

Four questions on the categorization of roots

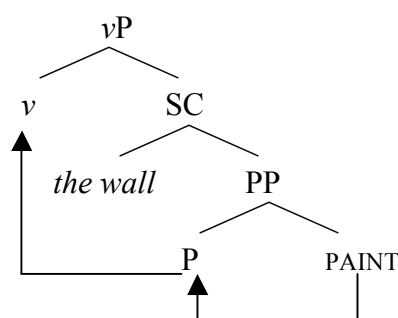
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Preamble

Let us adopt a syntactic approach to the making of lexical categories, like nouns and verbs, one inevitably coupled with a realisational morphological framework like Distributed Morphology (Hale & Keyser 1993; Marantz 1997, 2000, 2005, 2006; Harley & Noyer 1998; Embick 2000; Alexiadou 2001; Arad 2003, 2005; Harley 2005, 2006; Folli, Harley & Karimi 2003; Folli & Harley 2005; Embick & Marantz 2008).

The basic story is very simple:

1. Nouns and verbs are fully-fledged syntactic structures made of a *categoriser*, “inner morphemes” and roots: *n* makes these structures ‘nouns’, *v* makes them ‘verbs’.
2. These syntactic structures determine the interpretation of the noun or verb. Interpretation largely depends on the position of the root within these structures and whether they contain any inner morphemes – elements like low applicatives, low causativisers, internal arguments and so on. Example of the verb *paint* (adapted from Hale & Keyser 1993 after Harley 2005):



3. *nPs* and *vPs* are *phases*, so they must receive a morphophonological and a semantic interpretation at the interfaces once completed.

However, there emerge *four* serious questions:

1. Can roots have grammatical category? Are roots specified in varying degrees cross-linguistically?
2. Why is the meaning within the *vP* and the *nP* (the categoriser phrases, the ‘First Phase’) *negotiated* (Marantz 2000)? In other words, why is there so much non-compositionality within the First Phase?
3. Why are categorisers (*n* or *v*) necessary? Why are their phrases Phases?
4. Why are verbs bigger than nouns?

Roots and features

Can roots have syntactic features, categorial or other?

Arguments for categorial features on roots by Don (2004) – essentially a study in *zero-conversion* in Dutch.

Dutch noun-verb pairs, case I:

A pattern (Don 2004: 940-1) emerges under two assumptions:

Conversion to N produces *common gender* nouns,

Conversion to V produces *regular* verbs.

regular V	common gender N	<i>fiets, ren</i>	N → V
regular V	neuter gender N	<i>werk, feest</i>	N → V
irregular V	common gender N	<i>val, kijk</i>	V → N
* irregular V	neuter gender N	—	

Don uses the above to argue that roots have category: *fiets* and *werk* would be nominal, *val* and *kijk* would be verbal.

However, in the terms of a syntactic categorisation theory, all we have to say about the above pattern is the following:

n taking a *vP* complement produces *common gender* nouns,

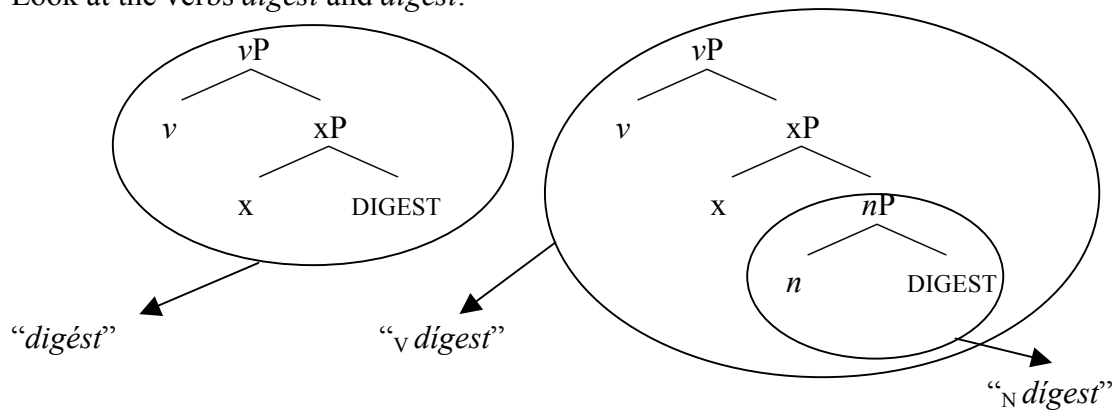
v taking an *nP* complement produces *regular* verbs.

In neither case do we have to talk about nominalisation or verbalisation of the root: Don is correct in that the above are genuine cases of noun-to-verb and verb-to-noun conversions.

Evidence for this comes from the fact that the pairs produced are “phonologically identical, also semantically [...] almost indistinguishable” (Don 2004: 937). The Dutch verb *water* (a location verb!) is very instructive in this respect

This is reminiscent of Marantz (2000) and Arad (2003): when a categoriser converts an already formed noun (*nP*) or a verb (*vP*), neither form, nor meaning are affected:

Look at the verbs *digést* and *dígest*:



In the case of the verb *digést* – made from root stuff and the verbaliser *v*, no interpretation or form are matched with syntactic structure until *vP*, a Phase, is completed. That’s why the verb *digést* has an idiosyncratic meaning – compared with the noun *dígest*.

In the case of the verb *dígest*, the root and the nominaliser *n* combine first (making the noun *dígest*). This is a Phase: it is sent to LF and Morphology / PF, where meaning and form are fixed.

The *nP* phase can then participate in more syntactic structure which, in the case above, turns it into the verb *dígest* (‘summarise’), via a verbaliser *v*. Meaning and form are unaffected.

Dutch noun-verb pairs, case II:

Noun	meaning	Verb	meaning	No attested noun
<i>aan vang</i>	‘beginning’	<i>vang</i>	‘catch’	* <i>vang</i>
<i>aan voer</i>	‘supply’	<i>voer</i>	‘supply’	* <i>voer</i>
<i>aan hef</i>	‘beginning’	<i>hef</i>	‘lift’	* <i>hef</i>
<i>in bring</i>	‘participation’	<i>bring</i>	‘bring’	* <i>breng</i>

The above look like pairs made *directly* from the same root: that’s why there are idiosyncratic differences in meaning. Similar facts hold for overt nominalisers of roots in Dutch, like *-sel*.

Zero morpheme...

Having said that, verbs like *cat*, *tree*, *hair* hardly exist for most speakers, unless they are “contextuals” (Clark & Clark 1979). Maybe the root content matters...

Why is the First Phase non-compositional?

Idioms can be any size, although they are typically vPs / VoicePs.

Idioms have typically rather pedestrian syntactic structure: V+O and so on.

Structures that serve as idioms can usually have a compositional meaning, as well:

Don’t pull my leg.

So, idiomatic combinations of roots with syntactic material inside *nP* or *vP* that have idiosyncratic meaning should come as no surprise.

However, syntactic composition inside the first phase (the first *vP* or *nP*) can be **very idiosyncratic (idiom-like)?**

So: *water–water* (is not a simple locatum verb), *deed–do*, *trial–try*, *action–act*, *revolution–revolve* (think about this one...), *chair–chair*, *ship–ship*, *egg–egg*, *book–book*, *castle–castle*...

Some of it can be explained by morphological accidents: there is a Vocabulary Item for the *vP* where the root MOTHER serves as manner element, there is none for the *vP*

where the root FATHER serves as manner element – see Ackema & Neeleman (2004) for a parallel insight.

Moreover, First Phases (*n*Ps and *v*Ps) are usually matched with *stems* (but not necessarily so in, e.g., Farsi or Japanese!), that’s why there are no morphologically inexpressible VoicePs are CPs but there are morphologically inexpressible *n*Ps and *v*Ps...

Now, rife idiosyncrasy in the meaning of *n*P / *v*P ph(r)ases must have to do with **roots**.

Roots are not directly observable. They are underspecified for meaning and – of course – form. So, they cannot stand as independent syntactic objects and need to be inside the complement of a categoriser in order to be interpreted (we’ll see why).

Roots also seem to behave differently from language to language.

English versus Hebrew: English uses thousands of roots, Hebrew only a few hundred.

Roots are also qualitatively different in the two languages:

compare highly specified GROW (with its feature banning external causers) with Hebrew QLT, which forms verbs like *qalat* ‘absorb, receive’ and *hiqlit* ‘record’ and nouns like *miqlat* (‘shelter’), *maqlet* (‘receiver’), *taqlit* (‘record’), *qaletet* (‘cassette’) or *qelet* (‘input’).

Arad (2003: 745):

“[QLT] seems to contain a semantic core of absorption or taking in. The actual instantiations of the root seem almost unrelated to one another. This illustrates how highly specialized the meanings roots acquire in different environments can be.”

So, in English, words with really crazy idiosyncratic differences in meaning (*trial–try*, *egg–egg*, *ship–ship*, *book–book*, *castle–castle* etc.) are rarer than in Hebrew.

Maybe, because of the roots’ underspecification and their essentially carrying extra-linguistic concepts, it makes sense to talk about the *negotiation* of meaning between features of grammar, of which structures are built, and roots within the *n*P and the *v*P.

Marantz (2000: 7) argues that “the meaning of the root in the context of [the categorisers] is negotiated, using ‘Encyclopedic’ knowledge”.

This thesis (which I emphasised, somehow perversely, in Panagiotidis 2005) nicely corresponds to the following, by Aronoff (2007: 817):

“the meaning of the innovative verb always comprises what I call an EVALUATIVE DOMAIN of the noun’s denotation (essentially a dimension along which the denotation of the noun can be evaluated: a knife is good if it cuts well; a mother is good if she does well what mothers do; a club is good for clubbing, etc.). For most nouns or other lexical items, there is no fixed evaluative domain, so that what the meaning of the novel zero-verb will be depends on the context of its use. Of course, any word’s meaning will become fixed lexically with enough use and time, but that fixing should be of no interest to a linguist. This story holds most remarkably for verbs like *boycott* and *lynch*, which are derived from proper nouns and whose meanings are traceable to very specific incidents in which the named person, here Boycott or Lynch, played an important role. There is nothing else to say about the semantics of zero verbs. Even the notion of an evaluative domain is superfluous, since Gricean principles dictate that the verb have something to do with the noun, no more and no less than what needs to be said to account for the range of data. On this analysis, then, all that the grammar of English contains is the noun-to-verb conversion.”

Whichever the processes that fix the meaning of *n*Ps and *v*Ps, these are accessible to further syntactic operations, along with those phases’ edges (their Spec and their Head).

Why are categorisers necessary? Why are they phasal?

Even if we conceive nouns and verbs as *n*Ps and *v*Ps, the syntactic difference between *n* and *v* remains unaccounted for.

The zero hypothesis would be that the categorising head (*n* and *v*) of each of these projections bears a *distinctive* feature.

Hence, *no escape from categorial features* (or syntax, for that matter).

Let's call these features [N] and [V]. These features must be *LF-interpretable*, if categorisers are syntactic elements with some interpretation – Phase heads *a fortiori*.

This brings up the old question of the *semantics* of grammatical category: what it means to be a noun, what it means to be a verb – at LF, that is.

Baker (2003: 296-7): category distinctions must correspond to *perspectives* on roots or concepts about the world. They are certainly not clear-cut ontological distinctions. Also Uriagereka (1999) and Pesetsky & Torrego (2004; 2005).

LF-interpretation of categorial features on categorisers:

A [V] feature imposes an *extending-into-time* perspective at LF; an [N] feature imposes a *sortal* perspective at LF.

Consequences:

- objects and substances are typically conceived as sortal concepts, hence the canonical mapping of such concepts onto nouns;
- dynamic events (activities, achievements, accomplishments) are typically conceived as extending into time, hence the canonical mapping of such concepts onto verbs;
- Tense and Voice exclusively combine with verbs: the perspective a [V] feature imposes on the root within the projection of *v* is as extending into time.
- Number combines with nouns: the perspective an [N] feature imposes on the root within a projection of *n* is as a sortal concept.

So, we reconceive the categorial features of old as LF-interpretable distinctive features on *n* and *v*. The important bit is that [N] or [V] on *n* and *v* encode different

perspectives: they are not about inherent properties of the root itself (a most welcome consequence of syntactically decomposing grammatically category).

Like finiteness, tense, aspectual and ‘referential’ features, categorial features impose *perspectives* on the semantic material in the complement of the *nP* / *vP* phase.

They provide the fundamental interpretive perspective in which the meaning of roots and grammatical material below the categoriser (“inner morphemes”) will be negotiated.

That’s why we cannot have roots in syntax unless in the complement of a categoriser (Baker 2003: 268): the categorial feature [N] or [V] on *n* or *v* provides the necessary perspective (‘context’ in Marantz 2000) for the root to be interpreted.

Finally, [N] and [V] features behave as phase-edge features:

- a. phase-internally, they contribute the interpretive perspective and
- b. they identify the whole phase externally (as ‘nominal’ or ‘verbal’).

Effectively, there is only one ‘lexical element’ that could qualify as an atomic ‘verb’: *v*. Similarly, there is only one ‘lexical element’ that could qualify as an atomic ‘noun’: *n*. All nouns and verbs are ph(r)ases: *nPs* and *vPs*.

Contra the received way of dealing with them, categorisers are not functional heads, they are the *only* possible *lexical* heads! All else is features and roots.

This statement makes sense if one thinks of *semi-lexical categories*. As expected from the way syntax works, in order to have a ‘noun’ (*nP*) or a ‘verb’ (*vP*) a *root* is not necessary, categorisers are (Harley 2005).

Famous cases of root-less nouns and verbs: *empty / grammatical / semi-lexical nouns* and *verbs*: Emonds (1985: Ch. 4), van Riemsdijk (1998), Haider (2001), Schütze (2001), Panagiotidis (2003a; 2003b).

Why are verbs bigger than nouns above the categoriser?

Arad (2005: Ch. 3) discusses the fact that nominal and verbal morphology seem to be of a different nature in languages such as Hebrew, Russian (and Greek) – all three inflectionally rich languages.

Nouns can be borrowed as they are (modulo phonological adaptation), e.g. *ροκ*, *ζουμ*, *ίντριγκα*.

However, borrowed verbs must be ‘encased’ within “verbal morphology”, e.g. *ροκ-άρ-ω*, *ζουμ-άρ-ω*, *ίντριγκ-άρ-ω*.

Also, in Hebrew, “roots make nouns more easily than verbs” (Arad 2005: 56).

Arad argues this to be the result of a *VoiceP* (as opposed to a bare *vP*) being the *minimum* verb: a verbalised root (*vP*) ≠ verb. Of course, *vP* would still be matched with verbal *stems* by Morphology.

No such restriction / requirement exists for *nPs*, which are simply ‘nouns’.

A very tentative answer: this could be because of the ‘extending-into-time’ perspective the [V] feature in *v* imposes, which entails *eventiveness* and / or argument structure.

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