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Sub-categorial idioms and root content

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Contents

- The content of roots: little or none?
- Compositionality rules, but sub-categorial idioms are inevitable.
- *Maybe*: the Saussurean sign is structured.

The working hypothesis: Distributed Morphology

- Why DM?
- One of the few frameworks which makes concrete hypotheses about roots (also, Borer 2009).
- Roots in Distributed Morphology are:
  - category-neutral
  - meaningful
  - phonologically identified
  - syntactically active (syntactic nodes).

Root content: underspecified

- Root content is *still* a poorly-studied matter.
- Why would we think that root meaning is impoverished / underspecified?
- Conceptual reason: if roots are meaningful, they are equivalent to verbs, nouns, adjectives – except for a label and/or *v*P, *n*P, *a*P structure (Acquaviva 2008): DOG vs *dog*
- But we need to look carefully at the issue.

The case *for* root content

- Looking at words derived from the same root, they seem to share *a common conceptual core* (cf. Hale & Keyser 1993; 2002; Levin & Rappaport Hovav 1995; 2005):
  - $_{N}$*butter* $_{V}$*butter*
  - $_{N}$*land* $_{V}$*land*
  - $_{A}$*red* $_{N}$*redness* $_{V}$*redden*
  - *nomos nomikos nomimos astynomia* (Gk)

How much root content? QLT

- Consider the Hebrew root QLT (Arad 2005: 97)
  - Nouns:
    - *miqlat* (‘shelter’)
    - *maqlet* (‘receiver’)
    - *taqlit* (‘record’)
    - *qaletet* (‘cassette’)
    - *qelet* (‘input’)
  - Verbs:
    - *qalat* (‘absorb’, ‘receive’)
    - *hiqlit* (‘record’)
- An abstract common core: ‘keep, preserve’.

Root content as a ‘common semantic denominator’

- Even if *semantically impoverished*, a root contains the ‘common semantic denominator’ (Arad 2005: 4-6, 55-59, Chapter 3 *passim*, 271-274) of the words derived from it.
- Roots have a minimum of semantic content, present in the various words derived from them:
  - *nomos nomikos nomimos astynomia*

A common semantic denominator?

- Not all roots are like QLT: KBŠ (Aronoff 2007: 819)
  - Nouns:
    - *keveš* (‘gangway’, ‘step’, ‘degree’, ‘pickled fruit’)
    - *kviš* (‘paved road’, ‘highway’)
    - *kviša* (‘compression’)
    - *kivšon* (‘furnace’, ‘kiln’)
  - Verbs:
    - *kibeš* (‘conquer’, ‘subdue’, ‘press’, ‘pave’, ‘pickle’, ‘preserve’)
    - *kavaš* (like *kibeš* plus ‘store’, ‘hide’)

A common semantic denominator?

- Consider the Greek root ESTH (unlike NOM):
  - *esth-an-o-me* ‘feel’
  - *esth-an-tik-os* ‘sensitive, emotional’
  - *esth-is-i* ‘sense’
  - *esth-is-az-mos* ‘sensuality’
  - *sin-esth-is-i* ‘realisation’
  - *esth-i-ma* ‘feeling’
  - *sin-esth-i-ma* ‘emotion’
  - *esth-it-os* ‘perceptible’, ‘tangible’,
  - *esth-it-ir-ios* ‘sensory’
  - *esth-it-ik-os* ‘esthetic’, ‘beautician’

A common semantic denominator?

- English conversion pairs: *egg*, *book*, *object*…
- Italian METT:
  - *mett-ere* ‘put’
  - *am-mett-ere* ‘admit’
  - *com-mett-ere* ‘commit’
  - *di-mett-ere* ‘dismiss / resign’
  - *pro-mett-ere* ‘promise’
  - *s-mett-ere* ‘quit’
  - *s-com-mett-ere* ‘wager’

What common semantic denominator?

- Acquaviva & Panagiotidis (2012):
  - Swahili
    - class 11/4: *u-siku* ‘night’
    - class 9/10: *siku* ‘day’
    - class 3/4: *m-ti* ‘tree’ *mi-ti* ‘trees’
    - class 7/8: *ki-ti* ‘chair’ *vi-ti* ‘chairs’
  - Latin
    - *malus* ‘apple tree’ (fem) *malum* ‘apple’ (neut)
  - Italian
    - *man-ic-o* ‘handle’ (masc) *man-ic-a* ‘sleeve’ (fem)

Various degrees of root content?

- Some roots, like METT or KBŠ, are meaningless.
- Others, like QLT or NOM, seem to have *some* content.
- Others, like SUGAR, seem to have a lot of content, and pretty concrete content, too.

A dubious heuristic

- Perhaps
  - less specified roots give rise to crazier, more idiosyncratic *word* meanings and
  - more specified roots to more ‘compositional’ ones.
- But how is a native speaker / linguist to decide how much content *a root* has?
- She will have to look at words derived from it
  - All of them? some? which?
  - How come the *least* ‘productive’ roots are the most concrete ones?

Roots with concrete content?

- Consider the extreme case of the word *laser*.
- *Laser* can safely be said to derive from a root LASER (originally an acronym, 1957: “light amplification by stimulated emission of radiation”).
- LASER seems to have a concrete and rich meaning, **but** there are no other words derived from it, so we cannot really know.
- Having said that: *a laser stare*, *throw a laser.*

Roots with concrete content?

- Consider the words derived from the Greek root ZAXAR.
  - *zaxar-i* ‘sugar’
  - *zaxar-o* ‘diabetes’, ‘blood sugar’
  - *zaxar-en-ios* ‘made of sugar’ (*not* ‘sweet’)
  - *zaxar-ux-o* ‘dulce de leche’ (a substantivized adjective; literally: ‘having sugar’)
  - *zaxar-on-o* ‘crystallize (for edibles)’, ‘make out’, ‘get turned on’, ‘leer at something’ – *lexical gap*!

No root content

- Roughly: the greater the number of words derived from a root, the smaller / vaguer its ‘content’.
- So, yes, the unit of lexical semantics is the word, never the root.
- “Words have morphological structure even when they are not compositionally derived, and roots are morphologically important entities, [even] though not particularly characterized by lexical meaning.” (Aronoff, 2007: 819)
- All roots are meaningless in isolation (as in Borer 2009).

Roots are meaningless in isolation

- Roots don't identify word-specific, *non-structural* meaning.
- They can have a meaning only in a particular grammatical context: category, affixes, particles etc. Consider NOM again:
  - [$_{vP}$ *nom-iz-*] 'think'
  - [$_{nP}$ [$_{vP}$ *nom-iz-*] *ma*] 'coin, currency'
  - [$_{aP}$ *ne-* [vP *nom-iz-*] *men-*] 'legally prescribed'

Roots acquire meaning within grammatical structure

- Borer (2003): same root, different ontological typing (event, object), different syntax:
  - *collection*$_1$ ‘the frequent collection of mushrooms by Eric’
  - *collection*$_2$ ‘let me show you my collection of stamps’ (‘result nominal’)
- Acquaviva (2009): same root, different types, different derivations:
  - *argu-ment*$_1$ ‘logical category’
  - *argu-ment*$_2$ ‘event of arguing’
  - *argu-ment-al* ‘relative to *argument*$_1$, *#argument*$_2$’

Roots acquire meaning within grammatical structure

- Basilico (2008): same (atomic) root, different selectional restrictions:
  - the criminals cooked a meal / #an evil scheme
  - the criminals cooked up an evil scheme
- Acquaviva (2008); Acquaviva & Panagiotidis (2012): lexical meaning may be expressed through *inflectional* means:
  - *membro* (masc) 'member'
    - Pl. (masc) *membri* 'members'
    - Pl. (fem) *membra* 'limbs'
  - *è mancato* past perf. 'was missed': 'died'
    - *mancava* 'was missing' NOT 'was dying')
  - *nero* ('water') - *nera* ('rain') (CG)

The content of roots, v. 2

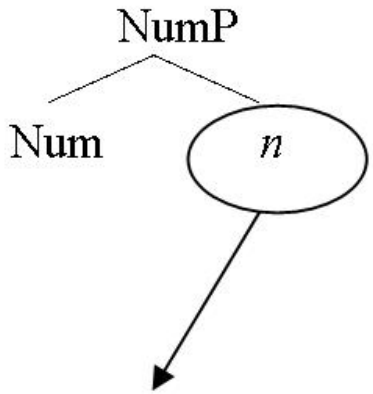
- Roots have no content in isolation.
- Free roots are meaningless, they do not contain a fragment or a shadow of lexical meaning.
- We cannot do lexical semantics with roots – already in Arad (2005: 57-71).
- Roots acquire meaning within a grammatical structure:
  - [$_{nP}$ *nom-os*] ‘law’
  - [$_{vP}$ *nom-iz-*] ‘think’
  - [$_{nP}$ [$_{vP}$ *nom-iz-*] *ma*] ‘coin, currency’
  - [$_{aP}$ *ne-* [$_{vP}$ *nom-iz-*] *men-*] ‘legally prescribed’

Derivations *without* roots

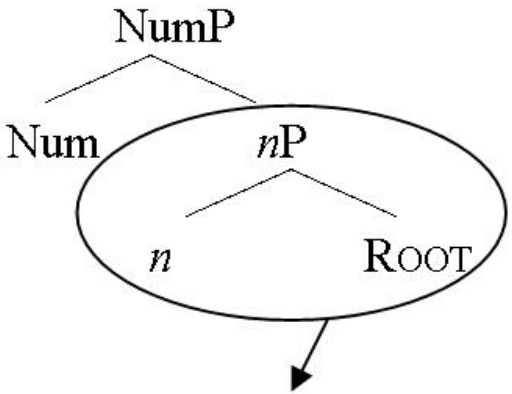
- A derivation without roots exclusively contains structures made of the UG-features available in a given grammar.
- Such a derivation contains functional elements and semilexical elements.
- (if *lexical=categorizer+root*)
- Examples: *she is there, he got them, that one had it, what did you become?, we did one* – etc.

The role of roots

- So, although meaningless themselves, roots are important:
- Their inclusion in a structure enables it to be associated with (a) concept(s).



associated with no concept:
'empty noun'



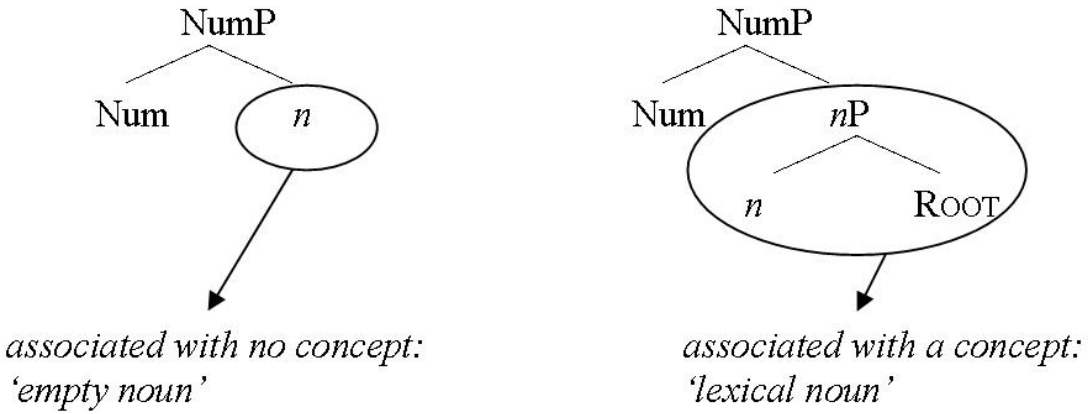
associated with a concept:
'lexical noun'

The role of roots

- So, different roots will enable the same structure, say *n*P, to be associated with different concepts.
- Although meaningless themselves,
- roots are *the* syntax-internal criterion of lexical identity.
- The existence of different roots enables the association of grammatical structures with
  - a meaning
  - (a) form(s) (VIs)

Roots by themselves

- Roots are not *forms*, they are indices / addresses.
- According to the root in a structure, the interfaces will associate the structure with
  - a *particular* meaning
  - (a) *particular* form(s)



Roots as indices / addresses

- So, roots as syntactic objects are pure indices / addresses:
- Acategorial abstract indices. (Acquaviva 2008; Harley 2009; 2012)
- You may *imagine* them as something like phone numbers.
- This is a nice metaphor: phone numbers are transferrable, may become obsolete, need a context etc.
- Contra Boeckx (2010: 28): roots "point to […] concepts". He rightly thinks of them as "instructions to 'fetch' or activate concepts" – but *not without a specific grammatical context*.

Roots as language-internal elements

- Roots are elements language uses in order to map forms onto concepts – with the mediation of grammatical structure.
- Root semantics: *none in isolation*
- Root morphology: *like of all other syntactic nodes*
- Root syntax: *ordinary nodes*, *featureless indices*
- In a nutshell:
  - Roots are indices, *the* syntax-internal criterion of lexical identity.

Sub-categorial idioms

- Consider well-known pairs such as

  $_{N}$water-$_{V}$water,

  $_{N}$dog-$_{V}$dog,

  $_{N}$castle-$_{V}$castle,

  $_{N}$deed-$_{V}$do, etc.
- Already highlighted in Chomsky (1970).
- Meanings associated with material such as root-*v* and root-*n* are invariably listed and almost always idiosyncratic.
- All ‘words’ are idioms (Marantz 1997).
- We can now explain why.

Sub-categorial idioms are only idiomatic

- *n*P and *v*P are systematically idiosyncratic (“lexical”).
- They always behave as idioms without a compositional alternative (contrast the verb *water* with *I kicked the bucket*).
- This canonical idiosyncrasy/non-compositionality has led people
  - to think of the first phase as a somehow privileged domain for idiomaticity
  - to correlate idiomaticity of a structure with it appearing below the categorizer.
- However…

Sub-categorial compositionality?

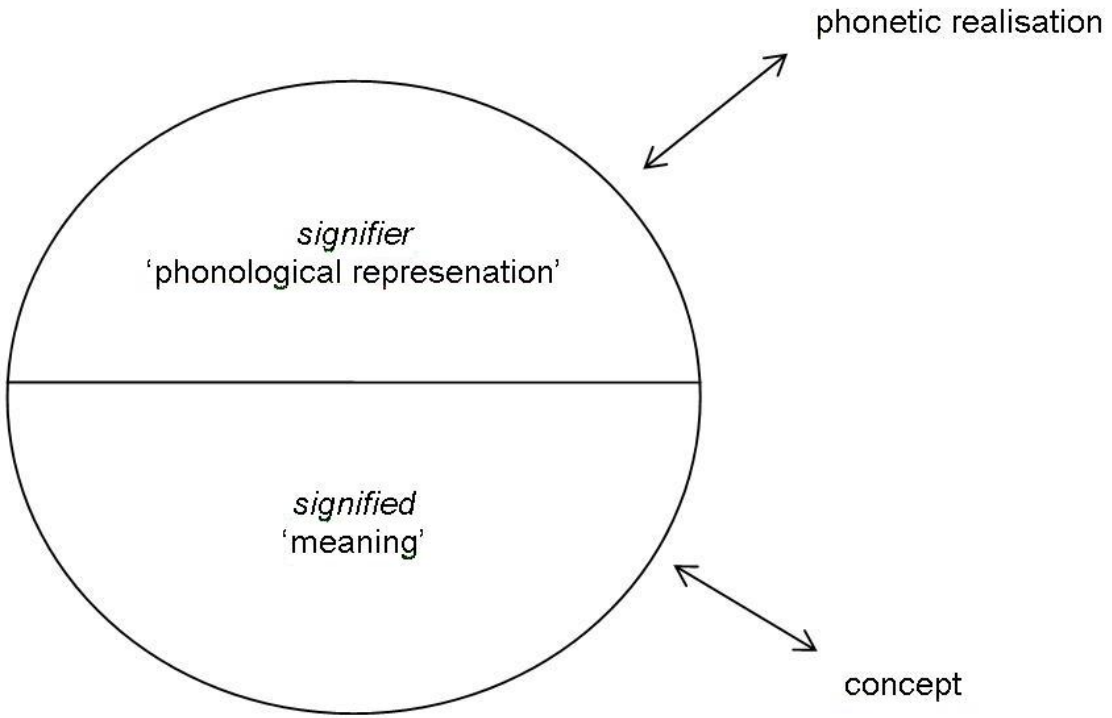
- Our approach to roots suggests otherwise.
- However, non-compositional and idiosyncratic interpretations of material in *n*P and *v*P is the only option:
  - how could compositional interpretation deal with the un- (or under-)specified meaning of roots?
  - what would a compositional function operate on in the case of contentless roots?
- Hence, no compositional alternative to the verb *water* (unless a denominal coinage).

Empty roots → canonical sub-categorial idiomaticity

- The systematic idiomaticity of first phases is not due to the categorizer acting as a limit, below which interpretation is/can be/must be noncompositional (Marantz 2000).
- It is because the First Phase (an *n*P or a *v*P) contains a root, an LF-deficient element, that would resist any compositional treatment anyway.
- Once structure containing a root is dispatched to the interface and matched with an interpretation, the derivation may proceed ‘compositionally’, so to speak.

The Saussurean sign

- The linguistic sign is typically understood thus:



The unstructured sign?

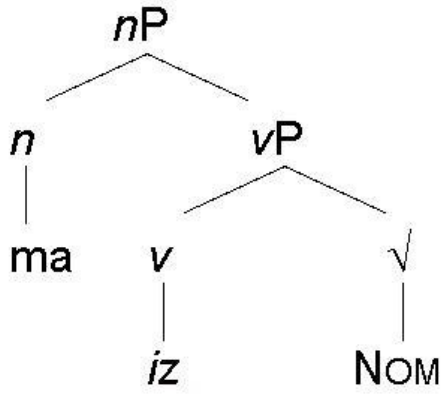
- The sign participates in *paradigmatic* relations (i.e. the *structured* lexicon) and in *syntagmatic* relations (i.e. the computational system).
- However, it is perceived as being unstructured itself: an arbitrary pairing of meaning (*signified*) and phonological representation (*signifier*).
- The *arbitrary* bit is correct.

Meaning without structure?

- We know that in (phrasal) syntax *structure* mediates between phonological form and meaning:
  - John kissed Mary  Mary kissed John
- The one-word argument for this: *compositionality*.
- Are ‘words’ that radically different?
- No.

Signs *always* contain structure

- The sign itself is distributed (we already know this).
- What links *signified* and *signifier* together is structure.
- No *direct* matching of form and meaning *anywhere* (Wiltschko 2013)
- The atomic concept ‘coin’ or ‘currency’ is matched with /'nomizmə/



References

- Acquaviva, Paolo. 2008. *Roots and lexicality in distributed morphology*. Paper given at the Fifth York-Essex morphology meeting (http://ling.auf.net/lingBuzz/000654).
- Acquaviva, Paolo. 2009. *The roots of nominality, the nominality of roots*. Unpublished ms. University College Dublin.
- Acquaviva, Paolo, and Phoevos Panagiotidis. 2012. Lexical Decomposition Meets Conceptual Atomism. *Lingue e Linguaggio* XI (2): 105–120.
- Anagnostopoulou, Elena & Yota Samioti. 2009. *Domains for Idioms*. Paper presented at the Roots II workshop, University of Stuttgart.
- Arad, Maya. 2005. *Roots and patterns: Hebrew Morpho-syntax*. Dordrecht: Springer.
- Aronoff, Mark. 1994. *Morphology by Itself*. Cambridge, MA: MIT Press.
- Aronoff, Mark. 2007. In the beginning was the word. *Language* 83. 803-830
- Baker, Mark. 2003. *Lexical categories: Verbs, nouns and adjectives.* Cambridge: Cambridge University Press.
- Basilico, D. 2008. Particle verbs and benefactive double objects in English: High and low attachments. *Natural Language and Linguistic Theory* 26: 731-729.
- Boeckx, Cedric. 2010. *Defeating lexicocentrism*. Unpublished ms. ICREA, Universitat Autónoma de Barcelona.
- Borer, Hagit 2003. Exo-skeletal vs. endo-skeletal explanations: syntactic projections and the lexicon, in J. Moore and M. Polinsky (eds.), *The Nature of Explanation in Linguistic Theory*. Stanford: CSLI.
- Borer, Hagit 2009. *Roots and Categories*. Paper presented at the 19th Colloquium on Generative Grammar. University of the Basque Country, Vitoria-Gasteiz.
- Embick, David & Alec Marantz. 2008. Architecture and blocking. *Linguistic Inquiry* 39: 1-53
- Emonds, Joseph. 1985. *A Unified Theory of Syntactic Categories*. Dordrecht: Foris.

References (continued)

- Emonds, Joseph. 2001. *Lexicon and Grammar: the English Syntacticon*. Berlin: De Gruyter
- Fodor, Jerry 1970. Three reasons for not deriving 'kill' from 'cause to die'. *Linguistic Inquiry* 1: 429-438
- Fodor, Jerry & Lepore, Ernest. 1998. The emptiness of the lexicon, critical reflections on James Pustejovsky's 'The Generative Lexicon'. *Linguistic Inquiry* 29. 269-288
- Galani, Alexandra. 2005. *The morphosyntax of verbs in Modern Greek*. Unpublished PhD thesis, University of York.
- Hale, Kenneth & Samuel Jay Keyser. 1993. On argument structure and the lexical expression of syntactic relations. In , Kenneth Hale & Samuel Jay Keyser (eds.), *The view from building 20*. 53-109. Cambridge, MA: MIT Press.
- Hale, Kenneth & Samuel Jay Keyser. 2002. *Prolegomenon to a theory of argument structure*. Cambridge, MA.: MIT Press.
- Harley, Heidi 2009. *Roots: Identity, Insertion, Idiosyncrasies*. Paper presented at the Root Bound workshop, USC, February 21, 2009
- Harley, Heidi 2012. *On the Identity of Roots*. Unpublished ms., University of Arizona.
- Haugen, Jason. 2009. Hyponymous objects and Late Insertion. *Lingua* 119. 242-262
- Levin, B. and M. Rappaport Hovav. 1995. *Unaccusativity*. Cambridge, MA: MIT Press.
- Levin, B. and M. Rappaport Hovav. 2005. *Argument Realization*. Cambridge: Cambridge University Press.
- Marantz Alec. 2000. Words. Unpublished ms. MIT.
- Marantz Alec. 2006. Phases and words. Unpublished ms. NYU.
- Panagiotidis, Phoevos 2011. Categorial features and categorizers. *The Linguistic Review* 28: 325-346
- Siddiqi, Daniel. 2006. *Minimize exponence: economy effects on a model of the morphosyntactic component of the grammar*. Unpublished PhD thesis, University of Arizona.