

## The case of (*per*) *addietro* in Old Florentine. When before was (apparently) based on back

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## Abstract

The aim of this paper is to describe what *prima facie* seems to be a typological *rarum* in Old Florentine (i.e. Old Italian). Specifically, we address here the morphosyntax of the temporal adverbial *(per) addietro* (lit. for at-back), which was commonly used in Old Florentine texts to encode a meaning roughly corresponding to [BEFORE]. Thus, it seems to go against the accepted generalization that spatial relations of *front* and *back* regularly express, respectively, *ante-*

*riority* and *posteriority* across languages when they are ‘shifted’ from *space* to *time* (Haspelmath, 1997). We will provide a simple morphosyntactic explanation of the seemingly ‘exceptionality’ of *(per) addietro* based on a finer-grained representation of temporal expressions and a *locality* constraint on hierarchical structure triggering *kinda*-suppletive patterns (Bobaljik, 2012; Moskal, 2013).

**Keywords:** temporal adverbials; spatial adverbials; morphosyntax, Old Florentine; Modern Italian; *rara*; suppletion

## 1. Introduction

The aim of this paper is to illustrate what *prima facie* seems to be a (so far unnoticed) typological *rarum* in Old Florentine and to give a plausible morphosyntactic explanation for it<sup>1</sup>. Specifically, we address here the morphosyntax of the temporal adverbial *(per) addietro* (lit. *(for) at-back*), which was commonly used in Old Florentine texts to encode a meaning roughly corresponding to [BEFORE]. Namely, when used spatially, *(per) addietro* expresses posterior location [BEHIND/BACK], as shown in (1), whereas, when used temporally, it seems to express anteriority [BEFORE], as in (2).

- (1) nel mare questo cotale correre  
in-the sea this such run-inf  
innanzi e *addietro*...  
in-front and at-back

‘Such a run up and down into the see.’  
Bono Giamboni, Vegezio, a. 1292 (Fior.)

- (2) I servi che *per addietro*  
the slaves that for at-back  
in Roma si ribellaro...  
in Rome cl-refl rebel-3pl-pst

‘The slaves who rebelled before in Rome.’  
Bono Giamboni, Orosio, a. 1292 (Fior.)

From a typological point of view, this pattern seems to go against the fairly robust generalization of Haspelmath (1997), who stated that, when an adverb encoding the spatial meaning [BEHIND / BACK] is used temporally, it consistently expresses the meaning [AFTER].

The facts are summarized in table 1.

The observation that in many genetically diverse languages the linguistic items used to talk about the location of things in space

TABLE 1

	spatial		temporal
Haspelmath (1997)	[FRONT]	>	[BEFORE]
	[BACK]	>	[AFTER]
<i>per addietro</i>	[BACK]	>	[BEFORE]

are also used to talk about the orientation of events in time has fascinated many researchers (cf. Anderson, 1973; Clark, 1973; Traugott, 1978; Jackendoff, 1983, 1996; Geeraerts, 1993, 2010; Lakoff & Johnson, 1999; Tenbrink, 2007, among many others).

Items expressing spatial relations of *front* and *back* standardly express, respectively, anteriority and posteriority across languages when they are ‘shifted’ from space to time (namely, before ≈ in front; after ≈ back) (cf. Franco, 2013)<sup>2</sup>. Haspelmath (1997: 20), relying on a sample of 55 languages, provided many examples (e.g. Japanese, German, Basque, Polish, Hebrew, Lezgian, Maltese, Hausa, etc.) of this *conceptual shift*.

He affirmed that “almost all cases” (Haspelmath, 1997: 56) follow this path, but did not give any possible counterexample. In (3) we present data from Japanese, where the word *mae* (front) is used with a temporal characterization, both with (3a) and without (3b) a deictic anchoring (cf. also Franco, 2013).

- (3) (a) *Mae ni asonda*  
front loc play.pst  
*koto ga aru.*  
fact nom exist/have

‘We have played before.’  
lit. “(We) have the fact that (we)  
played at front.”  
(Moore, 2011: 766)

1 A preliminary classificatory or labelling clarification concerns the term Old Florentine, by which we refer to what is commonly described as Old Italian in the literature (cf. Salvi & Renzi, 2010), basing on Florentine texts of the 13/14<sup>th</sup> century.  
2 Cross-linguistically, there are many different lexical sources that give rise to temporal items, other than anterior and posterior markers based on spatial anterior and posterior markers (cf. Haspelmath, 1997: 63-65, cf. also Barbiere, 2007; Franco, 2013). The crucial fact here is that when a language employs spatial markers to convey a (sequential) temporal meaning *before* is based on (*in*) *front* and *after* is based on *back*.

(b) Satoo o ire-ru yori mae  
sugar acc put.in-non.pst from front  
ni sio o ire-ru  
loc salt acc put.in-non.pst

‘Before putting in sugar, I put salt.’  
[Japanese. Kyoko Hirose Ohara]  
(Moore, 2011: 765)

Psycholinguistic researches (cf. Boroditsky, 2000 and subsequent works) support the conceptual ‘closeness’ and the univocal orientation of spatial and temporal relations in the lexicon<sup>3</sup>.

The rest of the paper is organized as follows. In section 2, I present the relevant empirical data concerning the distribution of *(per) addietro* in Old Florentine. In section 3, I highlight a ‘transitivity’ constraint on the distribution of the temporal adverbial under consideration. Section 4 provides a *functionalist* explanation of the Old Florentine facts, based on a finer-grained representation of temporal expressions. Section 5 attempts a characterization of the ‘suppletive’ behaviour of temporal expression in the terms of an *internalist* perspective, given a locality constraint and a hierarchical organization of ‘morphology’ into ‘syntax’. The conclusions follow.

## 2. The data: *(per) addietro* in Old Florentine

As far as the case of *(per) addietro* (and its lexical variants *per adietro*, *per adrieto*, etc.) is concerned, interestingly, the phenomenon seems to be almost exclusively circumscribed to Old Florentine (with rare occurrences from Old Tuscan), which is standardly considered (cf. Salvi & Renzi, 2010) the direct ancestor of Modern Italian, as already pointed out (cf. fn. 1). The present study is

based on a survey performed on the OVI [*Opera del Vocabolario Italiano*] database (cf. <http://gattoweb.oivi.cnr.it/>). We have found 273 tokens of *per addietro* and its lexical variants.

In (4) we provide a set of examples of constructions with *per addietro*.

(4) (a) Quella vide Cloreo, il  
that-f see-3sg-past  
Cloreo art-m-sg  
quale *per addietro*  
rel for at-back  
era stato prete [...]  
be-3sg-ipfv be-pst-ptcp priest

‘She saw Cloreo, who was a priest before...’

Lancia, Eneide volg., 1316 (Fior.)

(b) [...] furono compiute  
be-3pl-pst complete-pst-ptcp-f-pl  
di murare  
comp wall.up-inf  
le nuove cerchie  
the-f-pl new-f-pl circle.of.walls-f-pl  
cominciate *per addietro*.  
started-pst-ptcp-f-pl for at-back

‘...The new circle of walls that had been started to be built before was completed.’

Paolino Pieri, Cronica, a. 1305 (Fior.)

(c) [...] la cittade sua, che  
the town his-f rel  
*per addietro* solea  
for at-back use.to-3sg-ipfv  
essere di grande popolo ripiena.  
be-inf of big people full-f

‘...His town, that was usually full of people before.’

Bono Giamboni, Orosio, a. 1292 (Fior.)

3 To my knowledge, the only apparent counterexample to Haspelmath’s generalization discussed in the literature is Aymara language spoken in the Andes, that provides a possible *across-modality* counterexample (see Núñez & Sweetser, 2006). Indeed, in their *co-speech* gesture research, Núñez and Sweetser (2006) found that Aymara speakers produce hand gestures ‘forward from their body’ when they talk about past events, and gestures ‘towards their back’ when explicating issues concerning future events. Nevertheless, Moore (2011: 767-773) has shown that Aymara people can rely on the ‘right’ spatial source to encode temporal anteriority and posteriority (cf. also Franco, 2013).

(d) ha Fortuna risoluto  
 have-3sg-prs Fortune solve-pst-ptcp  
 la nebula dell' errore *per*  
 the fog of-the mistake for  
*addietro* da me sostenuto.  
 at-back from me bear-pst-ptcp

'... Fortune has solved the mistake in which I was before.'

Boccaccio, Filostrato, 1335-36

(e) benché, *per* l' *adietro*,  
 although for the at-back  
 il Comune d' Orbivieto  
 the city of Orvieto  
 di ciò sia  
 of that be-3sg-sb  
 stato contento [...]  
 be-pst-ptcp satisfied

'...Although the city of Orvieto was satisfied of it before...'

Doc. Fior., 1311-50

The only possible interpretation of all the examples in (4) is approximately with a [BEFORE] meaning, or at least such a meaning is the one that would be standardly expressed with the temporal marker of anteriority *prima* ('before') in Modern Italian.

Consider for instance how Modern Italian encodes the temporal relation in a sentence directly corresponding to (4a):

(5) ha visto Gianni  
 have.prs.3sg see.pst-ptcp Gianni

che prima/\*(per) addietro era  
 that before/ for at.back be.ipfv.3sg  
 stato un prete.  
 be.pst-ptcp a priest

'She/He saw Gianni, who was a priest before.'

The correspondence between Old Florentine *per addietro* and Modern Italian *prima* is attested in Italian etymological dictionaries (see e.g. Pianigiani, 1907), which confirm that the 'archaic' expression *per addietro* stands for *prima* or *innanzi* ('before', a word derived from Latin *in ante*, 'in front'). The preposition *per* seems to encode here an 'atelic-extent marker' in the past (cf. Haspelmath, 1997: 120ff.), whereas its most common use in contemporary Italian is with a cause or *benefactive* meaning. Notice however that the use of the preposition *per* to encode an 'extension' in time or space is quite common in Modern Italian (e.g. *sono rimasto lì per due mesi*, 'I stayed there for two months'; *ho continuato per due km*, 'I continued for two kilometers'). Obverse also that, in Old Florentine, expressions in which a determiner introduces the temporal adverbial are attested as shown in (4e) [there are 5/273 occurrences of *(per) l'addietro* and lexical variants in the OVI database]<sup>4</sup>.

The temporal adverbial *prima*, with the meaning 'before', was widely attested in Old Florentine (hence, it was coexistent with *addietro*) and in the early stages of the language (XIII century) *prima* was commonly introduced by the stative preposition *in*, as shown in (6)<sup>5</sup>:

4 Incidentally, this fact suggests a possible *double route* of structural interpretation/encoding, somewhat parallel to the one argued for by Svenonius (2006), who precisely addressed the difference between so-called *axial parts* and *relational nouns*. Specifically, Svenonius argues against the idea that axial parts, namely items like *front*, *beside*, *behind* and so on, are a subclass of (i.e. relational) nouns (cf. also Hagège, 2010: 162ff.). The presence vs. absence of determiners in the syntactic environment is one of the criteria that may be used to distinguish between axial parts and nouns. Considering the case of *per l'addietro*, however, notice that, according to Svenonius (2006: 67), axial parts can take 'idiosyncratic determiners', as shown by Roy (2006) for French. In French indeed some axial parts (e.g. *au long de*, 'along,' and *au delà de*, 'beyond') appear with an article.

5 The presence of a stative preposition before the item *prima* suggests a strong parallelism between spatial and temporal expressions. Cinque (2010: 5), assuming a layered ('cartographic', cf. par. 5 and fn. 9 below) configuration of spatial adpositions, has shown that, in Modern Italian, DP<sub>place</sub> can be conceivably selected by an unpronounced *stative* preposition (cf. also Holmberg, 2002; Svenonius, 2006; Kayne, 2004, among others). An analogous *layered* configuration may be hypothesized for temporal expressions, on the basis of cross-linguistic data. Vai, Bambara, Gimira, Kwaio, Korean, Lezgian, ...

(6) (a) il colore delle sue  
 the colour of.the-f-pl his-f-pl  
 armi, ch' era  
 weapons rel be-3sg-ipfv  
 candidissimo in prima, si  
 snow-white-sup-abs in before cl-refl  
 offuscoe un poco.  
 darken-3sg-pst a bit

'the color of his weapons,  
 which had been snow-white be-  
 fore, became a bit dirty.'  
 Bono Giamboni, Vizi e Vir-  
 tudi, a. 1292 (Fior.)

(b) Bambillonia in prima da  
 Babylon in before by  
 Nembrot giogante edificata [...]  
 Nembrot giant build-pst-ptcp-f

'Babylon, built before by  
 the giant Nimrod ...'  
 Bono Giamboni, Orosio, a. 1292 (Fior.)

*Addietro* may be introduced by a stative preposition, too. Even if less productively than the expression with the preposition *per*, *in addietro* (again with a [BEFORE] flavour) is attested in Old Florentine (43 occurrences in the OVI database), as shown in (7).

(7) (a) E voi avete bene  
 And you-pl have-2pl-prs well  
 udito in addietro [...]  
 hear-pst-ptcp in at.back

'And you have heard well before...'  
 Tesoro volg. (ed. Gaiter), XIII ex. (Fior.)

(b) [...] in addietro tenuto  
 in at.back consider-pst-ptcp  
 buono uomo e di santa vita.  
 good man and of saintly life  
 '...Considered before a good  
 and saintly man.'  
 Giovanni Villani (ed. Mout-  
 ier) a. 1348 (Fior.)

(c) [...] siccome in addietro  
 as in at.back

i Sabini [...]  
 the-pl Sabines  
 '...as the Sabines before...'  
 Piero de' Crescenzi volg.  
 (ed. Sorio), XIV (Fior.)

Also consider that 'bare forms' of *addietro* (without an adjoined preposition) can be used with an analogous temporal meaning in Old Florentine, as reported below.

(8) [...] di che lo conto  
 Of which the exposition  
 fa menzione addietro.  
 make-3sg-prs mention at.back

'which is mentioned be-  
 fore in the exposition.'  
 Tesoro volg. (ed. Gaiter), XIII ex. (Fior.)

Moreover, the *puzzling* nature of the linguistic encoding of the concept of temporal anteriority in Old Florentine can be well-represented by the presence of temporal expressions, which rely on the 'right' spatial source

Tuvaluan, Welsh, Kabardian, Basque, among many other languages, provide evidence for a stative-like PP (or Case affix) that takes a temporal expression as its complement (Franco, 2011). Just to give an example of this pattern, consider data from Tuvaluan (Besnier, 2000), an Austronesian language, spoken in Tuvalu:

(i) Te fakaala ne fai mai mua o te faatele.  
 the feast Nps do from front of the fatele-dance  
 'The feast was held before the dance.'

(ii) i tua eiloo o ttaua  
 at back indeed of the-war  
 'after the war'  
 (Besnier, 2000: 358)

(i.e. *avanti*, *avante*, ‘in front’). Consider the examples in (9)<sup>6</sup>.

- (9) (a) [...] dai denti morsi  
by.the-pl teeth bite-pst-ptcp.pl  
de la morte *avante*  
of the-f death in.front  
che fosser da l' umana  
that be-3pl-sbjv-pst by the human  
colpa essenti  
sinfulness exempt-pl

‘...Snatched by the teeth of death before they were exempt from our human sinfulness.’

Dante, *Commedia*, a. 1321

- (b) [...] sperando nella potenza  
hoping in.the-f strength  
degl' iddii, come  
of.the-pl gods like  
*avanti* ti dissi  
in.front cl-2sg-dat tell-2sg-pst

‘...hoping in the strength of gods, like I told you before.’

Boccaccio, *Filocolo*, 1336-38

- (c) lo ho fatto  
I have-1sg-prs make-pst-ptcp  
uno voto per avanti, e  
a vow for in.front and  
oggi sono stata ad  
today be-1sg-prs be-pst-ptcp to  
offerirlo  
offer.inf-cl.3sg.acc

‘I made a vow before and today I have gone to offer it.’

Bibbia, XIV-XV (Tosc.)

### 3. A transitivity constraint on (*per*) *addietro*

In the examples above, *avanti* (in front) optionally preceded by an analogous (*per*, for) adpositional item ‘correctly’ encodes a relation of temporal anteriority and it is somewhat symmetrical to (*per*) *addietro* (hugely more diffuse in the OVI database). The relevant question now is: what triggers the unstable encoding of temporal expressions in Old Florentine? In particular, how can an item that means [BACK] apparently against Haspelmath’s (1997) generalization sketched in table 1 encode a *flavour* of anteriority?

The first thing to be noted is that constructions with (*in*) *prima* and (*per* / *in*) *addietro* in Old Florentine differ in one crucial aspect: the former can ‘take complements’, while the latter is *strictly* intransitive (cf. Kurzon, 2008). I have detected 316 occurrences of *per addietro* (273) and *in addietro* (43) and their lexical variants, and in no case do these forms have an overt complement. On the other hand, with *prima*, as shown in (10), I have found many instances of *transitivity*. Consider also the examples from Modern Italian in (10c-d):

- (10) (a) [...] e prima della  
and before of.the-f  
dottrina data da' savi  
doctrine given by sages

‘... and before the teaching of the sages’.  
Fiore di rett., red. beta, a. 1292 (Fior.)

- (b) [...] che i tuoi vizi  
comp the-pl your sins  
muoiano prima di te  
die-3pl-sbjv-prs before of you

‘... that your sins die before you.’  
Fiori di filosafi, 1271-75 (Fior.)

6 Forms like *avanti*, *avante* are clearly connected with Latin *ante* ‘before (prep.)’. Latin *ante* is the source of ‘before’-words for most Romance languages: Spanish, *antes* (*de*), *ante*; Portuguese, *antes*; Old French, *ainz*; Catalan, *ans* (*de*) (cf. Hall, 1937; Traugott, 1978). Notice that in Contemporary Italian the word *anzi* (rather, on the contrary) marginally attested in Old Florentine with a loosely temporal sense (at any rate, related to a *rather* meaning) is widely used in the compound word *anzitempo* (before/ahead of time). Actually, I have found no Romance items (at least) resembling *per addietro* in my survey.

- (c) Non ho mai visto  
 NEG have-1sg-prs never see-pst-ptcp  
 un arcobaleno prima  
 a rainbow before  
 della pioggia  
 of.the-f rain  
 ‘I have never seen a rainbow before the rain.’

In this respect, (*per*) *addietro* shares some similarities with deictic items such as *ago* (*fa* in Modern Italian), precisely analysed by Williams (1994) as *intransitive* prepositions, namely prepositions that do not license a complement.

Indeed, many languages have specific items to encode *deictic* temporal distance, namely the distance related to the time of speech<sup>7</sup>. Haspelmath (1997: 36-37) dubbed the semantic functions expressed by these items {DISTANCE-PAST} and {DISTANCE-FUTURE}. Examples from Italian are given in (11) and (12):

- (11) Gianni è arrivato un mese *fa* {DISTANCE-PAST}  
 ‘Gianni arrived a month ago.’  
 (12) Gianni arriverà *tra/in* un’ora {DISTANCE-FUTURE}  
 ‘Gianni will arrive in a hour’

In Old Italian {DISTANCE-PAST} was expressed with the same *addietro* or with a bi-clausal con-

struction involving the verb *fare* (do) or *essere* (be) in the matrix clause, as shown below in (13) and (14), respectively.

- (13) Pochi tempi *addietro* tornando  
 few-pl times at.back coming.back

‘Coming back some time ago.’  
 Bono Giamboni, Orosio, a. 1292 (Fior.)

- (14) Oggi fa l’ anno  
 Today make-3sg-prs the year  
 che nel ciel salisti  
 that into sky rise-2sg-pst

‘You died a year ago.’  
 Dante, Vita Nuova a. 1292-1293 ca. (Fior.)

Hence, we may claim that the expression (*per*) *addietro* has solely an intransitive interpretation signalling the temporal distance of an event from the time of elocution. Nevertheless, as we have seen in (4), (5), (*per*) *addietro* in Old Florentine would be glossed/translated with *prima* (‘before’) and not with *fa/addietro* (‘ago’) in Modern Italian<sup>8</sup>.

In Modern Italian, *prima* has both an intransitive value (namely, anchored to the *time/context* of elocution) as in (16) (thus matching Old Florentine *addietro*) and a transitive value, as in (17). Time measures (e.g. *ora*, now; *allora*, then; *un anno*, a year, etc.) can be (and usually

7 Still, this is not a general property which holds cross-linguistically. In fact, many languages (e.g. Turkish, Armenian, Ancient Greek, Persian, Punjabi, among others) mark the distance from the moment of speech with the same item which marks the distance with respect to an explicitly indicated point of time (i.e. when the temporal item takes a complement). Consider the example below from Punjabi (cf. Franco, 2013, cf. also table 3 below).

- (i) a. mangalvaar tō pállāā  
 Tuesday from before  
 ‘before Tuesday’  
 b. do saal pállāā asī Multaan gae  
 two year before we Multaan went  
 ‘Two years ago we went to Multaan.’  
 (Punjabi, Bhatia, 1993: 206ff.)

8 In previous work on the topic of ‘temporal distance’, Vanelli (2002) argued that whereas the deictic value of the Old Florentine bi-clausal expression for ‘ago’ resulted from the compositional meaning of the single elements which formed it (in the bi-clausal construction), in Modern Italian the syntactic *transparency* is lost and the modern form has become “lexically deictic”. See also Franco (2012) for a syntactic analysis of the reconstruction [YP [XP]] > [XP] that derived the particle *fa* from the verb *fare* (to do). Notice also that *addietro* retains a temporal {DISTANCE-PAST} *deictic* meaning in contemporary Italian, sharing approximately the same distribution as particles like *fa* and *or sono* (lit. ‘now are’). See the examples in (i) below:

- (i) Ho incontrato Gianni due anni fa/or sono/addietro  
 have-1sg-prs meet-pst-ptcp Gianni two years ago  
 ‘I met him two years ago.’



- (18) (a) {DISTANCE PAST} Our son returned from the army two weeks ago.  
 (b) {DISTANCE-RETROSPECTIVE} Do you remember when your brother paid us an unexpected visit, coming all the way from Chile? Fortunately, all of us were at home. Our son had returned from the army two weeks *earlier/before* (\*ago).
- (19) (a) {DISTANCE FUTURE} Will Switzerland exist *in* fifty years' time?  
 (b) {DISTANCE PROSPECTIVE} Tito died in 1980. Ten years *later/after* (\**in* ten years) Yugoslavia began to crumble.

The crucial fact is that in (18b)-(19b) the elapsed time is not (necessarily) related to the time of speech/elocution. {DISTANCE PROSPECTIVE} and {DISTANCE-RETROSPECTIVE} values have in common with {DISTANCE FUTURE} and {DISTANCE PAST} ones the properties of being 'intransitive' and of being somewhat anchored to the 'context' of elocution (vs. 'transitive' markers of 'general' anteriority and posteriority which, as we have seen in (10) with the case of *prima*, are able to introduce arguments and may encode events detached from either the time or the context of elocution).

Given this finer-grained representation, it is easy to see that the Old Florentine item (*per*) *addietro* can express a {DISTANCE-RETROSPECTIVE} value, as clearly exemplified below in (20):

- (20) [...] fu fatto Podestà  
 was do-pst-ptcp mayor  
 Messer Federigo d'Antioccia la  
 sir F.d'A. the

seconda volta, perciò che *du' anni*  
 second time since two years  
*addietro* era stato  
 at-back be-3sg-ipv be-pst-ptcp  
 un'altra volta.  
 another time

'Sir Federigo d'Antioccia was proclaimed mayor for the second time, since he had been mayor another time two years before.'

Paolino Pieri, Cronica, 1305 c. (Fior.)

Haspelmath (1997: 98-100) has found that, about in half (n. 13) of the languages of a sample of 27, the {DISTANCE-PROSPECTIVE} morpheme was identical to the {DISTANCE FUTURE} morpheme. Hence, an overt distinction {DISTANCE FUTURE} VS. {DISTANCE-PROSPECTIVE} is found in many languages of Haspelmath's sample, but there are also a number of languages (n. 14) in which this distinction is lacking. Furthermore, Haspelmath (1997: 100) has shown that {DISTANCE-PROSPECTIVE} morphemes are also frequently identical to {POSTERIOR} morphemes. Thus, he proposed the *implicational generalization* reported in (21) (cf. also Franco, 2013):

- (21) *If in a language the posterior and the distance-future markers are identical, then the distance-prospective marker also takes the same form.*

In table 2, I report Haspelmath's data for {DISTANCE FUTURE} / {DISTANCE-PROSPECTIVE} / {POSTERIOR} morphemes.

**TABLE 2**

(adapted from Haspelmath, 1997: 99)

	FUTURE	PROSPECTIVE	POSTERIOR
<i>Albanian</i>	pas	pas	pas
<i>Ancient Greek</i>	metá	metá	metá
<i>Arabic</i>	baʕda	baʕda	baʕda
<i>Bulgarian</i>	sled	sled	sled

<i>Chechen</i>	-älča	-älča	t'äħa
<i>Chinese</i>	yǐ hòu	yǐ hòu	(guo)hòu
<i>Croatian</i>	do	poslije	poslije
<i>English</i>	in	later, after	after
<i>Estonian</i>	pärast	pärast	pärast
<i>Finnish</i>	-ssa (INESSIVE)	myöhemmin	jälkeen
<i>French</i>	dans	plus tard	après
<i>German</i>	in	später, nach	nach
<i>Haitian Creole</i>	nan	après	après
<i>Hungarian</i>	múlva	múlva	után
<i>Indonesian</i>	lagi	kumudian	sebelum
<i>Irish</i>	i gcionn	ina dhiaidh sin	roimh
<i>Japanese</i>	go ni	go ni	go ni
<i>Latin</i>	post/ABLATIVE	post	post
<i>Latvian</i>	pēc	pēc	pēc
<i>Lezgian</i>	SUPERRELATIVE	SUPERRELATIVE	güğüniz/q'uluqh
<i>Lithuanian</i>	po/praslinkus	po/už/praslinkus	praslinkus/po
<i>Maltese</i>	fi	wara	wara
<i>Modern Greek</i>	se	ísterá apó	metá
<i>Russian</i>	čerez	spustja	posle
<i>Spanish</i>	dentro de	después	después de
<i>Swedish</i>	om	senare, efter	efter
<i>Turkish</i>	sonra	sonra/geçince	sonra

Haspelmath did not provide any data for {DISTANCE PAST} / {DISTANCE-RETROSPECTIVE} / {ANTERIOR} morphemes, but Franco (2013) has collected evidence that the claim (i.e. the implicational gen-

eralization) that Haspelmath made for items of posteriority in (21) is also legit for items of anteriority, with data from a sample of 37 languages. *Anteriority* data are shown below in table 3.

**TABLE 3**

(Franco, 2013: 256)

	PAST	RETROSPECTIVE	ANTERIOR
<i>Abui</i>	afe	el	el
<i>Albanian</i>	parë	para	para
<i>Armenian</i>	araj/valuc	araj	araj

<i>Catalan</i>	fa	abans	abans
<i>Cavineña</i>	(-kware) beru	beru	beru
<i>Croatian</i>	prije	prije	prije
<i>Czech</i>	před	před	před
<i>English</i>	ago	before/earlier	before
<i>Estonian</i>	tagasi	enne	enne
<i>Finnish</i>	sitten	ennen	ennen
<i>French</i>	il y'a	avant	avant
<i>German</i>	vor	vor	vor
<i>Hungarian</i>	ezelőtt	azelőtt	előtt
<i>Italian</i>	fa/or sono/addietro	prima	prima
<i>Japanese</i>	mae ni	mae ni	mae ni
<i>Kashmiri</i>	bröḥ	bröḥ	bröḥ
<i>Kolyma Yukaghir</i>	tudā	tudā	kieje
<i>Korean</i>	cen-ey	icen-ey	icen-ey
<i>Lezgian</i>	wilik	wilik	wilik
<i>Ma'di</i>	ɛzɛ'	gbù	gbù
<i>Madurese</i>	lamba'	gella'	sabellunna
<i>Malayalam</i>	munpə	munpə	munpə
<i>Maltese</i>	ilu	qabel	qabel
<i>Modern Breton</i>	zo	a-raok	a-raok
<i>Mosetén</i>	poroma-win	poroma-jike	poroma
<i>Ndyuka</i>	pasa	fosi	fosi
<i>Persian</i>	piš	piš/qæbl æz	piš/qæbl æz
<i>Punjabi</i>	páílāā	páílāā	páílāā
<i>Spanish</i>	hace	antes	antes
<i>Turkish</i>	önce	önce	önce
<i>Udihe</i>	anana	anana	zulie-ni/-te
<i>Vaeakau-Taumako</i>	huamua	huamua	huamua
<i>Wardaman</i>	burrugawi/buljuwi	guji	guji
<i>Warrongo</i>	ganba	ganba	ganba
<i>Yurakaré</i>	shinama	shinama/ushta	shinama/ushta
<i>Zialo</i>	aysa	aysa	aysa/tùwò
<b>&gt; Old Florentine</b>	<i>addietro</i>	<i>(per/in) addietro</i>	<i>prima</i>

In table 3 we can see that matching Haspelmath's implicational generalization in (20), if in a given language the  $\{\text{ANTERIOR}\}$  and the  $\{\text{DISTANCE PAST}\}$  morphemes are lexicalized with the same item, then the  $\{\text{DISTANCE-RETROSPECTIVE}\}$  morpheme also takes the same form. This pattern, namely the representation of all the three values with the same morpheme, seems to be quite frequent (actually, the most common) in worlds' languages.

Comparing table 2 and table 3, we can also see that there are other specular patterns in the representation of *posteriority* and *anteriority* across languages (cf. Franco, 2013). The other attested patterns are indeed the following:

(a) There are languages in which  $\{\text{DISTANCE FUTURE}\} = \{\text{DISTANCE-PROSPECTIVE}\} \neq \{\text{POSTERIOR}\}$  morphemes (e.g. Hungarian, Lezgian) and, symmetrically, there are languages in which  $\{\text{DISTANCE PAST}\} = \{\text{DISTANCE-RETROSPECTIVE}\} \neq \{\text{ANTERIOR}\}$  morphemes (e.g. Kolyma Yukaghir or, precisely, *Old Florentine*).

(b) There are languages in which  $\{\text{DISTANCE FUTURE}\} \neq \{\text{DISTANCE-PROSPECTIVE}\} \neq \{\text{POSTERIOR}\}$  items (e.g. Finnish, Irish) and, symmetrically, languages in which  $\{\text{DISTANCE PAST}\} \neq \{\text{DISTANCE-RETROSPECTIVE}\} \neq \{\text{ANTERIOR}\}$  items (e.g. Madurese).

The crucial ban, either in the *future* or in the *past*, is against  $\{\text{DISTANCE FUTURE}\} = \{\text{POSTERIOR}\} \neq \{\text{DISTANCE-PROSPECTIVE}\}$  and/or  $\{\text{DISTANCE PAST}\} = \{\text{ANTERIOR}\} \neq \{\text{DISTANCE-RETROSPECTIVE}\}$ .

Given these empirical facts, we have to consider a further descriptive issue, crucial for the present discussion. In a number of languages, the spatial directional adverb 'back' is used for the  $\{\text{DISTANCE PAST}\}$  function (cf. Haspelmath, 1997: 93). Just to give an example, consider the data in (22) from Evenki.

(22) (a) Tar beje ilan-ma tyrgani-1-va  
that man three-acc day-pl-acc  
amaski suru-che-n.  
back go.away-pst-3sg  
'That man left three days ago.'

(b) Esikeken erne-re-p,  
and.now come-nfut-1pl.inc  
si-de suru-mu-d'e-nni amaski.  
you-clt go.away-vol-prs-2sg back  
'We have just come, and/but you (already) want to go back.'  
Evenki (Nedjalkov, 1997: 186)

Interestingly, also English in (23) and Modern Italian in (24) can lexicalize  $\{\text{DISTANCE PAST}\}$  in the same way as Evenki. Modern Italian can use for  $\{\text{DISTANCE PAST}\}$  purposes the same lexical item, *addietro*, which *prima facie* seems to encode the meaning *before* in Old Florentine.

(23) three years ago  $\approx$  three years back

(24) tre anni fa  $\approx$  tre anni addietro  
'three years ago.'

Actually, this *grammaticalization path*, namely the shift from [BACK] to [AGO] (cf. Heine & Kuteva, 2002: 49), can be a potential problem for Haspelmath's generalization (i.e. an item meaning *back/behind* acquires a <sup>+deictic</sup> before flavour) and Haspelmath (1997: 93) himself argued that

the most interesting point about this use of 'back' is that it contrasts strikingly with the use of 'before' or 'in front' for expressing the same semantic function. Clearly, in this case the image of the observer moving forward in stationary time is predominant.

Actually, recalling again the fact that (*per*) *addietro* is necessarily anchored to the context/discourse but not necessarily connected to the time of elocution, with the fine-grained (tripartite) interpretation of temporal expressions reported above, we can argue that when endeavoured with a BEFORE 'flavour' it is nothing else than a  $\{\text{DISTANCE-RETROSPECTIVE}\}$  marker (see table 3, cf. example (20)).

Now, if we assume that Haspelmath's generalization (cf. table 1) holds only for markers of general  $\{\text{ANTERIORITY/POSTERIORITY}\}$  (cf. again table 2

and table 3), possibly as a reflex of a universal cognitive constraint, we may therefore argue that nothing prevents a {DISTANCE-RETROSPECTIVE} morpheme from being expressed by means of a word meaning [BACK], just as happens for {DISTANCE PAST} morphemes in a number of languages (possibly due to a ‘context sensitive’ interpretation). In other words, the ban [BACK] ≈ [BEFORE] is cross-linguistically restricted to items of general anteriority only.

(*Per*) *addietro* merely represents an instance of a pattern in which the {ANTERIOR} morpheme is different from the {DISTANCE RETROSPECTIVE} morpheme, which is in turn equal to the {DISTANCE PAST} morpheme. This is an attested pattern in the temporal domain of ‘anteriority’ (as shown in table 3) and an analogous pattern is also attested in the domain of ‘posteriority’, as shown, for instance, by the cases of Hungarian and Chechen, where {POSTERIOR} is different from {DISTANCE PROSPECTIVE} which is the same as {DISTANCE FUTURE} (cf. Franco, 2013).

With such an explanation, Haspelmath’s generalization now circumscribed to the domain of general ANTERIORITY and POSTERIORITY is safe.

Crucially, in Franco’s sample, there are no items signalling [BACK], which are able to lexicalize a marker of general anteriority (i.e. an item with a transitive value).

Hence, (*per*) *addietro* is only an apparent counterexample to Haspelmath’s generalization, made more exceptional by the fact that Modern Italian takes a ‘specular’ path and expresses {DISTANCE-RETROSPECTIVE} with the item *prima*, which is the specific morpheme for *general anteriority* both in Old Florentine and in Modern Italian.

Once we accept that Haspelmath Generalization involves only markers of general anteriority/posteriority, *per addietro* is perfectly licit as a marker of {DISTANCE-RETROSPECTIVE}. Support to our claim is also given by the fact that its use was subject to a *transitivity constraint* (i.e. it could not take an *unrestricted* DP complement, contrary to markers of general anteriority, as shown above in section 3).

This functionalist explanation is possibly adequate enough to account for the Old Florentine facts, but I think that theoretical advancements on *lexicalization* allow us to provide a formal (i.e. *internalist*) characterization of the phenomena illustrated above.

Such a formal interpretation is presented in the following section.

## 5. Suppletion and locality in the temporal domain

The use of ‘more specific’ items to express {RETROSPECTIVE/PAST} (and/OR {PROSPECTIVE/FUTURE}) features in some languages may be interpreted as an instance of *suppletion* in the temporal domain. Suppletion is standardly defined as the association of a single lexical item with two (or more) phonologically unrelated forms (e.g. go vs. went), where the choice of forms is dependent on the morpho-syntactic context (Hippisley et al., 2004; Veselinova, 2006; Bobaljik, 2012; Moskal, 2013). As an instance of a *tripartite* suppletion pattern, consider the comparative / superlative morphology from Middle Persian and Italian in (25), where we have three distinct forms for three distinct functions (labelled here *default*, *comparative* and *superlative*, cf. Bobaljik, 2012).

(25) (a)	xōb	weh/wah-īy	pahl-om/pāš-om	<i>Middle Persian</i>
(b)	buono	migliore	ottimo	<i>Italian</i>
	good <sub>·default</sub>	better <sub>·comparative</sub>	best <sub>·superlative</sub>	

In order to formally explain the temporal patterns in table 2 and table 3, I will assume, following the recent literature (cf. Bobaljik, 2012; Moskal, 2013), that suppletion is governed by hierarchical structure and ‘restricted’ by locality.

Evidence that a *kinda* suppletive mecha-

(26) DISTANCE PAST	RETROSPECTIVE	ANTERIOR
ez-elótt	az-elótt	elótt
ago	before/earlier	before

In (26), *elótt* means ‘before’ (either spatially or temporally), *ez* means ‘this’, while *az* means ‘that’. *Ezelótt* can only mean ‘ago’, due to the use of the proximal demonstrative *ez*. Crucially, both retrospective and distance past have a deictic/context sensitive value overtly expressed by the (distal/proximal) demonstrative: they can be decomposed respectively into {that-before} (with the use of the distal demonstrative *az*), and into {this-before}. A similar regular pattern is at work for [ANTERIOR] values in Mosetén, an isolate language spoken in Bolivia, where the word *poroma* (‘before’) can be combined with the particle *jike*, a past-tense marker, to obtain a retrospective value or with the completive marker *win*, to obtain a distance-past ‘ago’ value (Sakel, 2004: 364; cf. table 3).

Assuming broadly Distributed Morphology (Halle & Marantz, 1993 and subsequent works) as a framework, I argue here that syntactic structure is the input to morphology, which in turn has to provide phonological material *via* Vocabulary Insertion. Then, a crucial assumption is that *Vocabu-*

*nism* may be at work in the temporal domain in a number of languages is given by those patterns in which anterior/posterior *bases* are instead ‘regularly’ suffixed/prefixed by specific, usually deictic, morphemes<sup>11</sup>. Consider, for instance, the case of Hungarian in the *past* (cf. Kenesei et al., 1998).

*lary Insertion* proceeds cyclically and locally, from the lowest element in the structure outwards (cf. Embick, 2010; Bobaljik, 2012; Moskal, 2013). We will see that such a model allows a principled explanation of the *suppletive* behaviour of the temporal items consider in this work<sup>12</sup>. In Distributed Morphology, suppletion is treated as *contextual allomorphy*, namely (bundles of) features have a context-free default exponent, but more specific contexts may trigger the insertion of a different element (Chung, 2009; Bobaljik, 2012; Moskal, 2013). In other words, Vocabulary Insertion may be underspecified, and thus may compete to realize a given node. Such competition is resolved by the Elsewhere Condition (Kiparsky, 1973), with the effect that more specific elements take precedence over more general ones. Furthermore morphological operations are constrained to act under strict conditions of locality<sup>13</sup>. An example of the rough mechanism discussed above is given in (27), for comparatives and superlatives *suppletive* items (Bobaljik, 2012).

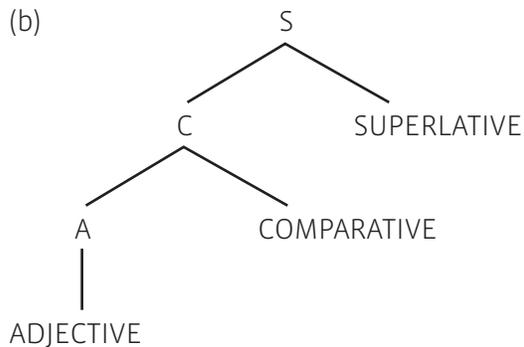
11 This fact can be interpreted as a reflex of Kiparsky (1973)’s Elsewhere Condition.

12 Franco (2013) proposes a different explanation to the temporal facts illustrated in this paper, couched in the framework of Nanosyntax, a different branch of the broad enterprise of *Realization Theory* (Koenig, 1999; Haugen & Siddiqi, 2013), namely the *nebula* of those frameworks that assume a (late) insertion of phonology into the syntactic derivation (Anderson, 1992; Halle & Marantz, 1993; Starke, 2009, cf. also Manzini & Savoia, 2007 for an alternative lexicalist perspective). Distributed Morphology assumes that the insertion of phonological material happens at terminal nodes. On the contrary, Nanosyntax (Starke, 2009; Caha, 2009) assumes that insertion can happen at non-terminal (i.e. phrasal) nodes. Actually, this is the crucial difference between Distributed Morphology and Nanosyntax.

13 The idea is precisely that a morpheme *y* may condition allomorphy/suppletion for the morpheme *x* only if *x* and *y* are sufficiently local. Formally, we may define locality, following Bobaljik (2012), in these terms: *y* may condition allomorphy for *x* in the environment in (ia) but not that in (ib), where a maximal projection intervenes.

(i) (a)  $x \dots [F \dots y$   
 (b)  $*x \dots [_{FP} \dots y$

(27) (a) [ [ [ ADJECTIVE ] COMPARATIVE ] SUPERLATIVE ]



Bobaljik (2012) has shown that such representation (in which comparative and superlative morphologies hierarchically ‘contains’ the adjectival root) correctly predicts that a pattern in which only the comparative (e.g. \**good* – *better* – *goodest*) is suppletive is virtually unattested in his sample of ca. 300 languages. Bobaljik labelled this impossible pattern of lexicalization an \*ABA pattern.

Indeed, the combination of a nested structure, locality and the elsewhere logic to root allomorph selection easily explains the non-existence of \*ABA lexicalizations: given that the comparative is ‘contained’ in the superlative, the comparative suppletive allomorph of an adjectival root will necessarily block the default allomorph of that root in a higher node, due to locality constraints (cf. Moskal, 2013 for similar assumptions for suppletive nouns and pronouns, and Caha, 2009 for an analogous interpretation of (im)possible case patterns). Hence, the \*ABA pattern, namely the *recycle* of default root in the superlative is ruled out.

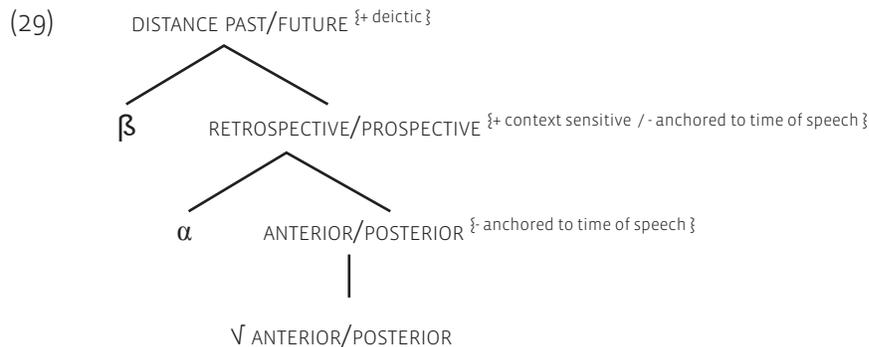
The crucial fact here is that the \*ABA pattern described by Bobaljik can be easily translated

in the domain of temporal expressions. Indeed, Haspelmath’s implicational generalization and the facts reported in table 2 and table 3 can be interpreted in the terms of an \*ABA constraint. A possible representation is given below<sup>14</sup>.

(28) (a) [ [ [ ANTERIOR ] RETROSPECTIVE ] DISTANCE PAST ]  
 (b) [ [ [ POSTERIOR ] PROSPECTIVE ] DISTANCE FUTURE ]

With the representation in (28) we assume a configuration in which {RETROSPECTIVE / PROSPECTIVE} values are sandwiched between {DISTANCE PAST / DISTANCE FUTURE} and {ANTERIOR/POSTERIOR} slots. This interpretation is justified by the fact that {RETROSPECTIVE/PROSPECTIVE} elements have in common some features with both *deictic* and general *posterior/ anterior* ones, as shown by the possible nested structure represented in (29). In particular {RETROSPECTIVE/PROSPECTIVE} items share with *bare/default* {ANTERIOR/POSTERIOR} values the property of being not anchored to the time of elocution and share with {DISTANCE PAST/FUTURE} values the property of being context sensitive, namely, in a very broad sense, they are not detached to the temporal context of the discourse, e.g. retrospective items can lexicalize a meaning roughly corresponding to [THEN].

14 Notice that Bobaljik (2012) found that not only \*ABA patterns, but also \*AAB patterns (of the type *good* – *gooder* – *best*) are unattested in the domain of comparative morphology. Nevertheless, AAB patterns, which are quite common for temporal expressions (e.g. Catalan *abans* – *abans* – *fa* in the past; Croatian *poslije* – *poslije* – *do* in the future), are found elsewhere. For instance Bobaljik himself shows that *German ablaut patterns* {present – participle – preterite} allow the AAB pattern (see also Caha, 2009 for many instances of AAB patterns within the domain of *case syncretism*). Without entering into technical details, Bobaljik’s explanation is that an element in the hierarchy actually can represent a *bundle of features*, occupying a single morphosyntactic node (and not two distinct slots). More broadly, however, Bobaljik recognizes the (partial) independence of \*ABA (consistently unattested) and AAB (attested in some domains) patterns.



Without entering into technical details not strictly relevant for the present discussion at every (terminal) node dominating the root ( $\alpha$ ,  $\beta$ ) a more specific (*features' coopted*) item can be inserted.

Locality prevents the use of the same item for  $\{\text{ANTERIORITY/POSTERIORITY}\}$  and  $\{\text{DISTANCE PAST/DISTANCE FUTURE}\}$  ones, once that a 'suppletive' form has been employed for  $\{\text{RETROSPECTIVE/PROSPECTIVE}\}$  items, while nothing present double suppletive patterns (see e.g. Modern Greek in table 2) with three distinct items employed in three distinct environments (just as it happens with comparative/superlative suppletion, as shown in (25)). Hence, the sensitivity to deictic features (and to the moment/context of speech) seems to be crucial to trigger suppletive patterns in the domain of temporal (distance) expressions.

For what concerns specifically Old Florentine, *addietro* would be inserted in the node  $\alpha$  (instead of the default anteriority root *prima*) due to the pressure of a  $^{+deictic}$  environment. The same  $^{+deictic}$  (or, more precisely, context sensitive) environment is responsible in a number of language for the insertion in retrospective and/or distant past nodes of items originally conceived with the meaning [BACK] in the spatial domain. On the contrary, *bare* anteriority cannot be subject to such a lexicalization pattern.

## 6. Conclusion

Given the data reviewed in section 2 and the theoretical discussion provided in section 4, we have shown that (*per*) *addietro* in Old Flo-

rentine is only an apparent counterexample to Haspelmath's generalization illustrated in section 3 (once we accept that it involves only markers of general anteriority/posteriority), because its use is subject to a *deictic constraint* (i.e. it cannot take an *unrestricted* DP complement, contrary to markers of general anteriority). Then, the 'locality condition' on Vocabulary Insertion introduced in section 5 is the *innermost* reason of Haspelmath's *implicational generalization* in (21).

We have provided a simple morphosyntactic explanation of the seemingly 'exceptionality' of (*per*) *addietro* based on a finer-grained representation of temporal expressions and a *locality* constraint on hierarchical structure triggering *kinda*-suppletive patterns along the lines of Bobaljik (2012) and Moskal (2013).

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