

LIN333 Morphological Patterns in Language

Productivity

Week 3

Productivity and Blocking

Outline

What is productivity?

Why is productivity important?

How do we measure productivity?

What determines productivity?

What is the difference between productivity and creativity?

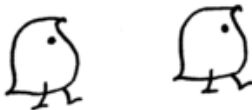
What is blocking? How does it relate to productivity?

What is productivity?

- When a morphological rule or pattern can be applied to new bases so that new words can be formed with it, it is said to be productive.



THIS IS A WUG.



NOW THERE IS ANOTHER ONE.

THERE ARE TWO OF THEM.

THERE ARE TWO _____.

Lieber p. 60

- (2)
- a. Rule for *-th*: *-th* attaches to adjectives, and creates nouns. For a base meaning 'X', the derived noun means 'the state of being X'.
 - b. Rule for *-ity*: *-ity* attaches to adjectives, and creates nouns. For a base meaning 'X', the derived noun means 'the state of being X'.
 - c. Rule for *-ness*: *-ness* attaches to adjectives, and creates nouns. For a base meaning 'X', the derived noun means 'the state of being X'.

(1) lovely
cool
crude
evil
googleable
rustic
musty
inconsequential
feline
toxic
bovine

(Lieber p. 60)

Why is productivity important?

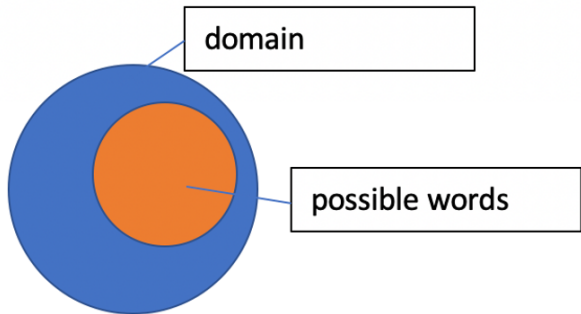
- Productivity is at the heart of the generativity of word-formation
- Speakers have judgments about possible and impossible words that reduce to knowledge of productivity

(2) *helpnessful

- Speakers' morphological **competence**, i.e. knowledge of the morphological rules of a language, must include knowledge of productivity.

How do we define productivity?

Productivity is often determined by studying the extent to which an affix can apply to the set of bases in its **domain**, where the domain is the set of bases that should in principle satisfy the **subcategorization** needs of that affix (i.e. appropriate category).



This approach essentially ties productivity to the **selectional restrictions** on an affix [interchangeable with 'selectional requirements' introduced last week]

e.g. -en vs -ness

Haspelmath and Sims (p. 118) note disagreement about whether reducing productivity to lexical restrictions is right

- If an affix can routinely be used to create affixes that satisfy restrictions then it should be considered productive (it doesn't matter that it is restricted)
- Alternatively, others argue that domain should be disregarded all together: an affix with a restricted domain cannot be productive because it cannot contribute a large number of new words
- Moreover, there are affixes, e.g. *-let*, for which it is not easy to identify restrictions yet they are not productive.

How do we measure productivity?

This is hard!

- Counting attested words doesn't tell us about possibility of new forms
- Measuring size of a domain isn't straightforward (e.g. *-esque* attaches to names; how to count names?)

One (counter-intuitive?) measure is **token frequency** in a corpus. More productive affixes tend to create words with lower token frequency than less productive affixes.

See discussion in Lieber 4.4 and 4.5

What determines productivity?

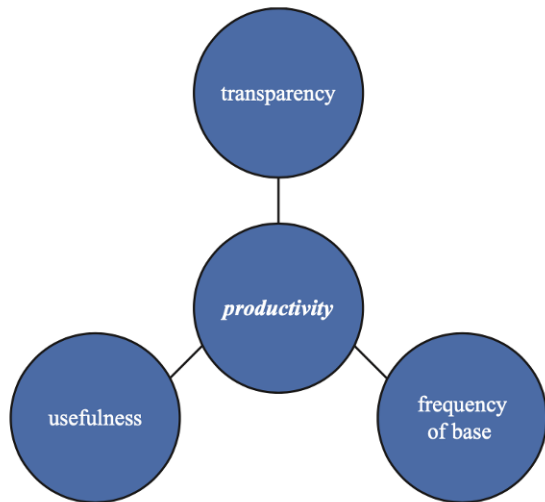


FIGURE 4.1
Factors contributing to
productivity

Lieber p. 61

| | |
|---------------|----------------|
| (4) a. candid | candidness |
| pink | pinkness |
| hardy | hardiness |
| common | commonness |
| ticklish | ticklishness |
| cunning | cunningness |
| horrible | horribleness |
| pure | pureness |
| odd | oddness |
| b. crude | crudity |
| odd | oddity |
| pure | purity |
| dense | density |
| rustic | rusticity |
| timid | timidity |
| grammatical | grammaticality |
| local | locality |
| available | availability |
| senile | senility |

Lack of productivity correlates with lack of transparency

Lack of transparency correlates with increased **lexicalization**, where a complex form is reanalyzed as a single morpheme

Selectional restrictions are also an important factor in determining productivity, as we've already noted. See Lieber's summary (pp 64-65)

- *categorical restrictions*: Almost all affixes are restricted to bases of specific categories. For example, *-ity* and *-ness* attach to adjectives, *-ize* attaches to nouns and adjectives, or *un-* attaches to adjectives or verbs.
- *phonological restrictions*: Sometimes affixes will attach only to bases that fit certain phonological patterns. For example, *-ize* prefers nouns and adjectives that consist of two or more syllables, where the final syllable does not bear primary stress. The suffix *-en*, which forms verbs from adjectives, attaches only to bases that end in obstruents (stops, fricatives, and affricates). So we can get *darken*, *brighten*, and *deafen* but **slimmen* and **tallen*, which end in sonorant consonants, are impossible.
- *the meaning of the base*: For example, negative *un-* prefers bases that are not themselves negative in meaning. We find *unlovely* but not **unugly*, *unhappy* but not **unsad*.

- *etymological restrictions*: Some affixes are restricted to particular subclasses of bases. For example, there are affixes in English that prefer to attach to bases that are native – for example the suffix *-en* that forms adjectives from nouns (*wooden*, *waxen* but not **metalen* or **carbonen*). On the other hand, another suffix *-ic* that forms adjectives from nouns (*parasitic*, *dramatic*) will not attach to native bases, only to bases that are borrowed into English from French or Latin.
- *syntactic restrictions*: Sometimes affixes are sensitive to syntactic properties of their bases. For example, the suffix *-able* generally attaches to transitive verbs, specifically verbs that can be passivized. So from the transitive verb *love* we can get *loveable*, but from the intransitive verb *snore* there is no **snorable*.
- *pragmatic restrictions*: Bauer (2001: 135) gives the following example. In Dyirbal, there is a suffix *-ginay* that means ‘covered with’. Although there might conceivably be a use for a word meaning something like

‘covered with honey’, in fact, the suffix occurs in Dyirbal only on bases that denote things that are “dirty or unpleasant” (Dixon 1972: 223), like *gunaginay*, which means ‘covered with feces’. What’s consid-

What is the difference between productivity and creativity?

Morphologists tend to distinguish between productivity and creativity.

Productivity: speakers produce/understand new words without even noticing that they have done so

Creativity: speakers consciously use unproductive processes to form new words, often to be humorous or to draw attention (e.g. marketing)

Lieber p. 70

| | |
|--------------|--|
| (6) locavore | blend of <i>local</i> and <i>herbi-/carnivore</i> 'someone who likes to eat locally produced food' |
| carbage | blend of <i>car</i> and <i>garbage</i> 'the trash that accumulates in one's car' |
| blogebrity | blend of <i>blog</i> and <i>celebrity</i> 'a famous blogger' |
| boyzilian | blend of <i>boy</i> and <i>Brazilian</i> 'a kind of bikini wax for men' |
| gorno | blend of <i>gore</i> and <i>porno</i> 'extremely violent movie' |
| exergaming | blend of <i>exercise</i> and <i>gaming</i> 'activity combining exercise and gaming' |

What is blocking? How does it relate to productivity?

When an affix does not attach because there is an existing word in the language that has the same meaning of the potential new word, this is called **blocking**. Blocking is an important phenomenon in morphology that we will be returning to in future weeks.

| (6.11) base | blocked word | blocking word | related pair |
|-------------------|----------------------|-----------------|--------------------------------|
| <i>broom</i> | <i>*to broom</i> | <i>to sweep</i> | <i>hammer/to hammer</i> |
| <i>to type</i> | <i>*typer</i> | <i>typist</i> | <i>to write/writer</i> |
| <i>gymnastics</i> | <i>*gymnastician</i> | <i>gymnast</i> | <i>statistics/statistician</i> |
| <i>good</i> | <i>*goodly</i> | <i>well</i> | <i>bad/badly</i> |

(Haspelmath and Sims p. 125)

What you often see is that an affix that is blocked with respect to the compositional meaning of the word will be used for a non-compositional meaning.

- (3) *cooker* is blocked by the noun *cook* from having the meaning 'one who cooks', however it can have a meaning relating to an appliance for cooking, e.g. *rice cooker*

Blocking has many exceptions (see discussion in Haspelmath & Sims 6.4.2). These have been argued to relate to frequency and **memory strength** of the blocking form: more frequent forms are more easily recalled and therefore more likely to create a blocking effect.

Haspelmath and Sims p. 126

| (6.12) base | potentially blocked word | blocking word | | its frequency |
|---------------------|-----------------------------|-------------------|--------------|---------------|
| <i>coraggioso</i> | * <i>coraggiosità</i> | <i>coraggio</i> | 'courage' | 52.70 |
| <i>pietoso</i> | * <i>pietosità</i> | <i>pietà</i> | 'pity' | 34.04 |
| <i>desideroso</i> | * <i>desiderosità</i> | <i>desiderio</i> | 'desire' | 31.92 |
| <i>fiducioso</i> | * <i>fiduciosità</i> | <i>fiducia</i> | 'confidence' | 30.79 |
| <i>orgoglioso</i> | * <i>orgogliosità</i> | <i>orgoglio</i> | 'pride' | 10.64 |
| <i>armonioso</i> | <i>armoniosità</i> | <i>armonia</i> | 'harmony' | 4.13 |
| <i>rigoroso</i> | <i>rigorosità</i> | <i>rigore</i> | 'rigour' | 3.42 |
| <i>malizioso</i> | <i>maliziosità</i> | <i>malizia</i> | 'malice' | 0 |
| <i>acrimonioso</i> | <i>acrimoniosità</i> | <i>acrimonia</i> | 'acrimony' | 0 |
| <i>parsimonioso</i> | <i>parsimoniosità</i> | <i>parsimonia</i> | 'parsimony' | 0 |
| <i>ignominioso</i> | <i>ignominiosità</i> | <i>ignominia</i> | 'ignominy' | 0 |