

A Corpus of Preposition Supersenses

- **Preposition supersenses:** semantic functions/thematic roles marked by English prepositions (Schneider et al., 2015)
- **Comprehensive annotation:** manually tagged all preposition tokens & types
- **Analysis** of distribution of semantic functions
- **Corpus** release

Prepositional **polysemy** is rampant.

They ran **to** the roof **for** a quick escape.
DESTINATION PURPOSE

They made **for** the roof **to** escape the cops.

Linguists group together related functions with terms like “locative”. Based on (Schneider et al., LAW 2015), we apply a hierarchy of 75 **supersenses** for **comprehensive** annotation of English prepositions in a 55,000 word corpus of web reviews.

Category	Discussion	Read	Edit	View History	Search
Category:In					
	Definition	Example		Supersense	
In 1(1)	expressing the situation of something that is or appears to be enclosed or surrounded by something else:	I'm living in London; she saw the bus in the rear-view mirror.		SST-Location	
In 1(1)-1	used to introduce someone's clothing	Trouserless men looked absurd in socks.		SST-Attribute	
In 10(7a)	indicating the key in which a piece of music is written:	Mozart's Piano Concerto in E flat.		SST-Attribute	
In 11(8)	as an integral part of (an activity):	In announcing the program, Compsharephse pointed out the environmental benefits of reducing the use of valuable resources such as trees: He was unsuccessful in running for president		SST-Circumstance	
In 12(9)	expressing a value as a proportion of (a whole):	a local income tax running at six percent in the pound.; Perhaps only on one twentieth of the city's adult residents had been born there.		SST-Superset, Value	
In 2(1a)	expressing motion with the result that something ends up within or surrounded by something else:	don't put coal in the bath; he got in his car and drove off;		SST-Location	
In 3(2)	expressing a period of time during which an event happens or a situation	they met in 1885; at one o'clock in the morning; i hadn't seen him yet; in years; in my life I have never been so many miles from home the fastest met		SST-DeicticTime, Time	

Page	Discussion
In 4(3)	
Contents [show]	
Definition [edit]	expressing the length of time before a future event is expected to happen:
Example [edit]	It'll see you in fifteen minutes.
DeicticTime	
Relabeling Comments [edit]	
Comments [edit]	In "terasure" occurs in some cases; see Quirk 9.35, 9.40
Attachment Properties [edit]	an event or situation placeable in the future
Complement Properties [edit]	a period of time
FrameNet [edit]	Departing:Time;
Other Prepositions [edit]	
Numbers [edit]	Training: 1 Testing: 1 TPP Sense: 4(3)
Notes [edit]	Distinct from temporal senses in 3(2) and in X1. See notes.
Categories: In	SR-Temporal SemRole-FutureTime SST-DeicticTime

In PrepWiki, example sentences are grouped by TPP sense but mapped individually to supersenses.

PrepWiki (Schneider et al. 2015)

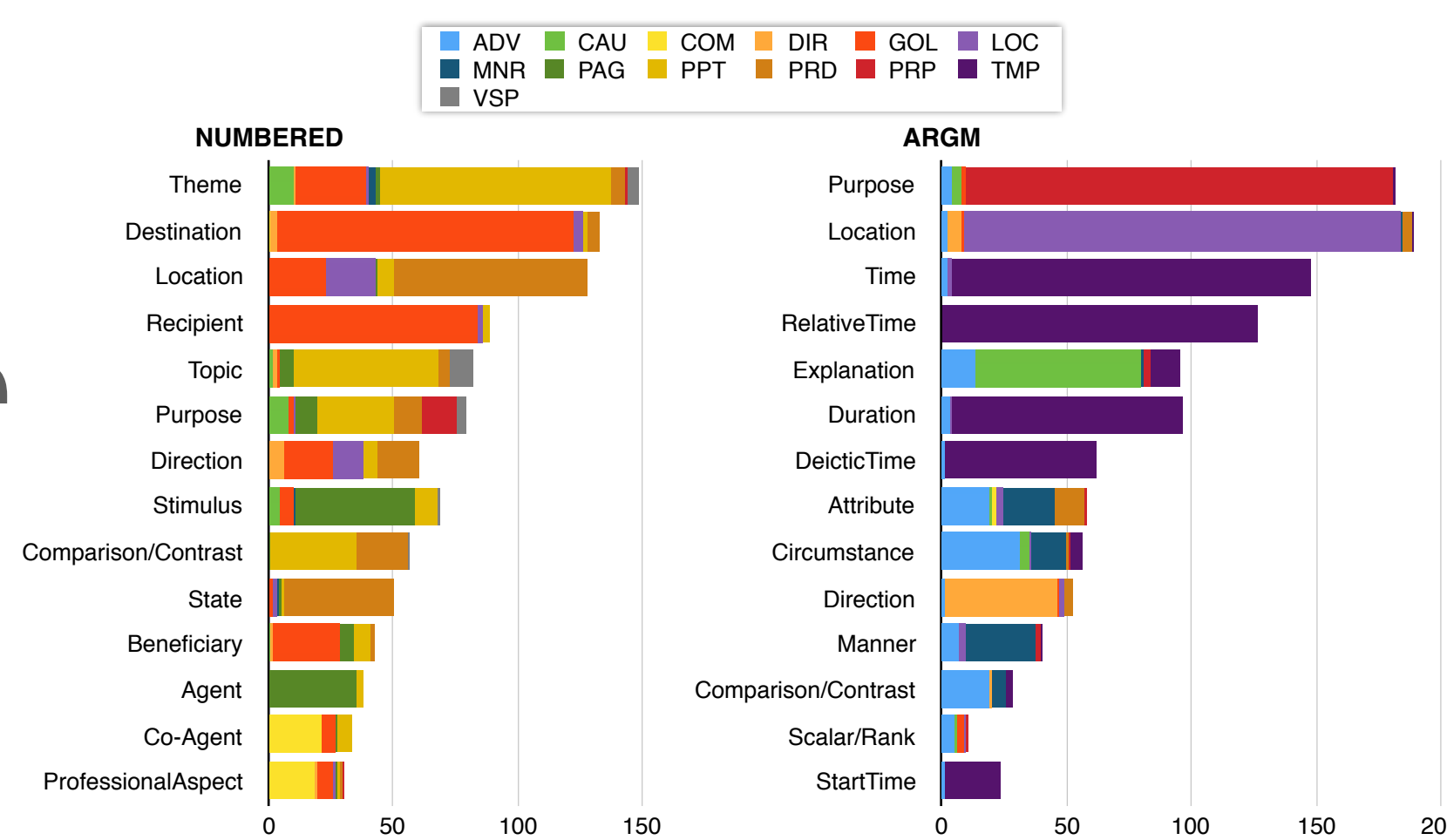
Annotation

All sentences were independently annotated **twice**, then adjudicated by an expert annotator

- Original IAA rates varied considerably; mostly 60%–78%
- IAA between experts: 88%

I was able to cancel it but only after paying a \$ 50 fee (RelativeTime	possession	POSSSESSION
which the staff person who signed me up stated I would not have to	GROUP	PERSON	communicat
pay if I had proof of moving) and being spoken	possession	stative	COGNITION
to in a very belittl	Recipient	Manner	
I was able to cancel it but only who signed me up stated I would being spoken-to in a very belitt	Quantity	Possessor	Whole
	Superset	Topic	
	Theme	Patient	
	Instance	Agent	
	Material	Element	
	Stimulus	Causar	
	Species	Attribute	
	Creator		

PropBank analysis



Preposition supersenses

The English Web Treebank Reviews corpus had already been analyzed for **comprehensive multiword expressions** (Schneider et al. 2014) and **noun and verb supersenses** (Schneider & Smith 2015).

multiword preposition

Because_of/EXPLANATION the ants I dropped them
to/ENDSTATE a 3_star .

I was told to/i take my coffee to_go/MANNER if I
wanted to/i finish it .

With/ATTRIBUTE higher than/SCALAR/RANK
average prices to_boot/d !

idiomatic PPs

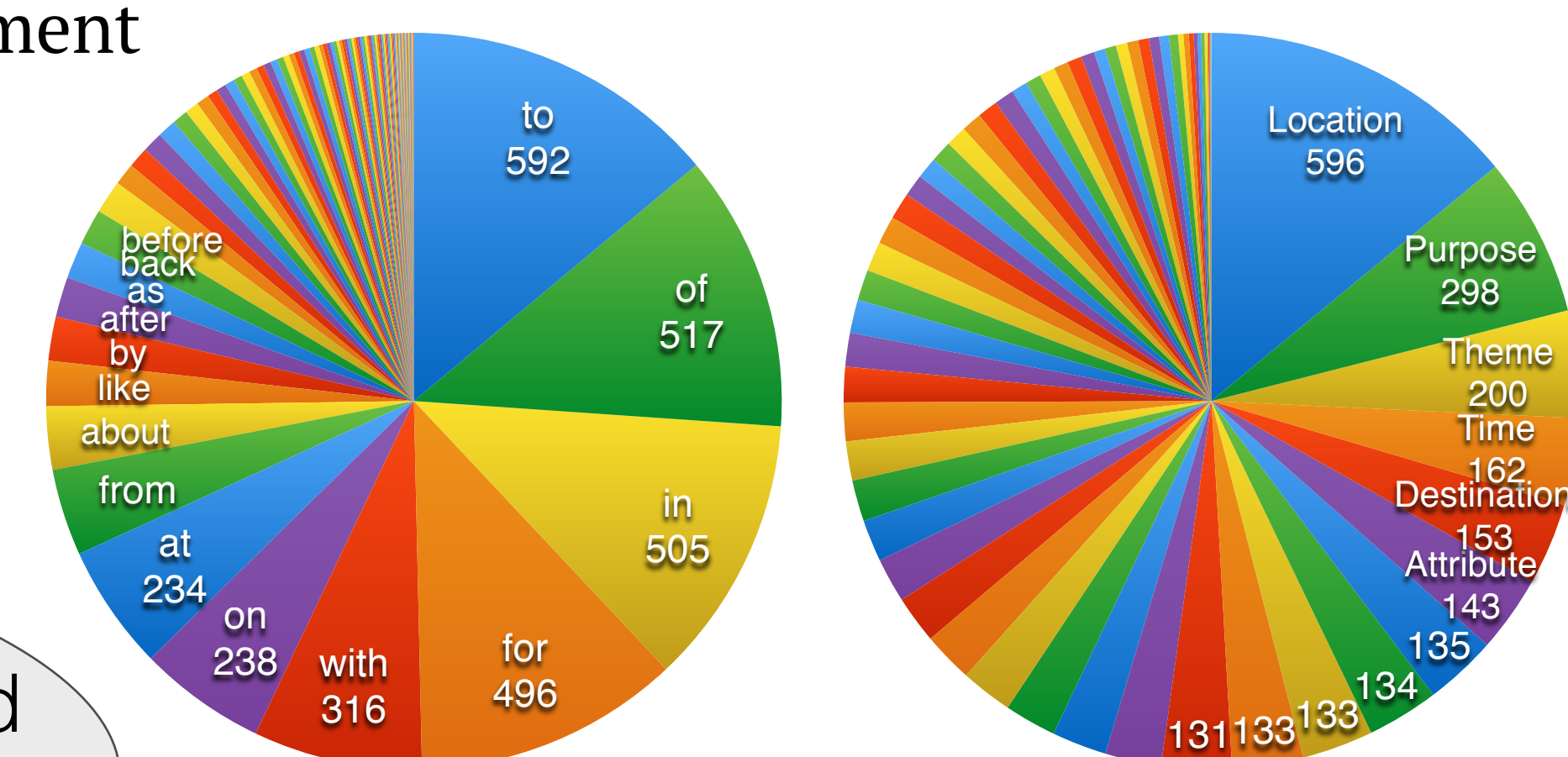
I had been a patient of Dr. Olbina for 9 years and
had spent thousands of dollars on crowns etc .

Special (non-supersense) labels:

d = discourse

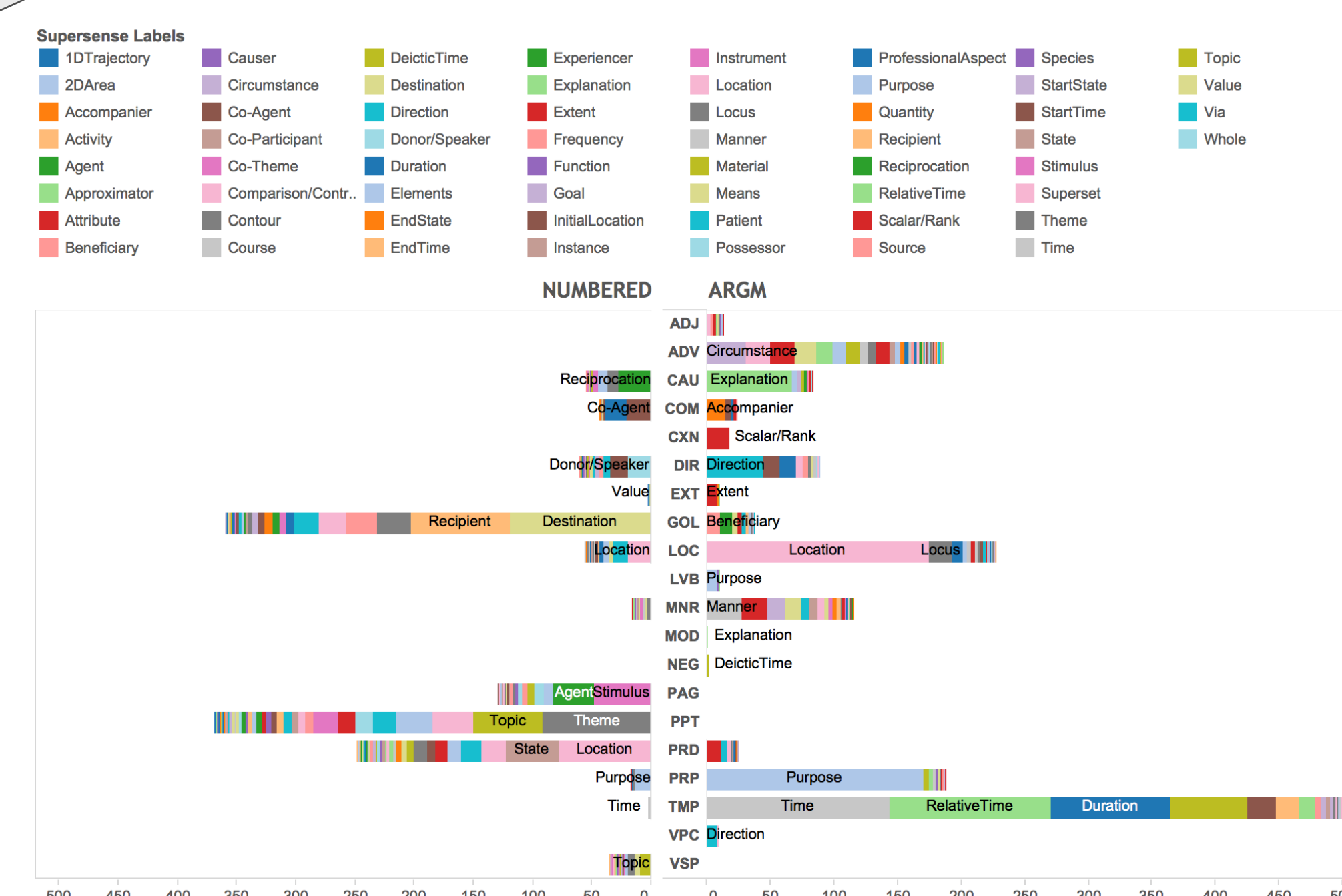
i = infinitival complement

N = 4250



preposition types (114)

supersenses (63)



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English preposition corpus @ <http://tiny.cc/prepwiki>