The Word-Morpheme Distinction — an Epiphenomenon?

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What is a word?
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Introduction

Prerequisite: Nanosyntax

Analysis I

New Evidence

Analysis II

Conclusion
Introduction

Prerequisite: Nanosyntax

Analysis I

New Evidence

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Conclusion
Hasephalmath’s claim
Linguists have no good basis for identifying words across languages, and hence no good basis for a general distinction between syntax and morphology as parts of the language system. (Hasephalmath 2011: 24)
Haspelmath’s claim
Linguists have no good basis for identifying words across languages, and hence no good basis for a general distinction between syntax and morphology as parts of the language system. (Haspelmath 2011: 24)

▶ We present a case in support of H’s claim.
The data I

<table>
<thead>
<tr>
<th></th>
<th>a. unhappy</th>
<th>b. *unsad</th>
<th>c. not sad</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>unwise</td>
<td>*unfoolish</td>
<td>not foolish</td>
</tr>
<tr>
<td></td>
<td>unclean</td>
<td>*undirty</td>
<td>not dirty</td>
</tr>
<tr>
<td></td>
<td>unfriendly</td>
<td>*unhostile</td>
<td>not hostile</td>
</tr>
<tr>
<td></td>
<td>unhealthy</td>
<td>*unsick</td>
<td>not sick</td>
</tr>
<tr>
<td></td>
<td>unkind</td>
<td>*unrude</td>
<td>not rude</td>
</tr>
<tr>
<td></td>
<td>untrue</td>
<td>*unfalse</td>
<td>not false</td>
</tr>
<tr>
<td></td>
<td>uneasy</td>
<td>*undifficult</td>
<td>not difficult</td>
</tr>
</tbody>
</table>

- *un-* shows a polarity restriction:
  - positive adjectives can generally be prefixed with *un-*
  - negative ones systematically cannot
- positive and negative adjectives alike can be negated with *not*
The data II

- noun-derived adjectives with the negative suffix *-less* also resist *un*-prefixation:

<table>
<thead>
<tr>
<th>( N \text{-} less )</th>
<th>( un-N \text{-} less )</th>
<th>not ( N \text{-} less )</th>
</tr>
</thead>
<tbody>
<tr>
<td>breathless</td>
<td><em>unbreathless</em></td>
<td>not breathless</td>
</tr>
<tr>
<td>senseless</td>
<td><em>unsenseless</em></td>
<td>not senseless</td>
</tr>
<tr>
<td>merciless</td>
<td><em>unmerciless</em></td>
<td>not merciless</td>
</tr>
<tr>
<td>useless</td>
<td><em>unuseless</em></td>
<td>not useless</td>
</tr>
<tr>
<td>cheerless</td>
<td><em>uncheerless</em></td>
<td>not cheerless</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>( N \text{-} ful )</th>
<th>( un-N \text{-} ful )</th>
<th>not ( N \text{-} ful )</th>
</tr>
</thead>
<tbody>
<tr>
<td>successful</td>
<td>unsuccessful</td>
<td>not successful</td>
</tr>
<tr>
<td>lawful</td>
<td>unlawful</td>
<td>not lawful</td>
</tr>
<tr>
<td>eventful</td>
<td>uneventful</td>
<td>not eventful</td>
</tr>
<tr>
<td>helpful</td>
<td>unhelpful</td>
<td>not helpful</td>
</tr>
<tr>
<td>faithful</td>
<td>unfaithful</td>
<td>not faithful</td>
</tr>
</tbody>
</table>
The data III

- *un-dis-, *un-iN-, *un-a-, *un-un-, *dis-dis-

(4) *undishonest  not dishonest
  *undiscourteous  not discourteous
  * undisloyal  not disloyal
  * undiscomfortable  not discomfortable

(5) *unimpossible  not impossible
  *unillogical  not illogical
  * unabnormal  not abnormal
  * unatypical  not atypical
  * ununhappy  not unhappy
  * disdishonest  not dishonest
Preliminary generalisation

(6) Negative morphemes cannot be stacked.
Preliminary generalisation

(6) Negative morphemes cannot be stacked.

- (6) appears to apply word-internally only (since not can be stacked onto adjectives of all kinds).
- (6) therefore appears to confirm that there is a meaningful morphology-syntax boundary.
‘It’s the Morphology!’

(7) Negative affixes are not used with adjectival stems that have a ‘negative’ value. (Zimmer 1964: 15)

(8) The stem to which a relatively nonproductive negative affix can attach tends to be an UNMARKED, WEAK POSITIVE scalar value. (Horn 1989: 286)

(9) Words in un are thrown out if the morpheme dis is uniquely contained in the cycle adjacent to un. (Siegel 1977: 192)

(10) Condition on un-prefixation (Allen 1978: 50)
Un’s base may not have negative content.

(11) Principle 3 (Seuren and Jaspers 2014: 632)
A negative affix can only be attached to the positive member of a positive-negative pair.
New Observation

Certain cases of **syntactic** negation show exactly the same restriction as **un**-.

(12) a. Zijn houding is *weinig* actief/*passief
    his attitude is *little* active/passive
    ‘His attitude is not very active/passive.’

b. Son comportement est *peu* actif/*passif
    her attitude is *little* active/passive
    ‘Her attitude is not very active/passive.’
New Observation
Certain cases of syntactic negation show exactly the same restriction as un-.

(12) a. Zijn houding is weinig actief/*passief
his attitude is little active/passive
‘His attitude is not very active/passive.’

b. Son comportement est peu actif/*passif
her attitude is little active/passive
‘Her attitude is not very active/passive.’

▶ It’s not the morphology!
Claim
The restrictions on stacking negative markers follow from the general restriction on admissible functional sequences in (13).

(13)  \(*<X, X>*\)
The functional sequence must not contain two immediately consecutive identical projections.
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(14) Negative morphemes contain a Neg-feature.

(15) Phrasal spellout

a. The lexicon contains nothing but well-formed syntactic expressions (i.e. syntactic trees).

b. Lexical items spell out phrasal nodes in syntactic trees.

(16) Superset Principle

A lexical entry may spell out a syntactic node iff the lexical tree is identical to the syntactic tree, or if it contains the syntactic tree as a constituent.

(17) The Elsewhere Principle

In case two rules, $R_1$ and $R_2$, can apply in an environment $E$, $R_1$ takes precedence over $R_2$ if it applies in a proper subset of environments compared to $R_2$. 
PRE vs POST marking (Starke to appear)

Starke (to appear): two modes of combination:

- Merge-f
- Merge-XP
(18) Merge-f

K3
  K2
   K1
    Z
     Y X
(19)  Move-ZP

```
  Z
  / \   /  \
 /   /   /   \
Y  X  K3
```

```
K2
  /  \
/    /
K1P  K1
```
(20) Move-ZP

\[
\text{root}\quad Z\quad Y\quad X
\]

\[
\text{suffix}\quad K3\quad K2\quad K1P\quad K1
\]
(21) Merge-XP

PRE
(22) Merge-XP

prefix

root
The Lexicon

(23) POST: unary bottom

(24) PRE: binary bottom

K3

K2

K1P

K3

K2

K1
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Positive and negative gradable adjectives

(25) \[ \begin{array}{c}
\text{QP} \\
\text{Q} \\
\checkmark
\end{array} \]

\textit{happy}

(26) \[ \begin{array}{c}
\text{NegP} \\
\text{Neg} \\
\text{QP} \\
\text{Q} \\
\checkmark
\end{array} \]

\textit{sad}
**much-support (Corver 1997)**

- Q = gradability
- *much* = spellout of QP

(27)  

a. John is fond of Mary. Maybe he is **too much** so.  
b. John is fond of Mary. Maybe he is **as much** so as Bill.  
c. The weather was hot in Cairo—**so much** so that we stayed indoors all day.
(28)

DegP

DegP

Deg

...

QP

√P

so

QP

√

Q

much

too
un-/iN vs non

Zimmer (1964: 33):

(29)  a. non-christian: ‘(not) related to, pertaining to, characteristic of certain religious doctrines’
    b. un-christian: ‘a scale of conformity or opposition to certain norms’
un-/iN vs non

Zimmer (1964: 33):

(29)  a. non-christian: ‘(not) related to, pertaining to, characteristic of certain religious doctrines’
     b. un-christian: ‘a scale of conformity or opposition to certain norms’

▶ un- is a scalar negator
▶ un- spells out a Q and a Neg feature
Lieber (2004: 121): “*non-* attaches to all kinds of adjecival bases, both gradable and ungradable, and quite consistently forms negatives that are both nongradable and contradictory in meaning”.

(30)  

<table>
<thead>
<tr>
<th>A</th>
<th>*non-*A</th>
<th>*un-*A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>nongradable</td>
<td>gradable</td>
</tr>
<tr>
<td>American</td>
<td>non-American</td>
<td>unamerican</td>
</tr>
<tr>
<td>grammatical</td>
<td>nongrammatical</td>
<td>ungrammatical</td>
</tr>
<tr>
<td>Cartesian</td>
<td>non-Cartesian</td>
<td>un-Cartesian</td>
</tr>
<tr>
<td>maternal</td>
<td>nonmaternal</td>
<td>unmaternal</td>
</tr>
<tr>
<td>motherly</td>
<td>??nonmotherly</td>
<td>unmotherly</td>
</tr>
</tbody>
</table>
un-/iN- vs non-

(31)  
  a. This sentence is more ungrammatical than that one.  
  b. *This sentence is more nongrammatical than that one.

(32)  
  a. The blood found in the closet was nonhuman/*inhuman.  
  b. Their behaviour was inhuman/*nonhuman to the extreme.
un-/iN- vs non-

Horn (1989: 281)

(33)  downright un-American/#non-American
       very un-Christian/#non-Christian
       extremely unnatural/#nonnatural
       somewhat immoral/#nonmoral
       awfully irrational/#nonrational
       rather unscientific/#nonscientific
Zwicky (1970) on usually, typically, characteristically, probably, ...:

- sentential adverb reading without un-
- sentential adverb reading absent with un-

(34) a. The children are usually noisy.
   b. Usually, the children are noisy.

(35) a. The children are unusually noisy.
   b. *Unusually, the children are noisy.
un-

- un = scalar negator
- un spells out Neg+Q

(36)
*un-prefixed negative adjectives

(37)
*un-prefixed negative adjectives

- (37) violates (13):

(13)  *<X, X>

    The functional sequence must not contain two immediately consecutive identical projections.
*un-prefixed derived negative adjectives

(38)
*un-prefixed derived negative adjectives

![Diagram of derived negative adjectives]

- NegP
- Neg
- QP
- nP
- n
- Q
- use
- full

- NegP
- Neg
- QP
- nP
- n
- √use
- less
*un-prefixed derived negative adjectives

(39)

\[\text{NP} \quad \text{NegP} \quad \text{QP}\]

\[\text{Q} \quad \text{Neg} \quad \text{un}\]

\[\text{nP} \quad \text{Neg} \quad \text{un}\]

\[\text{nP} \quad \sqrt{\text{use}} \quad \text{less}\]

\[\text{Neg} \quad \text{NegP} \quad \text{QP}\]

\[\text{Neg}^* \quad \text{NegP} \quad \text{Q}\]
*un-prefixed derived negative adjectives

(40)

\[ \text{NegP} \]

\[ \text{QP} \]

\[ \text{Q} \]

\[ \text{Neg} \]

\[ \text{un} \]

\[ \text{NegP} \]

\[ \text{Neg'} \]

\[ \text{Neg*} \]

\[ \text{NegP} \]

\[ \text{QP} \]

\[ \text{Q} \]

\[ \text{Neg} \]

\[ \text{dis} \]

\[ \text{NegP} \]

\[ \text{Neg'} \]

\[ \text{Neg*} \]

\[ \text{QP} \]

\[ \text{Q} \]

\[ \sqrt{\text{honest}} \]
Introduction

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<table>
<thead>
<tr>
<th>English</th>
<th>EQUATIVE</th>
<th>COMPARATIVE</th>
<th>SUPERLATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>COUNT</td>
<td>MASS</td>
<td>COUNT</td>
</tr>
<tr>
<td>POSITIVE</td>
<td>many</td>
<td>much</td>
<td>more</td>
</tr>
<tr>
<td>NEGATIVE</td>
<td>few</td>
<td>little</td>
<td>fewer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>least</td>
</tr>
<tr>
<td></td>
<td>most</td>
<td></td>
<td>leastest</td>
</tr>
</tbody>
</table>
## Q-word LITTLE

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EQUATIVE</td>
<td>COMPARATIVE</td>
<td>SUPERLATIVE</td>
<td></td>
</tr>
<tr>
<td>POSITIVE</td>
<td>many</td>
<td>much</td>
<td>more</td>
<td>most</td>
</tr>
<tr>
<td>NEGATIVE</td>
<td>few</td>
<td>little</td>
<td>fewer</td>
<td>less</td>
</tr>
<tr>
<td>Dutch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POSITIVE</td>
<td>veel</td>
<td></td>
<td>meer</td>
<td>meest</td>
</tr>
<tr>
<td>NEGATIVE</td>
<td>weinig</td>
<td></td>
<td>minder</td>
<td>minst</td>
</tr>
</tbody>
</table>
## Q-word LITTLE

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>Dutch</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EQUATIVE</td>
<td>COMPARATIVE</td>
<td>SUPERLATIVE</td>
</tr>
<tr>
<td>English</td>
<td>COUNT</td>
<td>COUNT</td>
<td>COUNT</td>
</tr>
<tr>
<td></td>
<td>MASS</td>
<td>MASS</td>
<td>MASS</td>
</tr>
<tr>
<td>POSITIVE</td>
<td>many</td>
<td>more</td>
<td>most</td>
</tr>
<tr>
<td>NEGATIVE</td>
<td>few</td>
<td>fewer</td>
<td>fewest</td>
</tr>
<tr>
<td></td>
<td>little</td>
<td>less</td>
<td>least</td>
</tr>
<tr>
<td>Dutch</td>
<td>EQUATIVE</td>
<td>COMPARATIVE</td>
<td>SUPERLATIVE</td>
</tr>
<tr>
<td></td>
<td>COUNT</td>
<td>COUNT</td>
<td>COUNT</td>
</tr>
<tr>
<td></td>
<td>MASS</td>
<td>MASS</td>
<td>MASS</td>
</tr>
<tr>
<td>POSITIVE</td>
<td>veel</td>
<td>meer</td>
<td>meest</td>
</tr>
<tr>
<td>NEGATIVE</td>
<td>weinig</td>
<td>minder</td>
<td>minst</td>
</tr>
<tr>
<td>French</td>
<td>EQUATIVE</td>
<td>COMPARATIVE</td>
<td>SUPERLATIVE</td>
</tr>
<tr>
<td></td>
<td>COUNT</td>
<td>COUNT</td>
<td>COUNT</td>
</tr>
<tr>
<td></td>
<td>MASS</td>
<td>MASS</td>
<td>MASS</td>
</tr>
<tr>
<td>POSITIVE</td>
<td>beaucoup</td>
<td>plus</td>
<td>le plus</td>
</tr>
<tr>
<td>NEGATIVE</td>
<td>peu</td>
<td>moins</td>
<td>le moins</td>
</tr>
</tbody>
</table>
Q-word LITTLE

- MUCH is severely restricted as an adjectival modifier
- LITTLE can modify adjectives in many languages
- if it does, LITTLE displays a polarity restriction, combining only with positive adjectives
Dutch *weinig* ‘little’

- can modify positive adjectives
- cannot modify negative adjectives, whether lexically negative or with a negative prefix or suffix
weinig + positive/*negative adjective

(41)  a. weinig actief/*passief
      little active/passive
b. weinig gezond/*ziek
      little healthy/sick
c. weinig correct/*fout
      little correct/wrong
d. weinig verstandig/*dom
      little clear/confused
e. weinig interessant/*saai
      little interesting/boring
f. weinig duidelijk/*verward
      little clear/confused
weinig + positive/*un-prefixed adjective

(42)  
   a.  weinig geloofwaardig/*ongeloofwaardig  
      little   credible/unbelievable  
   b.  weinig verstandig/*onverstandig  
      little   intelligent/unintelligent  
   c.  weinig aantrekkelijk/*onaantrekkelijk  
      little   attractive/unattractive  
   d.  weinig duidelijk/*onduidelijk  
      little   clear/unclear  
   e.  weinig zichtbaar/*onzichtbaar  
      little   visible/invisible  
   f.  weinig geduldig/*ongeduldig  
      ‘little   patient/impatient’
weinig + N-ful/*-less

(43) a. weinig berouwvol
      little  remorseful
b. weinig begripvol
      little  understanding
c. weinig hoopvol
      little  hopeful
d. weinig succesvol
      little  successful

(44) a. *weinig ademloos
      little  breathless
b. *weinig zinloos
      little  senseless
c. *weinig genadeloos
      little  merciless
d. *weinig nutteloos
      little  useless
a set of negative prefixes corresponding to *un-*: *in*/dés/dis/mal/mé

these show the same polarity restriction as *un-*

injuste *inaux ‘unjust/unfalse’
immodeste *inorgeuilleux ‘immodest/unproud’
désagréable *désennuyeux ‘unpleasant/unannoying’
discourtois *ingrossier ‘uncourteous/unrude’
malheureux *maltriste ‘unhappy/unsad’
mécontent *mésenneuyé ‘dissatisfied/disannoyed’
French *peu* ‘little’

- can modify positive adjectives
- cannot modify negative adjectives, whether lexically negative or with a negative prefix
**peu + positive/**negative adjective**

- *peu* only modifies positive adjectives:

<table>
<thead>
<tr>
<th>Adjective Pair</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>actif/*passif</td>
<td>‘active/passive’</td>
</tr>
<tr>
<td>agréable/*embêtant</td>
<td>‘pleasant/annoying’</td>
</tr>
<tr>
<td><em>peu</em> aimable/*hostile</td>
<td>‘friendly/hostile’</td>
</tr>
<tr>
<td>clair/*embrouillé</td>
<td>‘clear/confused’</td>
</tr>
<tr>
<td>intéressant/*ennuyeux</td>
<td>‘interesting/boring’</td>
</tr>
</tbody>
</table>
*peu + UN-prefixed adjective

- *peu* does not modify adjectives with a negative prefix:

<table>
<thead>
<tr>
<th>Adjective</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>actif/*inactif</td>
<td>‘active/inactive’</td>
</tr>
<tr>
<td>probable/*improbable</td>
<td>‘likely/unlikely’</td>
</tr>
<tr>
<td>crédible/*incrédible</td>
<td>‘credible/incredible’</td>
</tr>
<tr>
<td>agréable/*désagréable</td>
<td>‘pleasant/unpleasant’</td>
</tr>
<tr>
<td>tolérant/*intolérant</td>
<td>‘tolerant/intolerant’</td>
</tr>
<tr>
<td>patient/*impatient</td>
<td>‘patient/impatient’</td>
</tr>
<tr>
<td>content/*mécontent</td>
<td>‘satisfied/dissatisfied’</td>
</tr>
<tr>
<td>courtois/*discourtois</td>
<td>‘courteous/uncourteous’</td>
</tr>
<tr>
<td>heureux/*malheureux</td>
<td>‘happy/unhappy’</td>
</tr>
</tbody>
</table>
Interim summary and preview

- the polarity sensitivity displayed by LITTLE is the same as that displayed by UN-
- therefore, the prospects of accounting for this polarity sensitivity in terms of a principle that applies only word-internally are dim
- we argue that LITTLE = MUCH + Neg
- the account we provided for UN- extends straightforwardly to LITTLE
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weinig actief ‘little active’
*weinig passief ‘little passive’

(48)

- this violates the restriction (13) on admissible functional sequences.
*weinig onaangenaam ‘little unpleasant’
*weinig zinloos ‘little senseless’
Structural nonadjacency

- ‘positive’ \textit{un}-adjectives

\begin{align*}
\text{(51)} & \quad \text{undisheartened} & \text{unscathed} \\
& \quad \text{undisputed} & \text{undefeated} \\
& \quad \text{undiscoverable} & \text{unblamable} \\
& \quad \text{unharmed} & \text{unobjectionable} \\
& \quad \text{invulnerable} & \text{irreproachable}
\end{align*}
Structural nonadjacency

▶ ‘positive’ un-adjectives

(51) undisheartened unscathed
    undisputed undefeated
    undiscoverable unblamable
    unharmed unobjectionable
    invulnerable irreproachable

▶ these are all derived from verbs or nouns

▶ an adjective-deriving suffix structurally intervenes between the negative prefix and the negative verb/noun
(52)

$\neg P$

$QP$

Neg

$Q$

Neg

Neg$'$

$QP$

Neg

$Q$

Neg$'$

$QP$

Neg

$Q$

MP

$M$

$\text{un}$

$\text{dis}$

$\text{cover}$

$v$

$v$
John is not sad

(53) AgrSP
    NP
    John
    AgrS'
    AgrS
    NegP
    'is
    not
    Neg'
    Neg
    TP
    T
    vP
    v
    NegP
    Neg
    QP
    Q
    sad
Comparatives

- all the (polarity) restrictions that hold for the equative degree of the Q-adjectives disappear in the comparative and superlative degrees.

(54) a. more/less intelligent
    b. more/less likely
    c. more/less interesting

(55) a. more/less foolish
    b. more/less annoying
    c. more/less dangerous

(56) a. more/less unfriendly
    b. more/less unhealthy
    c. more/less unkind
(57)

most

more

SprlP

Sprl

CmprP

Cmpr

QP

Q

\checkmark

much
least

(58)

SprlP

Sprl

CmprP

Cmpr

NegP

Neg

QP

Q

√

less

little
more unhappy

(59)

CmprP

CmprP

Cmpr

QP

Q

√

more

Cmpr

QP

Neg

Q

Un

Neg

QP

Happy

Neg

Neg

Neg

Neg

Neg

Neg

Neg

Neg
less sad

(60)

less sad

\[
CmprP
\]

\[
CmprP
\]

\[
Cmpr
\]

\[
Neg
\]

\[
QP
\]

\[
Q
\]

\[
\checkmark
\]

\[
less
\]

\[
sad
\]
Introduction

Prerequisite: Nanosyntax

Analysis I

New Evidence

Analysis II

Conclusion
Conclusion

We discussed a case study that provides support for the idea that

- the word-morpheme distinction is an epiphenomenon
- the same syntactic constraint, i.e. <*X X>, operates across levels, i.e. both at the level of what is taken to be “morphology”, and what is taken to be “syntax”. 
References