Considerations on European converbs based on a parallel corpus

Maddalena Menchi, Università di Pavia maddalenamenchi@gmail.com

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1 Aims of the work

- (1) This work analyses the **CONVERBS** (or converbal constructions) which can be found in the ECO corpus, made up of the translations of seven chapters of Eco's novel *Il nome della rosa* into 16 European languages of 6 families: 4 Romance languages: French, Spanish, Portuguese, Romanian, 3 Germanic: English, German, Danish, 3 Slavic: Polish, Czech, Slovak, 2 Baltic Latvian, Lithuanian, 3 Finno-ugric Hungarian, Finnish, Estonian and Greek. The text corpus consists of approximately 32500 sentences (1800/2000 sentences for each language), with 178 gerunds and 24 senza+inf clauses in Italian.
- (2) One aim is to describe the **converbs morpho**—**syntactic and semantic properties**, taking into account the grammars of specific languages and their actual realizations in the corpus.
- (3) Another aim is to consider any translations of the converbs in the corpus and create some **semantic maps** from them. In fact, converbs are actually translated by different linguistic elements:
 - a other converbs
 - b coordinate clauses/main clauses
 - c subordinate clauses (adverbial, relative, completive)
 - d adverbial phrases, adverbs, adjectives...
- (4) From the analysis of the semantic maps it would be possible to make some hypothesis on the actual use of converbs and to individuate which parametes of analysis are relevant for the various languages. Moreover, it would be possible to verify whether the data confirm or not the descriptions of converbs found in the literature.

2 Definitions of converb

(5) The following definition of **converb** has been suggested by Haspelmath: "a nonfinite verb form whose main function is to mark adverbial subordination. Another way of putting it is that converbs are verbal adverbs, just like participles are verbal adjectives." (Haspelmath 1995: 3)

Table 1: Derived verb forms with different word class status.

$Word\ class:$	Noun	$\operatorname{Adjective}$	Adverb
Derived verb form:	masdar	participle	$\operatorname{converb}$
	(= verbal noun)	(= verbal adjective)	(= verbal adverb)
$Syntactic\ function:$	argument	adnominal modifier	adverbial modifier

(6) A broader definition of converb has been proposed by Nedjalkov (1995:97): "As a first approximation we can define a converb as a verb form which syntactically depends on another verb form, but it is not its syntactic actant, i.e., does not realize its semantic valencies. Thus a *canonical* converb can occupy (1) the position of an adjunct, i.e., an adverbial, but cannot occupy the positions: (2) of the only predicate of a simple sentence – a finite form; (3) of nominal attribute – a participle; (4) of a clausal actant – an infinitive; (5) of a nominal actant – a gerund."

This definition imposes no restriction on finiteness. Moreover, converbs may but need not be adverbial.

(7) Van der Auwera (1998: 281) has unraveled the uses of the term "converb" contrasting the two definitions given above:

Table 2: Converbs sensu stricto and sensu latiore

+ dependent, $-$ argumental, $-$ adnominal				
+ embedded		– embedded		
"subordinate"		"cosubordinate"		
+ finite	- finite	+ finite	– finite	
subordinate mood	converb sensu stricto	inflected narrative	medial verb	
		converb		
		cosubordinate mood		
converb sensu latiore				

One could also use "converb" in a sense that lies between the wide and the narrow sense. In this sense, "converb" refers to a verb form that is [+ dependent, - argumental, - adnominal, - finite]. And nothing is said about embeddedness.

3 Parameters of the analysis

(8) Morphologically, a converb in Haspelmath's sense is a non-finite verb form that is part of the inflectional paradigm of verbs

Syntactically, a converb is **subordinate** in the sense of being embedded as an adverbial constituent according to a set of formal properties .

Semantically, Haspelmaths defines converbs as forms that "generally modify verbs, clauses or sentences" (Haspelmath 1995: 4–17).

3.1 Morphosyntactic parameters

3.1.1 Subject reference

(9) THEORY. The converb subject is often coreferential with the subject (or another constituent) of the superordinate clause, so that it can be left *implicit* (Haspelmath 1995: 9).

Table 3: Subject reference in converbs

	same–subject	different-subject	varying-subject
implicit-subject converb	typical	unusual	unusual
explicit-subject converb	unusual	typical	unusual
free-subject converb	unusual	unusual	typical

The functional motivation for these connections should be apparent. It should be noted, however, that so far the claims embodied in the table lack a firm empirical foundation and are mainly based on impressionistic observations (Haspelmath 1995: 11).

DATA. In the Italian corpus there is only one case of 'EXPLICIT SUBJECT (Italian is a free–subject converb language) in a clause with a different subject from the matrix clause subject. The French translation has a non–finite form but cannot express the subject overtly (Halmoy 2003:112). The only other translation with an explicit subject is the Romanian:

a Italian (13.114)

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non avendo io incontrato[], è evidente che[] not have—GER I meet—PAST.PA[], is evident that[]
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b French (13.114)

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n'ay-ant jamais rencontré pour ma part,[], il est \'evident que[] not'have—CONV never meet—PAST.PA for my part it is evident that
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c Romanian (13.114)

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ne-\hat{n}t\hat{a}ln-ind \mathbf{eu}[], este evident c\check{a}[] NOT-meet-CONV \mathbf{I} is evident that
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'For I have never encountered[], it is evident that[]'

- (10) Even if an **implicit subject** can be coreferent with a constituent other than the matrix subject, in the Italian corpus it was not easy to find examples of different—subject converbs, because the Italian gerund is most commonly used when the subject is the same. When the subjects are different other constructions are preferred. In Italian the **same—subject converbs** are **170** (some of them are impersonal) and the **different—subject converbs** are only **8**. These data "confirm universal tendencies predicting that same—subject converbs will be much more frequent than both different—subject converbs and converbs whose empty subject position is not controlled by the matrix subject" (Kortmann 1995:227).
- (11) However there are a few examples of different subjects both in languages, like English, with only one form of converb, and in languages like Finnish, Latvian or Lithuanian that have different forms for same—subject and different—subjects converbs.
 - a English (59.153)

Malachi appeared before the judges, his eyes never meeting those of the cellarer.

Kortmann notes that in absolute constructions like this the subject of the converb is often (more than 70 percent (Kortmann 1995:212)) in a part/whole relationship to its referent in the matrix clause.

In Finnish the second infinitive with the inessive case can be said to correspond to a temporal subordinate clause. When the subject is different from that of the matrix clause, it is expressed by an independent word in the genitive or by the genitive form of a pronoun, followed by a possessive suffix on the infinitive inessive. In Latvian, there is a different—subject converb ending with -ot which may also be used with same subject. In Lithuanian the different—subject converb is exclusively the gerund.

a Finnish – different subject (61.13)

Nicola—n kasvo-ja ja eleit–ä valais–i ylpeys hän—en osoitelle—ssa—an Nicola—GEN face—PART and gestures—PART brighten—PAST pride—NOM he-GEN point.at—INE—POSS mei—lle näi—tä esineitä.
us—ALL these—PART objects—PART

b Latvian – different subject (61.13)

Nikolaspaud-avaibst-i $\check{z}est-i$, $r\bar{a}d-ot$ $\check{s}os$ $d\bar{a}rgumus$, mumsNicola.GEN feature-NOM.PL and gesture-NOM.PL, show-CONV glow-PAST those things, qodbijiq-u lepnum-u. reverentialpride-.

c Italian (61.13)

Il volto, i gesti di Nicola, mentre ci indicava quelle cose, erano illuminati dall' orgoglio. 'Nicholas's face and gestures, as he illustrated these things for us, were radiant with pride.'

- (12) When the subject of the converb is **impersonal**, in Lithuanian and in Latvian the converb has the different–subject form. In Latvian and Lithuanian the same–subject dam–converb agrees in gender and number with the subject, the different–subject converb does not agree. Nedjalkov (1995:112) classifies Lithuanian among those languages whose "same–subject converb is formally more marked than the different–subject converb".
 - a Lithuanian same—subject (29.97)

"Taip galvoj-ate?" paklaus-ė abat-as, įdėmia-i **žvelg-dam-as** į so think-PRE.2PL ask-PAST.3SG abbot-NOM.SG curiosity-ADV **stare-CONV-M.SG** at Viljam-į.
W.-ACC.SG

b Latvian – same–subject (29.97)

"'You think so?" the abbot asked, looking hard at William.'

c Lithuanian – different–subject (2n.232)

o **priglaud**—us aus–i girdėjo–si šlames–ys, lýg lauke $p\bar{u}s$ – $t\psi$ and **put.close**—**CONV** ear–ACC.SG hear–PRE.3PL.PASS noise–NOM.PL as if outside blow–SUBJ $v\dot{e}j$ –as. wind–NOM.SG

d Latvian – different–subject (2n.232)

tuvin–ot aus-i, $saklaus\bar{\imath}t$ $\check{s}alko\eta-u$, $it~k\bar{a}~lauk\bar{a}~p\bar{u}s-tu$ approximate–CONV ear–ACC.SG, hear.PRE.3SG sough–ACC.SG, as if outside blow–SUBJ $v\bar{e}j-\check{s}$.

wind-NOM.SG.

'Putting your ear to them, you could hear a rustling sound, as of a wind blowing outside.'

indeclinable	Italian, Spanish, Portuguese,	
varying-subject	Romanian, French ¹ , Greek	
free-subject converb	English, Polish, Hungarian and Estonian.	
indeclinable	$\operatorname{German},$	
same-subject	Danish, Czech	
implicit-subject converb	and Slovak.	
declinable	Lithuanian,	
same-subject	Latvian	
indeclinable	and Finnish	
$\operatorname{different-subject}$		

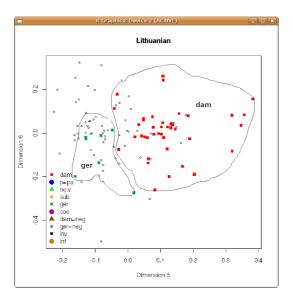


Figure 1: Lithuanian gerunds (different-subject converbs) and so-called "half-participles" (same-subject converbs).

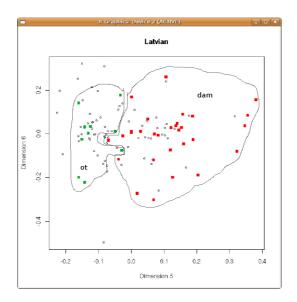


Figure 2: Latvian ot-converbs (different-subject converbs) and dam-converbs (same-subject converbs).

3.2 Semantic parameters

The domain of **circumstancial relations** provides the main target for the interpretation of the meaning of converbal constructions. Such relations can be expressed by adpositions, conjunctions or conjunctional adverbs ("conjuncts"). To give a few examples from English: in spite of (preposition), although (conjunction) and nevertheless (conjunctional adverb) express concessive relations; during (preposition), while (conjunction) and meanwhile (conjunctional adverb) express temporal relations (simultaneity); because of (preposition), because (conjunction) and therefore (conjunctional adverb) express causal relations. In the case of converbs, an interpretation in terms of such circumstancial relations may be the result of an interaction of several factors, but it is also possible that converbs do not receive a fully determinate interpretation of this kind.

3.2.1 Simultaneous vs. anterior

(15) THEORY. According to grammars, the contrast between simultaneous and anterior sequential ordering can be expressed unambiguously in Lithuanian, Finnish and Italian. An unambiguous distinction of this kind, by contrast, cannot be drawn in Hungarian, French, English or German. Moreover, it seems to be a general property of most European languages, certainly of Slavic, Romance and Germanic, that the LINEAR order of main clause and deranked clause is relevant for the temporal order that is expressed. (König and van der Auwera 1990, 341–342)

In her work on the temporality of the Italian gerund Solarino states that the Italian simple gerund can express not only contemporarity, but also anteriority and posteriority. (Solarino 1996:1). The interpretation of anteriority is favoured by the respective position of gerund and main verb as well as by the presence of adverbials of accomplishment²,

²Adverbials of accomplishment are various types of adverbs that favour the attribution of anteriority to gerunds of verbs belonging to actional

complementation and pause.

DATA. From the analysis of the corpus, however, only Lithuanian and Latvian really make a coherent distinction between simultaneous and anterior sequential ordering.

- a Italian (59.301)
 - e incendiarono la chiesa di Trivero **imbrattando PRIMA** le immagini sacre, **strappando** le lapidi dagli altari, **rompendo** un braccio alla statua della Vergine, **saccheggiando** i calici, gli arredi e i libri, **distruggendo** il campanile, **rompendo** le campane, **appropriandosi** di tutti i vasi della confraternita e dei beni del sacerdote
- b English (59.301) and they burned the church in Trivero AFTER befouling the sacred images, tearing tombstones from the altars, breaking an arm of the statue of the Virgin, looting the chalices and vessels and books, destroying the spire, shattering the bells, seizing all the vessels of the confraternity and the possessions of the priest
- c Lithuanian (59.301)
 ir padegė Trivero bažnyčią, **PIRMA išniekinę** šventus paveikslus, **išlupę** iš altorių akmenis, **nulaužę** ranką
 Mergelei, **pagrobę** šventus indus ir knygas, **sugriovę** varpines, **sudaužę** varpus, **pasisavinę** visus brolijos indus
 dvasininko turtus
- d Latvian (59.301) un nodedzināja Trivēro baznīcu, **PIRMS** tam **apgānījuši** svētos attēlus, **izgāzuši** altārakmeņus, **nolauzuši** roku Jaunavas statujai, **izlaupījuši** altārtraukus, baznīcas iekārtu un grāmatas, **sagrāvuši** zvanu torni, **sadauzījuši** zvanus un **piesavinājušies** visu draudzes un mācītāja mantību
- (16) THEORY. In Italian the compound gerund, which actually refers to the past, seems to have specialized to express cause or concession relations between the events in the matrix and the converb clauses (Solarino 1996:95). While the purely temporal anteriority is expressed by the past participle used in converbal way.

 DATA.
 - a Italian (13.114)
 - Perché se erano chiuse, **non avendo io incontrato** neppure nei processi di stregoneria un morto impenitente a cui Dio o il diavolo abbiano concesso di risalire dall' abisso per cancellar le tracce del suo misfatto, è evidente che il presunto suicida è stato piuttosto spinto, vuoi da mano umana vuoi da forza diabolica.
 - b English (13.114)
 And if they were closed **for I have never encountered**, not even in witchcraft trials, a dead man whom God or the Devil allowed to climb up from the abyss to erase the evidence of his misdeed then obviously the presumed suicide was, on the contrary, pushed, either by human hand or by diabolical force.

3.2.2 Syndetic vs. asyndetic linking

- (17) THEORY. The linking between main clause and converbal construction is typically **ASYNDETIC**. As a consequence, these constructions are highly versatile in their interpretation and may be used to express a wide variety of circumstancial (adverbial) relations. (König and van der Auwera 1990, 342)
- (18) In addition to such asyndetic linking many European languages, however, may also use a **certain degree of syndesis** in such constructions, i.e. **prepositions or conjunctions, case affixes or specific converbal affixes** that restrict or even fully determine the interpretative possibilities. Certain interpretations are more likely than others to require an explicit marking. The **concessive** interpretation is a case in point. There is the possibility of combining converbal constructions with **focus particles, emphatic particles and adverbs**.
 - DATA. In the corpus the concessive relation is expressed either by "augmented³ converb" or by subordination. Concessive—conditional is expressed usually by "augmented converbs or subordination, but there are two examples of asyndetically linked converbs (Italian and Portuguese(13.220)).
 - a Portuguese (59.50)
 - beguino-s, EMBORA participa—ndo da mesma heresia fraticelli, consider-am quethat the Fraticelli consider–PRE.3PL the Beghard–PL though share-CONV of $_{\mathrm{same}}$ heresy 'ultimos umda ordem franciscana ramosecothese latter brunch dead of order Franciscan
 - 'the Beghards, **though they share** the heresy of the Fraticelli, consider the latter a dead branch of the Franciscan order'
 - b French (13.220)

Personne, MÊME en le voul-ant, n'y réussirait.

nobody even it want-CONV not'there succeed-FUT.3SG
'No one, even if he wished, would succeed.'

classes which usually do not permit this temporal relation; they are typically non telic verbs.

³In Kortmann's words: "free adjuncts and absolutes syndetically linked to the matrix clause will henceforth be referred to as augmented adjuncts and augmented absolutes". (Kortmann 1995:203)

3.2.3 Negation

- (19) THEORY. Converbal clauses introduced by a negation may have a variety of interpretations such as causal, concessive and instrumental ones. In contrast to these interpretations, an interpretation as "absence of expected circumstance" (i.e., "without") crucially depends on the presence of an overt negation.
 - DATA. Italian, French, Spanish, Portuguese have two negative converbal structures: "without" + INF for "absence of expected circumstance", and "not" + CONV for the other converbs. Romanian has both structures but "without" goes with a finite verb form. English has the two structures and both has the converb.
 - a Italian causal relation (59.194.1)
 - e io acconsentii, NON presum-endo che i documenti fossero di natura eretica and I consented, NOT presume-CONV that the documents were of nature heretical
 - b Italian absence of expected circumstance (59.189)

Stamane avete risposto alle mie domande e alla mia richiesta "SENZA tent—are di This morning have answered to my questions and to my request "WITHOUT try—INF to nascondere nulla.

hide nothing.

'This morning you answered my questions and my request with no attempt to hide anything.'

- c Portuguese –causal relation
 - e eu consenti, NÃO presum-indo que os documentos fossem de natureza herética and I consented NOT presume-CONV that the documents were of nature heretical
- d Portuguese absence of expected circumstance

Esta $manh\tilde{a}$ respondestes às minhas perguntas e à minha petição SEM tent—ar this morning answered to my questions and to my request WITHOUT try—INF esconder nada.

hide nothing.

- (20) Polish, Hungarian, Estonian, Finnish, Latvian and Lithuanian has only one negative converbal form.
 - a Polish causal relation

ja zaś zgodziłlem się, **NIE przypuszcza–jąc**, że chodzi o dokumenty natury heretyckiej and agree–PAST.1SG REFL **not presume-CONV** that be of document nature heretic

- b Polish absence of expected circumstance
- c Polish (59.189)

Dziś rano odpowiedzi-ałleś na moje pytani-a i spełlniłleś moje żądanie, today morning answer–PAST. to my question–PL and realize–PAST my request nie próbu–jąc niczego ukryć.

not try–CONV nothing hide.INF

3.3 Textual level

(21) THEORY. (Thompson e Longacre 1985: 228) "[] it could be argued that adverbial clauses exemplify the basic mood of intersentential cohesion, while such a reference can become stylized and conjunctival, or be simply substituted for by a conjunction."

DATA from the corpus:

a English (13.224)

And having said this, I would like you to conform to the rules of the abbey.

b Italian

E ciò detto, vorrei che voi vi adeguaste alle regole dell'abbazia.

c Finnish same—subject

Ja tämän sano-ttu-a-ni pyytä-isi-n teitä sopeutumaan And this say-PAST.PART.PASS-PART-POSS.1SG desire-COND-1SG your accommodation luostarin sääntöihin. of the monastery to the rules

d Romanian

şispun-ândasta aşdor-icadomnia tasătesupu-iandsay-CONVthisAUX:CONDwant-INFthatyouREFLconform-SUBJrulesregulilorabaţiei.

4 Mono-directional comparison Italian vs other languages

22) The linguistic elements that translate all the Italian gerunds and "senza+INF" constructions were individuated, analysed and collected into a table in which every column is a different language and every row is an identification number of a converb.

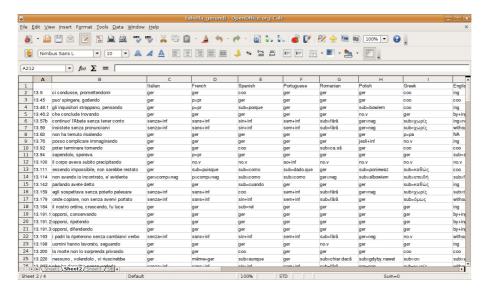


Figure 3: The data of the comparison

The Italian gerund is quite a frequent non-finite verb form which, however, can be substituted with a finite construction in almost every context. The gerund has a mainly adverbial function. It can be a verb modifier, a margin of the predicate (with instrumental function) and a circumstancial element (in causal, concessive or conditional relationship with the matrix clause) (Prandi 2006). Moreover the "coordinate" gerund (a kind of narrative converb) can be used to express posteriority or to add an evaluative element. The gerund meaning is largely vague and under-specified.

The translations of the gerund consist of converbs, coordinated clauses, subordinated clauses and other not verbal elements like prepositional phrases, adverb and adjectives.

When a gerund is translated by a coordinated clause there is an explicitation on the morpho–syntactic level but as far as the coding of the relationship is concerned, the coordinated clause is not more explicit then the gerund.

4.1 Gerund vs not verbal elements

- (23) The choice of translating the gerund with a not verbal element is dispreferred in the corpus. However, in **German**, **Danish**, **Czech** and **Slovak** the number of the translations without a verb form is higher than the number of converbs. Sometimes these non verbal elements are deverbal nouns with the same meaning and arguments than the gerund they translate. Stolz et al. (2006:7) talking on comitatives note that in one example "the translator has preferred prepositional phrases to gerunds (present active participles) because these stinks of "burocratese" in German".
 - a Italian (29.32)
 - ... e una degna meditazione mi ha indotto a riflettere, **trasferendo** ciò che è materiale a ciò che è immateriale, sulla diversità delle sacre virtù []
 - b German
 - ... und eine würdige Meditation mich dazu bringt, durch Übertragung des Materiellen aufs Immaterielle nachzudenken über die Mannigfaltigkeit der heiligen Kräfte []
 - a Italian (2n.53)
 - ... e riprendemmo a muoverci verso la nostra destra **cercando** di andare diritti di stanza in stanza.
 - b Danish
 - ... og vi begyndte forfra med at gåtil højre i et forsøg påat gåden direkte vej fra rum til rum.
- (24) In the next example, on the reverse, an Italian deverbal noun has been translated with converbal constructions in many languages: Spanish, Greek, Polish, Latvian, Lithuanian, Estonian, Finnish and Hungarian.
 - a Italian (13.93)

 Prese dunque a raccontare, con molta prudenza nella **scelta** delle parole e lunghe perifrasi, di un fatto singolare []
 - b Spanish
 Inició pues, **escogiendo** con mucha prudencia las palabras y **recurriendo** a largas perífrasis, el relato de un acontecimiento singular []

- (25) In Finnish there are traditionally three types of infinitive with nominal features (Koptjevskaja–Tamm 1993: 34). These infinitives not only may have possessive suffixes but also many case markers (inessive, adessive, instructive, abessive). These forms of infinitives plus case markers may be very specialised. However, as these infinitives do not flex completely and do not combine with prepositions and postpositions like nouns they cannot be considered action nominals. From a typological point of view, at least some of the Finnish infinitives should be classified as **converbs** (ibid.: 35).
- (26) Among the translations there are some less nominal than the previous, which are, in fact, traditionally called "implicit" subordinates. Above all in the corpus, they are present in Spanish: $10 \ al + \text{INF}$, $6 \ para + \text{INF}$, $1 \ con + \text{INF}$.
 - a Italian(2n.52)

E incominciarono a discutere fittamente di cose che in parte già sapevo e in parte riuscii a capire **ascoltando** il loro colloquio.

b Spanish

Y empezaron a discutir minuciosamente sobre cosas que en parte yo conocía y que en parte logré entender al escuchar su conversación.

4.2 Gerund vs subordinated clauses

(27) The translation of the converbs with subordinated clauses implies an explicitation both on the morpho—syntactic level and on the coding of the relationship.

In the corpus in decreasing order of frequency:

Romance languages French, Portuguese and Romanian: 1. gerunds; 2. subordinated clauses; 3. a few coordinated clauses. Spanish: 1. gerunds 2. subordinated and coordinated clauses.

Germanic languages German and Danish: 1. subordinated clauses; 2. coordinated clauses; 3. a few converbs. English: 1. converbs 2. subordinated clauses; 3. coordinated clauses.

Slavic languages Czech and Slovak: 1. coordinated clauses; 2. subordinated clauses. Polish: 1. converbs; 2. subordinated and coordinated clauses.

Finno-ugric languages Hungarian: 1. Coordinated clauses and converbs; 2. subordinated clauses. Estonian and Finnish: 1. converbs; 2. coordinated clauses; 3. subordinated clauses.

Baltic languages Latvian and Lithuanian: 1. converbs; 2. coordinated clauses; 3. subordinated clauses.

Greek Greek: 1. converbs; 2. coordinated clauses; 3. subordinated clauses.

Italian gerunds with conditional or concessive value are never translated with coordinated clauses. In the next example the Italian gerund is strongly circumstancial:

Italian (46.40)

Dei frati che componevano il gruppo dirò poi parlando della riunione del giorno dopo.

In fact, it is translated with converbs in three languages (French, Portuguese and Lithuanian) and with temporal subordination in 10 languages (Spanish – cuando, Romanian – când, German – wenn, English – when, Danish – når, Finnish – kun, Polish – kiedy, Czech – až, Slovak – ked, Latvian – kad).

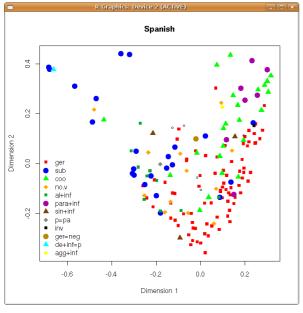
4.3 Gerunds vs coordinated clauses

- (28) As some Italian gerunds are translated only with subordination, some others are always translated with coordination. Every time that a gerund expresses a temporal posteriority, the so-called "gerundio coordinato", in the corpus there are only other converbs or coordinated clauses that must necessary follow the matrix clause. This because the posteriority relation is not codified explicitly in the coordination and can only be inferred from the iconic order of the constituents.
- (29) When a temporal/causal gerund is translated with a coordinated clause in Czech it is necessary to invert the order of the clauses:
 - a Italian (46.20) e io risi **comprendendo** che invece andavano in cerca di tartufi.
 - b Czech

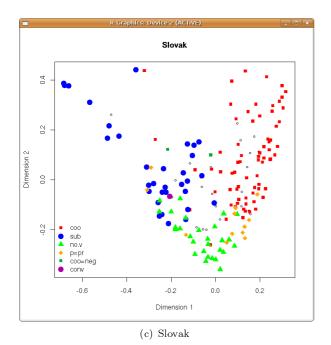
Pochopil jsem, že jde o lanýže, a musil jsem se smát. understand–PAST.1SG, that was about truffles, and must–PAST.1SG laugh.

5 Maps

All the maps are made using the program R and the Python script written by Wälchli.







Latvian

Latvian

dam

coo

oto

p=pa

sub

inv

dam=neg

nov

pat-dam

p=pr

p=pa=neg

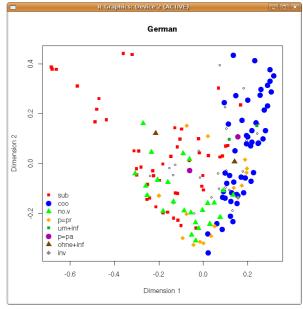
-0.6

-0.4

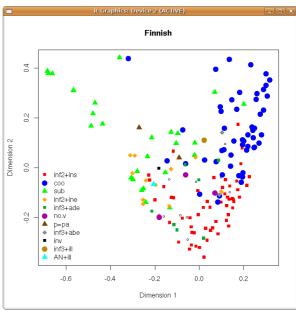
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Dimension 1

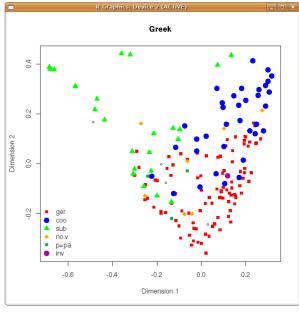
(e) Latvian



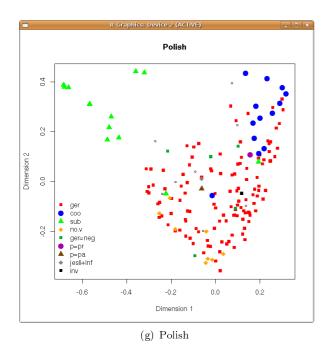
(b) German

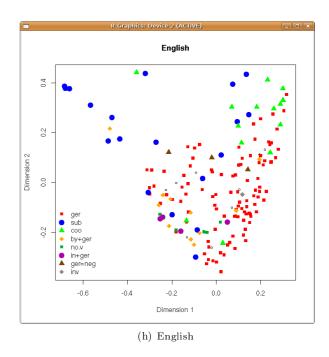


(d) Finnish



(f) Greek



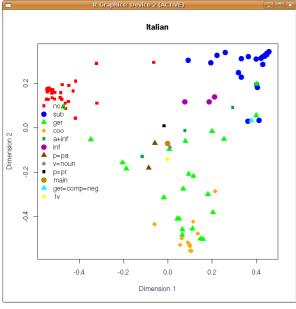


6 Multi-directional comparison

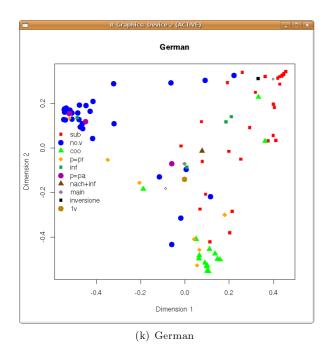
(30) In the chapters "Primo Giorno, Ora Terza" (First Day, Third Hour) and "Sesto Giorno, Ora Prima" (Sixth Day, First Hour) all converbs (past participles are also included when used in converbal meaning) in all languages have been detected and analysed:

language	% in 13	language	% in 61
Lithuanian	62	Lithuanian	74
Latvian	48	Latvian	52
Finnish	33	Polish	30
Polish	30	English	30
Spanish	28	Hungarian	26
Estonian	26	Finnish	22
Italian	25	Spanish	22
English	25	Romanian	22
French	25	Italian	19
Portuguese	23	Portuguese	19
Romanian	22	Estonian	15
Hungarian	18	French	15
Greek	17	Greek	15
German	7	German	15
Slovak	5	Czech	4
Danish	4	Slovak	0
Czech	0	Danish	0

(31) Lithuanian appears to have the highest frequency of converbs, while Danish, Czech and Slovak have the lowest.



(i) Italian



(m) Greek

0.0

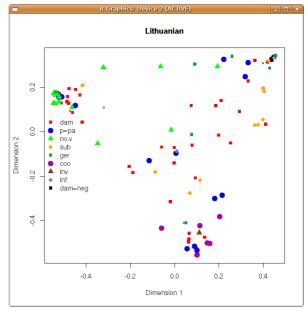
Dimension 1

0.2

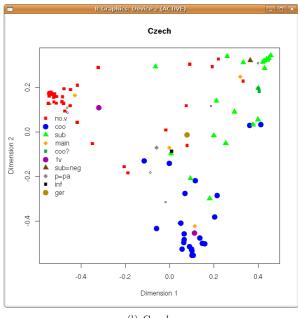
0.4

-0.2

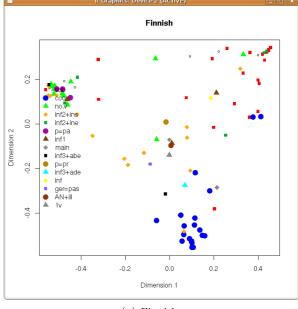
-0.4



(j) Lithuanian



(l) Czech



(n) Finnish

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