Computational Linguistics (INF2820 — Morphology)

$\{$ eat, eats, eating, ate, eaten $\}$

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Some Areas of Descriptive Grammar

Phonetics — *The study of speech signals.*

Phonology — *The study of sound systems.*

Morphology — *The study of word structure.*

Syntax — *The study of sentence structure.*

Semantics — *The study of language meaning.*

Pragmatics — *The study of language use.*

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Tokenization: Finding the Basic Building Blocks

Morphological Categories (1 of 3)

Parts of Speech (PoS)

cat, dog, neighbours, ...	**noun (N)**
barks, chased, was, ...	**verb (V)**
fierce, angry, black, young, ...	**adjective (Adj)**
quickly, probably, not, ...	**adverb (Adv)**
a, the, my, that, ...	**determiner (D)**
of, by, on, at, under, ...	**preposition (P)**
she, mine, those, what, ...	**pronoun (Pro)**
and, neither ... nor, because, ...	**conjunction (C)**

How to discover the inventory of categories?

A Quick Tour of English Morphology

Morphological Categories (2 of 3)

Parts of Speech (PoS)

cat, dog, neighbours, ...	**noun (N)**
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quickly, probably, not, ...	**adverb (Adv)**
a, the, my, that, ...	**determiner (D)**
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she, mine, those, what, ...	**pronoun (Pro)**
and, neither ... nor, because, ...	**conjunction (C)**

- **Paradigm**   set of word forms, e.g. { *bark*, *barks*, *barking*, *barked* };

- **Unit Categories**   dimensions structuring a paradigm *internally*;

- **Paradigm Categories**   properties *common* to all paradigm units.

Morphological Categories (3 of 3)

Number — Person — Case — Gender

That dog barks. — Those dogs bark.

I bark. — You bark. — They bark. — Sam shaved himself.

We bark. — You bark. — Those dogs bark.

I saw her. — She saw me. — My dog barked.

...

How many distinct verb forms according to number and person?

Tense — Aspect — Mood

The dog barks. — The dog barked — The dog will bark.

The dog has barked. — The dog is barking.

If I were a carpenter, ...

...