		k w ɛ - l - -		- s p a - - l ɛ
Romanian			d o - - - -	- s p a t - - e

	Breast	Breast-Pectus	Heart	Heart-Anima
Latin	s i n u s	p - e k t u s	k - o r -	a n i m a
French	s ẽ - - -	p - i - - - -	k - œ ʁ -	ɑ - - m -
Spanish	s e n o -	p - e - ʧ o -		a l - m a
Italian	s e n o -	p - ɛ t t o -	k w ɔ r e	a l - m a
PortugueseBrazil	s e̯j - u -	p - e̯j - t u -	k - ɔ ʁ -	a w - m ɐ
Portuguese	s ɐ̯j - u -	p - ɐ̯j - t u -	k - o ɾ -	a l - m ɐ
Catalan	s i - - -	p - i - t - -	k - ɔ r -	
Walloon			k - uː ʁ -	ɔː - - m -
Friulian	s e n - -	p - ɛ - t - -	k - uː r -	a n i m e
Romanian	s a n - -	p j e p t - -		i n i m ə

	Liver	Sun	Sun-Soliculus	Moon
Latin	f - iː k aː t u m	s oː l e m	s o l i k u l u s	l uː n a
French	f w ɑ - - - - -		s ɔ l ɛj - - - - -	l y n -
Spanish	- - i ɣ a ð o -	s o l - -		l u n a
Italian	f - e ɡ a t o -	s o l e -		l u n a
PortugueseBrazil	f - i ɡ ɐ d u -	s ɔ w - -		l u - ɐ
Portuguese	f - i ɣ ɐ ð u -	s ɔ ɫ - -		l u - ɐ
Catalan	f - e ʤ ə - - -	s ɔ l - -		ʎ u n ə
Walloon	f - øː - - t - -	s ɔ l ɔ -		l ø n -
Friulian	f - i j aː t - -		s o r e - - l i -	l u n e
Romanian	f - i k a t - -	s o̯a ɾ e -		l u n ə

Appendix 3 - Concepts Used

	Star	Water	Rain	River
Latin	- s t - eː l l a	a - kʷ - a	p l u - w i a	f l uː m e n
French	e - t w a - l -	o - - - -	p l ɥ - - i -	
Spanish	e s t ɾ e - ʝ a	a - ɣ w a	ʝ - u - b j a	
Italian	- s t - e l l a	a k k w a	p j o d ʤ - a	f j u m e -
PortugueseBrazil	i s t ɾ e - l ɐ	a - ɡ w ɐ	ʃ - u - v - ɐ	f l u m i -
Portuguese	ɨ ʃ t ɾ e - l ɐ	a - ɡ w ɐ	ʃ - u - v - ɐ	f l u m ɨ -
Catalan	ə s t - ɛ - l -	aj - ɣ w ə	p l u - ʒ - ə	
Walloon	- s t - øː - l -	ɛː - - w -	p l uː - ʁ - -	
Friulian	- s t - ɛ - l e	a - g - e	p l o - - j e	f l u m - -
Romanian	- s t - e̯a - - -	a - p - ə	p l o̯a - - j e	

	River-Rivus	River-Riparia	Lake	Sea
Latin	r iː w u s	r iː p - aː r i a	l a k u m	m a r e
French	ʁ y - - -	ʁ i v j e ʁ - -	l a k - -	m ɛ ʁ -
Spanish	r i - o -		l a g o -	m a ɾ -
Italian	r i - o -		l a ɡ o -	m a r e
PortugueseBrazil	ʁ i - w -		l a ɡ u -	m a ʁ -
Portuguese	ʁ i - u -		l a ɣ u -	m a ɾ -
Catalan	r i - w -		ʎ a k - -	m a r -
Walloon		r i v iː - ʁ - -	l a k - -	m e ʁ -
Friulian			l aː t - -	m aː r -
Romanian	r ɨ - w -		l a k - -	m a r e

	Salt	Stone	Stone-Petra	Stone-Lapidem
Latin	s aː l e m	s a k s u m	p - e t r a	l a p i d e m
French	s ɛ l - -		p j e - ʁ -	
Spanish	s a l - -		p j e ð ɾ a	l a u - d e -
Italian	s a l e -	s a s s o -	p j eː t r a	l a p i d e -
PortugueseBrazil	s a w - -	s ej - ʃ u -	p - e d ɾ ɐ	
Portuguese	s a l - -	s ɐj - ʃ u -	p - ɛ ð ɾ ɐ	
Catalan	s a l - -		p - e ð ɾ ə	
Walloon	s e - - -		p - iː - ʁ -	
Friulian	s aː l - -		p j eː - r e	
Romanian	s a r e -		p j a t ɾ ə	

	Sand	Sand-Sabulum	Sand-Sabula	Dust
Latin	h a r eː n ɑ	s a b u l u m	s a - b u l a	p u l w e r e m
French		s a b - l - -		p u d ʁ - - - -
Spanish	- a ɾ e n a			
Italian			s a b b - j a	p o l v e r e -
PortugueseBrazil	- a ɾ ej - ɐ	s aj β - ɾ u -		
Portuguese	- ɐ ɾ ɐj - ɐ	s aj β - ɾ u -		
Catalan	- ə ɾ e n ə	s o r ə - - -		
Walloon		s oː v j õ - -		
Friulian		s a v a l ɔ n		p ɔ l v a r - -
Romanian	- a r i n ə			p u l b e r e -

Appendix 3 - Concepts Used

	Dust-Pulwus	Earth	Cloud	Cloud-Secondary
Latin	p u l w u s	t - e r r a	n uː b eː s	n uː b i l u s
French		t - ɐ - ʁ -	n y - - -	
Spanish	p o l b o -	t j e - r a	n u b e -	n u b - l o -
Italian		t - ɛ r r a	n u b e -	n u v o l a -
PortugueseBrazil	p ɔ - - - -	t - e - ʁ ɐ	n u v ẽj -	n u b l a d u
Portuguese	p ɔ - - - -	t - ɛ - ʁ ɐ	n u v ɐ̃j -	n u b l a d u
Catalan	p o l s - -	t - ɛ - r ə		n u β u ɬ - -
Walloon		t - ɛː - ʁ -		
Friulian		t j ɛ - r e		n uː - - l - -
Romanian		ʦ - a - r ə		n o - - r - -

	Fog	Fog-Nebula	Fog-Tenebrae	Fog-Tenebras
Latin	k aː l iː g i n e m	n - e - b u l a	t e n eː b r aj	t - e n - eː b r aː s
French		n j ɔ - - - l y		t - e n - ɛ b ʁ - -
Spanish	k a l i - - n a -	n j e - b - l a		t - i n j e b l a s
Italian	k a l i ʤ i n e -	n - e b b - j a	t ɛː n e b r e	t - ɛː n - e b r e -
PortugueseBrazil	k a l i ʒ ẽj - - -	n - ɛ - v w - ɐ		
Portuguese	k ɐ l i ʒ ɐ̃j - - -	n - ɛ - v w - ɐ		t ɾ - - - ɛ v - ɐ ʃ
Catalan		n - e - - w l ə		t - ə n - e b ɾ ə s
Walloon				
Friulian				
Romanian		n e ɡ u r ə - -		

	Fog-Fumata	Fog-Caecia	Sky	Wind
Latin	f uː m aː t a	k aj k i a	k - aj l u m	w - e n t u m
French	f y m e - -		s j ɛ l - -	v - ɑ̃ - - - -
Spanish	f u m a t a		θ j e l o -	b j e n t o -
Italian	f u m aː t a		ʧ - ɛ l o -	v - ɛ n t o -
PortugueseBrazil	f u m a s ɐ		s - ɛ w - -	v - ẽ - t u -
Portuguese	f u m a s ɐ		s - ɛ w - -	v - ẽ - t u -
Catalan			s - ɛ l - -	b - e n - - -
Walloon			s - iː ʁ - -	v - ẽ - - - -
Friulian	f u m a t e		ʧ - iː l - -	v - i n t - -
Romanian		ʧ e̯a ʧ - ə	ʧ - e ɾ - -	v - ɨ n t - -

	Snow	Ice	Smoke	Fire-Focus
Latin	n i w e m	ɡ e l uː	f uː m u s	f - o k u m
French	n ɛ ʒ - -	ʒ ɛ l -		f - ø - - -
Spanish	n j e b e	ʝ e l o	- u m o -	f w e ɡ o -
Italian	n e v e -	ʤ ɛ l o	f u m o -	f w ɔ k o -
PortugueseBrazil	n ɛ v i -		f u m u -	f - o ɡ u -
Portuguese	n ɛ v ɨ -		f u m u -	f - o ɣ u -
Catalan	n e w - -	ʒ ɛ ɬ -	f u m - -	f - ɔ k - -
Walloon	n iː v aj -			f - øː - - -
Friulian	n eː f - -		f u m - -	f - uː k - -
Romanian	n e̯a - - -	ʤ e r -	f u m - -	f - o k - -

Appendix 3 - Concepts Used

	Ash	Ash-Cinisia	Road	Road-Strata
Latin	k i n e - r e m		w i a	- s t r aː t a
French	s ɑ̃ - - d ʁ - -		v w a	
Spanish		θ e n i θ a -	b i a	e s t ɾ a d a
Italian	ʧ e n e - r e -		v i a	- s t r a d a
PortugueseBrazil		s ĩ - - z ɐ ʃ	v i ɐ	i s t ɾ a d ɐ
Portuguese		s ĩ - - z ɐ ʃ	v i ɐ	i ʃ t ɾ a ð ɐ
Catalan	s ɛ n - d r ə -		b i ə	
Walloon	s ẽː - - d - - -			
Friulian		ʧ i n i z ɛ -		
Romanian		ʧ e n u ʃ ə -		

	Road-Camminus	Mountain	Mountain-Montanea	Night
Latin	k a m m iː n u m	m o n t e m	m o n t aː - n e a	n - o c t e m
French	ʃ ə - m ɛ̃ - - -	m ɔ̃ - - - -	m õ - t a - ɲ - -	n ɥ i - - - -
Spanish	k a - m i n o -	m o n t e -	m o n t a - ɲ - a	n - o - ʧ e -
Italian	k a m m i n o -	m o n t e -	m o n t a ɲ ɲ - a	n - ɔ t t e -
PortugueseBrazil	k a - m ĩ ɲ u -	m õ - ʧ i -	m õ - t ɐ̃ - ɲ - ɐ	n - oj t ɨ - -
Portuguese	k ɐ - m i ɲ u -	m õ - t ɨ -	m õ - t ɐ - ɲ - ɐ	n - oj t ɨ - -
Catalan	k ə - m i - - -	m u n - - -	m u n t a - ɲ - ə	n - i - t - -
Walloon			m õ - t a - ɲ - -	n - y - t - -
Friulian		m ɔ n t - -	m ɔ n t a - ɲ e -	ɲ - ɔ - t - -
Romanian		m u n t ɛ -		n - o̯a p t e -

	Day	Day-Diurnus	Day-Diurna	Day-Diurnata
Latin	d i eː s	d i u r n u m		d i u r n aː t a
French		ʒ - u ʁ - - -		ʒ - u ʁ n e - -
Spanish	d i a -	d j u ɾ n o -		x - o ɾ n a d a
Italian	d i - -	ʤ - o r n o -		ʤ o r n a t a -
PortugueseBrazil	d i ɐ -		ʒ ɔ ʁ n a	
Portuguese	d i ɐ -		ʒ ɔ ʁ n a	
Catalan	d i ə -	ʒ - o ɾ n - -		
Walloon	ʤ uː - -	ʤ - uː - - - -		
Friulian	d i - -			ʣ - o r n a d e
Romanian	z i - -			

	Year	Name-Nomen	Name-Nominem	ManMale
Latin	a n n u m	n oː m e n	n oː m i n - e m	
French	ɑ̃ - - - -	n ɔ̃ - - -		
Spanish	a - ɲ o -		n o m - b ɾ e -	o m b ɾ e -
Italian	a n n o -	n oː m e -		w oː m o - -
PortugueseBrazil	ɐ - n u -	n o m i -		o m ẽj - - -
Portuguese	ɐ - n u -	n o m ɨ -		o m ẽj - - -
Catalan	a - ɲ - -	n ɔ m - -		ɔ m ə - - -
Walloon	ɑ̃ - - - -	n õ - - -		
Friulian	a - ŋ - -	n ɔ ŋ - -		
Romanian	a n - - -	n u m e -		b ə ɾ b a t

Appendix 3 - Concepts Used

	ManHuman	Tongue	ToDrink	ToEat
Latin		l i n gʷ - a	b i b - e r e	k o m e d e r e
French		l ɑ̃ - g - -	b - - w ɑ ʁ -	
Spanish	o m b ɾ e	l e ŋ g w a	b e b - e ɾ -	k o m e - - ɾ -
Italian	w oː m o -	l i n g w a	b e - - - ɾ e	
PortugueseBrazil	o m ẽj - -	l ĩ - g w ɐ	b e b - e ʁ -	k o m e - - - -
Portuguese	o m ẽj - -	l ĩ - g w ɐ	b i̯ β - e ɾ -	k u m - - e ɾ -
Catalan			b ɛ w - - ɾ ə	
Walloon		l ẽ - - - -	b - - - øː ʁ -	
Friulian		l ɛ n g - ɛ	b e v i - - -	
Romanian		l i m b - ə	b - - - e̯a - -	

	ToEat-Manducare	ToBite	ToBite-Morsicare	ToSuck
Latin	m a n d u k aː r e	m - o r d eː r e	m o r s i k aː r e	s uː g e r e
French	m ɑ̃ - ʒ - - e - -	m - o ʁ d - ʁ -		s y s e - -
Spanish	m a n d u k a ɾ -	m - o ɾ ð e ɾ -	m o - s - k a ɾ -	
Italian	m a n ʤ - - a ɾ e	m - ɔ r d e r e	m o r s i k a ɾ e	
PortugueseBrazil	m ɐ̃ - ʒ - - a ʁ -	m - o ʁ d e ʁ -	m u - s ə g a - -	s u g a ʁ -
Portuguese	m ɐ̃ - ʒ - - a ɾ -	m - u ɾ ð e ɾ -	m u - s ə g a r -	s u g a ɾ -
Catalan	m ə ɲ ʒ - - a - -		m u - s ə ɣ a - -	
Walloon	m a ɲ - - - iː - -			s y s iː - -
Friulian	m a ŋ ɟ - - aː - -	m w a r d i - -		c u c aː - -
Romanian	m i̯ n - - k a - -		m u r s e k a - -	s u ʤ e - -

	ToSpit	ToSpit-Exconspuere	ToSpit-Sputare	ToVomit
Latin	k o n s p u e r e		- s p u t e r e	w o m e r e - -
French	k ɔ̃ - s p y e - -			v o m i ʁ - - -
Spanish		e s k u - p i ɾ	e s p u t a ɾ -	b o m i t a ɾ -
Italian			- s p u t a ɾ e	v o m i t a ɾ e
PortugueseBrazil	k u - s p i ʁ - -			v u m i t a ʁ -
Portuguese	k u - ʃ p i ɾ - -			v u m i t a ɾ -
Catalan		ə s k u - p i -		b u m i t a - -
Walloon				v oː m i - - - -
Friulian			s p u d aː - - -	g o m i t aː - -
Romanian		- s k u j p a -		a v o m i t a -

	ToBlow	ToBreathe	ToLaugh	ToSee
Latin	f ɬ aː r e - - -	s p iː r aː r e - -	r iː d eː r e	w i d eː r e
French	s u f l e - - -	ʁ e s p i ʁ e - -	ʁ i ʁ - - -	v w a ʁ - -
Spanish	s o p l a ɾ - -	r e s p i ɾ a ɾ -	r e i ɾ - -	b e ɾ - - -
Italian	s o f f j a ɾ e	r e s p i r a ɾ e	r iː d e ɾ e	v e d eː ɾ e
PortugueseBrazil	s o p ɾ a ʁ - -	ʁ e ʃ p i ɾ a ɾ -	ʁ i ʁ - - -	v e ʁ - - -
Portuguese	s u p ɾ a ɾ - -	ʁ i̯ ʃ p i ɾ a ɾ -	ʁ i ɾ - - -	v e ɾ - - -
Catalan		r ə s p i r a - -	r i w ɾ ə -	b ɛ w ɾ ə -
Walloon		ʁ ɛ s p i ʁ e - -	ʁ iː ʁ - - -	v ɛ j iː - -
Friulian		r e s p i r aː - -	r i d i - -	v j o d i -
Romanian		a ɾ e s p i ɾ a -	a ɾ i̯ d e -	a v e d e̯a -

Appendix 3 - Concepts Used

	ToHear	ToKnow	ToKnow-Sapere	ToKnow-Cognoscere
Latin	a d iː r e	s k iː r e	s a p - e r e	k o g n oː s k e r e
French	ɑ̃ t ɑ̃ d ʁ		s a v w a ʁ -	k ɔ - n ɛ - t ʁ - -
Spanish	o i ɾ - -		s a b - e ɾ -	k o - n o θ e ɾ - -
Italian	u d iː ɾ e		s a p - e r e	k o - n o ʃ ʃ e r e
PortugueseBrazil	o(v i ʁ - w)		s a b - e ʁ -	k o - ɲ e s - e ʁ -
Portuguese	o v i ɾ -		s ɐ b - e ɾ -	k u - ɲ i s - e ɾ -
Catalan	s ə n̪ t i		s ə β - ɛ - -	k u - n ɛ ʃ - ə - -
Walloon	ɔ j iː - -		s a v - øː ʁ -	k i - n ɔ h - - - -
Friulian	s i n t i		s a v - eː - -	k o - ɲ o s - i - -
Romanian	a w z i -	ʃ t i - -		k u - n o̯a ʃ t e - -

	ToThink	ToThink-Pensare	ToSmell-Sentire	ToSmell-Olere
Latin	k - oː g i t aː r e	p eː n s aː r e	s e n t iː r e	o l eː r e
French	k ɥ - - i d e - -	p ɑ̃ - s e - -	s ɑ̃ - t i ʁ -	
Spanish	k w - - i d a ɾ -	p e n s a ɾ -	s e n t i ɾ -	o l e ɾ -
Italian	k - o ʤ i t a r e	p e n s a ɾ e	s e n t i r e	o l i r e
PortugueseBrazil	k - u ʒ i t a ʁ -	p ẽ - s a ʁ -	s ẽ - t͡ʃ i ʁ -	
Portuguese	k - u ʒ i t a ɾ -	p ẽ - s a ɾ -	s ẽ - t i ɾ -	
Catalan	k - u - j d a - -	p ə n s a - -	s ə n t i - -	u l u ɾ a
Walloon		p ɛ̃ - s e - -	s ɛ̃ - t i - -	
Friulian		p e ŋ s aː - -	s i n t iː - -	
Romanian	k - u ʤ e t a - -	p ə - s a - -	s i m t͡s i - -	

	ToSmell-Odorare	ToSmell-Fragrare	ToFear	ToFear-Tremere
Latin	o d oː r aː r e	f r aː g r aː r e	t i m eː r e	t r e m - e r e
French		f l ɛ - ʁ e - -		k ʁ ẽ - d - ʁ -
Spanish			t e m e ɾ -	t ɾ e m - e ɾ -
Italian	o d o r a r e	f r a g r a r e	t e m e r e	t r e m - a r e
PortugueseBrazil		ʃ - ej - ɾ a ʁ -	t e m e ʁ -	t ɾ e m - e ʁ -
Portuguese		ʃ - ɐj - ɾ a ɾ -	t i m e ɾ -	t ɾ i m - e ɾ -
Catalan		f l ə j ɾ a - -	t e m ə - -	
Walloon				
Friulian			t e m i - -	t r i m - aː - -
Romanian			t e m e - -	

	ToSleep	ToLive	ToDie	ToKill
Latin	d - o r m iː r e	w iː w e r e		n - e k aː r e
French	d - ɔ ʁ m i ʁ -	v i v - ʁ -	m u ʁ i ʁ -	n w aj e - - -
Spanish	d - o ɾ m i ɾ -	b i b i ɾ -	m o ɾ i ɾ -	
Italian	d - o r m i r e	v i v e r e	m o r i r e	
PortugueseBrazil	d - o ʁ m i ʁ -	v i v e ʁ -	m o ʁ e ʁ -	
Portuguese	d - u ɾ m i ɾ -	v i v e ɾ -	m u ʁ e ɾ -	
Catalan	d - u r m i - -	b i w - ɾ ə	m u ɾ i - -	n - ə g a - -
Walloon	d w a ʁ m i - -		m ɔ ʁ i - -	
Friulian	d - u r m iː - -	v i v i - -	m u r iː - -	
Romanian	d - o r m i - -	v i - a - -	m u r i - -	n - e k a - -

Appendix 3 - Concepts Used

	ToKill-Adnecare	ToKill-Tutari	ToKill-Mactare	ToKill-Occidere
Latin		t uː - t aː r i	m a k t aː r e	o k k iː d e r e
French		t - ɥ - e - -	m a - t e - -	ɔ k s i - - ʁ -
Spanish	a - n e ɡ a ɾ -		m a - t a ɾ -	
Italian	a n n e g a r e			u t ʧ i d e ɾ e
PortugueseBrazil			m a - t a ʁ -	
Portuguese			m ɐ - t a ɾ -	
Catalan			m ə - t a - -	u k s i - - - -
Walloon		t u w - e - -		
Friulian			m a ʧ - aː - -	
Romanian				u - ʧ i d e - -
	ToFight	**ToFight-Battuere**	**ToHunt-Captiare**	**ToHit**
Latin	p u g n aː r e	b a t t u e r e	k a p t i aː r e	p u l s aː r e
French		b a t - - ʁ - -	ʃ a - s - e - -	p u - s e - -
Spanish	p u - ɲ a ɾ -	b a - t - i ɾ -	k a - θ - a ɾ -	p u - x a ɾ -
Italian	p u ɲ ɲ a r e	b a t t - e r e	k a t ʧ - a r e	p u l s a r e
PortugueseBrazil		b a - t - e ʁ -	k a - s - a ʁ -	p u - ʃ a ʁ -
Portuguese		b ɐ - t - e ɾ -	k ɐ - s - a ɾ -	p u - ʃ a ɾ -
Catalan	p u - ɲ a - -	b a - t - - ɾ ə	k ə - s - a - -	
Walloon		b a t - e - - -	ʧ ɛ - s - iː - -	
Friulian		b a t - i - - -	c a - ʧ - aː - -	p u l s aː - -
Romanian		b a t - e - - -		p u l s a - -
	ToCut	**ToCut-Curtare**	**ToCut-Excurtare**	**ToCut-Taliare**
Latin	s - e k aː r e	k u r t aː r e	e k s k u r t aː r e	t aː - l i aː r e
French	s j e - - - -		e - - k u ʁ t e - -	t ɑ j - - e - -
Spanish	s - e ɡ a ɾ -	k o ɾ t a ɾ -		t a - x - a ɾ -
Italian	s - e ɡ a r e		- - s k o r t a r e	t a - ʎ ʎ aː r e
PortugueseBrazil	s - e ɡ a ʁ -	k o ʁ t a ʁ -		t a - ʎ - a ʁ -
Portuguese	s - i ɣ a ɾ -	k u ɾ t a ɾ -		t ɐ - ʎ - a ɾ -
Catalan	s - ə ɣ a - -			t ə - ʎ - a - -
Walloon				t ɛ - - j iː - -
Friulian	s - e - aː - -		- - s k u r t aː - -	t a - - j aː - -
Romanian			- - s k u r t a - -	t ə - - j a - -
	ToSplit	**ToSplit-Scindere**	**ToSplit-Findere**	**ToSplit-Partire**
Latin	d iː w i d e r e	s k i n d e r e	f i n d e r e	p a r t iː r e
French		s - ɛ̃ - d e - -	f ɑ̃ - d - ʁ -	p a ʁ t i ʁ -
Spanish	d i b i d i ɾ -		- e n d e ɾ -	p a ɾ t i ɾ -
Italian	d i v i d e r e	ʃ - i n d e r e	f ɛ n d e r e	p a r t i r e
PortugueseBrazil	ʤ i v i ʤ i ʁ -		f ẽ - d e ʁ -	p a ʁ ʧ i ʁ -
Portuguese	d i v i ð i ɾ -		f ɐ̃ - d e ɾ -	p ɐ ɾ t i ɾ -
Catalan	d i b i d i - -		f ɛ n d - ɾ ə	p ə r t i - -
Walloon			f ɛ̃ - t - - -	p ɔː ʁ t i - -
Friulian	d i v i d i - -			p a r t iː - -
Romanian	d i v i d e - -			

Appendix 3 - Concepts Used

	ToSplit-Separare	ToStab	ToStab-Iugulare	ToScratch
Latin	s eː p a r aː r e -	p - u n g e r e	j u g u l aː r e	r aː d e r e
French	s ə - v - - - ʁ e	p w ɛ̃ - d - ʁ -	ʒ y g y l e - -	
Spanish	s e p a ɾ a ɾ - -			r a - e ɾ -
Italian	s e p a r a r e -	p - u n ʤ e r e	j u g u l aː r e	r a d e r e
PortugueseBrazil	s e p a ɾ a ʁ - -	p - ũ - ʒ i ʁ -		ʁ a - e ʁ -
Portuguese	s ɨ p ɐ ɾ a ɾ - -	p - ũ - ʒ i ɾ -		ʁ ɐ - e ɾ -
Catalan	s ə p ə ɾ a - - -	p - u ɲ - i - -		r a w - ɾ ə
Walloon				
Friulian	s e p a r aː - - -			r a d aː - -
Romanian	s e p a r a - - -	p u n ʤ e - - -		r a d e - -

	ToScratch-Rasare	ToScratch-Rasicare	ToScratch-Coctiare	ToDig
Latin				f o d e r e
French	ʁ ɑ z e - -			f w i ʁ - -
Spanish	r a s a ɾ -	r a s k a ɾ		
Italian	r a s a r e			
PortugueseBrazil	ʁ a z a ʁ -	ʁ a ʃ k a ʁ	k o s a ɻ	
Portuguese	ʁ ɐ z a ɾ -	ʁ ɐ ʃ k a ɾ	k u s a ɾ	
Catalan	r ə z a - -	r ə s k a -		
Walloon				
Friulian	r a s aː - -			
Romanian				

	ToDig-Cavare	ToDig-Excavare	ToSwim	ToSwim-Navigare
Latin	k a w aː r e	e k s k a w aː r e	n - a t aː r e	n a v i g aː r e
French				n a - - ʒ e - -
Spanish	k a b a ɾ -	e s k a b a ɾ - -	n - a d a ɾ -	n a b e g a ɾ -
Italian	k a v a r e	- - s k a v a r e	n w o t a ɾ e	n a v i g a r e
PortugueseBrazil	k ɐ v a ʁ -	i - ʃ k ɐ v a ʁ -	n - a d a ʁ -	n a v ɨ ɣ a ʁ -
Portuguese	k ɐ v a ɾ -	i - ʃ k ɐ v a ɾ -	n - ɐ ð a ɾ -	n ɐ v ɨ ɣ a ɾ -
Catalan	k ə b a - -		n - ə d a - -	n ə b ə g a - -
Walloon	ç ɑː v - l e			n ɛ - - ʤ iː - -
Friulian	ɟ a v aː - -	- - z ɟ a v aː - -	n - a d aː - -	n a v i g aː - -
Romanian				n a v i g a - -

	ToFly	ToFly-Exvolare	ToWalk	ToWalk-Marcher
Latin	w o l aː r e			
French	v o l e - -		ʃ ə m i n e - - -	m a ʁ ʃ e
Spanish	b o l a ɾ -		k a m i n a ɾ - -	
Italian	v o l a ɾ e	z v o l a ɾ e	k a m m i n a ɾ e	
PortugueseBrazil	v o - a ʁ -		k ɐ m i ɲ a ʁ - -	
Portuguese	v w - a ɾ -		k ɐ m i ɲ a ɾ - -	
Catalan	b u l a - -		k ə m i n a - - -	
Walloon	v ɔ l e - -		ʧ i m i n e - - -	m aː ʁ ʧ iː
Friulian		z v o l aː - -	c a m i n aː - - -	
Romanian		z b u ɾ a - -		

Appendix 3 - Concepts Used

	ToWalk-Mergere	ToWalk-Ambitare	ToCome	ToLieAsInABed
Latin	m e r g e r e	a m b i t a: r e	w e n i: r e	e k s t e n d e r e
French			v ə n i ʁ -	e - t d̃ - d - ʁ - -
Spanish		a n d - - a ɾ -	b e n i ɾ -	e k s t e n d e ɾ -
Italian	m ɛ r ʤ e r e	a n d - - a r e	v e n i ɾ e	e - s t ɛ n d e r e
PortugueseBrazil		ẽ - d - - a ʁ -	v - - i ʁ -	i s t ẽ - d e ʁ - -
Portuguese		ẽ - d - - a ɾ -	v - - i ɾ -	i ʃ t ẽ - d e ɾ - -
Catalan			b ə n i - -	ə - s t e n d - ɾ ə
Walloon			v i n i - -	
Friulian			v i ɲ i: - -	
Romanian	m e r ʤ e - -		v e n i - -	e k s t i n d e - -

	ToLieAsInABed-Iacere	ToSit	ToSit-Sedentare	ToStand
Latin	j a - k e: r e	s - e d e: r e	s e d e n t a: r e	- s t a: r e
French	ʒ e - z i ʁ -	s w a - - ʁ -		ɛ - t - ʁ -
Spanish	ʝ a - θ e ɾ -	s - e - - ɾ -	s e - - n t a ɾ -	e s t a ɾ -
Italian	ʤ a - ʧ e: ɾ e	s - e d e r e		- s t a r e
PortugueseBrazil	ʒ ɐ - z e ʁ -	s - e - - ʁ -	s ẽ - - - t a ɾ -	i ʃ t a ɾ -
Portuguese	ʒ ɐ - z e ɾ -	s - e - - ɾ -	s ẽ - - - t a ɾ -	i ʃ t a ɾ -
Catalan	ʒ a w - - ɾ ə			ə s t a - -
Walloon	ʤ e - - r e -			ɛ s - - - -
Friulian	j e - s i - -		s e - - n t a: - -	- s t a: - -
Romanian	z ə - ʧ e̯a - -	ʃ - e d e̯a - -		- s t a - -

	ToStand-Levare	ToStand-Altiare	ToTurnIntransitive	ToTurnIntransitive-Gyrare
Latin	l e v a: r e	- a l t i a: r e	t o r n a: r e	g y r a: r e
French	l ə v e - -	- o - s - e - -	t u ʁ n e - -	ʒ i ʁ e - -
Spanish	ʝ e b a ɾ -	- a l θ - a ɾ -	t o ɾ n a ɾ -	x i ɾ a ɾ -
Italian	l e v a r e	- a l ʦ a r e -	t o r n a r e	ʤ i r a ɾ e
PortugueseBrazil	l e v a ʁ -	- a ɬ s - a - -	t o ʁ n a ʁ -	ʒ i ɾ a ɾ -
Portuguese	l ɨ v a ɾ -	- a ɬ s - a ɾ -	t u ɾ n a ɾ -	ʒ i ɾ a ɾ -
Catalan	ʎ ə b a - -	- ə l s - a - -	t u r n a - -	ʒ i ɾ a - -
Walloon	l ə v e - -	h ɔ: - s - i: - -	t u: r n e - -	
Friulian	l e v a: - -	- a l t ʃ - a: -	t o r n a: - -	ʤ i r a: - -
Romanian	l - u a - -		t u r n a - -	

	ToTurnIntransitive-AncestralClass3	ToTurnIntransitive-Torquere	ToFall	ToFall-Tumbare
Latin		t o r kʷ e: r e	k - a d e r e	
French	v i ʁ e - -	t ɔ ʁ d - ʁ -	ʃ w a - - ʁ -	t õ - b e -
Spanish	b i ɾ a ɾ -	t o ɾ θ e ɾ -	k - a - e ɾ -	t u m b a ɾ
Italian	v i r a ɾ e	t ɔ r ʧ e r e	k - a d e ɾ e	
PortugueseBrazil	v i ɾ a ɾ -	t u r s e r -	k - ɐ - i ɾ -	t õ - b a ʁ
Portuguese	ʒ i ɾ a ɾ -	t u r s e r -	k - ɐ - i ɾ -	t õ - b a ɾ
Catalan	b i ɾ a - -	t ɔ r s ə - -	k - a w - r ə	t u m b a -
Walloon	v i ʁ e - -		ʧ - ɛ: - - ʁ -	t u m - e -
Friulian	ʤ i r a: - -		ʧ j a d e - -	
Romanian		t o̯a r ʧ e - -	k ə d e̯a - - -	

Appendix 3 - Concepts Used

	ToGive	ToGive-Donare	ToHold	ToHold-Segurar
Latin	d a r e	d o n a r e	t e n - eː r e	
French		d ɔ n e - -	t ə n - i ʁ -	
Spanish	d a ɾ -	d o n a ɾ -	t e n - e ɾ -	s e ɡ u ɾ a ɾ
Italian	d a r e	d o n a r e	t e n - e ɾ e	
PortugueseBrazil	d a ʁ -	d o - a - -	t e - - - ʁ -	s i ɡ u ɾ a ʁ
Portuguese	d a ɾ -	d u - a ɾ -	t e - - - ɾ -	s i ɣ u ɾ a ɾ
Catalan	d a r -	d u n a - -	t ə n - i - -	
Walloon		d i n e - -	t i n - i - -	
Friulian	d aː - -		t i n j i - -	
Romanian	d a - -		ʦ i n - e - -	

	ToSqueeze	ToSqueeze-Serrere	ToSqueeze-Serare	ToSqueeze-Appectorare
Latin	e k s p r i m - e r	es e r r e r e	s e - r a r e	a p p e k t o r aː r e
French	e - - p ʁ ɛ̃ - d - ʁ	-	s e - ʁ e - -	
Spanish	e k s p ɾ e m - i ɾ	- s e - r a ɾ -	θ e - r a ɾ -	a - p - - ɾ e t a ɾ -
Italian	- - s p r ɛ m - e r e		s e r r a r e	
PortugueseBrazil	i - ʃ p r ə m - e ʁ	- s e - ʁ a - -	s i - ʁ a ɾ -	ɐ - p i - ɾ - t a ɾ -
Portuguese	i - ʃ p r ə m - e r	- s ə - ʁ a ɾ -	s i - ʁ a ɾ -	ɐ - p i - ɾ - t a ɾ -
Catalan	ə - s p ɾ e m - ə -	- s ə - r a - -		
Walloon			s ɛ - ʁ e - -	
Friulian	e - s p r i m - i - -			
Romanian	- s k - r e m e - - -			

	ToSqueeze-Stringere	ToRub	ToRub-Exfricare	ToRub-Frictare
Latin	- s t r i n g e r e	f r i k aː r e		f r i k t aː r e
French	e - t ʁ ɛ̃ - d - ʁ -	f ʁ ɛj e - - -		f ʁ o t e - - -
Spanish	e s t ɾ e ɲ - i ɾ -	f ɾ e ɡ a ɾ -		f ɾ o t a ɾ - -
Italian	- s t r i n ʤ e r e	f r e g a r e		f r e t t a r e
PortugueseBrazil	ə ʃ t r ĩ - ʒ i r -		ɨ ʃ f ɾ ɨ ɡ a ɾ	
Portuguese	ə ʃ t r ĩ ʒ i r - -		ɨ ʃ f ɾ ɨ ɣ a ɾ	
Catalan	ə s t ɾ ɛ ɲ ə - - -	f ɾ ə ɡ a - -		
Walloon	s t r i n g e - - -	f r oj - - - -		f ʁ o t e - - -
Friulian	s t r ɛ n g iː - - -	f r e - a - -		
Romanian	s t r ɨ n ʤ e - - -	f r e k a - -		

	ToRub-Frictiare	ToWash	ToWipe	ToWipe-Extergere
Latin		l a w aː r e	t e r ɡ e r e	e k s t e r ɡ e r e
French		l a v e - -		
Spanish	f r i s a ɾ	l a β a ɾ -		e - s t a ɾ s i ɾ -
Italian		l a v a r e	t ɛ r ʤ e r e	
PortugueseBrazil		l ɐ v a ɾ -		
Portuguese		l ɐ v a ɾ -		
Catalan	f ɾ ə s a -	ʎ ə b a - -		ə - s t ə r ʒ i - -
Walloon		l a v e - -		
Friulian		l a v aː - -		
Romanian		l a - - - -		- - ʃ t e r ʤ e - -

Appendix 3 - Concepts Used

	ToWipe-Exsucare	ToWipe-Limpidare	ToPull	ToPull-Pulsare
Latin	e k s - uː k - aː r e	l i m p i d aː r e	t i r aː r e	p u l s aː r e
French	e - s ɥ i - j e - -		t i ʁ e - -	p u - s e - -
Spanish	e n x - u g - a ɾ -	l i m p j - a ɾ -	t i ɾ a ɾ -	p u - x a ɾ -
Italian	a ʃ ʃ - u g - a r e		t i r a r e	p u l s a r e
PortugueseBrazil	ẽ - ʃ - u g - a ɾ -	l ĩ - p - - a ɾ -	ʧ i ɾ a - -	p u - ʃ a ɾ -
Portuguese	ẽ - ʃ - u ɣ - a ɾ -	l ĩ - p - - a ɾ -	t i ɾ a ɾ -	p u - ʃ a ɾ -
Catalan	ə - ʃ - u g a - - -		t i ɾ a - -	
Walloon	- - s - u - w e - -		t i r e - -	p uː s iː - - -
Friulian	- - s - u - j aː - -		t i r aː - -	p u l s aː - -
Romanian	u - s - - k - a - -			p u l s a - -

	ToPull-Trahere	ToPush	ToThrow	ToThrow-Lanceare
Latin	t r a h e r e	i m p i n g e r e	j a k t aː r e	l a n k e aː r e
French	t ʁ - - ɛ ʁ -		ʒ ə - t e - -	l ɑ̃ - s - e - -
Spanish			- e - ʧ a ɾ -	l a n θ - a ɾ -
Italian	t r a r - r e	i m p i n ʤ e r e	ʤ e t t a r e	l a n ʧ a r e -
PortugueseBrazil	t ɾ a z e - -		ʒ ej t a ɾ - -	l ɐ̃ - s - a - -
Portuguese	t ɾ ɐ z e ɾ -		ʒ ej t a ɾ - -	l ɐ̃ - s - a ɾ -
Catalan	t ɾ ɛ w - ɾ ə	ə m p ɛ ɲ - ə - -	x i t a - - -	ʎ ə n s - a - -
Walloon			ʤ ɛ t e - - -	l a n c - iː - -
Friulian	t r aj - - - -			l a n ʧ aː - - -
Romanian	t r a ʤ e - -	i m p i n ʤ e - -		

	ToThrow-Eruncare	ToTie	ToTie-Aptare	ToSew
Latin	eː - r u n k aː r e	l i g aː r e	a p t aː r e	k oː n - s u e r e
French		l i - e - -		k u - d - - - ʁ -
Spanish	a - r a n k a ɾ -	l e g a ɾ -	a - t a ɾ -	k o - - s - e ɾ -
Italian	a r r o n ʧ a r e	l e g a r e		k u - - ʧ - i r e
PortugueseBrazil			ɐ - t a ɾ -	k u - - z - e ɾ -
Portuguese			ɐ - t a ɾ -	k u - - z - e ɾ -
Catalan		ʎ i ɣ a - -		k u - - z - i - -
Walloon		l ɔ j iː - -		k øː - - z - - - -
Friulian		l e - aː - -		k u - - z i - - -
Romanian	a - ɾ u ŋ k a - -	l e g a - -		c o̯a - - s - e - -

	ToCount	ToCount-Enumerare	ToSay	ToSay-Exponere
Latin	k o m p u t aː r e	eː n u m e r aː r e	d iː k e r e	e k s p oː n e r e
French	k õ - - - t e - -	e n u m e ʁ e - -	d i - - ʁ -	
Spanish	k o n - - t a ɾ -	e n u m e ɾ a ɾ -	d e θ i ɾ -	
Italian	k o n - - t a r e	e n u m e r a r e	d i - - r e	- - s p o r - r e
PortugueseBrazil	k õ - - - t a ɾ -	e n u m e ɾ a ɾ -	d i z - e ɾ	
Portuguese	k õ - - - t a ɾ -	e n u m e ɾ a ɾ -	d i z - e ɾ	
Catalan	k u m - - t a - -	e n u m e ɾ a - -	d i - - - -	
Walloon	k õ - - - t e - -		d iː - - ʁ -	
Friulian	k o n - - t aː - -		d iː - - - -	
Romanian		- n u m a r a - -	z i ʧ e - -	- - s p u n e - -

Appendix 3 - Concepts Used

	ToSing-AncestralClass	ToPlay-Ludere	ToPlay-Jiocare	ToFloat
Latin	k a n t a: r e	l u: d e r e	j o - k a: r e	f l u: k t u a: r e
French	ʃ ɑ̃ - t e - -		ʒ - w - e - -	f l y k t ɥ e - -
Spanish	k a n t a ɾ -	l u d i ɾ -	x u - g a ɾ -	f l u g t w a ɾ -
Italian	k a n t a r e		ʤ o - k a r e	f l u t t u a r e
PortugueseBrazil	k ẽ - t a ɾ -		ʒ o - g a ʁ -	f l u - t u a ʁ -
Portuguese	k ẽ - t a ɾ -		ʒ u - ɣ a ɾ -	f l u - t u a ɾ -
Catalan	k ə n t a - -		ʒ u - g a - -	f l u k t u a - -
Walloon	ʧ ɑ̃ - t e - -		ʤ u w - e - -	
Friulian	c a n t a: - -		ʤ u j - a: - -	
Romanian	k ɨ n t a - -		ʒ u - k a - -	f l u c t u a - -
	ToFloat-Fluitare	**ToFlow**	**ToFlow-Colare**	**ToFlow-Excurrere**
Latin	f l u i t a: r e	f l u e r e	k o: l a: r e	e k s k u r r e r e
French		f l y e - -	k u l e - -	
Spanish		f l u i ɾ -	k o l a ɾ -	e - s k u r i ɾ - -
Italian	f l u i t a r e	f l u i r e	k o l a r e	- - s k o r r e r e
PortugueseBrazil		f l w i ʁ -	k o - a ʁ -	i - ʃ k o - ʁ e ʁ -
Portuguese		f l w i ɾ -	k u - a ɾ -	i - ʃ k u - ʁ e ɾ -
Catalan		f l u i - -	k u ɫ a - -	ə - s k o - r ə - -
Walloon			k ɔ l e - -	
Friulian				- - s k o - r i: - -
Romanian				- - s k u ɾ ʤ e - -
	ToFlow-Currere	**ToFreeze**	**ToFreeze-Glaciare**	**ToFreeze-Inglaciare**
Latin	k u r r e r e	g e l a: r e	g l a - k i a: r e	i n g l a k i a: r e
French	k u - ʁ i ʁ -	ʒ ə l e - -	g l a - s - e - -	
Spanish	k o - r e ɾ -	- e l a ɾ -		
Italian	k o r r e r e	ʤ e l a r e	g j a t ʧ j a r e	
PortugueseBrazil	k o - ʁ e ʁ -	ʒ i l a ɾ -		
Portuguese	k u - ʁ e ɾ -	ʒ i l a ɾ -		
Catalan	k o - r ə - -	ʒ ə l a - -	g l ə - s - a - -	
Walloon		ʤ a l e - -		
Friulian	k o - r i - -		g l a - ʧ - a: - -	
Romanian	k u ɾ ʤ e - -			ɨ n g - e ʦ - a - -
	ToSwell	**ToSwell-Inflare**	**ToSwell-Conflare**	**ToSwell-Intumescere**
Latin	a g m e n t a: r e u̯	i n f l a: r e	- k - o n f l a: r e	i n t u m e: s k e r e
French	o g m ɑ̃ - t e - -	ɑ̃ - f l e - -	- g - õ - f l e - -	
Spanish	a - m e n t a ɾ - u̯	i n ʧ - a ɾ -		e n t u m e θ e ɾ - -
Italian	a m e n t a r e - u̯	e n f i a r e	- g - o n f j a r e	
PortugueseBrazil	a g m e n t a ɾ - u̯	ĩ - ʃ - a ɾ -		ĩ - t u m e s - e ɾ -
Portuguese	a g m e n t a ɾ - u̯	ĩ - ʃ - a ɾ -		ĩ - t u m e s - e ɾ -
Catalan	a u g m e n t a -	i m f l a - -		
Walloon		ẽ - f l e - -	- g - õ - f l e - -	
Friulian		e n f l a: - -	z g l o ŋ f - a: - -	
Romanian		u m f l a - -		

Appendix 3 - Concepts Used

	ToSwell-Crescere	ToBurn-Brojan	ToBurn-Cremare	ToBurn-Flammare
Latin	k r - eː s k eː r e		k r e m aː r e	f l a m m aː r e
French	k ʁ w a - t - ʁ -	b ʁ y l e - -	k ʁ a m e - -	f l ɑ̃ - b e - -
Spanish	k ɾ - e θ - e ɾ -		k - e m a ɾ -	f l a - m e a ɾ
Italian	k r - e ʃ ʃ e r e	b r u ʧ a r e	k r e m a r e	f j a m m a r e
PortugueseBrazil	k ɾ - e s - e ʁ -		k - ɐj m a ɾ e	
Portuguese	k ɾ - i ʃ s e ɾ -		k - ej m a ʁ e	
Catalan	k ɾ - e - ʃ ə - -		k r ə m a - -	f ɫ a m a - - -
Walloon		b ʁ uː l e - -		
Friulian		b r u z aː - -		
Romanian	k ɾ e ʃ t e - - -			

	ToBurn-Ardere	ToBurn-Flagrare	ToBurn-Incendere	ToBurn-AncestralClass8
Latin	a r d eː r e	f l a g r aː r e	i n k e n d - e r e	u s t u l aː r e
French	a ʁ d - ʁ -	f l a g ʁ e - -	ɛ̃ - s ɑ̃ - d j e - -	
Spanish	a ɾ d e ɾ -	f l a g ɾ a ɾ -	e n θ e n d - e ɾ -	
Italian	a r d e r e	f l a g r a r e	i n ʧ ɛ n d j a r e	u s t o l a r e
PortugueseBrazil	a ʁ d e ʁ -	f l a g ʁ a ʁ -	ĩ - s e n ʤ ɪ a ɾ -	
Portuguese	ɐ ɾ d e ɾ -	f l a g ɾ a ɾ -	ĩ - s ẽ - d j a ɾ -	
Catalan			ə n s e n d - - ɾ ə	
Walloon				
Friulian				
Romanian	a ɾ d e - -		ɨ n ʧ i n d ʒ e - -	u s t u r a - -

	All	All-Totus	Many	Many-Tantus
Latin	o m n eː s	t oː - t u s	m u l t u s	t a n t u s
French		t u - - - -	m u - - - -	
Spanish		t o - d o -	m u - ʧ o -	t a n t o -
Italian	o ɲ ɲ i -	t u t t o -	m o l t o -	t a n t o -
PortugueseBrazil		t o - d u -	m ũ ʒ̃ - t u	t ẽ - t u -
Portuguese		t o - ð u -	m ũ ʒ̃ - t u	t ẽ - t u -
Catalan		t o - t - -	m o l - - -	t a n t - -
Walloon		t ɔ - - - -		
Friulian		d u - t - -	m o l c - -	t a n c - -
Romanian		t o - t - -	m u l t - -	

	Some	Few	Other	Other-Alius
Latin		p a k u̯ s	a l t e r -	a l i u s
French	o - k œ̃ - -	p ø - - -	o - t - ʁ -	
Spanish	a l g u n o	p o k o -	o - t - ɾ o	
Italian	a l k u n o	p ɔ k o -	a l t - r o	
PortugueseBrazil	a w ɡ ũ - -	p o w k u	o w t - ɾ u	a w - - -
Portuguese	a ɫ ɡ ũ - -	p o w k u	o w t - ɾ u	a ɫ - - -
Catalan	ə l ɡ u - -	p ɔ k - -	a l t - ɾ ə	
Walloon		p õ - - -	õ - t - - -	
Friulian		p oː k - -	a l t - r i	
Romanian			a l t - - -	

Appendix 3 - Concepts Used

	Big	Big-Grandem	Big-Majjorem	Long-Longum
Latin	m a g n u s	g r a n d e m	m aj j oː r e m	l o - n g u s
French		ɡ ʁ ɑ̃ - - - -		l ɔ̃ - - - - -
Spanish	m a - ɲ o -	ɡ ɾ a n d e -		l o - n g o -
Italian	m a ɲ ɲ o -	ɡ r a n d e -		l u - n g o -
PortugueseBrazil		ɡ ɾ ɐ̃ - ʤ i -		l õ - ɡ u - -
Portuguese		ɡ ɾ ɐ̃ - d ɨ -		l õ - ɡ u - -
Catalan		g r a n - - -		ʎ o - ŋ - - -
Walloon		g ʁ ɑ̃ - - - -		l õ - - - - -
Friulian		g r a n t - -		l u n k - - -
Romanian			m a - - - ɾ e	l u n g - - -

	Long-Largum	Wide	Wide-Amplum	Thick
Latin	l a r g u s	l aː t u s	a m p l u s	k r a s s u s
French	l a ʁ ʒ - -	l e - - -	ɑ̃ - p l - -	ɡ ʁ ɑ - - - -
Spanish	l a ɾ ɣ o -	l a t o -	a n ʧ - o -	ɡ ɾ a - s o -
Italian	l a r ɡ o -	l a t o -	a m p j o -	ɡ r a s s o -
PortugueseBrazil	l a ʁ ɡ u -	l a t u -	ɐ̃ - ʃ - u -	
Portuguese	l a ɾ ɡ u -	l a t u -	ɐ̃ - ʃ - u -	ɡ ɾ a - ʃ u -
Catalan	ʎ a ɾ k - -		a m p l ə -	ɡ ɾ a - s - -
Walloon				
Friulian	l a r k - -			g r a s - - -
Romanian	l a r g - -	l a t - -		ɡ r a s - - -

	Thick-Spissum	Thick-Gurdum	Thick-Grossum	Heavy
Latin	- s p i s s u s	g u r d u s	g r o - s s u s	ɡ r a - - w i s
French	e - p e - - - -		ɡ ʁ o - - - - -	ɡ ʁ i j ɛ f - -
Spanish	e s p e s o - -	ɡ o ɾ d o -		ɡ ɾ a - - b e -
Italian	- s p e s s o -		g r ɔ - s s o -	ɡ r ɛ - - v e -
PortugueseBrazil	e s p ɛ - s u -		ɡ ɾ o - s u - -	ɡ ɾ a - - v i -
Portuguese	i ʃ p e - s u -		g ɾ o - s u - -	ɡ ɾ a - - v ɨ -
Catalan	ə s p ɛ - s - -		ɡ ɾ ɔ - s - - -	ɡ ɾ e - - w - -
Walloon	- s p ɛ - - - -			g r a - - v - -
Friulian			g r w ɛ s - - -	g r ɛ - - v i -
Romanian			g r o - s - - -	g ɾ e - - w - -

	Heavy-Lurdus	Heavy-Pesant	Small	Small-Pittinus
Latin	l u r d u s	p eː s a n t -	p i t t i t u s	p i t t i n u s
French	l u ʁ - - -	p ə z ɑ̃ - - -	p ə - t i - - -	
Spanish	l e ɾ d o -	p e s a - ð o		p e - k e ɲ o -
Italian	l o r d o -	p e s a n t e		p i t ʧ i n o -
PortugueseBrazil	l e ɾ d o -	p e z a - d u		p e - k e n u -
Portuguese	l e ɾ d o -	p ɨ z a - ð u		p ɨ - k e n u -
Catalan		p ə z a - t -	p ə t i t - - -	
Walloon			p i - t i - - -	
Friulian		p e z a n t -		
Romanian				p u - ʦ i n - -

Appendix 3 - Concepts Used

	Small-Pitulus	Short	Short-Brevis	Narrow
Latin	p i - t u l u s	k u r t u s	b r e w i s	a n g u s t u s
French		k u ʁ - - -	b ʁ ɛ f - -	
Spanish		k o ɾ t o -	b ɾ e b e -	a n ɡ o s t o -
Italian	p i k k o l o -	k o r t o -	b r ɛ v e -	a n g u s t o -
PortugueseBrazil		k u ʁ t u -	b ɾ ɛ v i -	
Portuguese		k u ɾ t u -	b ɾ ɛ v ɨ -	
Catalan		k u ɾ t - -	b ɾ e w - -	
Walloon		k uː ʁ - - -	b ʁ e f - -	
Friulian	p i - ʧ u l - -	k u r t - -		
Romanian				ɨ ŋ g u s t - -

	Narrow-Strictus	Thin	Thin-Delicatus	Thin-Subtilis
Latin	- s t r - i - k t u s	m i n uː - t u s	d eː l i k aː t u s	s u b t iː l e m
French	e - t ʁ w a - - - -	m ə n y - - - -	d uː - - ʒ eː - - -	
Spanish	e s t ɾ - e - - ʧ o	m e n u - d o -	d e l - ɣ a ð o -	s u - t i l - -
Italian	- s t r - e - t t o	m i n u - t o -	d e l i k a t o -	s o t t i l e -
PortugueseBrazil	i s t ɾ - ej - - t u	m i - u - d u -	d e w - ɡ a d u -	s u - ʧ i w - -
Portuguese	ɨ ʃ t ɾ - ɐj - - t u	m i - u - ð u -	d ɛ ɫ - ɣ a ð u -	s u - ʧ i w - -
Catalan	ə s t ɾ - ɛ - - t -	m ə n u - t - -	d ə l i k a t - -	s u p t i l - -
Walloon	- s t ʁ - øː - - - -	m i n u - - - -		s uː - t i - - -
Friulian	- s t r - ɛ - - t -	m i n uː - t - -		s u - t iː l - -
Romanian	- s t r - ɨ m - t -	m ə r u n t - -		s u b ʦ i r e -

	Warm	Cold	Full	New
Latin	k a l i d u m	f r iː ɡ i d u m	p l eː n u m	n o w u m
French	ʃ o - - - - -	f ʁ w a - - - -	p l ẽ - - -	n u v o -
Spanish	k a l i ð o -	f ɾ i o - - - -	ʎ e n o - -	n w e β o
Italian	k a l d o - -	f r e dː o - - -	p j ɛː n o -	n w ɔː v o
PortugueseBrazil	k ẽ t ɨ - - -	f ɾ i u - - - -	ʃ ɐj u - - -	n o v u -
Portuguese	k ẽ t ɨ - - -	f ɾ i u - - - -	ʃ ɐj u - - -	n o v u -
Catalan		f ɾ ɛ t - - - -	p ɫ ɛ - - -	n ɔ w - -
Walloon		f ʁ øː - - - - -	p l ẽ - - -	n ɔ v ɛ -
Friulian		f r eː t - - - -	p l ɛ ŋ - -	ŋ uː f - -
Romanian		ɾ e ʧ e - - - -	p l i n - -	n o w - -

	Old	Good	Bad	Rotten
Latin	w e t u m	b o n u m	m a ɫ u m - -	p u t r i d u m
French	v j ø - -	b õ - - -	m o v e - - -	p u r i - - - -
Spanish	b j e x o	b w e n o	m a l o - - -	p o ð ɾ i ð o -
Italian	v ɛ kː j o	b w ɔː n o	k a t t iː v o	m a r ʧ o - - -
PortugueseBrazil	v e ʎ u -	b õ - - -	m a w - - - -	p o d ɾ ɨ - - -
Portuguese	v e ʎ u -	b õ - - -	m a w - - - -	p o d ɾ ɨ - - -
Catalan	b ɛ ʎ - -	b ɔ n - -	m a ɫ - - - -	p u ð ɾ i t - -
Walloon	v iː - - -	b õ - - -	m oː - - - - -	p uː ʁ i - - - -
Friulian	v j e r i	b ɔ ŋ - -	t r i s t - -	f r aj t - - - -
Romanian	v e k ç -	b u n - -	ɾ ə w - - - -	p u t ɾ e d - -

Appendix 3 - Concepts Used

	Dirty	Straight	Round	SharpAsAKnife
Latin	s o r d i d u s	r eː k t u m	r o t u n d u m	a k uː t u m
French	s a l	d ʁ w a	ʁ õ	t ʁ d̃ ʃ d̃
Spanish	s u θ j o	r e k t o	r e ð o n d o	a ɣ u ð o
Italian	s p ɔ r k o	d r i tː o	t o n d o	a f f i l aː t o
PortugueseBrazil	s u ʒ u	d i ɾ ɐj t u	ʁ ɨ d õ d u	ɐ f i a d u
Portuguese	s u ʒ u	d i ɾ e k t u	ʁ ɨ d õ d u	ɐ f i a d u
Catalan	b ɾ u t	r ɛ k t ə	r u ð o	ə f i l a t
Walloon	m oː s iː	d r øː	r õ	k u̯ a h ã
Friulian	s p ɔ r k	d r ɛ t	t a ɾ ɔ n t	u ʧ aː t
Romanian	m u ɾ d a ɾ	d ɾ e p t	ɾ o t u n d	a s k u t s i t

	DullAsAKnife	Smooth	Wet	Dry
Latin	h e b e s	s u aː w ẽ	uː m i d u m	s i k k u s
French	e m u s e	l i s	m u j e	s ɛ k
Spanish	s i n f i l o	l i s o	m o x a ð o	s e k o
Italian	z m u s s aː t o	l i ʃ ʃ o	b a ɲ ɲ aː t o	s e k k o
PortugueseBrazil	s e ɡ u	l i z u	u m i d u	s e k u
Portuguese	s e ɣ u	l i z u	u m i ð u	s e k u
Catalan		ʎ i s	m u ʎ a t	s ɛ k
Walloon		l i s	m u j iː	s ɛ ʧ
Friulian		s l i s	b a ɲ aː t	s ɛ k
Romanian		n e t e d	u d	s e k

	Correct	Near	Far	Right-Dextrem
Latin	k o r r eː k t u m	p r o p i ŋ kʷ u m	ɬ o ŋ ɡ u m	d e k s t r u m
French		p ʁ e	l w ẽ	
Spanish		θ e ɾ k a	l e x o s	d j e s t ɾ o
Italian	k o r r e t t o	v i ʧ iː n o	l o n t aː n o	d ɛ s t r o
PortugueseBrazil		p e ʁ t u	l õ ʒ i	d ɛ s t ɾ u
Portuguese		p e ɾ t u	l õ ʒ ɨ	d ɛ ʃ t ɾ u
Catalan		ə p ɾ ɔ p	ʎ u ɲ	d e s t ɾ ə
Walloon		p r ɛ	l õ	
Friulian		d ɔ ŋ ɟ ɛ	l o n t a ŋ	
Romanian		a p ɾ o̯a p e	d e p a ɾ t e	

	Right-Directus	Left	Red	Red-Vermiculus
Latin	d iː r eː k t u s	ɬ a e̯ w u m	r u s s u s	v e r m i k u l u s
French	d ʁ w a t	ɡ o ʃ	ʁ u	v ɛ ʁ m ɛj
Spanish	d e ɾ e ʧ o	i θ k j e ɾ ð a	r o x o	b e ɾ m e x o
Italian	d ɛ s t r a	s i n i s t r o	r o s s o	v e r m i ʎ ʎ o
PortugueseBrazil	d i ɾ ɐj t ɐ	ɨ ʃ k e ɾ ð ɐ	ʁ o ʃ ʊ	v e ʁ m e ʎ u
Portuguese	d i r ɐj t ɐ	ɨ ʃ k e ɾ ð ɐ	ʁ o ʃ u	v ɨ ɾ m ɐj ʎ u
Catalan	d ɾ ɛ t	ə s k ɛ r ə	r o s	b ə r m ɛ ʎ
Walloon	d r øː t	g oː ʃ		
Friulian	d r ɛ t	ʧ a ŋ̯ p	r ɔ s	
Romanian	d ɾ e p t	s t ɨ ŋ g	ɾ o ʃ u	

Appendix 3 - Concepts Used

	Red-Rubeus	Green	Yellow	Yellow-Amarellus
Latin	r u - b e u s	w i r i d e m	g a l b i n u s	a m a r e l l u s
French	ʁ u - ʒ - - -	v e ʁ - - - -	ʒ o - - - n - -	
Spanish	r u - b j o -	b e ɾ - d e -		a m a ɾ i - ʝ o -
Italian	r ɔ b b j o -	v e r - d e -		
PortugueseBrazil	r u - b e o -	v e ɾ - d i -		ɐ m a ɾ ɛ - l u -
Portuguese	r u - b e o -	v e ɾ - d i -		ɐ m ɐ ɾ ɛ - l u -
Catalan	r u - ʤ e - -	v ɛ ɾ - t - -		
Walloon	r ɔ - ʧ - - -	v ɛ ʁ - - - -	ʤ ɛ - - - n - -	
Friulian		v ɛ r - t - -		
Romanian	r oj - b - - -	v e ɾ - d e -	g a l b e n - -	

	Yellow-Croceus	White	Black	Black-Pretto
Latin	k r o k e u s	a l b u s	n - i g r u m	
French			n w a - ʁ - -	
Spanish		a l b o -	n e ɣ ɾ o - -	p ɾ j e t o
Italian	k r o ʧ e o -	a l b o -	n e g r o - -	
PortugueseBrazil		a w v u -	n e g ɾ u - -	p ɾ - e t u
Portuguese		a l v u -	n e g ɾ u - -	p ɾ - e t u
Catalan	g ɾ ɔ k - - -	a l b - -	n ɛ ɣ ɾ ə - -	
Walloon			n øː - ʁ - - -	
Friulian			n e - r i - -	
Romanian		a l b - -	n e g ɾ u - -	

	One	Two-Duos	Two-Duae	Two-Duas
Latin	uː n u m	d u oː s	d u - aj	d u a s
French	œ̃ - - -	d - ø -		
Spanish	u n o -	d - o s		
Italian	u n o -		d u - e	
PortugueseBrazil	ũ - - -	d - oj s		d u ɐ s
Portuguese	ũ - - -	d - oj ʃ		d u ɐ ʃ
Catalan	u n - -	d - o s		
Walloon	õ - - -	d - øː -		
Friulian	u ŋ - -	d - oj -		
Romanian	u n u -	d - oj -	d o w ə	

	Three	Four	Five	Here
Latin	t r - eː s	kʷ - a t t w o r -	kʷ iː n kʷ - e	- e k k u m h iː k
French	t ʁ w ɑ -	k - a - t - - ʁ -	s ẽ - k - -	i - - s - - - i -
Spanish	t ɾ - e s	k w a - t - - ɾ o	θ i n k - o	- a - k - - - i -
Italian	t r - e -	k w a t t - - r o	ʧ i ŋ k w e	- - - k w - - i -
PortugueseBrazil	t ɾ - e s	k w a - t - - ɾ u	s ĩ - k - u	- a - k - - - i -
Portuguese	t ɾ - e ʃ	k w a - t - - ɾ u	s ĩ - k - u	- ɐ - k - - - i -
Catalan	t r - ɛ s	k w a - t - - ɾ ə	s i ŋ k - -	- a - k - - - i -
Walloon	t r - øː -	k w a - t - - - -	s ẽ - k - -	
Friulian	t r - eː -	k w a - t - - r i	ʧ i ŋ k - -	- a - k - - - i -
Romanian	t r - ej -	p - a - t - - r u	ʧ i n ʧ - -	

Appendix 3 - Concepts Used

	There	There-Ibi	There-AdIbi	Who-Qui
Latin	i l l aː k	i b iː		kʷ - i s
French	- - l a -			k - i -
Spanish	a - ɟ a -		a i	
Italian	- - l a -	- v i		k - i -
PortugueseBrazil	- - l a -		a i	
Portuguese	- - l a -		ɐ i	
Catalan	ə - ʎ a -			k - i -
Walloon	- - l a -			k - iː -
Friulian				k w i -
Romanian	- - l a -			

	Who-Quem	What	Where-Ubi	Where-Unde
Latin	kʷ - e m -	kʷ - i d	- u b i	u n d e
French		k w a -	- u - -	
Spanish	k j e n -	k - e -		o n d e
Italian		k - e -	- o v e	o n d e
PortugueseBrazil	k - ẽj - -	k - i -		õ - ʤ i
Portuguese	k - ɐ̃j - -	k - ɨ -	- u - -	õ - d ɨ
Catalan		k - ɛ -		o n - -
Walloon		k w ɛː -		
Friulian		ʧ - e -		
Romanian	ʧ - i n e	ʧ - e -	j u - o	u n d e

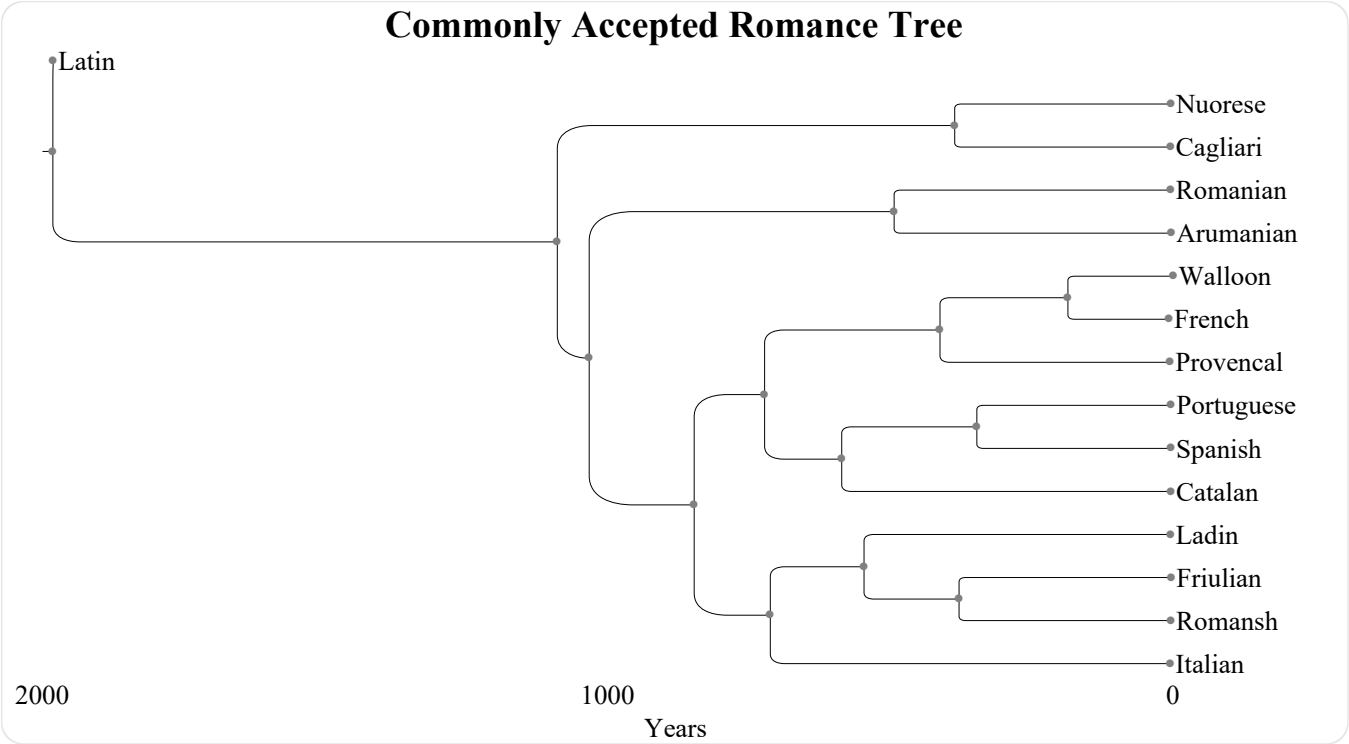
	Where-DeUnde	When-Quando	How-Quomodo	Not
Latin	d e u n d e	kʷ - a n d oː	kʷ oː m o d o	n oː n
French	d - ɔ̃ - - -	k - ɑ̃ - - -	k ɔ m ɑ̃ - -	n ɔ̃ -
Spanish	d - o n d e	k w a n d o	k o m o - -	n o -
Italian		k w a n d o	k o m e - -	n o n
PortugueseBrazil		k w ẽ - d u	k o m u - -	n ẽ -
				w̃
Portuguese		k w ɐ̃ - d u	k o m u - -	n ɐ̃ -
				w̃
Catalan		k w a n - -	k ɔ m - - -	n o -
Walloon		k w a n d -	k ɔ m ɛ̃ - -	
Friulian		k w a n t -	ʧ e m uː t -	n o -
Romanian		k - ɨ n d -	k u m - - -	n u -

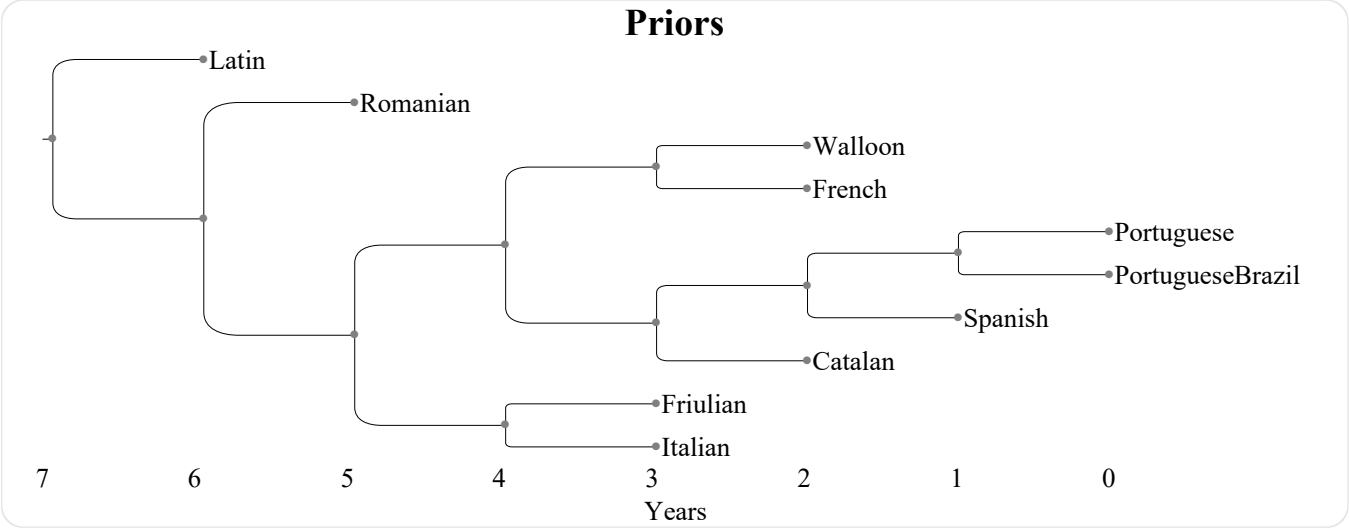
	Not-Nec	At	In-In	In-Deintus
Latin	n e k	a d	i n	d e i n t u s
French	n i -	a -		d ɑ̃ - - - - -
Spanish	n i -	a -	e n	
Italian	n e -	a -	i n	
PortugueseBrazil	n ẽj -	a -	ẽj -	
Portuguese	n ɐ̃j -	ɐ -	ɐ̃j -	
Catalan	n i -	a -	ə n	d i - n - - s
Walloon	n ẽ -			
Friulian				
Romanian			ɨ n	

Appendix 3 - Concepts Used

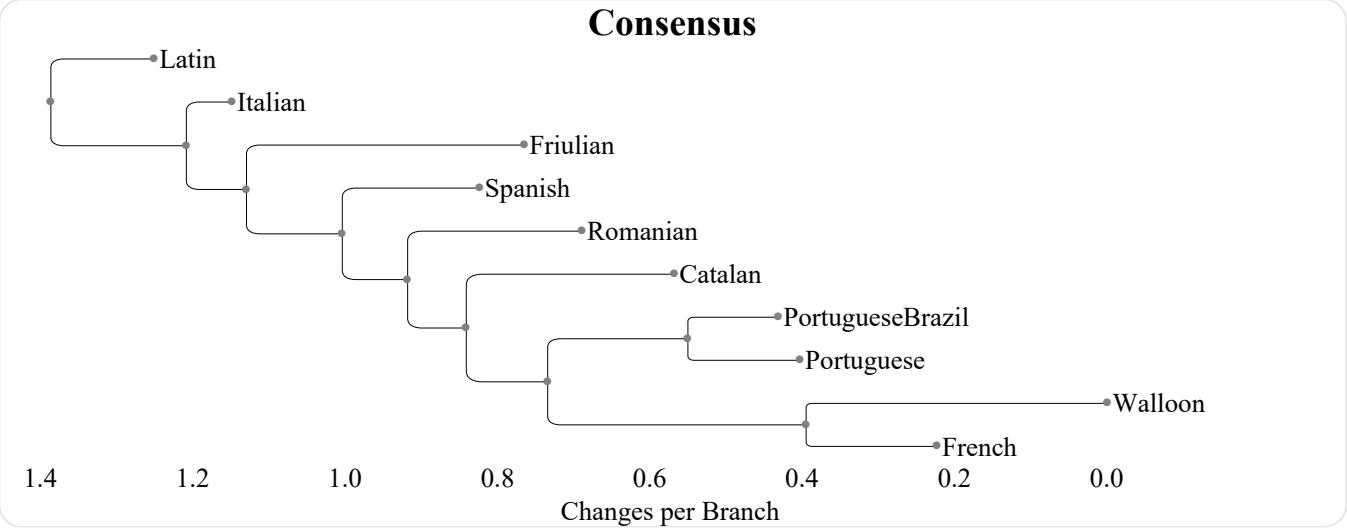
	With-Cum	With-Abhoc	And-Et	And-Si
Latin	k u m	a b h o c	e t	s iː k
French		a v - e k	e -	
Spanish	k o n		i -	
Italian	k o n		e -	
PortugueseBrazil	k õ -		i -	
Portuguese	k õ -		i -	
Catalan			i -	
Walloon		a v - u -	ɛ -	
Friulian			e -	
Romanian	k u -		e -	ʃ i -

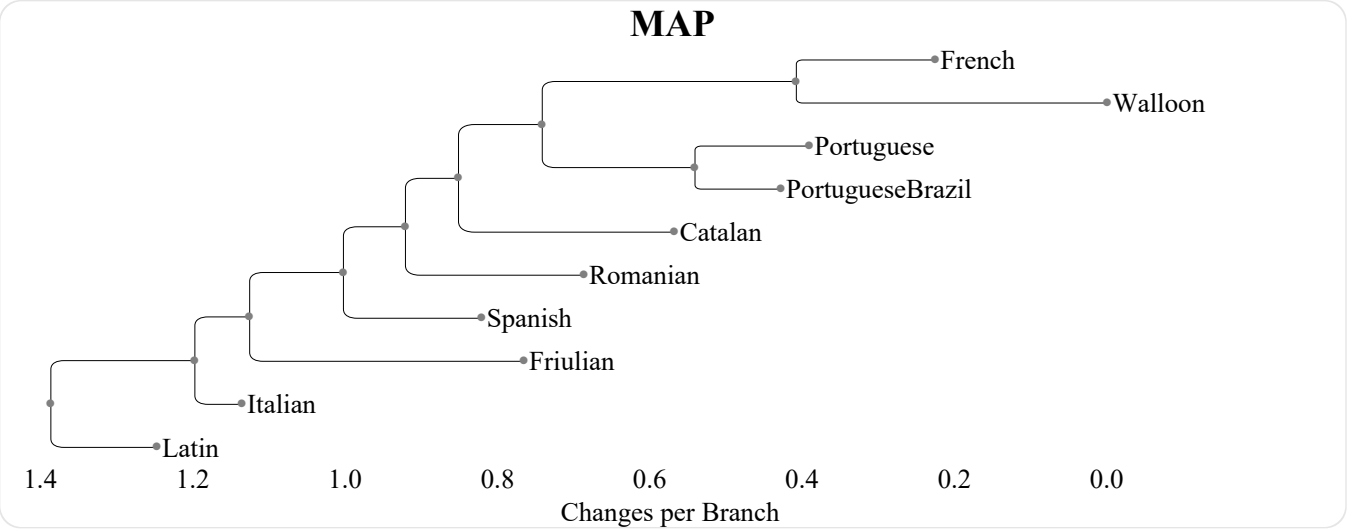
	If	Because-Quod	Because-Proquid
Latin	s iː	kʷ o d	p r o kʷ i d
French	s i	k ə -	p a ʁ s k ə
Spanish	s i	k e -	p o ɾ k e -
Italian	s e	k e -	p e r k e -
PortugueseBrazil	s i	k i -	p u ɾ k e -
Portuguese	s ɨ	k ɨ -	p u ɾ k ɨ -
Catalan	s i	k ə -	p ə r k ɛ -
Walloon		k iː -	
Friulian		k e -	
Romanian	s ə	k ə -	

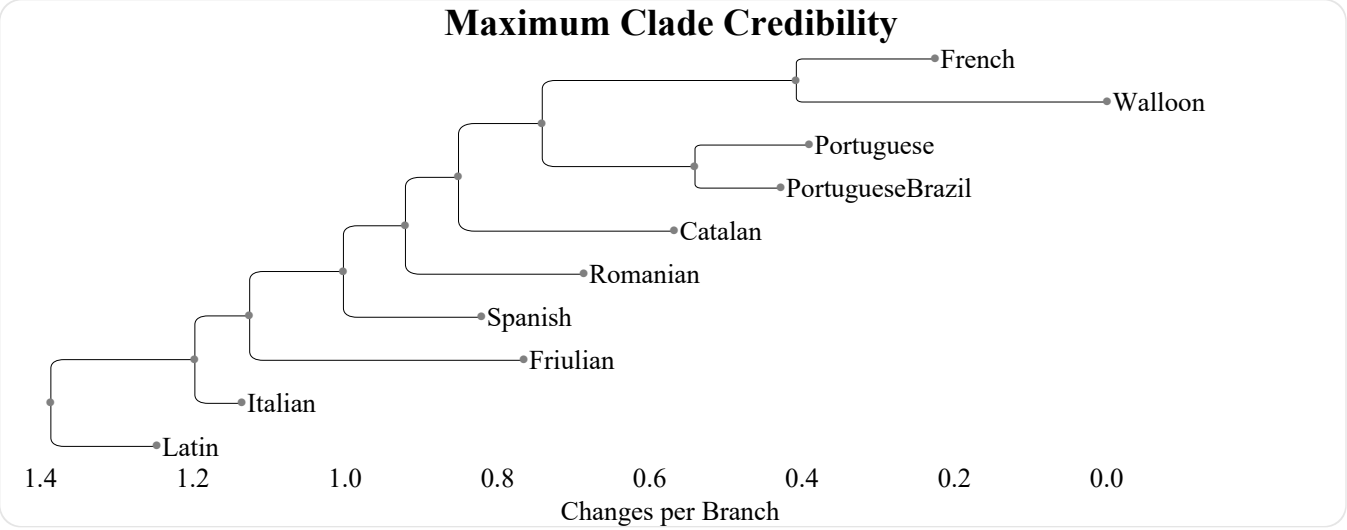

Commonly Accepted Romance Tree
Latin
Nuorese
Cagliari
Romanian
Arumanian
Walloon
French
Provencal
Portuguese
Spanish
Catalan
Ladin
Friulian
Romansh
Italian
2000
1000
0
Years


Priors
Latin
Romanian
Walloon
French
Portuguese
PortugueseBrazil
Spanish
Catalan
Friulian
Italian
7
6
5
4
3
2
1
0
Years

Appendix 4 - Results






Maximum Clade Credibility
French
Walloon
Portuguese
PortugueseBrazil
Catalan
Romanian
Spanish
Friulian
Italian
Latin
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Changes per Branch