

THE PREPOSITION'S PREPOSITION IN ITALIAN

EVIDENCE FOR BOUNDEDNESS OF SPACE*

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1. Introduction

As observed by Rizzi (1988), there are certain “adverbial” prepositions in Italian (e.g., *dietro* ‘behind’ or *dentro* ‘inside’) that may occur with or without the grammatical preposition *a*. This can be seen in (1a) vs. (1b), respectively (examples from Rizzi 1988:522):¹

- (1) a. *Gianni era nascosto dietro all' albero.*
G. was hidden behind at the tree
- b. *Gianni era nascosto dietro l'albero.*
G. was hidden behind the tree

I have not provided translations for this set of examples, because their (previously unexplored) subtle difference in meaning requires some discussion. P. Benincà notes (p.c.) that (1a) can refer to an event that takes place in a

* I would like to thank Paola Benincà, Marcel den Dikken, Richard Kayne, Alan Munn, Ed Rinkiewicz, Yves Roberge, Cristina Schmitt, and Raffaella Zanuttini for various kinds of assistance (including provision of judgements, in the case of Benincà and Zanuttini), helpful comments, and stimulating discussion. I am also appreciative of the two very thoughtful anonymous reviews; given the limited scope of this paper, however, unfortunately I was unable to incorporate all of these reviewers' observations. They will, however, serve to improve further developments of this project.

¹ For convenience, I gloss the Italian preposition *a* as ‘at’ (in spite of the fact that, depending on its use, it can be translated into English either as ‘at’ (*essere a scuola* ‘be at school’), as ‘to’ (*andare a scuola* ‘go to school’), or as ‘in’ (*abitare a Londra* ‘live in London’). As we will see in section 4.1.1, it also gets used as a prepositional complementizer). Thus, the translation ‘at’ is by no means intended to suggest that in the particular constructions under investigation in the text, *a* actually means what *at* means in English.

“wider” space, while (1b) can only refer to an event taking place in a “punctual” space.

The ultimate purpose of this paper is to lay the groundwork for a formal analysis of these two types of structure, and to investigate its consequences for an analysis of preposition constructions in other Romance languages. As a corollary, however, this paper provides a fundamental contribution which does not depend on a particular formal analysis. In particular, it pursues the proposal that *space* is linguistically conceptualized as either bounded or unbounded, much in the way *entities* (count vs. mass) and *events* (delimited vs. undelimited) are.

The paper is organized as follows: in section 2 I explain exactly which types of adverbial preposition I am concerned with here. In section 3, I present and discuss various sets of examples with these adverbial prepositions, with an eye towards gaining an understanding of their semantics with and without *a*. In section 4 I discuss in detail the idea of boundedness of space, and provide a formal analysis of the structures discussed in section 3, which finds support from the behavior of preposition-taking verbs in Italian. I also show that the proposal provides a promising vehicle for an analysis of other types of adverbial PP constructions in Romance (in particular, Portuguese/Spanish). In section 5 I conclude.

2. *Adverbial and Grammatical Prepositions*

The purpose of this section is to clarify exactly which elements and which constructions the remaining sections of this paper are concerned with.

It is well known that language exhibits two kinds of preposition: one which I will refer to as *grammatical* (also called *colorless* by Zribi-Hertz 1984 and *light* by Terzi 2002), and the other which I will refer to as *adverbial* (also called *substantive* by Campos 1991 and *secondary* by Rizzi 1988). These are exemplified for Italian in (2) and (3):

(2) **grammatical:** *a, con, da, di, in, per*

(3) **adverbial:** *accanto, davanti, dietro, fuori, verso...*
 “next to, in front of, behind, outside, towards...”

Roughly distinguishing between the two types, we can say that grammatical prepositions are “smaller” and tend to be semantically vague (consider, e.g., footnote 2 above, and Zribi-Hertz’s 1984 use of the term “colorless”), while adverbial prepositions tend to be polysyllabic (and/or polymorphemic, at least in terms of their etymology, if not in terms of their

synchronic analysis), and have specific and rich semantic content. Many of the latter can be used intransitively, while the former always occur with an apparent NP complement. In the following subsection, I discuss their ability to occur with adverbial prepositions as well.

2.1 *Grammatical P with Adverbial P*

As noted by Rizzi (1988), adverbial prepositions in Italian occur in various combinations with or without different types of grammatical prepositions. In this section I briefly summarize the possibilities, again with an eye towards pin-pointing the exact possibility this paper focusses on.

Some adverbial prepositions obligatorily appear without a grammatical preposition (except when they appear with pronouns; see (13) below). These can be seen in (4):

- (4) *verso, dopo, circa, entro, senza*
 “toward, after, around, within, without”

Given that this paper is concerned with adverbial prepositions that occur with a grammatical preposition, I put aside the type found in (4) (except, however, for the discussion revolving around (13) in section 3.1 below). I will also be ignoring the type of adverbial preposition that obligatorily occurs with the grammatical preposition *di*, seen in (5):

- (5) *invece, prima, fuori*
 “instead, before, outside”

Rather, I will be focussing on the type of adverbial preposition which occurs with *a*. Of this category, there are two types. The type that obligatorily appears with *a* (as in (6)) will not be of immediate interest to us (although see footnote 10 below):

- (6) *accanto, adosso, davanti, incontro, insieme, intorno, vicino*
 “next to, on, in front of, towards, together, around, near”

Instead, I focus on the adverbial prepositions that optionally appear with *a*, seen in (7):

- (7) *contro, dentro, dietro, lungo, oltre, rasente, sopra, sotto*
 “against, inside, behind, along, beyond, close, above, below”

As discussed in the introduction, while the adverbial prepositions in (7) can occur with or without *a* (see (1a) and (1b)), the *a*-less examples are not semantically equivalent to the examples that contain *a*. In the following section, I provide a detailed discussion of this difference.

3. *Presence vs. absence of a*

Regarding the type of adverbial preposition found in (7), Rizzi (1988:522) notes that in some cases there is a semantic variation which depends on the presence or absence of the grammatical preposition; he gives a few sets of examples, one of which is that seen in (1), repeated here as (8):

- (8) a. *Gianni era nascosto dietro all' albero.*
 G. was hidden behind at.the tree
 b. *Gianni era nascosto dietro l' albero.*
 G. was hidden behind the tree

While he reports that there is a difference between (8a) and (8b) (indicating with a '?' for (8a) that (8b) is preferred), he does not state what that difference is. As noted in the introduction, however, P. Benincà reports (p.c.) that (8a) (with *a*) can refer to an event that takes place in a "wider" space, while (8b) (without *a*) can only refer to an event taking place in a "punctual" space² (it is important to note that (8a) can also refer to an event taking place in a "punctual" space; the difference is that the *a*-less PP allows only the "punctual" interpretation). In what follows, I present and discuss various pairs of examples with different adverbial prepositions which allow us to isolate this semantic difference more precisely.³

3.1 *The adverbial preposition dietro*

The examples in (9) isolate the semantic difference between (8a) and (8b) more precisely:

² I thank an anonymous reviewer for noting that G. Cinque (in his *tesi di laurea*, 1971) discusses the distinction between wide and punctual space as exhibited by the Italian morphemes *qua* 'here' and *là* 'there' versus *qui* and *lì* (also meaning 'here' and 'there'). In particular, the latter (*qui* and *lì*) refer to a specific point in space, while the former (*qua* and *là*) refer to a space that is wide. These facts are also discussed in detail in Vanelli (1995).

³ Provision of the non-Rizzi examples and interpretations of all of the examples in this section are due to P. Benincà, whom I thank.

- (9) a. *Vai a giocare/correre dietro a quell'albero.*
 go.2SG at play/run **behind at** that tree
 "Go play/run behind that tree."
 b. **Vai a giocare/correre dietro quell'albero.*
 go.2SG at play/run **behind** that tree

The ungrammaticality of (9b) can be readily understood in light of the semantic difference noted for (8a) and (8b). That is, predicates such as 'play' and 'run' denote activities that require a wide, open-ended, unbounded space, which is something that the structure in (9a), with the grammatical preposition *a*, denotes. The *a*-less prepositional phrase in (9b), on the other hand, denotes a bounded (or punctual) space, and as such is incompatible with such predicates. Of course, the predicate in (8) ('be hidden') denotes a state that is compatible either with a wide or a punctual space, which is why both prepositional phrases (with and without *a*) are possible.⁴

Understanding the semantic difference between the two possibilities allows us to grasp another set of examples provided by Rizzi (1988:522) (the interpretation of which he does not discuss):

- (10) a. *Vai dietro al postino, che è appena passato.*
 go.2SG **behind at** the postman, that is just passed
 "Go after the postman, he just passed by."
 b. **Vai dietro il postino, che è appena passato.*
 go.2SG **behind** the postman, that is just passed
 "Go after the postman, he just passed by."

As can be seen by the translation, the salient interpretation of (10a) is that the hearer should pursue the postman; this is highlighted by the phrase 'he just passed by' (which explicitly suggests that the postman is moving along). It is precisely the presence of *a*, which denotes an unbounded space (i.e., a space that is allowed to flexibly expand and change shape, size, or dimension), that suggests the postman's onward movement. The example in (10b), on the other hand, cannot be interpreted as 'follow the postman'; that is, the absence of *a* forces an interpretation in which the space behind the postman is bounded (and

⁴ It is important to note that the structure with *a* in (9a) does not have any directional meaning; the event is interpreted only as an activity that takes place in a particular location. Thus, the "running" activity is interpreted as "running around," and not as "running toward" (i.e., there is no interpretation of the location as a goal).

hence not allowed to expand or change shape or size). This is why adjunction of the phrase ‘he just passed by’ is nonsensical, yielding ungrammaticality.

In this regard, it is worth considering the grammaticality of the *a*-less PP in (10b) without adjunction of the phrase ‘he just passed by’:

- (11) *Vai* *dietro* *il postino.*
 go.2SG behind the postman
 “Go behind the postman.”

The sentence in (11) is interpretable (and grammatical) in, say, a picture-taking event, where the hearer is being asked to place himself directly behind the postman in the photo line-up. Again, here we see that the *a*-less PP is compatible with an event (or state) that takes place in a bounded (circumscribed) space.

The above discussion should allow us to grasp the difference in interpretation between the examples in (12a) and (12b) as well, also provided by Rizzi (1988:522):

- (12) a. *Vai* *dietro* *a* *quella macchina.*
 go.2SG behind at that car
 “Get behind that car.” (can mean “Follow that car.”)
 b. *Vai* *dietro* *quella macchina.*
 go.2SG behind that car
 “Get behind that car.”

According to Rizzi, the sentence in (12a) favors an interpretation in which the car is moving (hence the translation ‘Follow that car’), while that in (12b) favors an interpretation in which the car is stopped. Under the terms being discussed here, this makes sense: if the ‘behind-space’ associated with the complement is interpreted as punctual with the *a*-less PP (12b), then such an event does not lend itself to an interpretation in which the car is moving (which would involve an ever-widening and changing of the space behind the car). The PP with *a*, however, does allow for an interpretation of the behind-space as flexible, or expandable and contractible (unbounded), which is why the event can be interpreted as a ‘following’ event.

Here I discuss one final fact regarding the adverbial preposition *dietro* which confirms that it is specifically the presence of the grammatical preposition *a* which yields the interpretation of the space in question as unbounded. In order to do this, however, I have to very briefly deviate from the main point in order to establish an independent fact.

As discussed by both Giorgi (1990) and Rizzi (1988), adverbial prepositions that otherwise appear obligatorily without a grammatical preposition (i.e., those in (4)) must insert the grammatical preposition *di* when its complement is a pronoun. This can be seen, for example, with *verso* 'toward' (13b), which ordinarily appears without a grammatical preposition (13a):

- (13) a. *Andava* *verso* *Gianni*. Rizzi (1988)
 went.3SG toward Gianni
 “She went towards Gianni.”
- b. *Andava* *verso* *di* *lui*.
 went.3SG toward of him
 “She went towards him.”

Of course, for the adverbial prepositions that obligatorily appear with the grammatical preposition *di* or *a* (see (5) and (6)), there is no such “*di*-insertion” with pronominal complements, since a grammatical preposition is already present (regardless of the nature of the complement).

Now, if we consider the adverbial prepositions that take *a* optionally (i.e., those under investigation in this paper), we find that a subset of these require *a* in the presence of a pronominal complement (in spite of the fact that under non-pronominal circumstances, *a* is optional). However, a different subset (those in (14)) continue their behavior of *a*-optionality when their complement is a pronoun:

- (14) *contro*, *dentro*, *dietro*, *sopra*, *sotto*
 “against, inside, behind, above, below”

If *a* is present with any of the prepositions in (14), then the requirement that the pronominal complement appear with a grammatical preposition is satisfied. If, however, *a* is absent with any of these, then of course *di* must be inserted. In other words, the adverbial prepositions in (14) are compatible with either *a* or *di* when the complement is a pronoun; this is exemplified in (15):

- (15) a. Corri **dietro** **a** lui.
 run.2SG behind **at** him
 “Run after him.” (cf. (10a) and (12a))
- b. Corri **dietro** **di** lui.
 run.2SG behind **of** him
 “Run behind him.” (single file, directly behind him; cf. (11), (12b))

As has already been revealed by the translations provided for (15a) and (15b), there is a difference in meaning which depends on the choice of grammatical preposition. When *di* is present, then the running event can only be interpreted as taking place directly behind the referent of the pronoun, in a single-file manner. In the terms being presented here, the ‘behind-space’ of the referent of the pronoun is interpreted as punctual or bounded (as is the case with (11) and (12b)). When *a* is used, on the other hand, we get the same interpretation we get for (10a) and (12a). That is, the ‘behind-space’ is interpreted as unbounded in (15a), therefore promoting the ‘run after’ sense.

The case in (15) thus confirms that it is the presence of *a* (and not the presence of any-old grammatical preposition) that allows the unbounded interpretation. It is worth stressing here (see footnote 4) that the presence of *a* does not promote a directional reading (with the location interpreted as some kind of goal). I raise this because there may be some danger in the reader being led to this conclusion, given (i) that the grammatical preposition *a* in Italian does get used for location-goals in other constructions (see footnote 1), and (ii) that the examples in (15a), (12a), and (10a) all involve the idea of movement after something (in apparent contrast with (12b) and (11)). In this regard I remind the reader that the presence of *a* in (8a) and (9a) does not involve any directional sense, and furthermore, the ‘single-file’ movement reading of (15b) suggests that a movement reading is actually also possible for the *a*-less (12b) and (11) (as long as there is a ‘single-file’ sense). In other words, the referent of the preposition’s object in (15a), (12a) and (10a) is not a goal (nor is it in any of the other cases, including those involving *dentro* ‘inside’, to be discussed immediately below).

3.2 *The adverbial preposition dentro*

The semantic difference between (16a) and (16b) is subtle but discernable:

- (16) a. Vai **dentro** **alla** stanza.
 go.2SG **inside** **at**.the room
 “Go inside the room.”
- b. Vai **dentro** la stanza.
 go.2SG **inside** the room
 “Go inside the room.”

The use of *a* with *dentro* ‘inside’ is preferred if one wishes to refer to the entire internal space of the container (considering all points of the contained space); thus, (16b) is preferred in describing an event in which there is a simple

passage from the outside to the inside of the room, without any reference to the internal space of the room.

It is difficult to find tests that allow us to distinguish between the unbounded and bounded interpretations.⁵ For the present purposes, then, I simply provide three more examples involving *dentro* that highlight which kind of circumstance calls for the presence of *a*, and which kind of circumstance calls for its absence:

- (17) a. *Mettilo dentro la scatola.*
 put.2SG.it **inside** the box
 "Put it inside the box."
- b. *Guarda bene dentro alla scatola.*
 look.2SG well **inside** **at**.the box
 "Take a good look inside the box." ("...maybe you'll find it in there.")
- (17) c. **Dentro** **alla** mia stanza ci sono delle piante.
inside **at**.the my room there are of.the plants
 "Inside my room there are plants around."

Consider (17b) and its translation. Here we have a situation in which the hearer is being asked to consider the box's entire inner area (which may be obstructed by other objects in it), as the object being looked for could be in any part of that space. In this case, the adverbial preposition requires presence of *a* (which allows us to flexibly consider all the space inside the box). This is similar to the case in (17c), where the room is being described as having plants all around in it; thus, the entire inner area of the room is being considered (hence the use of *a*). This contrasts with the example in (17a), which does not contain *a*; here instead we have a situation in which the hearer, being asked to place an object inside a box, will naturally have to choose a specific, circumscribed spot in the box's inner area.

In the following section, I discuss the notion of boundedness of space (which I believe offers a unified account of all of the examples discussed thus far), and provide a formal analysis of the cases under discussion which appeals to this notion. Before I proceed, however, I would like to note here that this section's discussion obviously raises a number of questions that must remain a matter for future research. One question in particular that remains is what the facts are concerning the adverbial prepositions in (7) that I have not discussed

⁵ This is in contrast with (un)bounded events and entities, which are distinguished via various tests (e.g., the "in an hour/ for an hour" test for events and the "countability" test for count/mass nouns; see section 4 and footnote 7 for further discussion).

(*contro, lungo, oltre, rasente, sopra, sotto*). If the idea being pursued here is on the right track, then it is predicted that the presence of *a* will affect the interpretation of the location (something that has yet to be verified). Another question which remains is what the facts are concerning the adverbial prepositions in (6) (which take *a* obligatorily). Does the obligatoriness of this *a* mean that these adverbial pre-positions can never refer to spaces that are strictly bounded (see footnote 9 below)? Again, answers to these questions remain a matter for further research.

4. *Spatial (un)boundedness*

In the preceding section, I discussed various pairs of examples with the adverbial prepositions *dietro* ‘behind’ and *dentro* ‘inside’. For each pair of examples, I showed that the location of each event (or state) was conceptualized differently, depending whether or not the grammatical preposition *a* was present. I have used terms like “punctuality” and “width” of space, and have appealed to the idea of a space’s flexibility/extension or to its specificity/circumscription, in order to characterize the different interpretations that obtain in all these examples. As already stated, however, I would like specifically to appeal to the notion of *boundedness* in order to account for the various interpretations discussed above. In particular, I would like to suggest that *space* is conceptualized in the same way that *entities* and *events* are.

Consider the fact that entities are grammaticalized as either bounded or unbounded (i.e., the *count/mass* distinction; e.g., *book* vs. *gravel*). Similarly, events, which are distributed over a time interval, are also linguistically conceptualized as either bounded or unbounded (and in fact, since Bach 1986, there has been a move to unify entities and events in this way). It would seem, then, that it is at the very least logically possible that grammar treats *space* in the same way.

Before I discuss the concept of boundedness of space, however, it is necessary to say two words about *space* itself. I would like to pursue the idea, put forth by Jackendoff (1983, chapter 9), that grammar encodes two kinds of space: PATH and PLACE. Of course, conceptually these two kinds of space differ in that the former is linear, while the latter is two- or three-dimensional.⁶

⁶ This difference translates into a linguistic difference between the two. That is, because an event’s time interval is linear, it maps onto a *path* (which is also linear), if there is one present in the structure. Thus, if an endpoint is specified in the path, then necessarily the time interval of the event has an endpoint, and hence the event is bounded (such that the end of the time interval corresponds to the endpoint of the path). So for example, in (18a), the end of the time

However, there is no reason to rule out the possibility that in other (grammatical) respects, they are similar. In fact, Jackendoff makes a lot of headway in understanding the semantics of PPs by treating these two categories as similar types of object; in particular, he proposes that they both head their own phrases. This is exemplified in (18), where (18a) contains the PATH category, and both (18a) and (18b) contain the PLACE category (examples from Jackendoff):

- (18) a. The mouse ran into the room.
 [_{Path} TO ([_{Place} IN ([_{Thing} ROOM]))]]
 b. The mouse is under the table.
 [_{Place} UNDER ([_{Thing} TABLE])]

The idea that PATH and PLACE are two different ontological categories has most recently been pursued (and executed in elaborate syntactic structures) by Koopman (1997) and den Dikken (2003), who argue that the syntax of locative PPs in Dutch can only be understood if such PPs involve PATH and/or PLACE as projecting syntactic categories (see section 4.1).

Now, for the present purposes, we must consider Jackendoff's (1983) observation that the representation of PATH does not necessarily involve motion, or "traversal" of the path. Contrast, for example, (19a) with (19b) (from Jackendoff 1983:168).

- (19) a. John ran into the house.
 b. The highway extends from Denver to Indianapolis.

While both (19a) and (19b) involve a path, only the former denotes an eventuality that involves any temporal succession (i.e., (19b) is a state, and not an event, in Bach's 1986 terms). Crucially, however, it is important to note that paths which participate in states (i.e., non-motion eventualities) are still conceptualized as either bounded or unbounded. Compare the stative sentence in (19b), which contains a bounded path, with the stative example in (20b), which involves an unbounded path (much like the event example in (20a); examples from Jackendoff):

- (20) a. The train rambled along the river (for an hour).
 b. The sidewalk goes around the tree.

interval which corresponds to the activity of running coincides with the end of the path. This mapping of the time interval cannot obtain with a *place*, because a *place* is not linear.

Sentences such as those in (19b) and (20b) thus illustrate that the linguistic concept of *path*, which is a kind of space, does not have to be associated with any temporal succession. These examples further illustrate, though, that even such non-temporally organized paths are treated as either bounded or unbounded (regardless of the fact that they denote states).

Thus, we have evidence that PATH, a kind of space, is conceptualized as bounded or unbounded (independent of whether the eventuality that it is a part of is stative or not). What I would like to suggest here, then, is that the category PLACE (which is the other type of linguistic space) is likewise conceptualized as bounded or unbounded. What this means is that any PLACE specified in a stative eventuality (such as *Gianni was hidden behind the tree*, or (18b) for that matter) is either bounded or unbounded, much like PATH (which is bounded in (19b) and unbounded in (20b)).

As stated right before footnote 5, it is difficult to come up with tests that determine whether a particular *place* in a stative eventuality is bounded or unbounded; this is a bit disconcerting, since we can easily find such tests for boundedness in the domain of entities (e.g., countability) and events (e.g., durative/delimiting phrases), as in (21) and (22), respectively:

- (21) a. There are two books on the table. (countability: COUNT noun)
 b. *There are two gravels on the table.(non-countability: MASS noun)
 (cf. There is gravel on the table; *There is book on the table).
- (22) a. Mary ran to the station *for an hour / in an hour. (bounded)
 b. Mary ran along the tracks for an hour / *in an hour. (unbounded)

However, I believe it is important to note that this difficulty in finding such a test for the boundedness of *place* in a stative eventuality also holds for the boundedness of *path* in a stative eventuality. That is, although boundedness of *path* can be tested for in an *event* using durative/delimiting phrases, as in (22), such a means is not available to us when the *path* participates in a state; thus, the test cannot be used for (19b) and (20b):

- (23) a. The highway extends from Denver to Indianapolis (*in 3 days).
 b. The sidewalk goes around the tree (*for 20 seconds).⁷

⁷ It seems that these durative/delimiting phrases are not compatible with these examples because they pick out times, while statives are in a sense atemporal (i.e., they do not unfold over time, as they refer to eventualities that are non-dynamic). However, use of spatial (rather than temporal) durative/delimiting phrases seems to give mixed results:

- (i) *The highway extends from Denver to Indianapolis in 1,500 miles.

For now, then, I will simply accept the fact that finding an appropriate test for the boundedness of SPACE (be it PLACE or PATH) in a stative eventuality must be a matter for future research.

One last comment is in order before I proceed with a development of a formal analysis of the data discussed in section 3. In this paper, I pursue the idea that we conceptualize two- and three-dimensional space as either bounded or unbounded, similar to the way we conceptualize paths.⁸ In terms of a visual representation of the latter, it is simple enough to draw a horizontal line (=the path) and include (or leave out) a boundary (in the form of a vertical line) at its right end. However, how do we provide a visual representation of the former? How do we include (or leave out) the boundaries of a two- or three-dimensional space? While I am not inclined to draw a visual representation, it is not unreasonable to suggest that we conceptualize space in one of these two ways. Either we take it to be a flexible, amorphous, vague area with no salient, observable, or conceptualized edges (unbounded space), or we take it to be a circumscribed region, conceptualized as having edges and/or borders (bounded space). This is not unlike the fact that we can conceptualize events as either

- (ii) ?The sidewalk goes around the tree for 7 feet.

The sentence in (ii) gets better with the addition of *...and then continues in a straight line* (and is bad with *in 7 feet*). However, given the ungrammaticality of (i), it does not seem that these spatial *in-* and *for-*phrases pick out bounded and unbounded paths (otherwise (i) would be grammatical); consider in this regard (iii) compared to (i):

- (iii) ?The highway extends from Denver to Indianapolis for 1,500 miles.

Here we see compatibility of a bounded path with a spatial *for-*phrase, something that should be unexpected if it were the case that spatial *for-* and *in-*phrases picked out unbounded and bounded paths, the way temporal *for-* and *in-*phrases pick out unbounded and bounded events (thanks to P. Benincà for helpful discussion here, and for reporting that (iii) is only felicitous in Italian if the highway goes in the direction of Indianapolis (but does not arrive there)). Ultimately, though, compatibility of a bounded path with a spatial *for-*phrase is unsurprising, given the fact that, although we are dealing with bounded space, we are also dealing with a *state*, which is temporally durative (cf. *We sat on the porch for hours*). Furthermore, the state in question is individual-level (the extent of the highway is a property of the highway), and so has duration.

⁸ Aside from grammatical evidence such as that discussed in this paper, it would be nice to find perceptual evidence that this conceptual distinction between bounded and unbounded space exists.

having finality or as being ongoing, and that whatever way we subjectively choose to conceive of events, and whatever aspects of the event we choose to highlight, we have a linguistic means to express these choices (by using, say, perfective vs. imperfective aspect).⁹

4.1 *A Syntactic Analysis*

In the previous section I suggested that the temporal aspectual concept of *boundedness* be extended to the spatial domain. In this section, I would like to develop an analysis which instantiates this idea syntactically, and which allows us to account for the data in section 3.

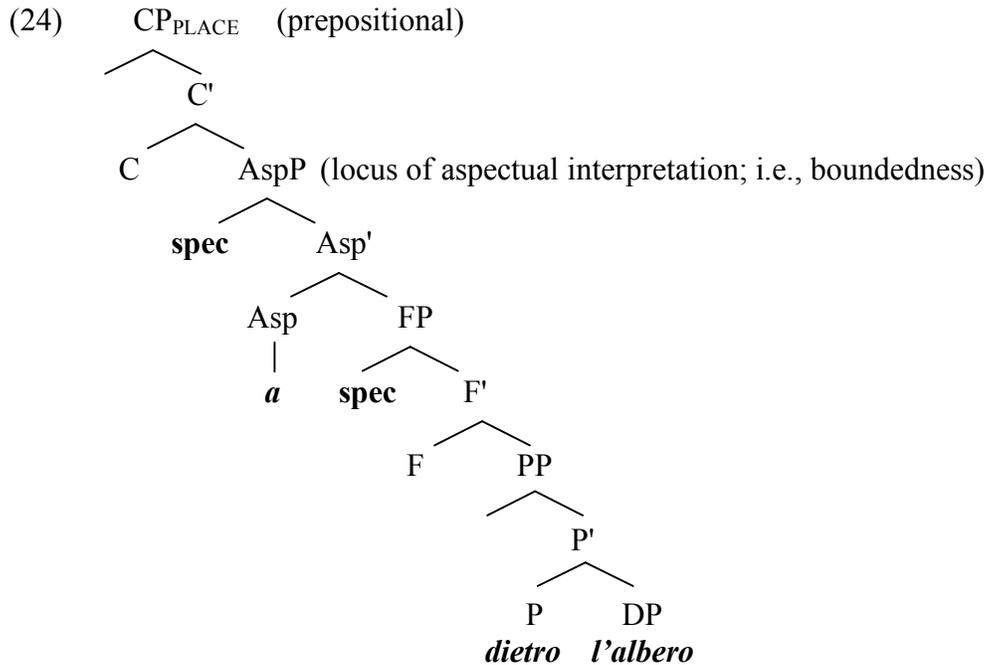
In particular, I adopt the idea, developed by Koopman (1997) and den Dikken (2003) (following work by van Riemsdijk 1990) that locative prepositions, like verbs, nouns, and adjectives, are dominated by a series of functional projections. As argued by these authors, whose goal is to explain the complex semantic and syntactic behaviors of prepositions, postpositions, and circumpositions in Dutch, these extended projections of the preposition parallel (at least loosely) the functional structure of DP and CP.¹⁰

I propose for Italian that it is the adverbial preposition that projects the PP, while the grammatical preposition, when present, heads an AspP which is among the extended projections of the PP. This is sketched in (24), which is the underlying structure for the PP *dietro all'albero* in (1a/8a). I would like to suggest that the Aspectual Phrase is the locus of the aspectual feature [bounded]. To account for the data discussed in section 3, I propose that the presence of *a* reflects the presence of the underspecified feature [bounded], which, when applied to an adverbial preposition that denotes *place* (such as

⁹ Sometimes lexical semantics (i.e., achievement vs. accomplishment vs. activity vs. state) may restrict the ways in which we can conceptualize events (and hence restrict use of perfective or imperfective). This may turn out to be the case for the adverbial prepositions in question, with respect to boundedness. That is, the semantics of each preposition may impose restrictions on its use, such that in Italian, for example, some of the prepositions in (7) may not appear with or without *a* as readily as others. This issue may also bear on the fact that the adverbial prepositions in (6) obligatorily appear with *a*, and on the fact that those in (4) and (5) never appear with *a*. I leave this question of the lexical semantics of adverbial prepositions as a matter for future research.

¹⁰ In what follows, I simplify their proposals a great deal for the sake of argument. The structures den Dikken (2003) proposes for directional PPs, for example, are highly articulated and involve two types of preposition, P_{loc} and P_{dir} , each projecting its own functional architecture (ending in CP_{place} and CP_{path} , respectively; in this regard, his proposal is an extension of Jackendoff's 1983 idea that PATH embeds PLACE in directional PPs).

dietro 'behind'), yields the interpretation of the location in (1a/8a), (9a), (10a), (12a), (15a), (16a), (17b), and (17c) either as spatially unbounded or bounded. The absence of *a*, however, reflects the presence of the (positively valued) [+bounded] feature; this, in turn, accounts for the interpretation of the location in (1b/8b), (11), (12b), (13b), (15b), (16b), and (17a) as necessarily spatially bounded.¹¹



It is worth noting that this previously unexplored semantic difference between pairs like (8a) and (8b) reveals that the grammatical preposition *a* is arguably merged to the left of the adverbial preposition, despite surface indications to the contrary. A question which arises of course is how the surface order exhibited in (8a) is derived; this will be discussed in section 4.1.2. As a preview, though, I mention here that this proposal is reminiscent of

¹¹ An anonymous reviewer rightly raises the question of why the unmarked case ([bounded]) would be marked with a morpheme, while the marked case ([+bounded]) would lack the morpheme (something unexpected, given that generally an overt element expresses the marked value of a functional projection). I have nothing to offer here, except to note that this problem has also been traditionally noted regarding the presence of *-s* in the English third person singular present (a person/number/tense which generally lacks a morpheme in other languages).

Kayne's (1999) recent interpretation of *a* (and *di*) as infinitival complementizers. In what immediately follows, then, I say a few words in support of the idea that grammatical prepositions do not project their own PPs, but rather reside as heads of functional projections.

4.1.1 The complementizers *a* and *di*. It is well known that in Italian (as well as other Romance languages), grammatical prepositions appear in places other than prepositional phrases. In particular, depending on the matrix verb, they may or may not introduce embedded infinitivals. Some infinitival-embedding verbs, i.e., modal verbs, do not occur with a grammatical preposition at all. These can be seen in (25):

- (25) *dovere, volere* (*Gianni deve mangiare*. "Gianni must eat.")
 must, want

However, some verbs that take infinitival complements obligatorily appear with the grammatical preposition *di*; these can be seen in (26):

- (26) *sperare, tentare, dimenticare, cercare...*
 hope, try, forget, seek
 (*Gianni spera di cantare*. "Gianni hopes to sing.")

Still other verbs which take infinitival complements obligatorily appear with the grammatical preposition *a*; these can be seen in (27):

- (27) *venire, andare, continuare, cominciare, provare...*
 come, go, continue, begin, try
 (*Gianni prova a cantare*. "Gianni is trying to sing.")

If we look at the three groups of verbs in (25), (26), and (27), we see a parallel with the three groups of adverbial prepositions in (4), (5), and (6/7). In other words, Italian employs \emptyset , *di*, or *a* with embedded infinitivals, just as it does with adverbial prepositions.¹² Given this parallel, we can hypothesize that *a* and *di* are structurally similar in both domains.

Independent support for the idea that *a/di* are similar types of creature in both cases comes from an observation made by Manzini (1991). She notes that

¹² This is something also noted by Starke (1993), who takes the grammatical prepositions that occur with adverbial prepositions to be Complementizers within the DP complement of the adverbial preposition.

certain verbs that take infinitival complements, such as *convincere* 'convince' and *persuadere* 'persuade', select either *a* or *di*. She further reports that the choice of grammatical preposition (*a* or *di*) determines the temporal interpretation of the embedded infinitive; in particular, when these verbs take *a*, the embedded infinitive is interpreted as future. Compare (28) and (29):

- (28) *Ho convinto/convincerò Gianni **ad** andarsene.*
 have.1SG convinced/convince.FUT.1SG Gianni **at** go.SE.NE
 "I convinced / I will convince Gianni to leave."
 (convince=induce a decision to do something)
- (29) *Ho convinto Gianni **di** essermene andato.*
 have.1SG convinced Gianni **of** be.ME.NE gone
 "I convinced Gianni that I had left."
 (convince=induce a belief in the existence of an event)
- (30) **Ho convinto/convincerò Gianni **di** andarsene.*
 have.1SG convinced/convince.FUT.1SG Gianni **di** go.SE.NE

Both (28) and (29) contain the verb 'convince' with an embedded infinitival. Only the infinitival preceded by *a*, however, can be interpreted as a future (this is confirmed by the ungrammaticality of (30), with *di*, which can only mean that "I convinced (or will convince) Gianni that he left" (which is strange, since Gianni should know whether he left or not).

Given the hypothesis that tense (like aspect) is instantiated by a functional head, it is not unreasonable to conclude that *a* instantiates a temporal functional head. The facts in (28-30) thus suggest that *a* has a similar function in both the extended projections of the Verb and the extended projections of the (adverbial) Preposition. It also suggests that Kayne's (1999) proposal that such "complementizers" are morpho-syntactic instantiations of functional heads in the extended projection of the verb is on the right track.¹³

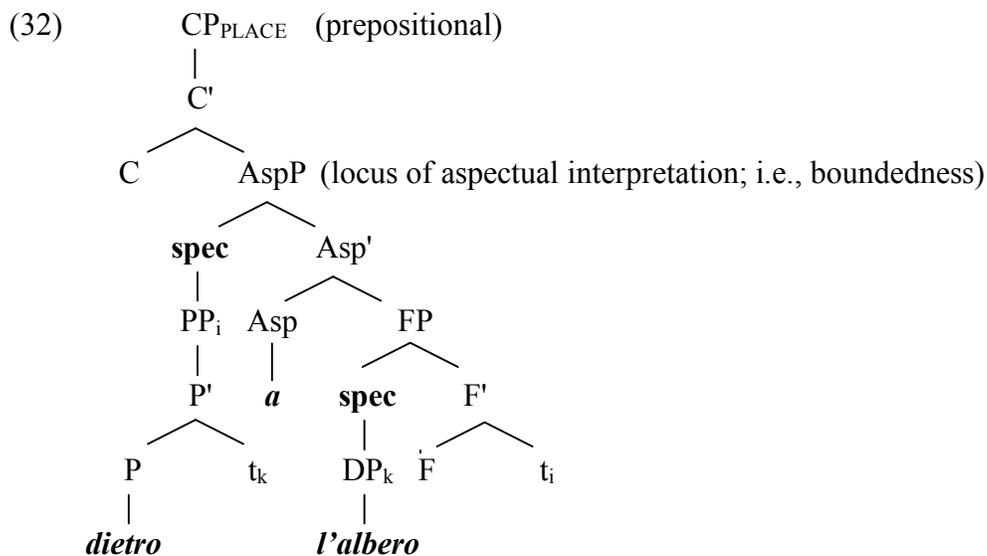
4.1.2 Deriving the word order. Thus, the configuration proposed for the Italian preposition's preposition in (24) is consistent with the proposal offered by Kayne (1999) for such grammatical prepositional complementizers; his

¹³ R. Kayne observes (p.c.) that French lacks the possibility of *a* both with the equivalent of *convincere/persuadere* and with the equivalent of *dietro*, further suggesting that *a* in Italian has the same status in both the adverbial PP and in the verbal domain.

proposal is roughly sketched in (31) (which is a structure for the example in (27), *Gianni prova a cantare* ‘Gianni is trying to sing.’).

(31) [... [*a* [*provare* [_{IP} *cantare*]]]]

Given the similarity of the proposals, it would not be unreasonable to pursue a derivation for the surface word order found with the adverbial PP (*dietro all'albero*) that is similar to the remnant movement derivation Kayne proposes for (31). In particular, I propose that first, the DP *l'albero* moves to the specifier of the FP in (24) (perhaps for reasons of Case), leaving t_k in (32). Then, subsequent movement of the remnant PP (headed by *dietro*) to the specifier of AspP obtains, leaving t_i . Thus, the surface order *dietro all'albero* is derived:



Perhaps PP movement obtains for interpretive reasons; i.e., the locative PP receives the unbounded interpretation by virtue of landing in the specifier of the aspectual head.¹⁴

Before I conclude, I would like to point out that the proposal that *a* is merged to the left of the adverbial preposition (and that it is the reflex of the

¹⁴ For reasons of space, I unfortunately cannot review the fact that movement of PP to a higher spec is independently argued for by Koopman (1997) and den Dikken (2003), in order to explain a cluster of facts revolving around the behavior of circumpositions and directional and locational Ps in Dutch and German.

unspecified feature [bounded] in Asp) may find support from languages like Spanish and Brazilian Portuguese. Plann (1988) discusses sets of Spanish examples (*trás, atrás* (cf. *detrás*) 'across'; *bajo, abajo*, (cf. *debajo*) 'below'; (*en, dentro, adentro* 'in(side)') which to me seem to exhibit a pattern whereby a monomorphemic adverbial preposition (e.g., *dentro*) corresponds to a bimorphemic adverbial postposition with *a* (e.g., *adentro*). The bimorphemic examples could be taken simply to be cases where the grammatical preposition *a* precedes the adverbial preposition (as in the d-structure for Italian *dentro a* 'inside', which is *a dentro*; see (24)). Interestingly, in the case of Spanish, the adverbial prepositions with *a* are syntactically postpositions, with the complement necessarily a bare noun. According to C. Schmitt, this is also the case for Portuguese, where she notes that the pairs differ in meaning. Consider the following example with *fora/afora*:

- (33) a. *Correu fora do parque.*
 run.1SG outside of.the park
 b. *Correu (*o) parque afora.*
 run.1SG (*the) park a.outside

According to Schmitt, (33a) (without *a*) denotes running outside the boundaries of the park. The sentence in (33b) (with *a*), on the other hand, does not consider the boundaries of the park. This difference in meaning can be understood in the terms discussed in this paper: the presence of *a* yields an unbounded interpretation, while the absence of *a* indicates presence of the positively valued feature [+bounded], forcing for three-dimensional space (e.g., PLACE) an interpretation in which there are boundaries. As for the syntactic derivation of such adverbial postpositions (with *a* to the left rather than to the right), if we consider the structure in (24), it seems that the (bare) NP moves to the left of *a* (to the specifier of AspP), in place of the PP, which remains in situ (in contrast with Italian), yielding the order grammaticalP+adverbialP.

5. Conclusion

In this paper I have discussed a previously unexplored pattern regarding Italian PPs that contain an adverbial preposition with an optional grammatical preposition *a*. The interpretive facts led me to conclude that the presence of *a* is the reflex of the unspecified feature [bounded] within the adverbial preposition's functional structure, pointing to the more general conclusion that grammatical prepositions do not head PPs at all, but rather only serve to instantiate functional heads (cf. Kayne 1999; and as we have seen, support for

this hypothesis is provided by the behavior of control verbs such as *convincere*, where choice of the grammatical P determines the temporal interpretation of the embedded infinitive). The Portuguese data additionally suggest that the idea that *a* is merged to the left of the adverbial preposition may indeed be correct. Of course, further investigation of the semantic and syntactic patterns with adverbial *a*-postpositions and *a*-less adverbial prepositions in Spanish and Portuguese is necessary, but the preliminary review provided above seems promising as support for the direction proposed in this paper. Needless to say, the proposal in this paper does raise many questions that have been left unanswered. In addition to that regarding the Spanish/Portuguese postpositions, there is the question of how adverbial prepositions that obligatorily occur with *di/de* in Italian, Spanish, and French are to be analyzed under this framework. Likewise, what is the semantic behavior of the adverbial prepositions in (7) that we have not discussed? And what is the nature of those in (6), which obligatorily appear with *a*? I believe that the approach offered in this paper promises to lead to a unified understanding of all of these cases.

Last but not least, a fundamental contribution of this paper which does not depend on the formal analysis provided in 4.1 is the idea that *space* is grammatically treated like *entities* and *events* in terms of the concept of boundedness. “Space” is taken to consist of two types, PATH and PLACE (following Jackendoff 1983), and evidence that non-temporal *paths* are bounded is taken as support for the idea that *places* (which are non-temporal) are treated in the same way.

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