

Here, there, where
Size tradeoffs in the expression of movement,
direction, and location

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Introduction

HTW are PPs

Movement, Direction and Location

Locative vs directional P (I)

Locative vs directional V

Locative vs directional HTW

Locative vs directional V in Dutch

Locative vs directional P (II)

Analysis

LOC-DIR alternation in HTW

LOC-DIR alternation in P

BE/HAVE alternation

Conclusion

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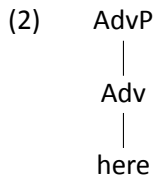
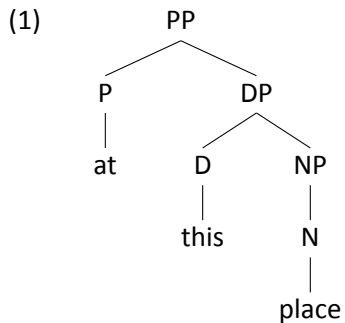
LOC-DIR alternation in P

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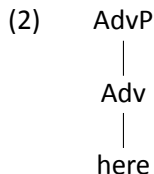
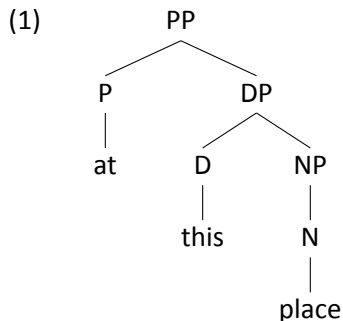
Introduction

- ▶ classical view: words attach under terminal nodes



Introduction

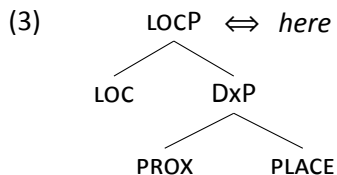
- ▶ classical view: words attach under terminal nodes



- ▶ unsatisfactory for two reasons:
 - ▶ *here* has the external distribution of a PP, not an AdvP
 - ▶ *here* the meaning of *here* is complex: 'at this place'

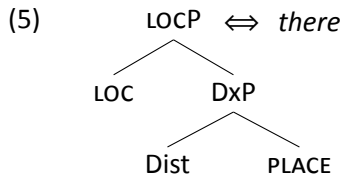
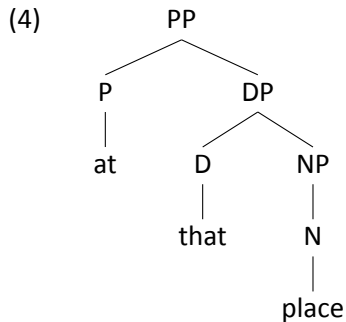
Introduction

- ▶ nanosyntax: words can spell out complex constituents
- ▶ the word *here* spells out the complex constituent 'at this place'
- ▶ 'at this place' = a set of features: {LOC, PROX, PLACE}



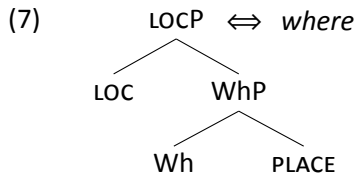
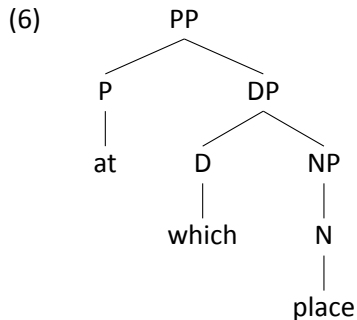
Introduction

► *there*



Introduction

► *where*



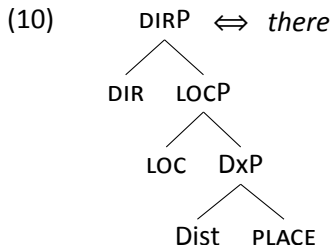
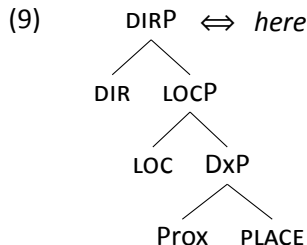
► *here, there, where*: HTW

Introduction

- ▶ HTW can have either a locative or a directional meaning

(8) She danced there_{LOC/DIR}.

- ▶ in the directional sense, HTW realise a larger constituent
- ▶ directional HTW is more complex than/contains locative HTW:



Introduction

$$(11) \quad \text{HTW}_{\text{DIR}} = [\text{DIR} [\text{HTW}_{\text{LOC}}]]$$

▶ more size differences:

$$(12) \quad \begin{aligned} P_{\text{DIR}} &= [\text{DIR} [P_{\text{LOC}}]] \\ V_{\text{DIR}} &= [\text{DIR} [V_{\text{MOM}}]] \end{aligned}$$

Introduction

- ▶ General aim of this paper
 - ▶ show that the above size differences are related
 - ▶ they show **size tradeoffs**: as the size of one element grows, the size of another element shrinks

(13)

STATE	PROC	DIR	LOC	PLACE
dance			there	
dance		there		
go			there	

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HTW are PPs

Burton-Roberts (1991)

	Adv	PP	HTW
substitution	X	✓	✓
complement of V	X	✓	✓
modify Adj/Adv	✓	X	X
postmodify N	X	✓	✓
complement of P	X	✓	✓
take PP complement	X	✓	✓
take <i>right, straight, just</i>	X	✓	✓
locative inversion	X	✓	✓

- ▶ 'adverbs' are undisputed adverbs, marked morphologically by *-ly*

Subcategorisation

- ▶ verbs take NP/PP/VP/AP complements, but hardly any AdvP complements
- ▶ HTW can be complements to verbs

- (16)
- Knut studied [_{NP} archaeology].
 - He focused [_{PP} on the history of art and literature].
 - Events forced him [_{VP} to find employment].
 - She made the cake [_{AP} too sweet].
- (17)
- Stella put the fudge cake here/there.
 - Where do you live?
 - He came here after work.
 - They went there to have fun.

Modification of A/Adv

- ▶ Adverbs can modify adjectives and other adverbs
- ▶ HTW cannot

(18) extremely open, unerringly wise, stunningly beautiful,
possibly dead, indisputably adverbial, frightfully slowly

(19) *there ill, *where pessimistic, *here open

NP postmodification

- ▶ PPs and HTW can function as nominal postmodifiers
- ▶ Adverbs cannot

- (20) a. the man on the television, the tables in the garden, the
time of the game, the state of affairs at that time
b. the man here, the tables there
- (21) *the man carefully, *the tables distantly, *the time quickly,
*the state of affairs peacefully

Complement of P

- ▶ PPs and HTW can be complements of prepositions
- ▶ Adverbs cannot

- (22) a. down in the basement, out in the garden, (out) from
under the bed, since before Christmas, until after Easter
b. down here, out there, from where
- (23) *down freely, *out openly, *from closely, *since immediately,
*until lately

PP complements

- ▶ PPs and HTW can take PP-complements
- ▶ Adverbs cannot

- (24) a. at this place in town, at that place at the back, at which place in the barn, at what time in the Spring
b. here in town, there at the back, where in the barn
- (25) *closely in town, *distantly at the back, *lately in the Spring

Modification by *right/straight/just*

- ▶ '[i]n accepted American speech, **the emphatic word *right* modifies only prepositions of space and time**, but not other syntactic categories such as adjectives, adverbs, modals, etc.' (Emonds 1972: 551)

- (26) right up the street, right through the door, straight to the post office, just round the corner
- (27) a. *He agreed right/straight with me.
b. *the conquest right/straight/just of Rome
- (28) *right quickly, *straight pessimistically, *just silently, *right frequently
- (29) a. right here/there
b. straight here/there
c. just here/there/where

Locative inversion

- ▶ possible both with locative PPs and HTW
- ▶ impossible with adverbs

- (30)
- Into the house he ran!
 - Down the street rolled the carriage!
 - Out of the window jumped the cat!
- (31)
- There stood the man!
 - Here comes the Queen!
 - There's an idea for you!
- (32)
- *Noisily he ran!
 - *Crazily rolled the carriage!
 - *Quickly she goes!

HTW are PPs

- ▶ HTW pattern systematically with PPs, and unlike adverbs

	Adv	PP	HTW
substitution	X	✓	✓
complement of V	X	✓	✓
modify Adj/Adv	✓	X	X
postmodify N	X	✓	✓
complement of P	X	✓	✓
take PP complement	X	✓	✓
take <i>right, straight, just</i>	X	✓	✓
locative inversion	X	✓	✓

HTW are PPs

- ▶ HTW are prepositions (Burton-Roberts 1991: 171)
- ▶ HTW derive from an underlying PP-like structure (Katz and Postal 1964)

(33) here : at this place
 there : at that place
 where : at what place

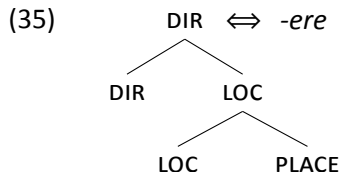
- ▶ *here* and *there* are licensed in a structure with silent nouns (Kayne 2005)

(34) THIS *here* PLACE
 THAT *there* PLACE

- ▶ Aarts (2013): HTW are PPs
- ▶ HTW correspond with a subclass of the PPs, namely those with a locative or directional meaning

HTW are PPs

- ▶ HTW are decomposable into
 - ▶ a deictic/wh part *h-/th-/wh-* (henceforth ignored in this talk)
 - ▶ a locative/directional part *-ere*
- ▶ *-ere* is the phrasal spellout of an abstract set of features expressing direction/location, and an abstract noun PLACE



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Locative vs directional P (I)

- ▶ certain types of P only have a locative meaning, while others are directional (Déchaine et al. 1995)

- (36) a. a train in_{LOC}/to_{DIR} Paris
b. the roads in_{LOC}/to_{DIR} Paris.
- (37) a. un train $à_{LOC}/vers_{DIR}$ Paris
b. les routes $à_{LOC}/vers_{DIR}$ Paris.
- (38) a. een trein $in_{LOC}/naar_{DIR}$ Parijs
b. de wegen $in_{LOC}/naar_{DIR}$ Parijs.

Locative vs directional P (I)

- ▶ directions are more complex than/contain locations (Koopman 2000; Van Riemsdijk and Huybregts 2002; Kracht 2002; Zwarts 2005; Den Dikken 2010; Cinque 2010; Svenonius 2010; Caha 2010; Pantcheva 2011)
- ▶ the difference between P_{LOC} and P_{DIR} is a difference in size:

(39)

DIR	LOC	PLACE
	in	Paris
to		Paris

- ▶ $P_{DIR} = [DIR [P_{LOC}]]$

Locative vs directional P (I)

- ▶ Why do purely locative Ps sometimes have an apparent motion sense?

- (40)
- She went/came/fell/jumped/flew in_{DIR} the water.
 - Ce train va à_{DIR} Paris.
this train goes at Paris
'This train goes to Paris.'

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Locative vs directional V

- ▶ different verb types:
 - ▶ stative verbs (e.g. *be*): LOC (41a)
 - ▶ manner of motion (V_{MOM}) verbs (e.g. *dance, walk, run*) (41b)
 - ▶ verbs of directed motion (V_{DIR}) (e.g. *go, fall, jump, fly*) (41c)

- (41)
- a. She is_{STATE} in_{LOC} Paris.
 - b. She danced_{MOM} in_{LOC} the park.
 - c. She went_{DIR} in_{DIR} the water.

Locative vs directional V

- ▶ manner of motion verbs are more complex than/contain stative verbs
- ▶ verbs of directed motion are more complex than/contain manner of motion verbs

(42)

STATE	PROC	DIR
be		
dance		
go		

- ▶ $V_{DIR} = [DIR [V_{MOM}]]$

Locative vs directional V

- ▶ verbs of directed motion (*go, jump, fly*) can realise DIR (Fábregas 2007; Caha 2010)
- ▶ this allows a purely locative preposition to appear to have a directional sense: DIR is actually spelled out by the verb

(43)

STATE	PROC	DIR	LOC	PLACE
be			in	Paris
dance			in	the room
go			in	the water

Locative vs directional V

- ▶ manner of motion verbs (*dance, walk, run*) are unable to spell out DIR
- ▶ with these verbs, *in* can only have a locative sense

- (44) a. She danced in_{LOC} the park.
b. She danced to_{DIR} the park.

- ▶ neither the verb nor *in* can realise DIR
- ▶ a directional P like *to* is needed to realise a directional sense

(45)

	DIR	LOC	PLACE
dance		in	the park
dance	to		the park

Locative vs directional V

- ▶ some verbs are ambiguous between a directed motion reading and a manner of motion reading
- ▶ *fall, jump, and fly* (but not *come* or *go*) can occur with both a directional or a locative PP

- (46) a. She fell in the water_{DIR}.
b. She fell in the bathroom_{LOC}.

- (47) a. The children were jumping in the water_{LOC}.
b. The children jumped in the water_{DIR}.

(48)

	DIRECTED MOTION	MANNER OF MOTION
go, come	✓	✗
dance, walk, run	✗	✓
fall, jump, fly	✓	✓

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Locative vs directional HTW

- ▶ English HTW can be either locative or directional
- ▶ The locative sense of HTW appears with
 - ▶ stative verbs
 - ▶ manner of motion verbs
 - ▶ directional verbs
- ▶ The directional sense of HTW becomes apparent with manner of motion verbs

- (49)
- The pharmacy is there_{LOC}.
 - She danced_{MOM} there_{LOC/DIR}.
 - She came_{DIR} here_{LOC} yesterday.

Locative vs directional HTW

(50)

STATE	PROC	DIR	LOC	PLACE
be				there
dance				there
dance			there	
go				there

- ▶ directional HTW is more complex than/includes locative HTW
- ▶ $HTW_{DIR} = [DIR [HTW_{LOC}]]$

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Locative vs directional V in Dutch

- ▶ Dutch has the same verb classes as English:

(51)

	DIRECTED MOTION	MANNER OF MOTION
gaan, komen	✓	✗
dansen, wandelen	✗	✓
springen, vliegen	✓	✓

Locative vs directional V in Dutch

- ▶ Dutch has the same verb classes as English:

(51)

	DIRECTED MOTION	MANNER OF MOTION
gaan, komen	✓	✗
dansen, wandelen	✗	✓
springen, vliegen	✓	✓

- ▶ the directional/locative meaning correlates perfectly with auxiliary choice in the perfect:

(52)

	BE	HAVE
gaan, komen	✓	✗
dansen, wandelen	✗	✓
springen, vliegen	✓	✓

Locative vs directional V in Dutch

- (53) a. Het vliegtuig **is** naar_{DIR} Bratislava gevlogen.
the airplane is to Bratislava flown
'The plane flew to Bratislava.'
- b. Het vliegtuig **heeft** op_{LOC} grote hoogte gevlogen.
The airplane has at great altitude flown
'The plane flew at high altitude.'
- why is the choice of auxiliary the way it is, rather than the other way round?

Locative vs directional V in Dutch

- ▶ HAVE/BE alternation in the expression of possession
 - ▶ HAVE = BE + P (Freeze 1992; Kayne 1993; Hoekstra 1994; 1995)
 - ▶ expression of possession with BE typically involves dative case:

- (54)
- mihi est liber (Latin)
me.DAT is book
'I have a book.'
 - mám knihu (Czech)
I.have book.ACC

Locative vs directional V in Dutch

- ▶ HAVE is bigger than (contains) BE
- ▶ DAT is bigger than (contains) ACC (Caha 2009)
- ▶ size tradeoff: as the verb grows, the case shrinks (from DAT to ACC):

(55)

BE	DAT	ACC
est	mihi	
mám		knihu

- ▶ HAVE = [DAT [BE]]

Locative vs directional V in Dutch

- ▶ $HAVE = [DAT [BE]]$
- ▶ $V_{DIR} = [DIR [V_{PROC}]]$
- ▶ size tradeoff: as the auxiliary grows, the motion verb shrinks:

(56)

BE	DAT/DIR	PROC
BE		komen, gaan
	HAVE	wandelen, dansen

- ▶ auxiliary selection is a function of the size of the main verb

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Locative vs directional P (II)

- ▶ earlier we saw $P_{LOC} \neq P_{DIR}$ and $V_{LOC} \neq V_{DIR}$
- ▶ P_{LOC} (e.g. *in*) could express direction in combination with a motion verb
- ▶ another way in which a directional reading can arise with P_{LOC} is through postpositional order, e.g. Dutch:

- (57)
- de weg in_{LOC} het bos
the road in the wood
 - de weg het bos in_{DIR}
the road the wood into
'the road in(to) the wood.'

Locative vs directional P (II)

- ▶ earlier we saw $P_{LOC} \neq P_{DIR}$ and $V_{LOC} \neq V_{DIR}$
- ▶ P_{LOC} (e.g. *in*) could express direction in combination with a motion verb
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- (57)
- a. de weg in_{LOC} het bos
the road in the wood
 - b. de weg het bos in_{DIR}
the road the wood into
'the road in(to) the wood.'

- ▶ how can *in* denote a direction, given that it is inherently locative, and there is no motion verb from which the directionality could come?
- ▶ all Dutch locative prepositions show this property

Locative vs directional P (II)

- ▶ in many languages, this LOC-DIR alternation in the meaning of prepositions correlates with a change in case marking, e.g. German:

- (58)
- a. Alex tanzte in_{LOC} dem $_{DAT}$ Zimmer.
Alex danced in the.DAT room
'Alex danced in the room.'
 - b. Alex tanzte in_{DIR} das $_{ACC}$ Zimmer.
Alex danced into the.ACC room
'Alex danced into the room.'

Movement, Direction and Location

- ▶ DAT is more complex than/contains ACC (Caha 2009)
- ▶ $DATP = [DAT [ACC]]$
- ▶ size tradeoff:
 - ▶ the smaller P_{LOC} has the larger case (e.g. DAT)
 - ▶ the larger P_{DIR} has the smaller case (e.g. ACC)

(59)

P	DAT	ACC
in_{LOC}	dem	
in_{DIR}		das

- ▶ $IN_{DIR} = [DAT [IN_{LOC}]]$

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$$\begin{aligned}(60) \quad P_{\text{DIR}} &= [\text{DIR} [P_{\text{LOC}}]] \\ V_{\text{DIR}} &= [\text{DIR} [V_{\text{MOM}}]] \\ \text{HTW}_{\text{DIR}} &= [\text{DIR} [\text{HTW}_{\text{LOC}}]] \\ \text{DATP} &= [\text{DAT} [\text{ACC}]] \\ \text{IN}_{\text{DIR}} &= [\text{DAT} [\text{IN}_{\text{LOC}}]] \\ \text{HAVE} &= [\text{DAT} [\text{BE}]]\end{aligned}$$

Analysis

$$\begin{aligned}(60) \quad P_{\text{DIR}} &= [\text{DIR} [P_{\text{LOC}}]] \\ V_{\text{DIR}} &= [\text{DIR} [V_{\text{MOM}}]] \\ \text{HTW}_{\text{DIR}} &= [\text{DIR} [\text{HTW}_{\text{LOC}}]] \\ \text{DATP} &= [\text{DAT} [\text{ACC}]] \\ \text{IN}_{\text{DIR}} &= [\text{DAT} [\text{IN}_{\text{LOC}}]] \\ \text{HAVE} &= [\text{DAT} [\text{BE}]]\end{aligned}$$

► DIR = DAT?

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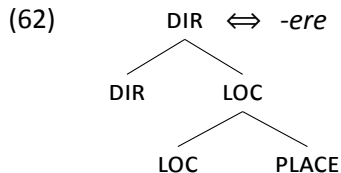
Conclusion

LOC-DIR alternation in HTW

- ▶ HTW show DIR-LOC alternation

(61) She danced there_{LOC/DIR}.

- ▶ HTW are the phrasal spellout of a constituent corresponding to a locative/directional PP.



LOC-DIR alternation in HTW

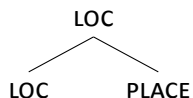
- ▶ the HTW DIR-LOC alternation is a case of syncretism

(63) *The Superset Principle*

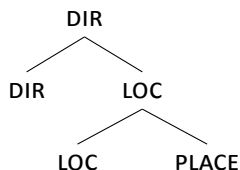
A lexically stored tree λ can spell out a syntactic constituent σ iff λ contains σ as a subtree.

- ▶ *-ere* can spell out both syntactic trees in (64) and (65)

(64)



(65)



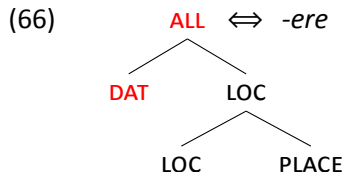
LOC-DIR alternation in HTW

HTW are composed of

- ▶ an ontological category PLACE (like THING, PERSON, etc.; see Baunaz and Lander 2018)
- ▶ two features (DIR and LOC) jointly contributing directionality

What are DIR and LOC?

- ▶ allative case (ALL) is composed of DAT and LOC (Caha 2017)



LOC-DIR alternation in HTW

- ▶ Waris (Papuan): ALL = DAT + LOC

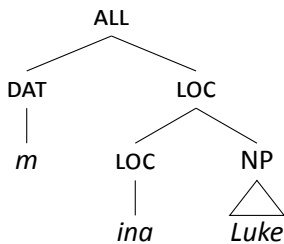
(67) DAT Him-ba buku ka-**m** vrahoi.
he-TOP book I-DAT gave
'He just gave me a book.'

LOC Ovla deuv-**ra** ka-**ina** dihel-v.
knife house-LOC I-LOC exist-PRS
'The knife is at my house' (lit. at the house at me).

ALL Deuv-**ra-m** Luk-**ina-m** ka-va ga-v.
house-LOC-DAT Luke-LOC-DAT I-TOP go-PRS
'I go to Luke's house.'

LOC-DIR alternation in HTW

(68)



LOC-DIR alternation in HTW

(69) $HERE_{ALL} = [DAT [HERE_{LOC}]]$

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LOC-DIR alternation in P

(70)

P	DAT	ACC
in_{LOC}	dem	
in_{DIR}		das

- ▶ size tradeoff: the larger case (DAT) correlates with the smaller P, the smaller case (ACC) with the larger P
- ▶ $IN_{DIR} = [DAT [IN_{LOC}]]$

LOC-DIR alternation in P

- ▶ peeling derivation: the dative location moves to become an accusative, and leaves behind a dative 'peel', which creates IN_{DIR} (Caha 2007; 2009; 2010)

- (71)
- a. [in_{LOC} [DAT DAT [ACC ACC [NOM NOM [...]]]]]
 - b. [[ACC ACC [NOM NOM [...]]] ... [in_{LOC} [DAT DAT]] $_{DIR}$]

- ▶ Dutch postpositional order (creating P_{DIR} from P_{LOC}) likewise results from this peeling movement

Introduction

HTW are PPs

Movement, Direction and Location

Locative vs directional P (I)

Locative vs directional V

Locative vs directional HTW

Locative vs directional V in Dutch

Locative vs directional P (II)

Analysis

LOC-DIR alternation in HTW

LOC-DIR alternation in P

BE/HAVE alternation

Conclusion

BE/HAVE alternation

- ▶ $HAVE = [DAT [BE]]$
- ▶ $V_{DIR} = [DAT [V_{PROC}]]$
- ▶ size tradeoff: as the auxiliary grows, the motion verb shrinks:

(74)

BE	DAT	PROC
BE		komen, gaan
HAVE		wandelen, dansen

- ▶ auxiliary selection is a function of the size of the main verb

Analysis

$$\begin{aligned}(75) \quad P_{\text{DIR}} &= [\text{DAT} [P_{\text{LOC}}]] \\ V_{\text{DIR}} &= [\text{DAT} [V_{\text{MOM}}]] \\ \text{HTW}_{\text{DIR}} &= [\text{DAT} [\text{HTW}_{\text{LOC}}]] \\ \text{DATP} &= [\text{DAT} [\text{ACC}]] \\ \text{IN}_{\text{DIR}} &= [\text{DAT} [\text{IN}_{\text{LOC}}]] \\ \text{HAVE} &= [\text{DAT} [\text{BE}]]\end{aligned}$$

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Conclusion

- ▶ HTW correspond to PPs with a locative or directional sense
- ▶ the directional structure includes the locative one as a proper subpart
- ▶ similar inclusion relations are observed with
 - ▶ verbs of directed motion and manner of motion
 - ▶ HAVE and BE
 - ▶ DAT and ACC
 - ▶ directional and locative P
- ▶ size tradeoffs can be observed when these elements combine

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