



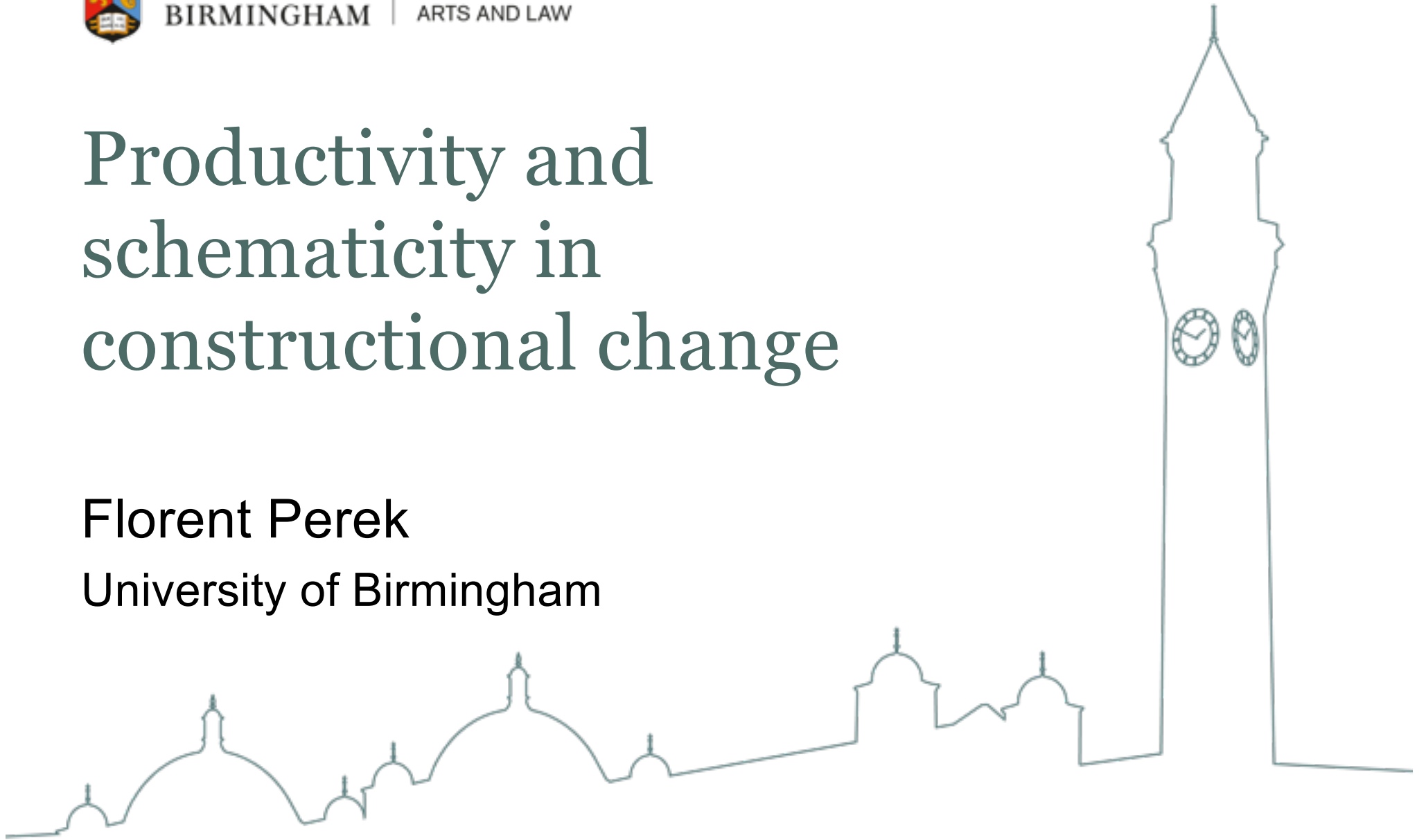
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Productivity and schematicity in constructional change

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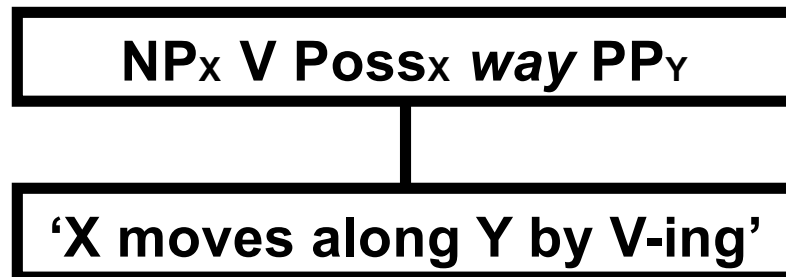


Diachronic construction grammar

- New approach to language change
- Grammar = inventory of form-meaning pairs, aka constructions
- E.g., the *way*-construction

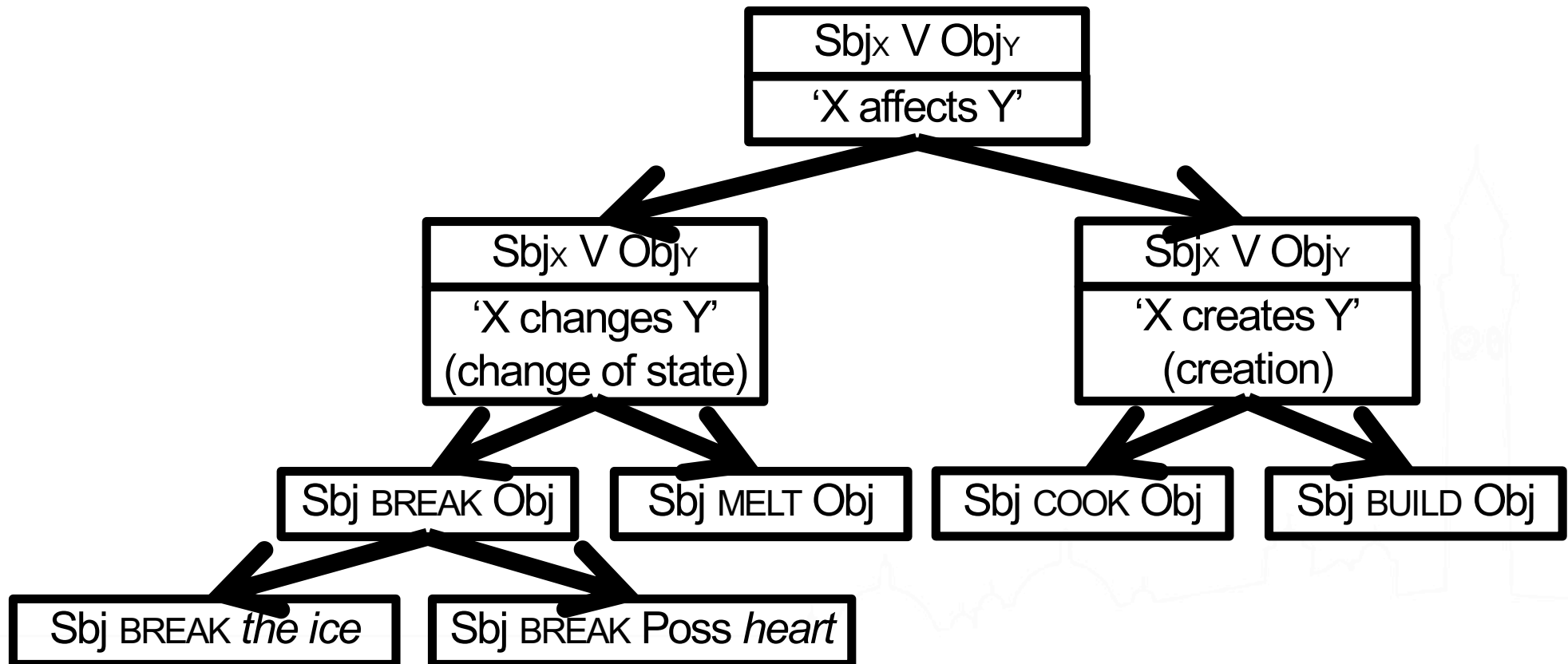
They hacked their way through the jungle.

We pushed our way into the pub.



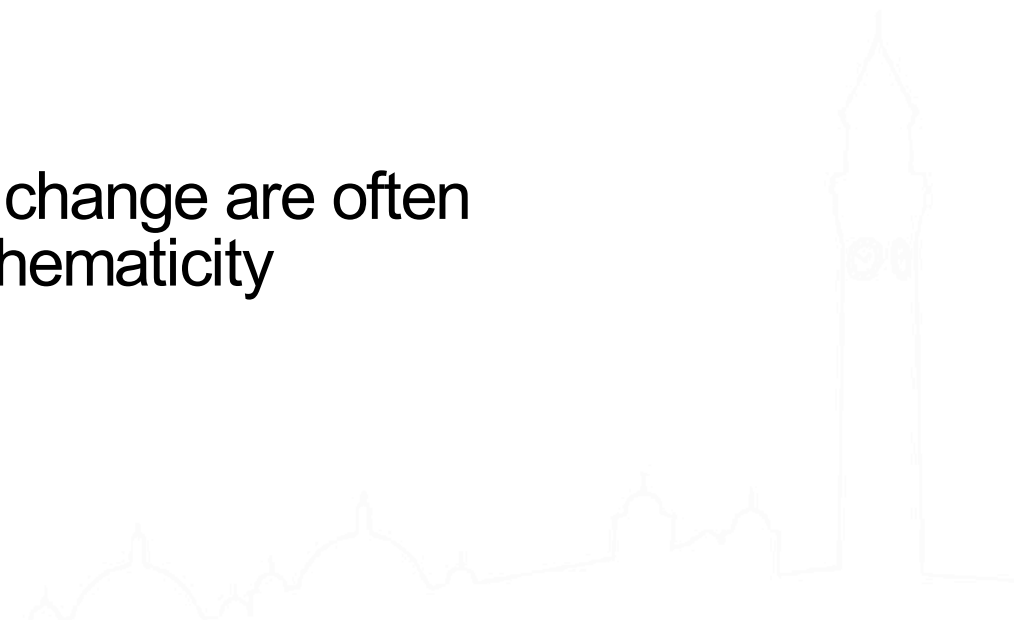
Diachronic construction grammar

- Constructions can be defined at any level of generality
- They can be related in a taxonomic network



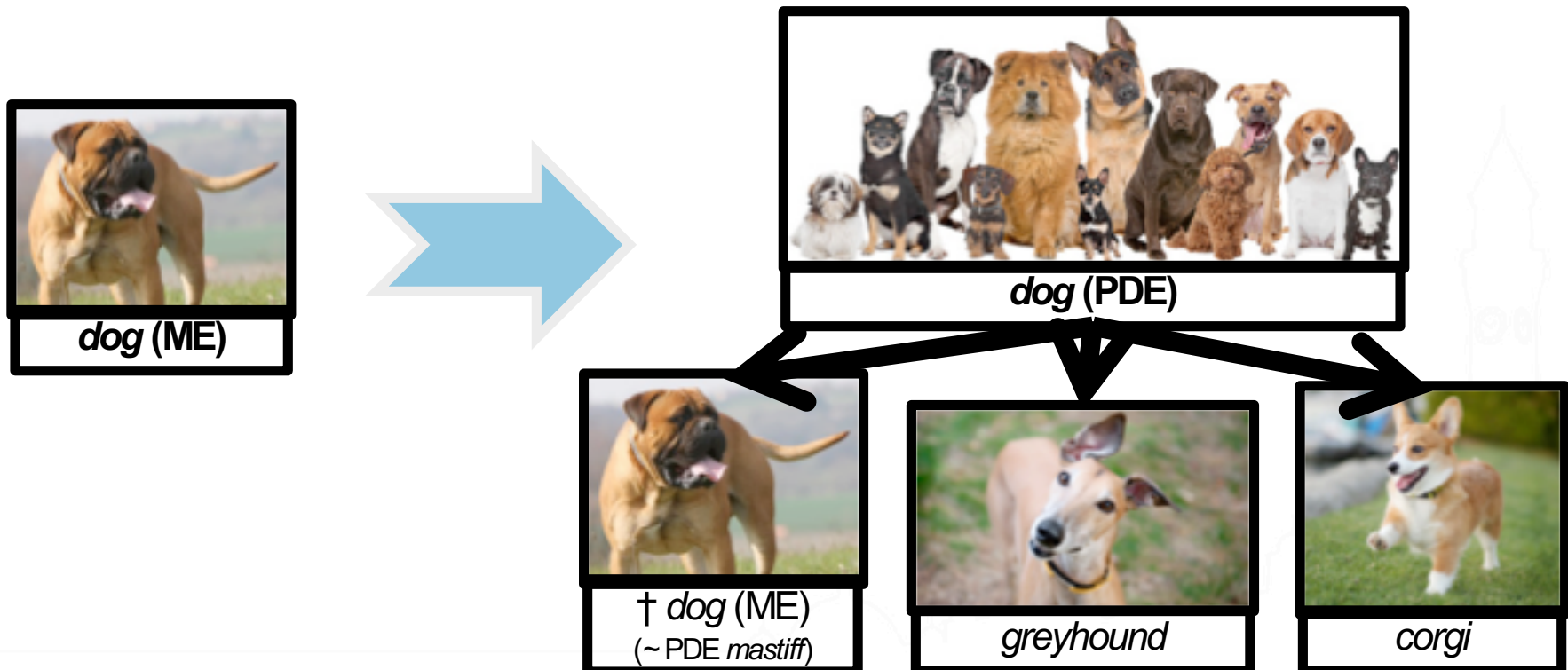
Two types of change in DCxG

- **Constructionalization:** creation of a new form-meaning pair, usually from instances of existing constructions
- **Constructional change:** change in the properties of existing constructions
- Two aspects of constructional change are often discussed: productivity and schematicity



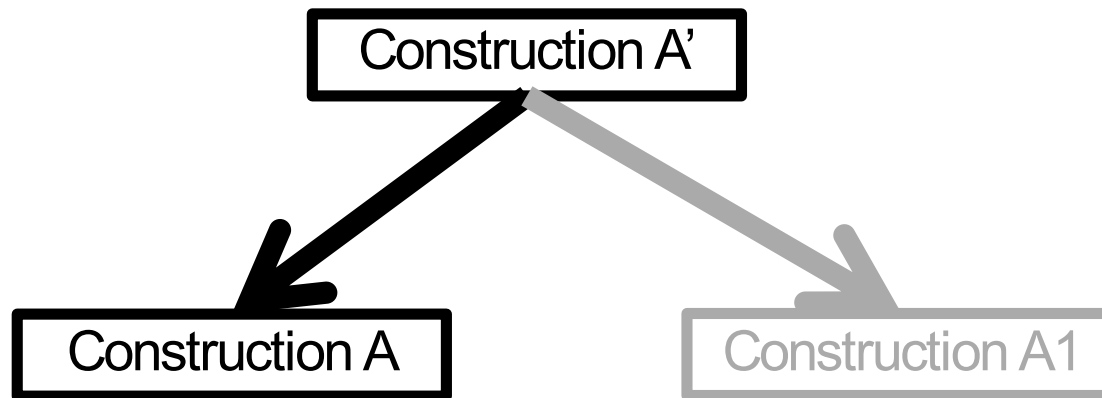
Schematicity

- The level of generality in the meaning of a construction
- Change in schematicity: a construction takes a more general/specific meaning



Schematicity

- Increase in schematicity: creation or reinforcement of a node higher up the taxonomic hierarchy of constructions
- Reinforcement = the node becomes more available for categorization

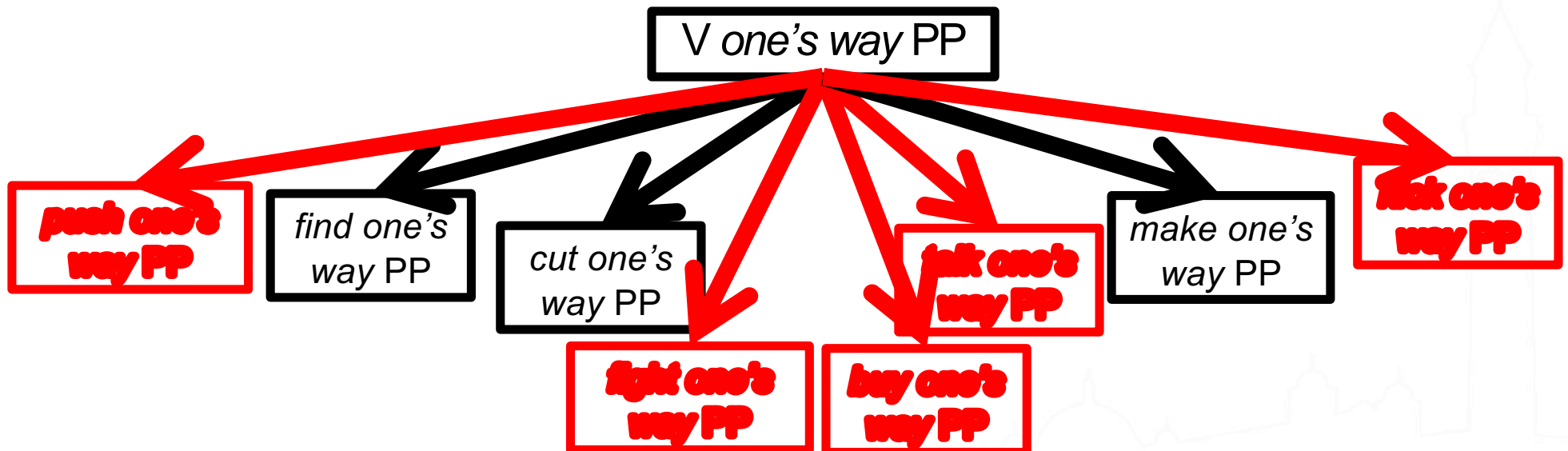


Productivity

- Property of a construction to be used with new lexical items ('extensibility', Barðdal 2008)
- 'Extensibility' not measurable in earlier periods
- But its implications can: diachronic variation in the range of lexical fillers that can be used in a construction

Productivity

- Productivity involves the creation of new nodes subordinate to a construction
- Changes in productivity are measured by the lexical distribution of a construction at different points in time



Productivity and schematicity

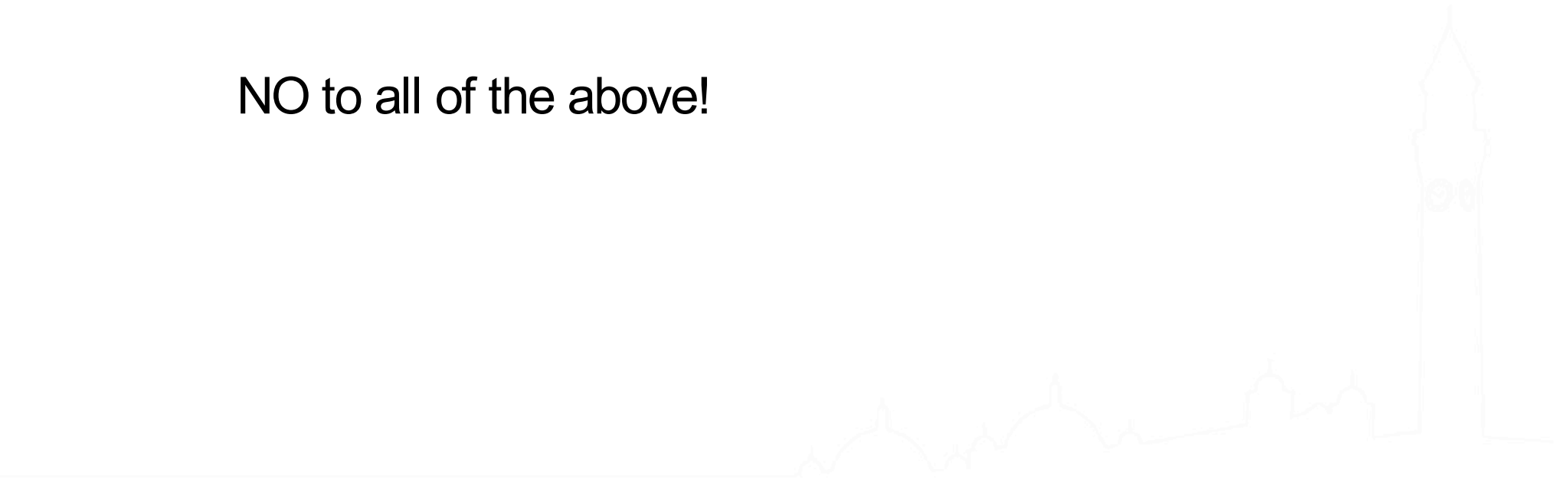
- Commonly thought to be interrelated
- A more schematic meaning can be applied to a wider range of situations
- Hence, more items are compatible with the schema
- Conversely, the occurrence of new types may contribute to schema extension
- If a new type is not covered by the schema, the latter can be adjusted (coercion)



Productivity and schematicity

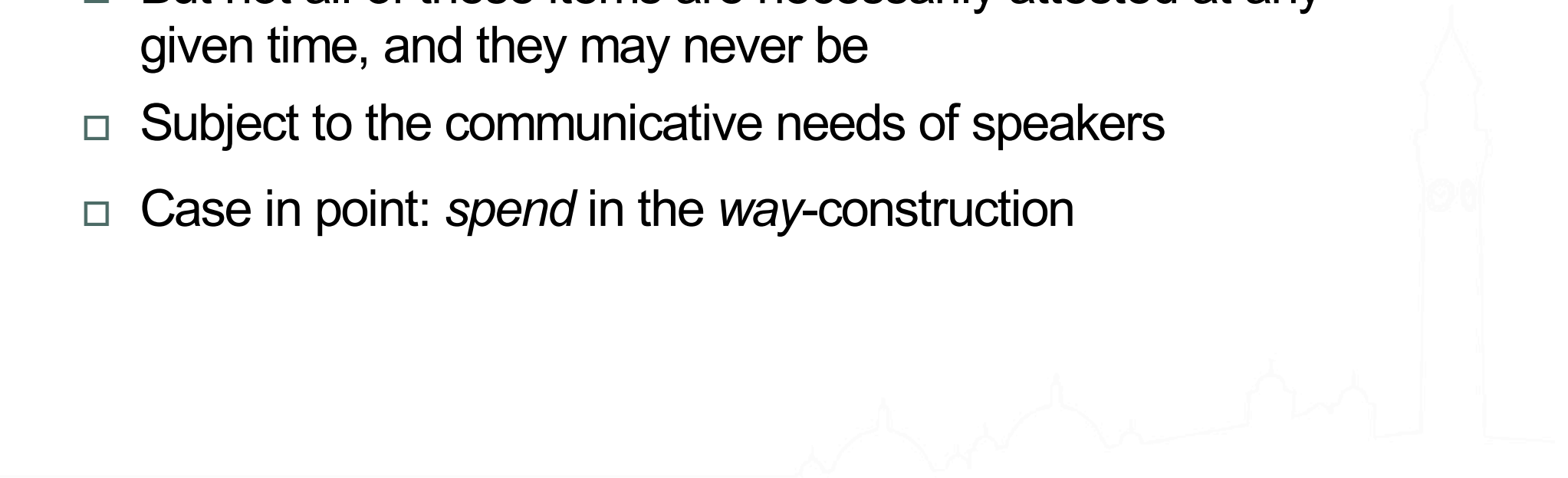
- Schematicity = productivity?
- Can the two notions be collapsed?
- Can the distribution of a construction be used to make claims about its schematicity?

NO to all of the above!



Schematicity → productivity?

- Changes in constructional meaning do not always entail changes in productivity
- At best, schematicity defines the productivity domain, i.e., the set of items that *may* be used in the construction
- But not all of these items are necessarily attested at any given time, and they may never be
- Subject to the communicative needs of speakers
- Case in point: *spend* in the *way*-construction



Schematicity → productivity?

- First instances in the 1930s: linked to the New Deal

Is it true that we can spend our way to prosperity? (1935)

There is no recorded instance of any nation having spent its way out of a depression. (1935)

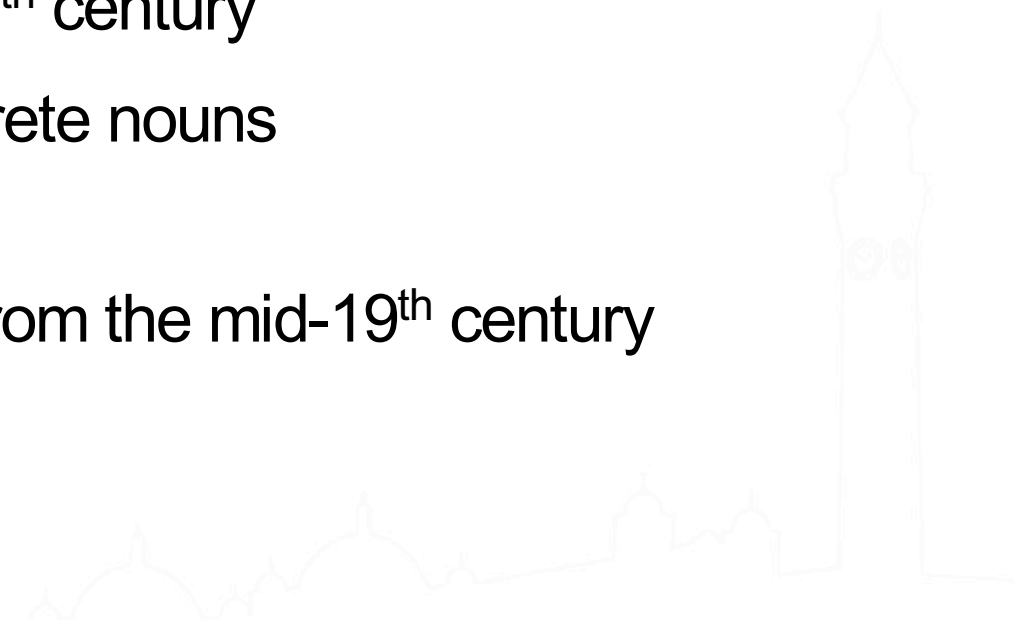
[S]uch a statement stands in clear opposition to the Administration's philosophy of spending our way into recovery. (1939)

- *Spend* could have been used in the construction earlier
- But it is this socio-historical context that coined it



Schematicity → productivity?

- The literature typically reports gradual expansion of the distribution of constructions
- E.g., *a lot of / lots of* (Traugott & Trousdale 2013)
[*a lot*_{head} [*of* N]] ‘set of N’ → [[*a lot of*] N_{head}] ‘many N’
- Constructionalization in the 18th century
- Initially used mostly with concrete nouns
a lot of people / goods / land ...
- Open to abstract nouns only from the mid-19th century
a lot of power / ideas / love ...



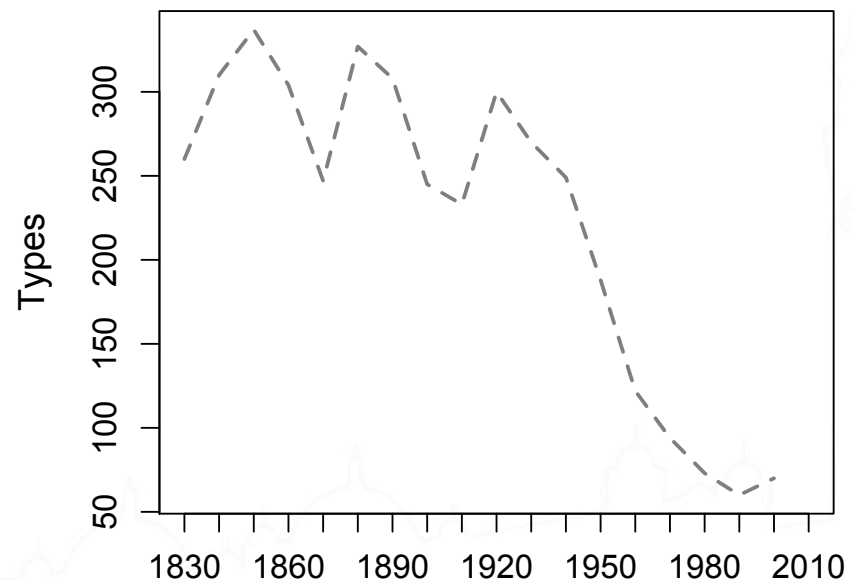
Schematicity → productivity?

- Quantifier *many a* N (Hilpert 2012, Hilpert & Perek 2015)

Many a sailor has suffered from scurvy.

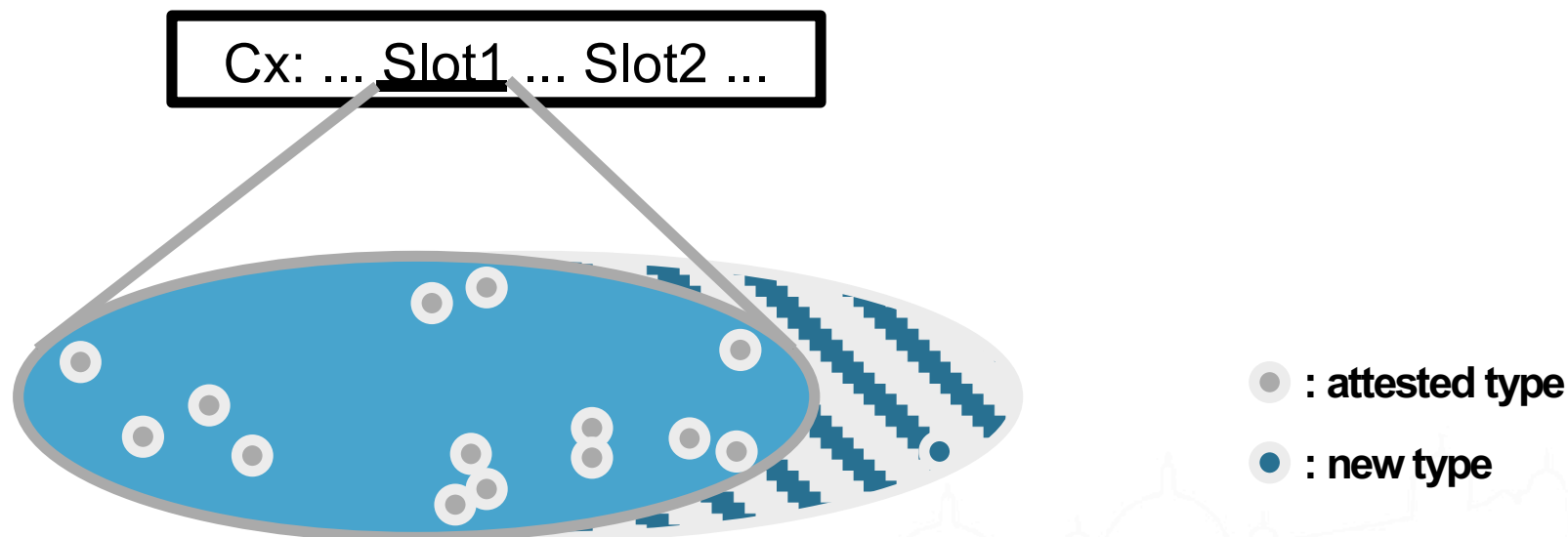
For many a day the flowers have spread.

- Loss of types, especially in some semantic domains, e.g., body parts, emotions, ideas
- No apparent change in constructional meaning



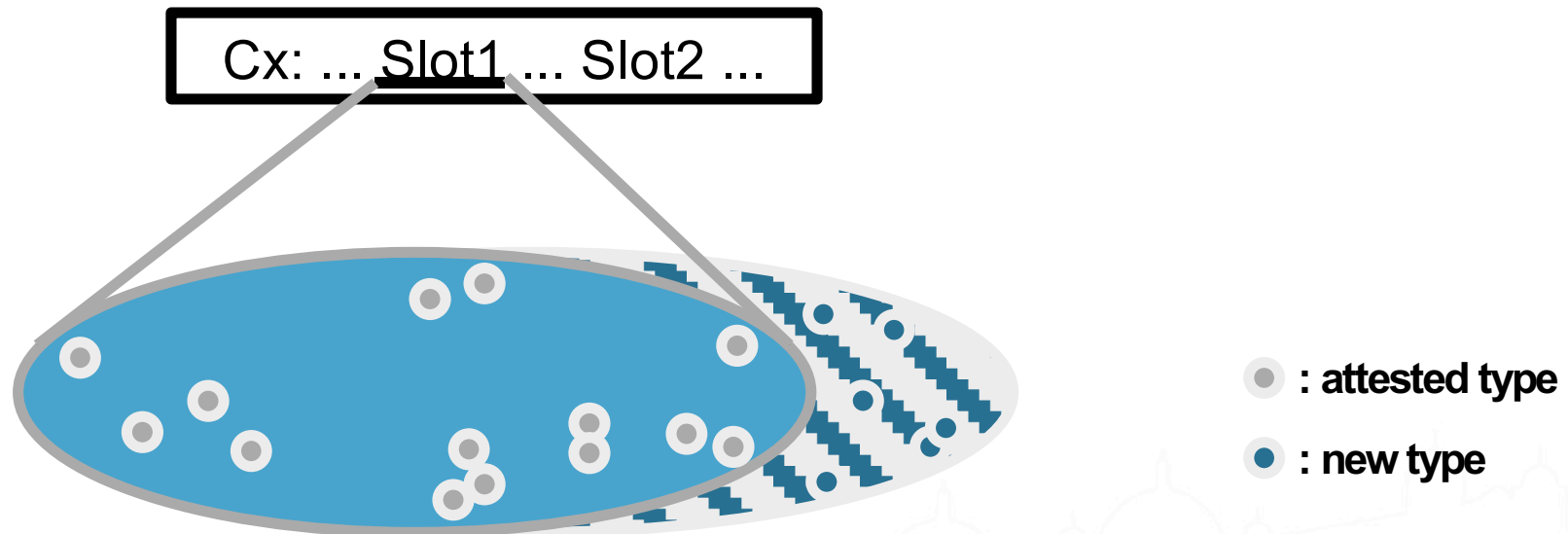
Productivity → schematicity?

- Novel combinations are innovative if they are not covered by the schema abstracted over attested uses
- Hence, the relevant schema is at the level of the lexical slot, NOT the entire construction



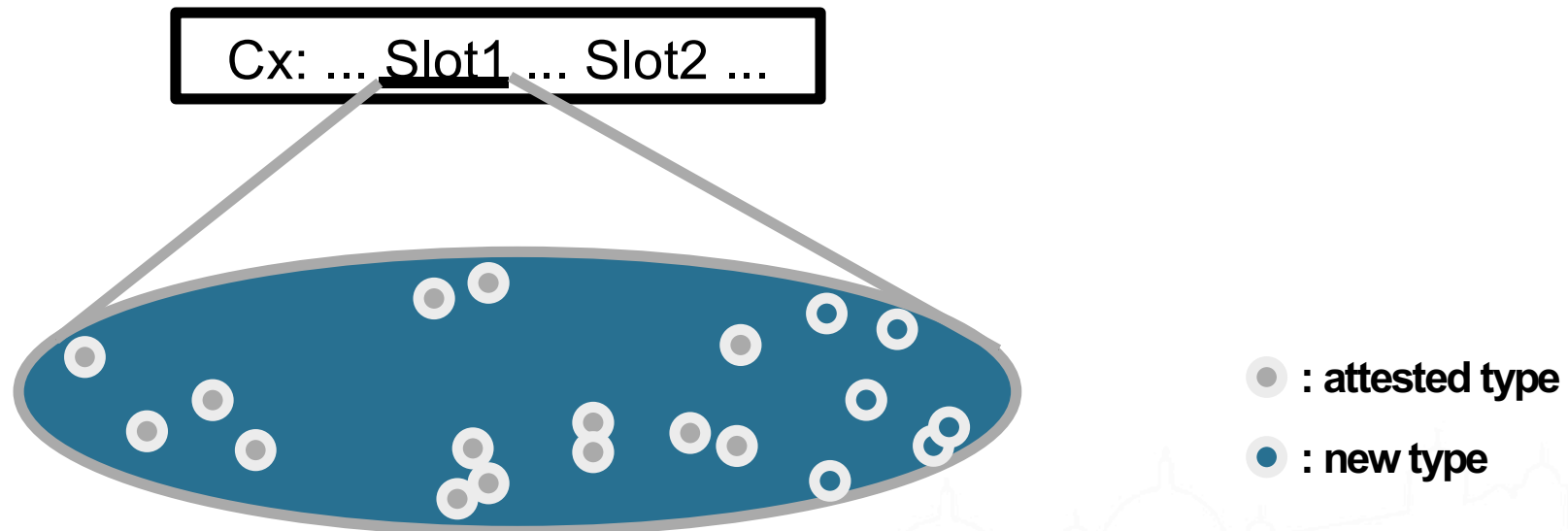
Productivity → schematicity?

- If repeated, creative uses that once sounded ‘deviant’ can become conventional



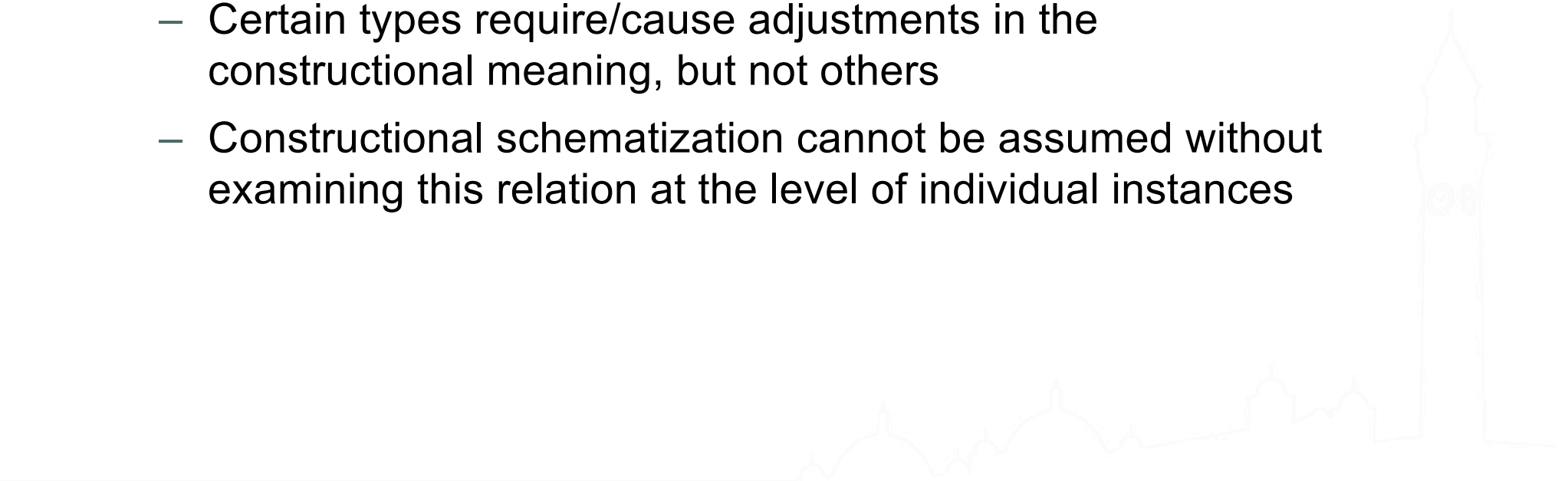
Productivity → schematicity?

- If repeated, creative uses that once sounded 'deviant' can become conventional
- This leads to increased schematicity of the lexical slot



Productivity → schematicity?

- Productivity affects the schematicity of lexical slots
- But not necessarily that of the entire construction
- This depends on how the new types relate to attested ones AND to the constructional meaning
 - Certain types require/cause adjustments in the constructional meaning, but not others
 - Constructional schematization cannot be assumed without examining this relation at the level of individual instances



The case of the *way*-construction

- Construction initially centered on physical verbs, in line with the diachronic origin (Israel 1996, from OED data)

pave, smooth, cut, etc. (17th century)

bridge, hew, sheer, plough, dig, clear, etc. (18th century)

- More abstract types are attested later, especially from the 19th century onwards

smirk, spell, write (Israel 1996), *joke, laugh, talk, bully* (Perek 2016)

- Same findings in Perek (2016) in 19th-20th AmE (COHA)

Israel, M. (1996). The way constructions grow. In A. Goldberg (ed.), *Conceptual structure, discourse and language*. Stanford, CA: CSLI Publications, 217-230.

Perek, F. (2016). Recent change in the productivity and schematicity of the *way*-construction: a distributional semantic analysis. *Corpus Linguistics and Linguistic Theory*, ahead-of-print.

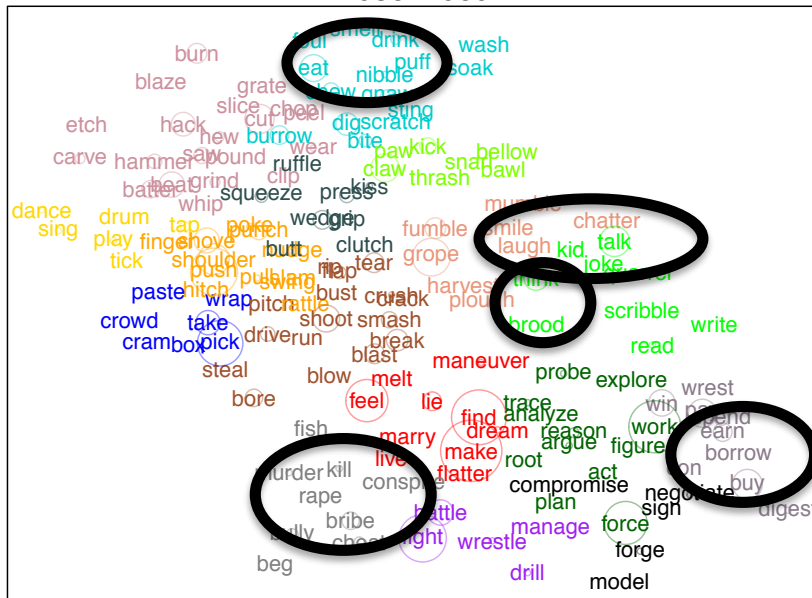
1830–1879



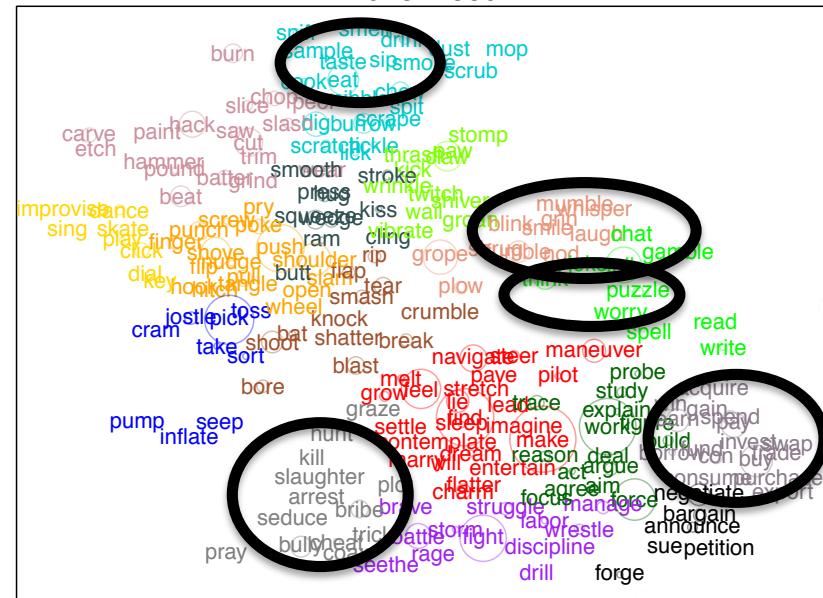
1880–1929



1930–1969



1970–2009



Distributonal semantic plots of verbs in the path-creation sense of the way-construction (Perek 2016)

The case of the *way*-construction

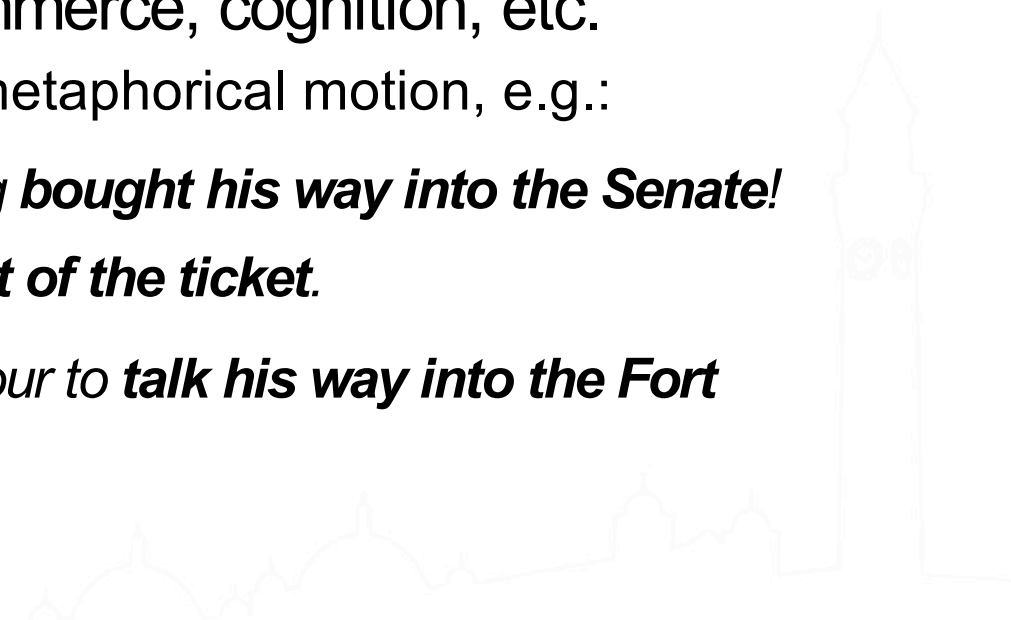
- More semantic diversity → increase in the schematicity of the verb slot
- Is there an increase in schematicity of the rest of the constructional meaning?
- Many new verb classes correspond to unusual ways to cause motion: interaction, commerce, cognition, etc.

More likely to involve abstract, metaphorical motion, e.g.:

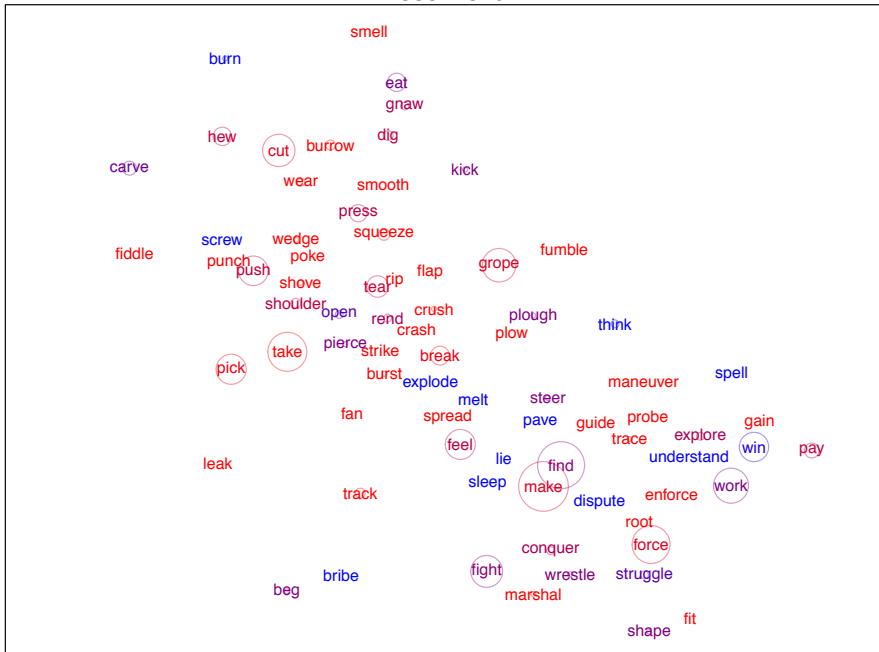
*[T]hey talk about Uncle Paul having **bought his way into the Senate!***

*[She] managed **to talk her way out of the ticket.***

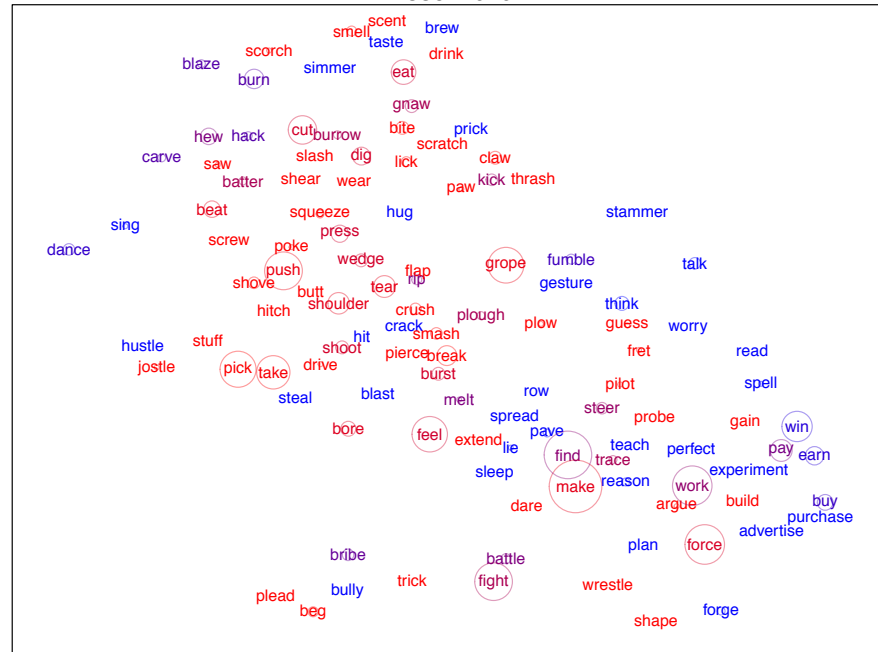
(but: *[I]t took Beau more than an hour to **talk his way into the Fort Morgan brig.*** → concrete)



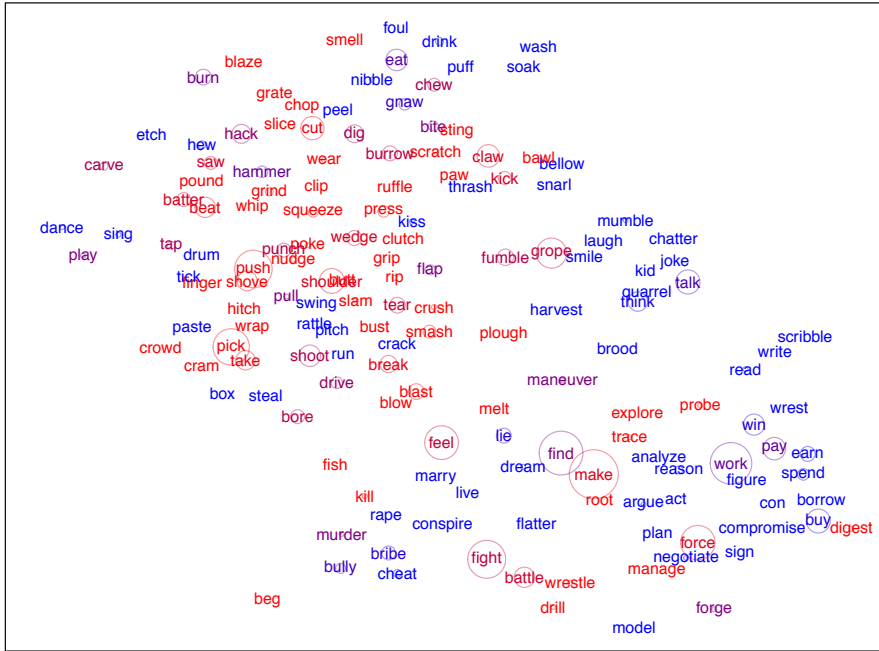
1830-1879



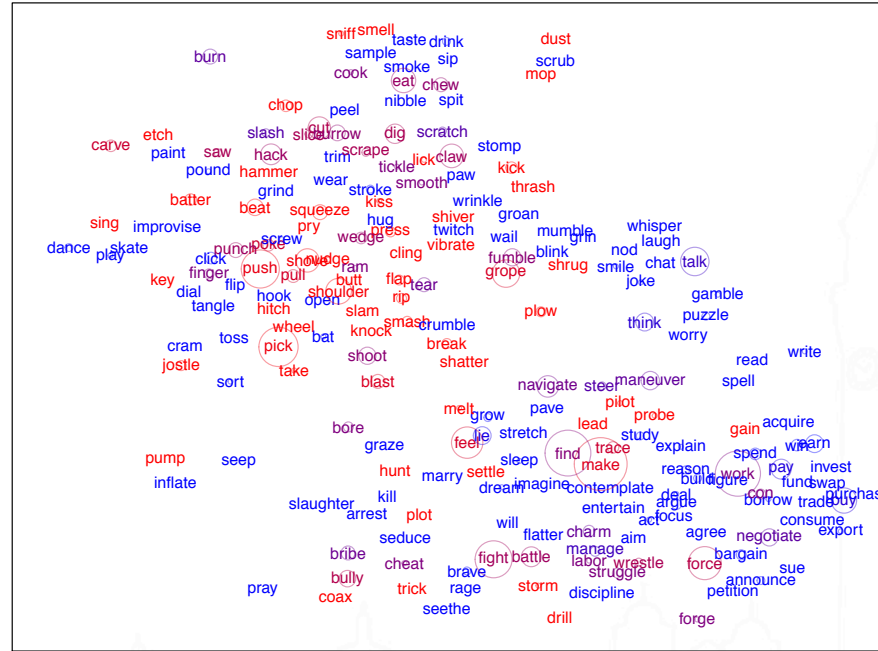
1880-1929



1930-1969



1970-2009



100% concrete uses

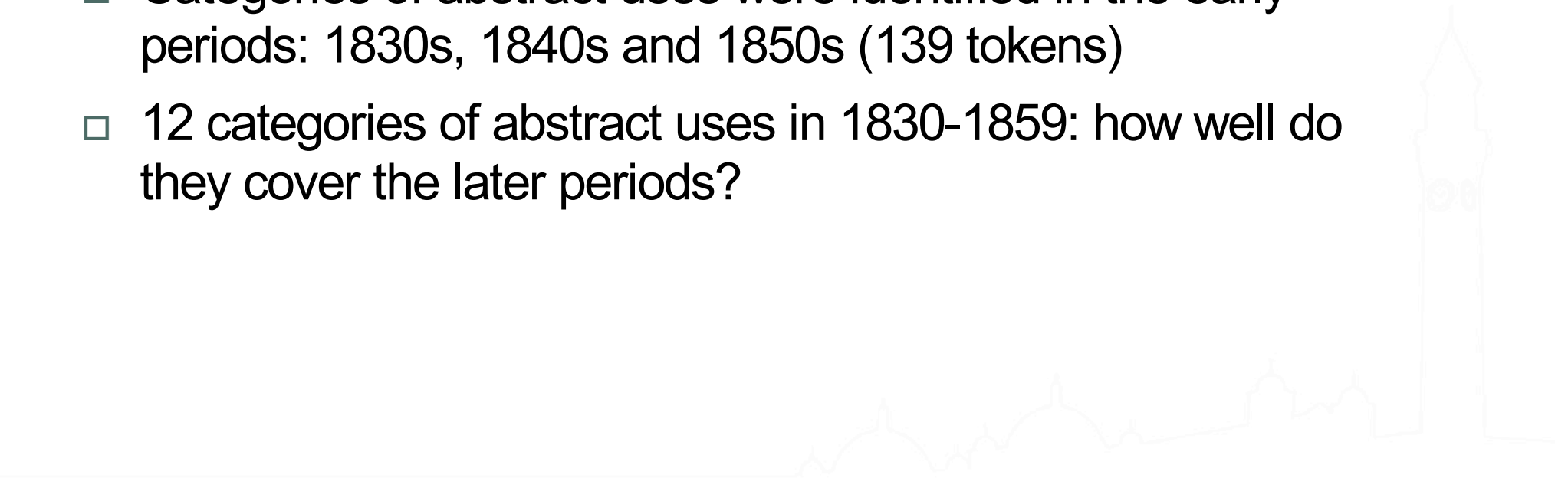
50% abstract / 50% concrete

100% abstract uses



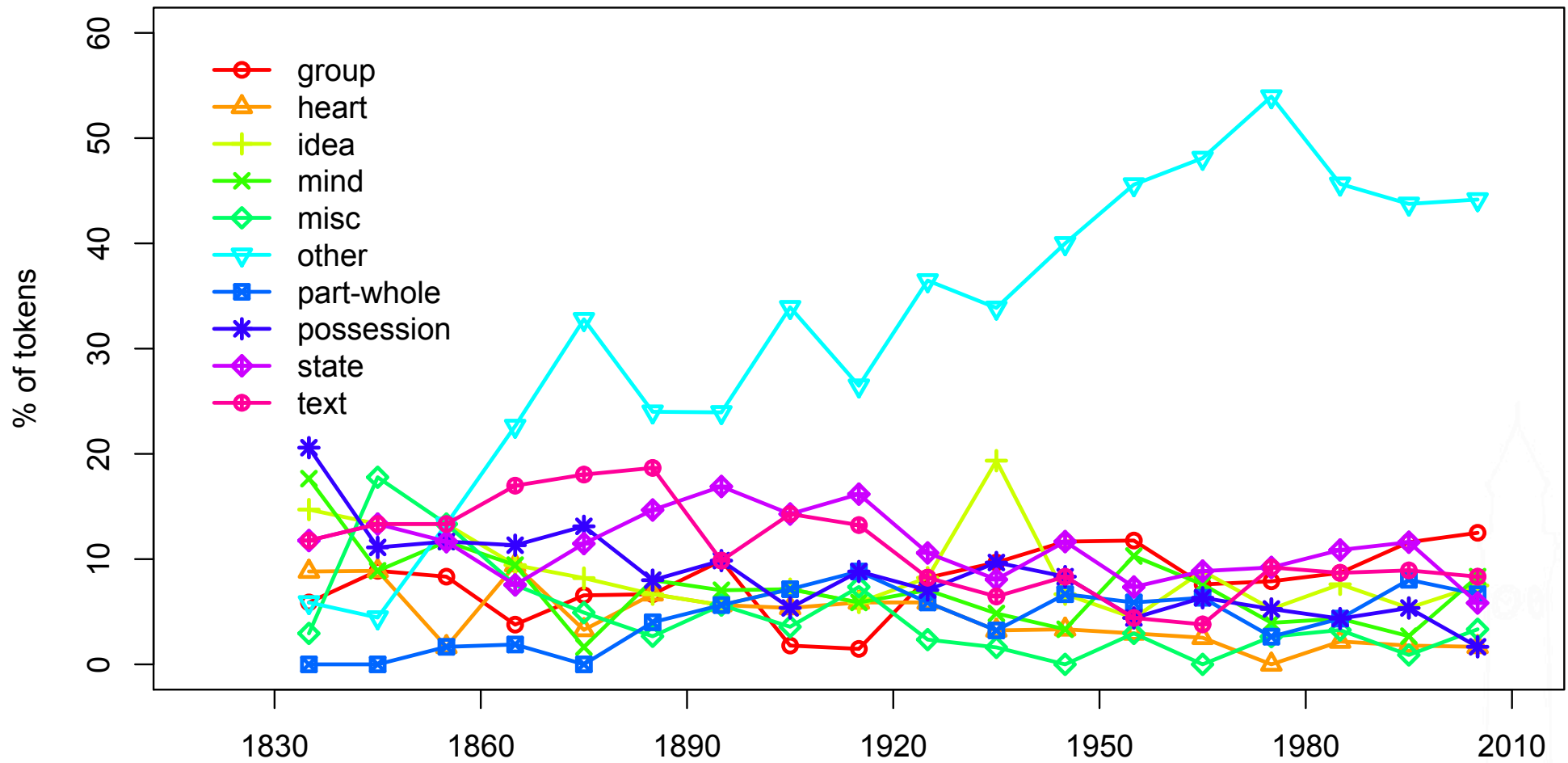
The case of the *way*-construction

- Does the construction become more open to more diverse metaphorical motion uses?
- Pilot study restricted to the preposition *into* (1296 tokens from COHA, 1830-2009)
- Categories of abstract uses were identified in the early periods: 1830s, 1840s and 1850s (139 tokens)
- 12 categories of abstract uses in 1830-1859: how well do they cover the later periods?



Metaphorical use	Example
The Mind is a Container for Ideas	The conception of vice has hardly found its way into Ophelia's mind.
The Heart is a Container for Feelings, Emotions, etc.	But a silent sorrow had made its way into her bosom.
Texts are Containers for Ideas, Stories, Words, etc.	The anecdote has found its way into the newspapers.
A Group of People is a Container for its Members	He has forced his way into good society.
States are Containers	He fought his way into notice by a duel with one of the Rutledges.
Change of Possession	I'm glad the money finds its way into the pockets of the like of him.
A Whole is a Container for Parts	The black currant should always find its way into every garden.
Subject, Area of Expertise, etc.	The learned pressed their way into the field of metaphysics.
Ideas are Moving Entities	In 1811 this new branch of Industry made its way into France.
Sound/light/diseases are Moving Entities	... the brightest sunlight that ever found its way into a kitchen

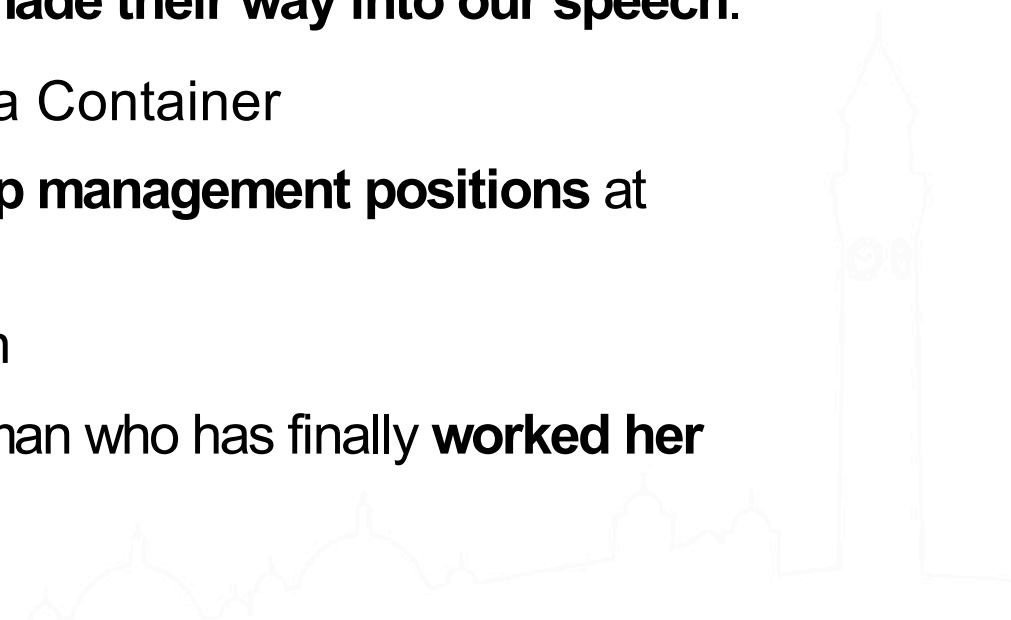
Distribution of metaphors in the abstract uses of the way-construction



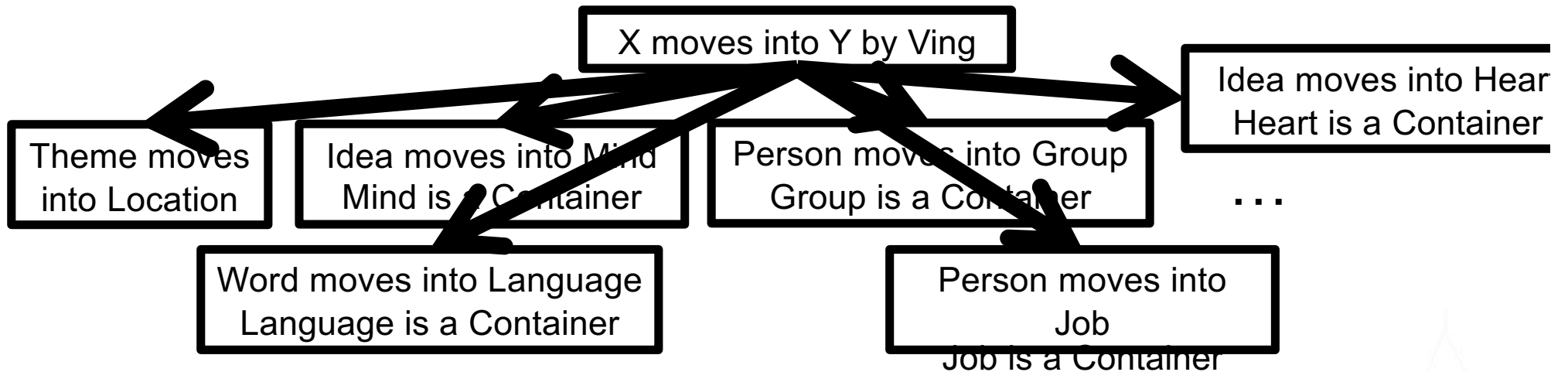
Metaphors in the *way*-construction

- Increase in the range of situations conceptualised as motion in uses of the construction
- Some new types:
 - Language is a Container for Words, Expressions, etc.
Words from that quarter have **made their way into our speech**.
 - A Role, Job, Function, etc. is a Container
He has **forced his way into top management positions** at Canal-Randolph.
 - Joining an Institution is Motion
... a 39-year-old New York woman who has finally **worked her way into college**

...



A usage-based recent history of the *way*-construction



- Increase in schematicity: the creation of new abstract uses reinforces the more schematic node
- This reinforcement in turn invites the creation of more abstract uses

Summary

- Schematicity and productivity are related
- But not the same phenomenon: they should not be collapsed, they should be kept separate
- Two types of schematicity should be distinguished: at the level of slots and at the level of the entire construction
- Productivity is directly related to the schematicity of slots
- The schematicity of constructions should not be investigated through the lexical distribution
- Rather, by examining the constructs themselves





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Thanks for your attention!

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