Moving without a Goal: Deconstructing "Directional" PPs

Pietro Baggio, QMUL
p.baggio@qmul.ac.uk

SyntaxLab, 3 Dec 2019
The University of Cambridge

1 Introduction

Spatial PPs can be typically divided into *locational* ones, as in (1a), and *directional* ones, as in (1b). I will refer to them as Location and Goal PPs, respectively.

(1) a. *Mary hid inside the well.* (Location/Place PP)
b. *Mary fell to the bottom of the well.* (Goal/Path PP)

I will focus on two sets of phenomena that can inform our understanding of the exact nature of "goalhood" for PPs. For the current purposes, I will mainly use data from English.

- **Location–Goal Ambiguity (LGA)**

  As noted in Gerhrke (2008), many prepositions in English, Dutch are systematically ambiguous between Location and Goal readings.

  (2) **English**: *inside, outside, above, below, over, under, behind, ...*
  a. *A turtle swam inside the well.* (✓Loc, ✓Goal)
  b. *A turtle lay inside the well.* (✓Loc, ✗Goal)
  c. *A turtle went inside the well.* (✗Loc, ✓Goal)

  (3) **Italian**: *dentro* 'inside', *fuori* 'outside', *sopra* 'above', *sotto* 'below', *davanti* 'in front (of)', *dietro* 'behind', ...
  a. *La tartaruga nuotò dentro il pozzo.*
  the.F turtle swim.PST.3SG inside the.M well
  'The turtle swam inside/into the well.' (✓Loc, ✓Goal)
  b. *La tartaruga rimase dentro il pozzo.*
  the.F turtle remain.PST.3SG inside the.M well
  'The turtled remained inside the well.' (✓Loc, ✗Goal)
  c. *La tartaruga andò dentro il pozzo.*
  the.F turtle go.PST.3SG inside the.M well
  'The turtle went into the well.' (✗Loc, ✓Goal)

  (4) **Dutch**: *in* 'in', *op* 'on', *onder* 'under', *achter* 'behind', ...

  (5) **Korean**: *pakk* 'outside', *an* 'inside', *wi* 'above', *alay* 'below', *mith* 'under', *aph* 'in front (of)', *twi* 'behind', ...

  How can we account for this ambiguity?

  (i) Lexical ambiguity for each P;
  (ii) Structural ambiguity *internal* to the PPs (e.g. a silent Path° head, as in Svenonius 2010);
  (iii) Structural ambiguity *external* to the PPs (e.g. their placement in the verbal spine).

- **Structural Condition on "Allatives" (SCA)**

  – I use the term *allative* for those spatial PPs that are specialised for introducing Goals (e.g. PPs headed by *to* in English, PP with allative case *-lle* in Finnish).
  – Allative PPs are highly restricted: they can usually[1] occur only in the complement position of motion verbs.

[1] But see §6 for some interesting exceptions to the pattern.

(6) "A directional PP headed by *to* [...] is always in the complement of a verb."
(Collins 2007:24)

I propose that an elegant approach to shed light on LGA and SCA involves a wholesale rejection of the idea that there are true Goal PPs.

(7) **Goal-by-Proxy Hypothesis**
"Goalhood" is not a syntactic property of PPs, but rather a property of certain syntactic *configurations* that include a Location PP and a motion (or change-of-state) verb.

The idea(s) in a nutshell:

- Location PPs are interpreted as "directional" (i.e. as Goals) when they specify the location of the *result state* of a complex motion (or change-of-state) event.

  (8) a. *swim inside the well*
  b. $\lambda e.\, \text{SWIM}(e) \,\&\, \exists s\, [\text{RESULT}(s, e) \,\&\, \text{INSIDE}(s, [\![\text{the well}]\!])\,]$

- Location PPs can do so when they Merge/Adjoin to a very low projection in the verbal domain (cf. PredP in Gehrke 2008, *res*P in Ramchand 2008, *Root*P in Marantz 2013 *et seq.*).

- This is all there is to Goals!

- [GOAL] is not a morpho-syntactic primitive, nor a feature on any P(P).
Goals arise by **piggybacking** on a syntactic configuration, where the path (or scalar change) semantics is contributed by the verb.

How does the **Goal-by-Proxy Hypothesis** account for the **LGA** and the **SCA**?

- **Location–Goal Ambiguity**
"Ambiguous" PPs are not ambiguous: they are location PPs that can get a Goal reading in the relevant structural configuration.

- **Structural Condition on Allatives**
"Allative" PPs are restricted to the very same structural position where "ambiguous" PPs get Goal readings. This suggests that:

  (i) They too are Location PPs;

  (ii) Somehow (see below), they are constrained to occurring in a position where they get a Goal reading;

  (iii) That is what makes them "allative", *rather than the other way around.*

2 Location–Goal Ambiguity (LGA)

I suggested above three possible approaches to "ambiguous" PPs:

(i) Lexical ambiguity for each P;

(ii) Structural ambiguity *internal* to the PPs (e.g. a silent Path^{o} head, as in Svenonius 2010);

(iii) Structural ambiguity *external* to the PPs (e.g. their placement in the verbal spine).

I argue that the third approach is superior insofar as the two readings of ambiguous PPs are **in complementary distribution** and seem to depend exclusively on the position of the PP in the clause.

(9) TABLE 1.

	Goal reading	Location reading
Complement of V	✓	✗
Postcopular	✗	✓
Coda of *There*-Existentials	✗	✓
Adnominal	✗	✓
Perception Small Clause	✗	✓
Absolute Small Clause	✗	✓
Clause-peripheral Adjunct	✗	✓
vP Adjunct	✗	✓

- **Complement of V**

  (10) *The turtle went inside the well.* (*Loc, Goal)

- **Postcopular Position**

  (11) *The turtle was inside the well.* (Loc, *Goal)

- **Coda of *There*-Existentials**

  (12) *There was a turtle inside the well.* (Loc, *Goal)

- **Adnominal Position**

  (13) *The turtle inside the well was very shy.* (Loc, *Goal)

- **Small Clauses with Perception Verbs**

  (14) a. *I noticed a turtle inside the well.* (Loc, *Goal)
  b. *I saw a turtle inside the well.* (Loc, *Goal)
  c. *I expected my cat inside the well.* (Loc, *Goal)

- **Absolute Small Clauses**

  (15) *With a turtle inside the well, we can't drink its water.* (Loc, *Goal)

- **Clause-Peripheral Adjunct**

  (16) *Inside the well, a turtle was swimming.* (Loc, *Goal)

- **vP Adjunct**

  (17) *The lizard climbed inside the well.* (Loc, Goal)

The apparent case of ambiguity in (17b) is due to the fact that the PP could be both a complement of the verb, or a higher adjunct. This can be disambiguated syntactically.

- **Adverb Insertion**:

  (18) a. *The lizard climbed gracefully inside the well.* (Loc, ?Goal)
  b. *The lizard climbed inside the well gracefully.* (?Loc, Goal)

  If Goal PPs are obligatorily in the complement of the verb, they are expected to occur to the immediate right of the verb, and to appear to the right of postverbal adverbs only as the result of "Heavy-PP Shift" (Larson 1989, Pesetsky 1995).
  Subsituting *gracefully* in (18a) for a phonologically heavier adverbial, the goal reading for the PP *inside the well* becomes even more strained.

(19) *The lizard climbed at a remarkable speed inside the well.* (Loc, ??Goal)

- **Only One Goal**
  We expect the Goal reading of the PP *inside the well* to be impossible if the complement position of the verb is independently filled by another PP or adverb.

(20) *The turtle swam under the bridge.* (Loc, Goal)

(21) a. *The turtle swam forward gracefully under the bridge.* (Loc, *Goal)
b. *The turtle swam there quickly under the willow trees.* (Loc, *Goal)
c. *The turtle swam to the shore gracefully under the willow trees.* (Loc, *Goal)

- **Word Order Effects**
  Combining the two types of PP should result in a strict V > PP_{goal} > PP_{loc} ordering.

(22) a. *The turtle swam under the bridge in front of the ducks.* (Goal > Loc)
b. *?*The turtle swam in front of the ducks under the bridge.* (*Loc > Goal)

- **Auxiliary Selection**
  In languages like Dutch and Italian, which have multiple auxiliaries, the choice of auxiliary may force one of the two readings:

(23) Italian
a. *La cocorita ha volato sopra il liriodendro (per tre minuti).*
the parakeet has flown above the liriodendron for three monutes
'The parakeet flew above the tulip tree (for three minutes).' (Loc, *Goal)
b. *La cocorita è volata sopra il liriodendro (in un secondo).*
the parakeet is flown above the liriodendron in one second
'The parakeet flew over the tulip tree (in one second).' (*Loc, Goal)

(24) Dutch (from Gehrke 2008:107)
a. *Rick heeft in het meer gesprongen.*
Rick has in the lake jumped
'Rick jumped inside the lake.' (Loc, *Goal)
b. *Rick is in het meer gesprongen.*
Rick is in the lake jumped
'Rick jumped into the lake.' (*Loc, Goal)

Given similar observations, Gerhke (2008) proposes that "ambiguous" prepositions are not ambiguous at all, but get Location/Goal readings in different configurations.

(25) **Structural Ambiguity Hypothesis**:
"The spatial Ps *in*, *on*, *under*, and *behind* are locative only. Any ambiguity between a directional and a locative reading is structural and not lexical." (Gehrke 2008:101)

(26) **Derived Goal Hypothesis**:
"Goal readings with locative PPs can be derived if the PPs specify the final location of an accomplishment by (semantically) modifying a BECOME event.' (Gehrke 2008:104)

I adopt Gehrke's (2008) conclusion, although I will aim to extend it to *all* Goal PPs, rather than just those that are "ambiguous".

3 An Implementation

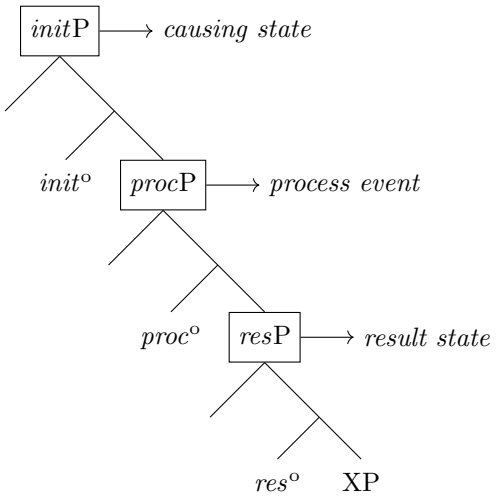
Location PPs can get a Goal reading "by proxy" when:

- Semantically, they specify the location of a result state of a motion (or scalar change, cf. Levin & Rappaport-Hovav 2010) verb.
- Syntactically, they occur in the "complement of the verb", or at least in a really low position of the verb phrase, crucially lower than where non-Goal PPs surface.

In order to account for this, we need a structure for verb phrases where (one of) the lowest functional projection(s) denotes the result state of an event.

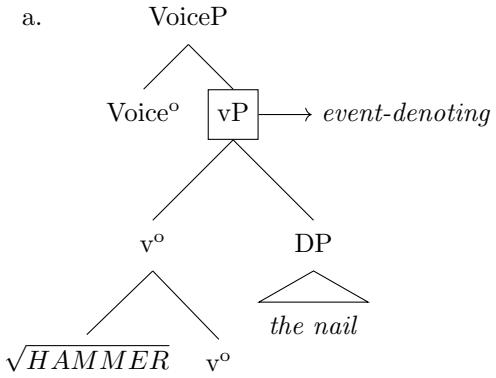
- **Ramchand (2008)**:
  The verb phrase is maximally decomposed into a *res*P, denoting the result state of a complex eventuality, a *proc*P, denoting its intermediate process event, and an *init*P, denoting its initial/causing state. Roughly, *init*P corresponds to Chomsky's (2000, 2001) v*P.

(27)

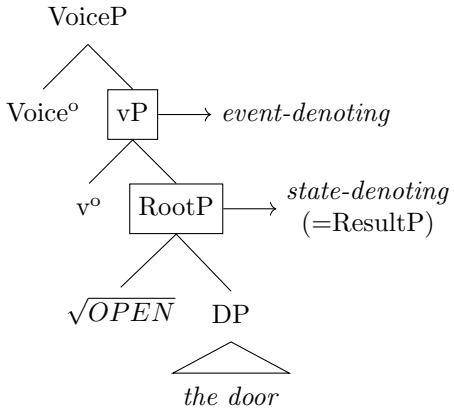


- **Marantz (2013)**, Acedo-Matellán & Mateu (2012), Alexiadou & Anagnostopoulou (2013), Alexiadou, Anagnostopoulou & Schäfer (2015):
  The root at the bottom of the verbal ExP projects a phrase denoting a (result) state, the verbaliser head v^o projects a phrase denoting an event bringing about the state, and Voice^o introduces the External Argument.

(28) a.



b.



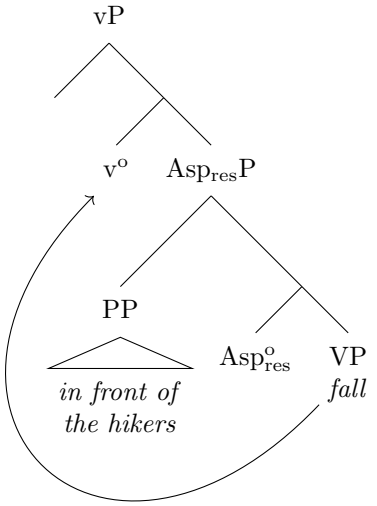
- I adopt a similar approach, where the VP (containing the root) is dominated by an Inner Aspect projection *à la Travis* (2010), Asp_{res}P, that introduces a result state.

  (29) $[_{\text{VoiceP}}$ (DP$_{\text{EA}}$) $[_{\text{vP}}$ (DP$_{\text{IA}}$) $[_{\text{Asp}_{\text{res}}\text{P}}$ [VP]]]]

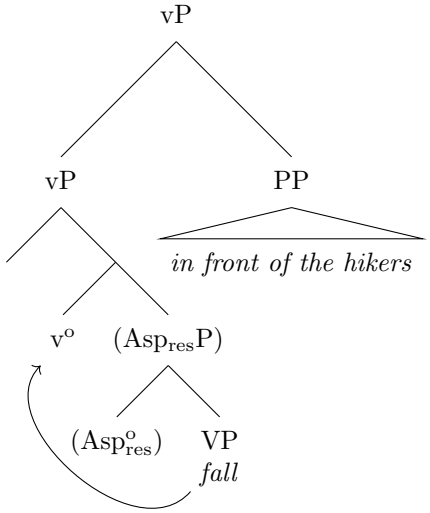
- I will exemplify with the following sentence:

  (30) *The goat fell in front of the hikers.*
  a. LOCATION READING: the goat was in front of the hikers as it fell.
  b. GOAL READING: the goat ended up in front of the hikers after it fell.

(31) a. Goal reading



b. Location reading



3.1 Further Evidence for the Proposal

- **Entailment**
  When location PPs get a Goal reading, the sentence is interpreted as entailing that the result state holds.

  (32) *The lizard climbed inside the well . . .*
  # but could not get in, because of a mental grate.

  (33) *The turtle swam under the bridge . . .*
  # but could not get there becasue of a strong current.

- **Restitutive Readings of *again***
  It is possible for the adverb *again* to adjoin to Asp$_{res}$P, giving rise to a restitutive reading.

  (34) a. *The bear went inside her den again.* (✓repetitive, ✓restitutive)
  b. *The bear pulled her cubs inside her den again.* (✓repetitive, ✓restitutive)

- **Low-scope Readings of *for*-Adverbials**
  It is possible for *for*-adverbials to adjoin to Asp$_{res}$P, modifying the result state only rather than the entire event.

  (35) a. *The tortoise went under a rock for a whole day.*
  READING: the tortoise remains under the rock for a whole day
  b. *Alice put her phone inside the drawer for a few minutes.*
  READING: the phone remains inside the drawer for a few minutes

3.2 A Problem!

Not all verbs permit restitutive readings for *again* and low-scope readings for *for*-adverbials, even in the presence of Goal PPs.

(36) a. *Alice ran inside the pub again.* (✓repetitive, ?restitutive)
b. *Alice threw it inside the pub again.* (✓repetitive, ?restitutive)

(37) a. *Alice ran inside the pub for an hour.*
*READING: Alice stayed inside the pub for an hour, after running there
b. *Alice threw the cat outside the house for an hour.*
*READING: Alice left the cat outside the house for an hour

4 The Structural Condition on "Allatives" (SCA)

4.1 Distribution of the Preposition *to* in English

PPs headed by *to*, just like the derived Goals discussed above, seem restricted to complement positions of motion (or change-of-state) verbs. (cf. Collins 2007). That is, *to*-phrases are grammatical in exactly those structural configurations where Location PPs get a Goal reading "by proxy".

(38) TABLE 2.

	Goal reading for "ambiguous" PP	PP with *to* acceptable
Complement of V	✓	✓
Postcopular	✗	✗
Coda of *There*-Existentials	✗	✗
Adnominal	✗	✗
Perception Small Clause	✗	✗
Absolute Small Clause	✗	✗
Clause-peripheral Adjunct	✗	✗
vP Adjunct	✗	✗

- **Verbal Complement**:
  This is the position where Location PPs get a Goal reading "by proxy", and where *to*-phrases are grammatical.

  (39) a. *The climbers went on top of the mountain.* **✓Goal**
  b. *The climbers went to the bottom of the crag.* **✓*to*-phrase**

  It is useful to compare *to*-phrases with PPs headed by the preposition *towards*. Unlike *to*-phrases, *towards*-phrases:

  (i) Are not "allative" PPs (i.e. PPs specialised for Goal readings). They have some directional semantics, but they are not inherently goals anymore than complex PPs of the form *in the direction of X*.

  (ii) Are not as restricted in their distribution in the same way as *to*-phrases are.

  A comparison with *towards*-phrases can help highlight the peculiar restrictions on the distribution of *to*-phrases (and the associated Goal readings).

  (40) *The climbers went to(wards) the summit of the mountain.*

- **Postcopular Position**:
  Location PPs cannot get a Goal reading, and *to*-phrases are ungrammatical.

  (41) a. *A hawk was on top of the mountain.* ***Goal**
  b. **A hawk was to the top of the mountain.* ****to*-phrase**
  INTENDED: 'A hawk was heading/going to the top of the mountain.'

  Compare with *towards*-phrases:

  (42) a. *My name was to*(wards) the bottom of the list.*
  b. *The party will be to*(wards) midnight.*

- **Coda of *There*-Existentials**:
  Location PPs cannot get a Goal reading, and *to*-phrases are ungrammatical.

  (43) a. *There was a hawk on top of the mountain.* ***Goal**
  b. **There was a hawk to the top of the mountain.* ****to*-phrase**
  INTENDED: 'There was a hawk heading/going to the top of the mountain.'

Compare with *towards*-phrases:

(44) *There was a wooden shack to*(wards) the edge of the cliff.*

- **Small Clauses with Perception Verbs**:
  Location PPs cannot get a Goal reading, and *to*-phrases are not acceptable.

(45) a. *I noticed a hawk on top of the pine tree.* ***Goal**
b. **I noticed a hawk to the top of the mountain.* ***to-phrase**

(46) a. *I expected a hawk on top of the pine tree.* ***Goal**
b. **I expected a hawk to the top of the mountain.* ***to-phrase**

(47) a. *I saw a hawk on top of the pine tree.* ***Goal**
b. **I saw a hawk to the top of the mountain.* ***to-phrase**

Compare with *towards*-phrases:

(48) *I noticed/saw your name to*(wards) the bottom of the list.*

- **Absolute Small Clauses**:
  Location PPs cannot get a Goal reading, and *to*-phrases are not acceptable.

(49) a. *With a hawk on top of the pine tree, the bunnies were scared.* ***Goal**
b. **With a hawk to their burrow, the bunnies were scared.* ***to-phrase**

Compare with *towards*-phrases:

(50) *With your name to*(wards) the bottom of the list, it will be hard to notice it.*

- **Adnominal Position**:
  Location PPs cannot get a Goal reading, and *to*-phrases are not acceptable (see §6 below for exceptions).

(51) a. *The hawk at the top of the mountain (dove down.)* ***Goal**
b. **The hawk to the top of the mountain (saw a marmot.)* ***to-phrase**

Compare with *towards*-phrases:

(52) *The village to*(wards) the mountaintop (could not be seen from the valley.)*

- **CP-Peripheral Adjuncts**:
  Location PPs cannot get a Goal reading, and *to*-phrases are largely ungrammatical.

(53) a. *At the top of the mountain, a hawk was flying.* ***Goal**
b. ??*To the top of the mountain, a hawk was flying.* **??to-phrase**
c. **To the top of the mountain, a hawk was flying up(wards).* ***to-phrase**

Note that (53b) may be rescued if the PP is interpreted as Topicalised or Focussed constituent that has moved from the complement position of the verb. In fact, a Goal PP with contrastive focus can move felicitously to the left periphery, as in (54).

(54) *[TO THE TOP OF THE MOUNTAIN]$_i$, a hawk was flying $\_\__i$ (. . . rather than to its foot.)*

In (54c), however, the presence of the overt verbal complement *up(wards)* blocks the movement reading, and the sentence is bad.

Compare with *towards*-phrases:

(55) *To*(wards) the top of the mountain, we could see an eagle flying.*

- **vP Adjuncts**:
  Location PPs are acceptable even if separated from the verb by an adverbial, while *to*-phrases seem slightly degraded when separated from the verb.

(56) a. *Hawks fly every day at the top of the mountain.* ***Goal**
b. (?)*Hawks fly every day to the top of the mountain.* **?*to*-phrase**
c. *Hawks fly to the top of the mountain every day.* ***to*-phrase**

Once we control for phonological heaviness, which may trigger PP extraposition or "Heavy-PP Shift" (Larson 1989, Pesetsky 1995), it appears that *to-phrases* are only acceptable when adjacent to the verb:

(57) a. *Visitors walk (?every day) to the temple (every day).*
b. *Hawks fly (??every sunny winter day) to the summit (every sunny winter day).*

This suggests that *to-phrases*, like derived Goals, are restricted to the verbal complement position. As further evidence that Heavy-PP Shift is a disturbing variable that can affect the placement of complement PPs, consider (58), where the obligatory complement of *went* has moved rightward.

(58) ?*Alice went with great caution to the center of the cave.*

Secondly, if a *to*-phrase occurs with a non-Goal PP, the relative order will be V > *to*-phrase > PP_{loc}.

(59) a. *The hawk flew to the top of the mountain in front of the bird watchers.*
(✓*to*-phrase > PP_{loc})
b. ??*The hawk flew in front of the bird watchers to the top of the mountain.*
(??PP_{loc} > *to*-phrase)

Thirdly, as predicted if *to*-phrases behave like verbal complements, iteration is not possible.

(60) a. **The turtle swam to the edge of the lake to a willow tree.*
b. *The turtle swam at the edge of the lake by a willow tree.*

The conclusion is that *to*-phrases are disallowed as high vP/TP adjuncts, and have to occur in the complement of the verb.

Once again, *towards*-phrases are fine as vP/TP adjuncts:

(61) a. *The wizard was pacing to and fro aimlessly towards the edge of the forest.*
b. *A marmot came out of its burrow towards the edge of the cliff.*
c. *An otter bubbled to the surface of the water towards the centre of the lake.*

The syntactic distribution of *to*-phrase and *towards*-phrases is summarised in the following table:

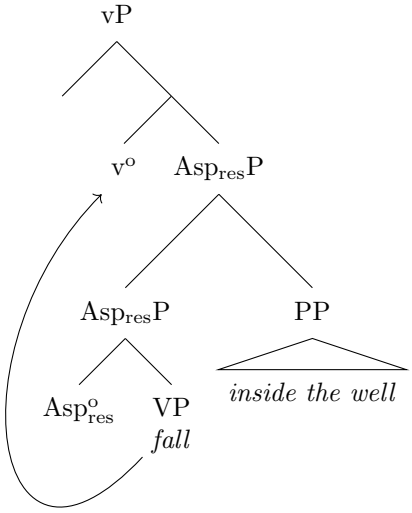
(62) Table 3.

	to	*towards*
Complement of V	✓	✓
Postcopular	✗	✓
Coda of *There*-Existentials	✗	✓
Adnominal	✗	✓
Perception Small Clause	✗	✓
Absolute Small Clause	✗	✓
Clause-peripheral Adjunct	✗	✓
vP Adjunct	✗	✓

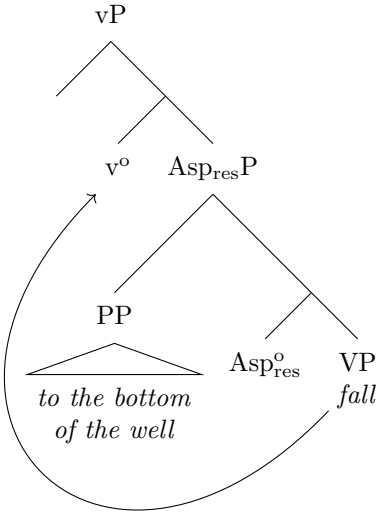
4.2 Integrating *to* in the Picture

- The Structural Condition on "Allatives" is puzzling: English "allative" PPs (i.e. *to*-phrases) can only appear in that very structural position where Locative PPs can get a Goal ready by proxy, and nowhere else.
- This strongly suggests that *to*-phrases are also Location PPs that get a Goal reading by proxy (cf. Noonan 2010 for the initial suggestion that *to* is locational), when they Merge in Asp_{res}P, low in the verb phrase.
- Unlike "ambiguous" PPs, though, *to*-phrases are restricted to *only* appearing inside Asp_{res}P. **We can think of *to* as a marker of the configuration where Goal readings arise, rather than a Goal preposition.** This derives the seemingly inherent nature of *to*-phrases as Goals.
  - But what derives their distributional restriction?
  - A hypothesis is to encode it in the formal semantics of PPs:
    while "ambiguous" PPs are syntactic and semantic *modifiers* that adjoin to Asp_{res}P, PPs headed by *to* are special insofar as they are syntactically and semantically *arguments*.

(63) a. "Ambiguous" PP
Alice fell inside the well.



b. *To*-phrase
Alice fell to the bottom of the well.



- Independent evidence from an adjunct–argument division (on similar but not identical lines) amongst PPs that are otherwise equally locational comes from Korean *-ey* vs. *-eyse* (cf. also Japanese *-ni* vs. *-de*):

(64) a. *Mina-ka Singkapholu-**ey** ka-ss-eyo.*
Mina-NOM Singapore-LOC1 go-PST-POL
'Mina went to Singapore.'
b. *Yumi-nun sopha-**ey** nwuw-ess-eyo.*
Yumi-TOP sofa-LOC1 lie-PST-POL
'Yumi lay on the sofa.'
c. *Mina-ka hakkyo-**eyse** kongpwu-hay-yo.*
Mina-NOM school-LOC2 study-DO-POL
'Mina studies at school.'

- Under this approach, *to*-phrases are not distributionally restricted because they encode Goals: rather, they are always interpreted as Goals *because* of their distributional restriction.
- If this is on the right track, once again we have no Goals in the syntax: all we have is a structural configuration where Goal readings arise.

4.3 PP-Internal Structure of *to*-Phrases

Interesting evidence for a treatment of *to* as heading a (distributionally restricted) Location PP comes from the following two asymmetries, where *to* behaves like the Location (Place) preposition *at* rather than the Source (Path) preposition *from*:

- The prepositions *from* can stack on top of other prepositions, while *to* is at best marginal:

  (65) a. *from behind/under/above/... the rock*
  b. *(??to) behind/under/above/... the rock*

  Despite claims to the contrary in the literature (cf. Svenonius 2006, 2010), combining *to* with other prepositions leads to a significantly degraded string. It seems like *to* patterns with the Location preposition *at*, rather than the Source preposition *from*.

  (66) *(*at) behind/under/above/... the rock*

- Modification with measure phrases patterns in the same way: *to* patterns with the Place preposition *at*, rather than the Path preposition *from*[2]

  (67) a. *The will-o'-the-wisp was hovering three metres from the ground.*
  b. ??*The will-o'-the-wisp was hovering three metres to the ground.*
  c. *The bike stopped three metres from the pedestrian.*
  d. ??*The bike stopped three metres to the pedestrian.*

  (68) ??*The bike stopped three metres at the centre of the street.*

There is evidence in the literature for splittig PPs into a lower PlaceP and a higher PathP (cf. van Riemsdijk & Huybregts 2002, Kracht 2002, 2005, Svenonius 2006 *et seq.*, den Dikken 2010, Koopman 2010, Radkevich 2010):

(69) $[_{\text{PathP}}$ Path$^{\text{o}}$ $[_{\text{PlaceP}}$ Place$^{\text{o}}$ [DP]]]

The evidence just reviewed supports the approach that treats *to* as a Location (or Place) preposition, rather than a preposition encoding Path (whether Source or Goal):

(70) $[_{\text{PathP}}$ *from* $[_{\text{PlaceP}}$ *to/at* [DP]]]

4.4 Is there a Directional *to*? (No!)

Tests with *again* and *for*-adverbials confirm that *to*-phrases must involve a result state in a static Location:

(71) *We went to the bottom of the cave again.* (✓repetitive, ✓restitutive)

(72) *We went to the bottom of the cave for an hour.*
READING: we remain at the bottom of the cave for an hour

Could we entertain the possibility that there is a directional version of *to*, which is *not* forced to express a Goal inside Asp_{res}P, and has fundamentally the same semantics as *towards* (cf. Lundquist & Ramchand 2013)?

The following data seems to argue against this possibility:

(73) a. ??*I walked to the store for 30 minutes.*
b. *I walked towards the store for 30 minutes.*

(74) a. ??*I ran to the top of the hill for 30 minutes.*

[2] But notice some counterexamples:

(i) a. *The bike stopped three metres to the finish line.*
b. *I stopped the track three seconds to the end of the song.*

b. *I ran towards the top of the hill for 30 minutes.*

(75) a. ??*We drove to Cambridge for an hour.*
b. *We drove towards Cambridge for an hour.*

4.5 Evidence from *back*

PPs modified with the adverb *back* offer further support of the treatment of *to*-phrases as Location expressions, rather than expressions denoting a Goal.

(76) a. *John is back in the garden.*
⟶ AGAIN: John is in the garden
b. *John went back to the garden.*
⟶ AGAIN: John is in the garden

- In these cases, *back* can form a constituent with the PP that appears to follow it (although there may be another available structure, where *back* is a particle forming a constituent directly with the verb):

(77) **Position w.r.t. Adverbs**
a. *John goes back to his hometown very frequently.*
b. ?*John goes very frequently back to his hometown.*
c. ??*John goes back very frequently to his hometown.*

(78) **(Pseudo-)Clefts**
a. *It's [back to the garden] that we went.*
b. ?*It's [to the garden] that we went back.*
c. *[Back to the garden] is where John went.*
d. ??*[To the garden] is where John went back.*

(79) **Locative Inversion**
a. *. . . and [back to the garden] came two deer.*
b. *. . . and [to the garden] came back two deer.*

(80) **Coordination**
John went [into the shed] or [back to the porch]. I cannot remember.

Further evidence that *back* can form a constituent with the PP to its right comes from cases where the sentence would be degraded if *back* occurred on its own:

(81) *John ran from the porch back ?(to the shed).*

(82) *John retraced his steps back ?(to the clearing).*

- *Back* is one of several particles/adverbs that can modify a PP:

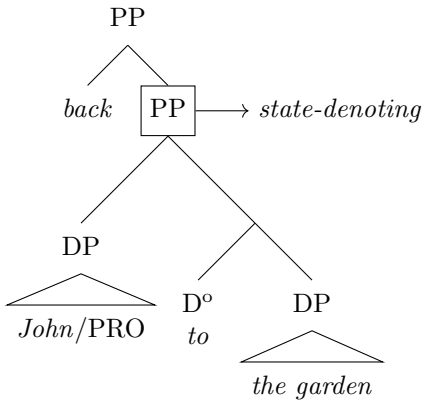
(83) ***up*** *in the clouds –* ***out*** *by the woods –* ***off*** *to the hillside –* etc...

- *Back* semantically entails that the state described held before.

(84) *John went back to the garden.*
⟶ AGAIN: John is in the garden

- This shows that *to*-phrases must include the representation of a state of being at a location, and the representation of the holder of that state.

(85)



- *To*-phrases are *not* directional, but they are "stative"/Location-denoting just like the other apparent Goal PPs that I described.

  (86) a. *John went back inside the shed.*
  ⟶ AGAIN: John is inside the shed
  b. *John ran back out of the cave.*
  ⟶ AGAIN: John is outside the cave

- Importantly, these readings are *not* available when *back* modifies a PP headed by *from*.

  (87) *John walked back from the park.*
  ⟶ *AGAIN: John is in the park.

  This is expected if *from* heads a PathP that "shields off" the lower PlaceP layer from modification with *back*:

  (88) [*back* [$_{\text{PathP}}$ *from* [$_{\text{PlaceP}}$ Place° [DP]]]]

4.6 Summary

- There are no Goal PPs: rather, location PPs can have Goal *readings* that are triggered by their position in a specific structural configuration.
- This configuration involves a PP in a specifier or adjunct position to Asp_{res}P.
- PPs that would seem inherently specified as encoding Goals (i.e. "allatives") are in fact PPs that are restricted to occurring in such a configuration.

5 Extending the Approach to Datives?

A natural domain that my approach to Goals (or rather, to the lack thereof) can be extended to are ditransitive constructions with "prepositional datives".

I will begin by pointing out a set of phenomena that may appear puzzling at first sight.

- **Dative–Allative Syncretism (DAS)**
  The prepositional/case marking that is typically used to express the Goal of a motion verb is identical to the marking used to express the recipient of a ditransitive verb.
- Some examples from across the world:
  English *to*, Finnish *-lle*, Italian *a*, Turkish *-(y)a/-(y)e*, Tamil (India, Dravidian) *-ukku*, Telugu (India, Dravidian) *-ki/-ku*, Korean *-ey(key)*, Japanese *-ni*, Nivkh (Siberia, isolate) *-roχ/-toχ/-doχ*, West Greenlandic (Eskimo-Aleut) *-mut/-nut*, Yauyos Quechua (Peru, Quechuan) *-man*, Maori (NZ, Polynesian), Tuvaluan (Tuvalu, Polynesian), and Rapanui (Easter Island, Polynesian) *ki*.

(89) Finnish

a. *Kirja puto-si lattia-**lle**.*
book.NOM fall-PST.3SG floor-ALL
'The book fell onto the floor.'

b. *Anna-n lahja-n vaimo-**lle**-ni.*
give-1SG present-ACC wife-ALL-1SG
'I give a present to my wife' (Karlsson 2002:119–20)

(90) Korean

a. *Mina-ka Yumi-**eykey** takaw-ass-eyo.*
Mina-NOM Yumi-DAT approach-PST-POL
'Mina came up to Yumi.'

b. *Mina-ka Minswu-**eykey** senmwul-ul cwu-ess-eyo.*
Mina-NOM Minsu-DAT present-ACC give-PST-POL
'Mina gave a present to Minsu.' (Yeon & Brown 2011:109–10)

(91) Tuvaluan

a. *Taaua kaa fakatau ttele **ki** te maneapa.*
1INCL.DU FUT compete dive to the maneaba
'Let's race to the maneaba.' (Besnier 2000:336)

b. *Ne tuku te kofe **ki**-a Elekana.*
PST give the fishing.rod to-3SG Elekana
'[He] gave the fishing rod to Elekana.' (Besnier 2000:108)

(92) Tamil

a. *Kumaar eŋkaɭ viiṭṭu-**kku** va-nt-aan.*
Kumar we.OBL house-DAT come-PST-3MSG
'Kumar came to our house.'

b. *Kumaar appaav-**ukku** oru kaṭitam koṭu-tt-aan.*
Kumar father-DAT a letter give-PST-3MSG
'Kumar gave father a letter.' (Lehmann 1993:31–32)

(93) Telugu

a. *Meem iṇṭi-**ki** veḷḷ-ææ-m.*
we house-DAT go-PST-1PL
'We went home.'

b. *Atani-**ki** naa pustakam icc-ææ-nu.*
him-DAT me book give-PST-1SG
'I gave him my book.' (Krishnamurti & Gwynn 1985:85–6)

(94) Quechua

a. *Wak wasi-kuna-**man**-shi yayku-run kundinaw-qa.*
DEM house-PL-ALL-EVID enter-3 zombie-TOP
'The zombie entered those houses, they say'

b. *Ima-ta-taq qu-nki kay pubri-**man**?*
what-ACC-SEQ give-2 DEM poor.person-ALL
'What are you going to give to this poor man?' (Shimelman 2017:77–8)

- The Dative–Allative Syncretism makes sense if:

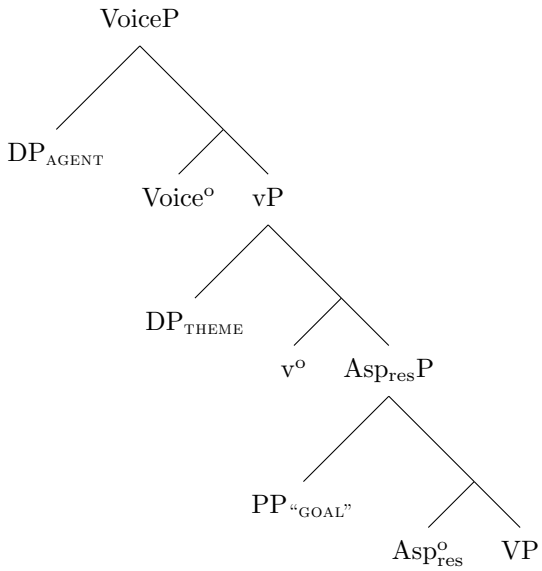
  (i) ditransitive verbs are analysed as verbs encoding change of possession (Beck & Johnson 2004, Harley 2002, 2007), and

  (ii) "possession" is expressed linguistically as a (stative) locative structure, with the possessor as an abstract location where the possessee is present (as in Freeze 1992).

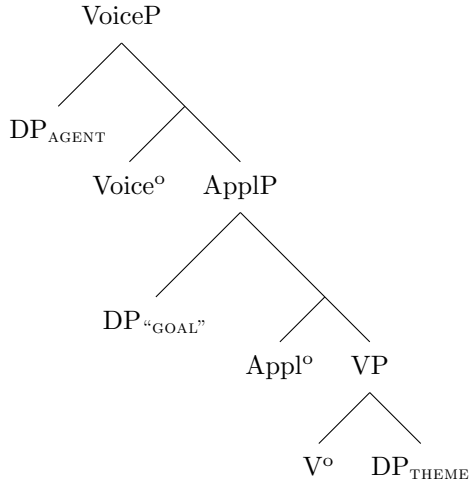
  In this way, (prepositional) Goals of ditransitives are again reduced to the same syntactic configuration as Goals of motion verbs:

(95) a. *give the book to Mary*
b. $[_{\text{vP}}$ [DP *the book*] $[_{\text{Asp}_{\text{res}}\text{P}}$ [PP *to Mary*] [VP]]]
c. $\lambda e.$ GIVE(e) & $\exists s$ [RESULT(s, e) & THEME(s, ⟦the book⟧) & AT(s, ⟦Mary⟧)]

(96) a. Prepositional Dative Construction (cf. Bruening 2010, Harley & Jung 2015)



b. Double Object Construction (Marantz 1993, Bruening 2010)



Let's concentrate on English "prepositional datives":

- We need evidence that both "dative" and "allative" *to*-phrases behave like Location PPs.

(97) Locative inversion:
a. *To the station are/*is coming three carriages.*
b. **The station is coming three carriages.*
c. *To Mary were/*was given three enchanted beans.*
d. **Mary were given three enchanted beans.*

(98) a. *I drove back to the station.* (✓restitutive)
b. *I gave the book back to Mary.* (✓restitutive)

- We need evidence that both "dative" and "allative" *to*-phrases behave like they are filling up the same syntactic slot.

(99) a. ??*We sent a book to London to Mary.*
b. ??*We sent a book to Mary to London.*

Furthermore, note that Double Object Constructions (DOCs) make "dative" *to*-phrases, "allative" *to*-phrases, and Goal PPs unavailable:

(100) a. *I threw a rope inside the well to Mary.*
b. #*I threw Mary a rope inside the well.*
c. **I threw Mary a rope to the bottom of the well.*

This suggests that Asp_{res}P becomes unavailable in DOCs.

5.1 The Passivisation Puzzle

If both "dative" and "allative" *to*-phrases are Location PPs, we expect it to be impossible to passivise them.

In Finnish, these phrases cannot passivise.

(101) Finnish: ACC objects become NOM under passivisation.

a. *Diane tappa-a etana-n.*
Diane.NOM kill-3SG slug-ACC
'Diane will kill the slug.'
b. *Etana tape-taan.*
slug.NOM kill-PASS
'The slug will be killed.' (Manninen & Nelson 2002:1)

(102) Finnish: ACC adverbs become NOM under passivisation.
a. *Opiskel-i-n vuode-n.*
study-PST-1SG year-ACC
'I studied (for) a year.'
b. *Opiskel-tiin vuosi.*
study-PST.PASS year.NOM
'People/we studied (for) a year.' from Kiparsky (2001:9)

(103) Finnish: ALL goals remain ALL under passivisation (motion verbs).
a. *Pekka ajo-i auto-n asema-lle.*
Pekka.NOM drive-PST.3SG car-ACC station-ALL
'Pekka drove the car to the station.'
b. *Auto aje-ttiin asema-lle.*
Car.NOM drive-PST.PASS station-ALL
'The car was driven to the station.'
c. *Asema-lle aje-ttiin auto.*
station-ALL drive-PST.PASS car.NOM
'The car was driven to the station.'
d. **Asema aje-ttiin auto(-n/-a).*
station.NOM drive-PST.PASS car-ACC/-PART

(104) Finnish: ALL goals remain ALL under passivisation (ditransitive verbs).
a. *Peka-lle anne-ttiin kirja.*
Pekka-ALL give-PASS.PST book.NOM
'Pekka was given the book.'
b. **Pekka anne-ttiin kirja(-n/a).*
Pekka.NOM give-PASS.PST book(-ACC/PART)
'Pekka was given the book.'

However, consider the following, based on non-alternating ditransitive verbs in English:

(105) a. *Alice donated the gemstone to the museum.*
b. **Alice donated the museum the gemstone.*
c. *The museum was donated the gemstone (by Alice).*

We need to guarantee that the recipient subject (105c) is not a passivised version of a prepositional dative recipient. That is, we need evidence that "dative" *to*-phrases can never passivise in English.

- With many ditransitive verbs that disallow the DOC variant and only allow the dative variant, the goal cannot be passivised:

(106) a. *We revealed a shocking fact to Mary.*
b. ?**We revealed Mary a shocking fact.*
c. ?**Mary was revealed a shocking fact.*

(107) a. *We explained the phenomenon to John.*
b. ?**We explained John the phenomenon.*
c. ?**John was explained the phenomenon.*

- Verbs that only have an idiomatic reading in the dative variant lose that reading if the goal is passivised:

(108) a. *This gave rise to a riot.*
b. #*This gave the riot (a) rise.*
c. **The riot was given rise by this.*

(109) a. *Mary gave birth to John.*
b. #*Mary gave John (a) birth.*
c. **John was given birth (by Mary).*
d. *John was given birth to (by Mary).*

Note that the sentences improve only under *pseudo*-passivisation.

- DOCs are usually disallowed with inanimate recipients of an alienable possession. Interestingly, it seems that inanimate goals are not allowed to passivise:

(110) a. *We sent John a parcel.*
b. *We sent a parcel to John.*
c. *John was sent a parcel.*
d. **We sent the house a parcel.*
e. *We sent a parcel to the house.*
f. **The house was sent a parcel.*

- DOCs have been shown above to block a Goal reading for any other PPs. Interestingly, this is also the case when the recipient is the passive subject.

(111) a. *I threw a rope inside the well to Mary.*
b. #*I threw Mary a rope inside the well.*
c. #*Mary was thrown a rope inside the well.*

- Themes can bind recipients in the *to*-dative construction, but not in the DOC.

(112) a. *I gave everything$_i$ to his$_i$ rightful owner.*
b. **I gave his$_i$ rightful owner everything$_i$.*
c. *I gave everyone$_i$ his$_i$ first milk tooth.*
d. ??*I gave his$_i$ first milk tooth to everyone$_i$.*

(113) a. *I donated everything$_i$ to his$_i$ rightful owner.*
b. **His$_i$ rightful owner was donated everything$_i$.*
c. *Everyone$_i$ was donated his$_i$ first milk tooth.*

Note that A-movement should not alter these binding possibilities:

(114) a. *It seemed to everyone$_i$ that their$_i$ paper had been rejected.*
b. *Their$_i$ paper seemed to everyone$_i$ to have been rejected.*

- DOCs give rise to scope freezing, unlike the dative counterparts. Interestingly, when the passive subject of *donate* is the recipient, the scope remains frozen.

(115) a. *I gave a seashell to every student.* ($\exists > \forall$, $\forall > \exists$)
b. *I gave a student every seashell.* ($\exists > \forall$, $*\forall > \exists$)

(116) a. *A seashell was donated to every student.* ($\exists > \forall$, $\forall > \exists$)
b. *A student was donated every seashell.* ($\exists > \forall$, $*\forall > \exists$)

All this data suggests that a recipient can passivise *only* out of the DOC structure: "dative" *to*-phrases can never turn into passive subjects.
$\longrightarrow$ DOCs with the verb *donate* are only acceptable in a passive sentence.
$\longrightarrow$ Can we give this a case-based account (i.e. only two structural cases are available with *donate*, yet an active sentence would have three DPs)?

6 Open Issues: Unexpected Uses of *to*

There is a series of uses of *to*-phrases that seem to pose problems for my story:

1. Cases where *to* and the PP it heads have a completely different syntactic distribution: *to the left/right (of)*, *to the side (of)*, *to the best of my knowledge*, etc...

2. Cases of complex PPs that include the preposition *to*:

   - *into*, *onto*, *up to*, and *off to*;
   - Complex PPs of the type *from X to Y*.

   Neither of these types of complex PPs have the distribution of *to*-phrases that I have discussed.

3. A small set of nouns seem to allow modification with an adnominal *to*-phrase.

   (117) ***To*-phrase compatible nouns (I):**
   path, road, bridge, . . . ; train, ferry, plane, . . .
   a. *the bridge to the other side of the canal*
   b. *the ferry to the other side of the lake*

   (118) ***To*-phrase compatible nouns (II):**
   walk, hike, trip, excursion, . . .
   a. *the walk to the bottom of the valley*
   b. *the trip to the top of the mountain*

Note that many languages (e.g. Korean, Japanese, Turkish) seem to disallow entirely adnominal Goal PPs even in these cases, where a relative clause with a motion verb is required:

(119) Turkish
   a. *İzmir-de-ki yol/tren*
   Izmir-LOC-LNK road/train
   'the road/train in Izmir'
   b. **İzmir-e-ki yol/tren*
   Izmir-DAT-LNK road/train
   c. *İzmir-e *(gid-en) yol/tren*
   Izmir-DAT go-PTCP road/train
   'the road/train to Izmir'

7 Conclusions

I have argued for the following conjecture:

(120) **Goal-by-Proxy Hypothesis**
"Goalhood" is not a syntactic property of PPs, but rather a property of certain syntactic *configurations* that include a Location PP and a motion (or change-of-state) verb.

Spelling out some of the details a little further:

- Location PPs get a Goal reading when they are adjuncts or specifiers to a low Asp_{res}P projection in the verbal domain.
- In such cases, the PPs specify the location of the result state of the event.
- Some Location PPs (e.g. English *to*-phrases) are syntactically restricted to occurring in this configuration only: the upshot is that they will *seem* to encode Goals.

There are no true Goal PPs. "Goalhood" is just as much of a syntactic primitive as "transitivity": it is merely an emergent feature of a complex configuration.

References

Alexiadou, A., Anagnostopoulou, E. and Schäfer, F. (2015). *External Arguments in Transitivity Alternations: A Layering Approach*, Oxford University Press, Oxford.

Baker, M. (2015). *Case: Its Principles and its Parameters*, Cambridge University Press, Cambridge.

Beck, S. and Johnson, K. (2004). Double objects again, *Linguistic inquiry* **35**(1): 97–123.

Bruening, B. (2010). Ditransitive asymmetries and a theory of idiom formation, *Linguistic Inquiry* **41**(4): 519–562.

Chomsky, N. (2000). Minimalist inquiries: the framework, *in* R. Martin, D. Michaels and J. Uriagereka (eds), *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, MIT Press, Cambridge, MA, pp. 89–115.

Chomsky, N. (2001). Derivation by phase, *in* M. Kenstowicz (ed.), *Ken Hale: A Life in Language*, MIT Press, Cambridge, MA, pp. 1–52.

Collins, C. (2007). Home Sweet Home, *NYU Working Papers in Linguistics* **1**: 1–34.

den Dikken, M. (2010). On the functional structure of locative and directional PPs, *in* G. Cinque and L. Rizzi (eds), *Mapping Spatial PPs. The Cartography of Syntactic Structures, Volume 6.*, Oxford University Press, Oxford, pp. 74–126.

Freeze, R. (1992). Existentials and other locatives, *Language* pp. 553–595.

Gehrke, B. (2008). *Ps in Motion*, LOT, Utrecht.

Harley, H. (2002). Possession and the double object construction, *Linguistic variation yearbook* **2**(1): 31–70.

Harley, H. and Jung, H. K. (2015). In support of the PHAVE analysis of the double object construction, *Linguistic Inquiry* **46**(4): 703–730.

Huybregts, R. and van Riemsdijk, H. (2002). Location and locality, *in* S. Karimi, V. Samiian and W. Wilkins (eds), *Phrasal and Clausal Architecture*, John Benjamins, Amsterdam, pp. 339–364.

Karlsson, F. (2002). *Finnish: An Essential Grammar*, Routledge, London.

Koopman, H. (2010). Prepositions, postpositions, circumpositions, and particles, *in* G. Cinque and L. Rizzi (eds), *Mapping Spatial PPs*, OUP, Oxford, pp. 26–73.

Levin, T. (2015). Licensing without Case, Doctoral Dissertation, MIT.

Levin, T. and Preminger, O. (2014). Case in Sakha: Are two modalities really necessary?, *Natural Language and Linguistic Theory* **33**(1): 231–250.

Lundquist, B. and Ramchand, G. (2013). Objects as locations in english and mainland scandinavian, *The Journal of Comparative Germanic Linguistics* **16**(2-3): 159–187.

Marantz, A. (2013). Verbal argument structure: Events and participants, *Lingua* **130**: 152–168.

Mateu, J. and Acedo-Matellán, V. (2012). The manner/result complementarity revisited: A syntactic approach, *The End of Argument Structure* **38**: 209–228.

Noonan, M. (2010). À to zu, *in* G. Cinque and L. Rizzi (eds), *Mapping Spatial PPs*, OUP, Oxford, pp. 161–195.

Radkevich, N. (2010). On Location: The Structure of Case and Adpositions, Doctoral Dissertation, University of Connecticut.

Ramchand, G. (2008). *Verb Meaning and the Lexicon: A First Phase Syntax*, Oxford University Press, Oxford.

Svenonius, P. (2006). The emergence of Axial Parts, *Tromsø Working Papers in Language and Linguistics, Nordlyd* **33**(1): 49–77.

Svenonius, P. (2010). Spatial P in English, *in* G. Cinque and L. Rizzi (eds), *Mapping Spatial PPs*, OUP, Oxford, pp. 127–160.

Yeon, J. and Brown, L. (2011). *Korean: A Comprehensive Grammar*, Routledge, London.