Derivation

- Basic derivational operations

  A taxonomy of typical lexeme-formation operations

- Productivity

  What does it mean to be a productive word-formation operation?

  How does one calculate productivity?

- Order of affixes

  Are there tendencies for affixes with certain meanings to be ordered relative to one another?

3 main types of morphological relations

- Inflection, derivation, and compounding

    - Inflectional morphology modifies properties of LEXEMES, while maintaining the basic meaning of the LEXEME.

        mor-ikseľ-i-ń   mor-ikseľ-i-ť
        sing-DES-PAST-1SG   sing-DES-PAST-2SG
        `I wanted to sing'      `you wanted to sing'
        (Erzya Mordvin)

3 main types of morphological relations

- Inflection, derivation, and compounding

    - Derivation relates lexemes in a word family

        eṙa-ms$_V$ ⇒ eṙa-ma$_N$
        live-INF   live-NR = `life' (Erzya Mordvin)

    - Compounding combines LEXEMES

        repül-**ő**-gép-gyart-ás   (Hungarian)
        fly-er-machine-produce-NR
        `airplane production'

3 main types of morphological relations

- Derivation relates LEXEMEs in a word family

  $e\dot{r}a\text{-}ms_V \Rightarrow e\dot{r}a\text{-}ma_N$

  live-INF   live-NR = `life' (Erzya Mordvin)

- Compounding combines LEXEMEs to create a new LEXEME

  repül-**ő**-gép-gyart-ás   (Hungarian)

  fly-er-machine-produce-NR

  `airplane production'

Prototypical differences between inflection and derivation

Derivation

1. Encodes lexical meaning
2. Not syntactically relevant
3. Occurs close to the root & inside other derivation
4. Often changes lexical category
5. Often semantically opaque
6. Often shows restricted productivity
7. Optional

Inflection

Encodes grammatical meaning
Syntactically relevant
Occurs outside all derivation

Does not change lexical category
Usually semantically obvious
Fully productive

Obligatory

Basic derivational (lexme-formation) operations

- Permits the expansion of the lexicon of a language

  Category-maintaining operations:

  $V \Rightarrow V_{CAUS}$:   olvas   `read' $\Rightarrow$ olvas-tat   `make read'

  legel   `graze' $\Rightarrow$ legel-tet   `make graze'

  $V \Rightarrow N$:   énekel `sing' $\Rightarrow$ énekl-ő      `a singer'

  sír   `weep' $\Rightarrow$ sír-ó          `a weeper'

  $N/V \Rightarrow A$:   felhő   `cloud' $\Rightarrow$ felhő-tlen   `cloudless'

  mos   `wash' $\Rightarrow$ mos-atlan   `unwashed'

Basic derivational (lexme-formation) operations

- Permits the expansion of the lexicon of a language

Category-changing operations:

A ⇒ Adv: meleg `warm' ⇒ meleg-en   `warmly'

            csunya `ugly'  ⇒ csunyá-n   `in an ugly way'

V ⇒ N: énekel `sing'  ⇒ énekl-ő      `a singer'

            sír   `weep'  ⇒ sír-ó         `a weeper'

N/V ⇒ A: felhő   `cloud'  ⇒ felhő-tlen   `cloudless'

            mos   `wash'  ⇒  mos-atlan   `unwashed'

A ⇒ V   szép   `beautiful ⇒ szép-ül   `become beautiful'

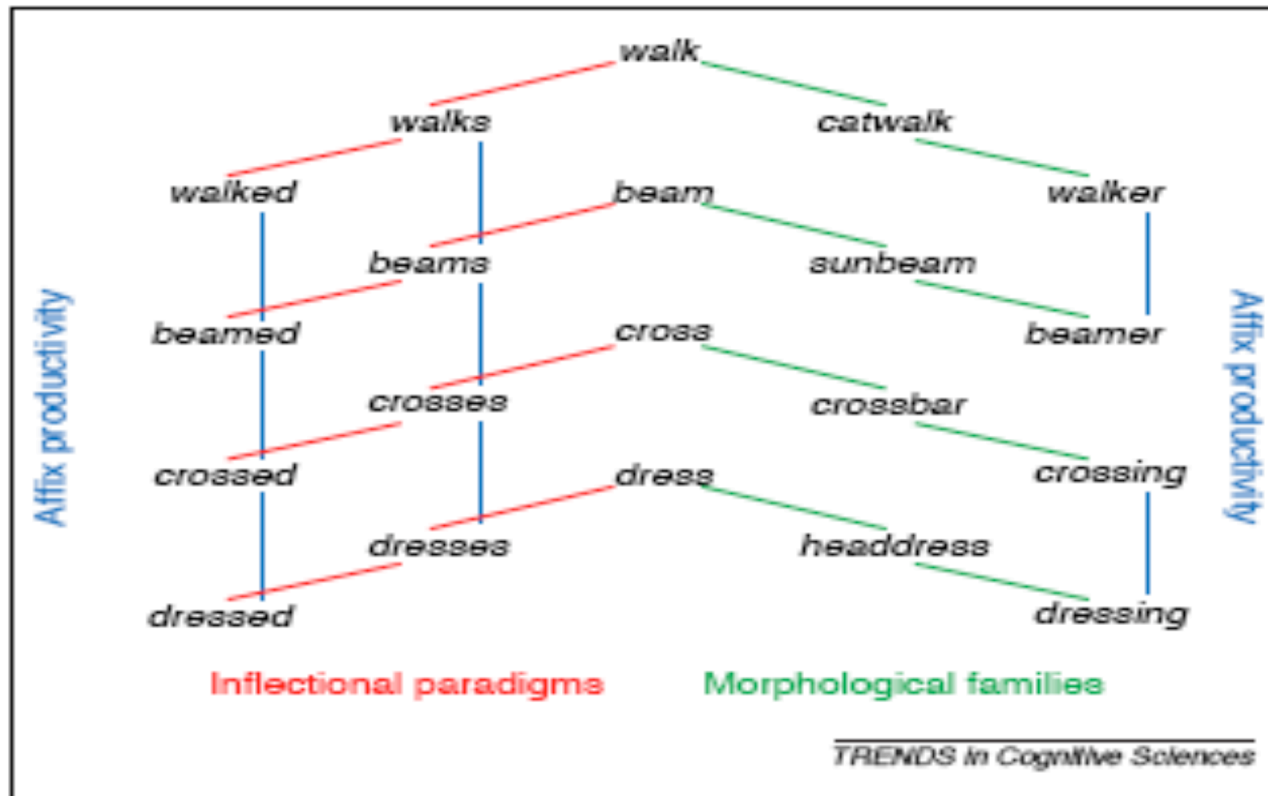# External organization: words as participants in networks of relations

Figure 1. Examples of paradigmatic lexical relations in English. Relations between inflected variants (inflectional paradigms) are shown in red, relations between morphologically related compounds and derived words (morphological families) are shown in green, and relations between words sharing the same affix are shown in blue. Affixes that occur across many words are described as productive.

-th affixation

broad   +   th   ⇒   breadth

deep   +   th   ⇒ depth

long   +   th   ⇒ length

strong +   th   ⇒ strengh

true   +   th   ⇒ truth

warm   +   th   ⇒ warmth

wide   + th   ⇒ width

phonology: X-$/\theta/$, with various different base alternations

category of based: X = adjective

semantics: `state or property of being X'

What's the structure?

unactualizability

Derivation

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What's going on here?

- For some words, we can predict that -ity won't apply

glorious	*gloriosity	gloriousness
furious	*furiosity	furiousness
gracious	*graciosity	graciousness
fallacious	*fallaciousity	fallaciousness
acrimonious	*acrimoniosity	acrimoniousness

-able affixation

abominable

absorbable

abstractable

abusable

acceptable

accountable

accruable

achievable

acid-extactable

actable

actionable

actualizable

adaptable

addressable

adjustable

admirable

admissable

adorable

advisable

affable

Productivity

"Property of a morphological process: a process is productive if it can be applied to new (forms of) words." [Booij in glossary]

"The statistical readiness with which an element enters into new combinations (Bolinger 1948:18)

- Productivity isn't really an all-or-nothing concept

Productivity

- Some observations

  - Though many things are possible in morphology, some things are more likely than others (cf. walked and ran)

  - Though there are infinitely many potential words in a language, some are more likely to become actual words than others (cf. mini-burger, burgerlet, burgerette)

  - We need to consider actual words and potential words and what the relation is between them.

-th affixation

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deep + th ⇒ depth

long + th ⇒ length

strong + th ⇒ strengh

true + th ⇒ truth

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phonology: X-/θ/, with various different base alternations

category of based: X = adjective

semantics: `state or property of being X'

Productivity

- So, the suffix -th is generally considered unproductive

- But, WWW searches turn up many citations:

Coolth, once a nonce word made up on analogy with warmth, is now tiresomely jocular. (1923)

Increase the capacity of your house to store coolth. (Yes, it is a real word.) Using the mass in your house...

The team developed a strategy to capture night-time coolth and store it for release during the following day.

Do we see the whiteness of the snow, but only believe in its coolth.

Productivity

- The suffix -th was once productive:

  - filth, health, length, mirth, strength, truth, dearth, depth, breadth, sloth, wealth

- Coolth (coined after warmth) goes back at least to 1547

- Width [wɪdθ] comes from widness (influenced by length) in 1627, not wide [waid]

- Later coinages: illth (opposite of wealth = well-being), greenth, loweth

And, what's going on here?

approve	approval	approbation
recite	recital	recitation
propose	proposal	proposition
arrive	arrival	* arrivation
refuse	refusal	* refusation
derive	* derival	derivation
describe	* describal	description

How can we describe constraints on the use of specific derivational operations?
Alternatively, how can account for degrees of productivity?

Productivity

- Words in -ness have three meanings

    - 'the fact that Y is X'   His callousness surprised me.

    - 'the extent to which Y is X'   His callousness surprised me.

    - 'the quality or state of being X'   Callousness is not a virtue.

- Words in -ity can have many specialized meanings

    The are several varieties of fish in the lake.
    They admired his dress, but only as a curiosity.

Blocking

- For some words, we can predict that -ity won't apply

glorious	*gloriosity	gloriousness
furious	*furiosity	furiousness
gracious	*graciosity	graciousness
fallacious	*fallaciousity	fallaciousness
acrimonious	*acrimoniosity	acrimoniousness

- The existence of a noun (glory, fury, ...) blocks the formation of a synonym

- Panini's Principle (aka Elsewhere Condition): A more specific rule trumps a more general rule

- Completely predictable forms aren't listed in the dictionary, so aren't subject to blocking effects; this makes claims about what we store in our mental lexicons and how "rules" interact with stored items.