3 Compounding and derivation

In the previous lecture we saw that it is possible to combine two free morphemes to make one complex word, a compound. In principle, the two morphemes can be of any lexical category. Indeed, many different combinations of lexical categories can be found in English compounds:

(1) a. N + N  apron string, kitchen towel, bathroom, police car
    b. A + N  high school, smallpox, dimwit, greenbelt
    c. P + N  overdose, underdog, afterthought, uptown
    d. V + N  swearword, rattlesnake, whetstone, scrubwoman

(2) a. N + A  headstrong, honey-sweet, skin-deep, nationwide
    b. A + A  red-hot, worldly-wise, widespread
    c. P + A  overabundant, underripe, underprivileged
    d. V + A  ---

(3) a. N + V  colour-code, breast-feed, chain-smoke, pan-fry
    b. A + V  sharpshoot, dry-clean, whitewash
    c. P + V  outperform, underfeed, overreact
    d. V + V  stirfry

Some of the combinations are more productive than others, meaning that it is easier to coin new compounds of that type. The N+N type, for example, is completely productive: any combination of two nouns is a possible compound of English. At the other extreme, V+A combinations do not seem to occur at all. This is an arbitrary gap in the English lexicon: a look at other languages quickly reveals that there is nothing intrinsically wrong with a V+A compound, as the Dutch examples in (4) show.

(4) fonkel\textsubscript{V}-nieuw\textsubscript{A} druip\textsubscript{V}-nat\textsubscript{A}
    shine new drip wet
    ‘brand new’ ‘soaking wet’

The resulting meaning of the combination of two morphemes is largely unpredictable. Consider the V+N compounds in (1d), for example. The meaning relation between the two parts is different in each case. A rattlesnake is a snake that rattles, but a swearword is not a word that swears, it is a word with which someone swears. Similarly, a whetstone is a stone to whet something on, but a scrubwoman clearly is not a woman to scrub something on.

There is one constant in the meaning relation between the left-hand part and the right-hand part, however. In all cases, the whole compound is an instance of the class of things that the right-hand part of the compound refers to. Thus, a rattlesnake is a type of snake, to colour-code is type of coding, and honey-sweet is a subcategory of sweet. In short, there is a so-called “IS A” relation between a compound and its right-hand member. Related to this is another observation: the lexical category to which a compound belongs is determined by the category of its right-hand member in English. The compounds in (1)-(3) are not distributed across the example numbers like this for
nothing. In (1) all compound types with a noun as right-hand member are given, and in all cases the resultant compound is a noun itself. In (2) we see that all compounds with an adjective as right-hand member are adjectives, and similarly for verbs in (3). In this sense, the right-hand member of a compound is more important than the left-hand member: it is the head of the compound. As you will also see in the syntax lectures, the head of a complex word or phrase is that element in the word or phrase that determines the categorial (as well as some other) properties of the whole word/phrase. So, English compounding is subject to the following rule:

(5) Right-hand Head Rule
The head of a compound is its right-hand member

We can observe this rule in action when we coin a new compound. Consider for instance the compounds kitchen-swear versus swear-kitchen. Regardless of the meanings we want to ascribe to these compounds, we know that kitchen-swear must be a verb and swear-kitchen a noun.

The Right-hand Head Rule is not a universal, holding of all compounds in all languages. Some languages have compounds which have the left-hand member as their head. Examples are the Tagalog compounds in (6) and the French ones in (7):

(6) matang-lawin  lasang-isda  pamatid-uhaw
    eyes      hawk              tasting fish  cutter  thirst
    ‘hawkeyes’  ‘fishy-tasting’  ‘thirst quencher’

(7)  timbre poste        coffre fort  bleu ciel
      stamp postage        chest  strong       blue sky
      ‘postage stamp’      ‘safe’ (noun)           ‘sky blue’

Not all compounds even have a head to begin with. Although this is the exception rather than the rule, there are compounds such as the following:

(8)  sabretooth, redneck, skinhead

These compounds do not refer to a type of tooth, neck and head, respectively, nor do they refer to a type of sabre, red or skin (so they are not left-headed either). Rather, they refer to something/someone that has a particular type of tooth, neck or head. Another term for such headless compounds is exocentric compounds. The regular compounds that do have a head are then said to be endocentric.

Although the right-hand member is the head in English, the left-hand member of a compound is more important in one respect: it receives the main stress. The stress patterns of some of the compounds in (1)-(3) are as indicated in (9). (There are exceptions to this however, such as all the P-V compounds).

(9)  kítchen towel, báthroom, whítewash, héadstrong

Some compounds have a quite curious property, namely that they can only show up when they are derived further with a derivational affix. Consider the following examples:
(10) truckdriver, dishwasher

Given their meaning (‘someone who drives trucks’, ‘something that washes dishes’), these would appear to be structured as in (11).

(11)

\[
\begin{array}{cccc}
N & V & N \\
\text{truck} & \text{drive} & \text{dish} & \text{wash}
\end{array}
\]

In other words, these seem to be derivations of N-V compounds. But these particular N-V compounds do not occur on their own in English:

(12) *to truck-drive, *to dish-wash

*She truckdrives all day long while he dishwashes.

Something similar holds of examples like (13). Given their meaning, these appear to be derivations of A-N compounds. But the A-N compounds in question do not occur as such in English (note that blue eye, for example, has the stress pattern of a syntactic phrase, not that of a compound: *blúe-eye, with stress on the left-hand part as in compounds, does not occur).

(13) blue-eyed, fair-skinned

Complex words of this type, such as those in (10) and (13), are called synthetic compounds. They are combinations of compounding and derivation. To distinguish them from such synthetic compounds, ‘ordinary’ compounds, that is to say those compounds that can occur without being combined with a derivational affix, are then called root compounds. (The root of a word is the form the word has when it has not undergone any morphological derivation).

Let us now turn our attention to derivation. In the case of compounds we saw that (usually) one member of the compound is in a sense more important than the other, in that this member (the right-hand one in English) determines the category of the whole compound. How is this for complex words consisting of a free morpheme and an affix – is one of these more important than the other in a similar way? At first sight, it may be tempting to think that the free morpheme is more important than the affix in determining the category of the complex word. After all, free morphemes clearly belong to some lexical category or other: kitchen is a noun, large an adjective, swear a verb, cross can be a verb, a noun or an adjective, and so on. At first sight, it may seem strange to say that affixes such as -er, -able or -ize are nouns, adjectives or verbs.

In some cases, this initial hunch turns out to be correct. Some affixes indeed do not determine the category of the complex word they derive. Consider for instance un- or re-. If these attach to a noun, the resulting complex word is a noun (14), if they attach to a verb the result is a verb (15) and if they attach to an adjective (which re- does not
do) the result is an adjective (16). In these cases, then, it is the free morpheme that determines the category of the complex word.

(14) concernN - unconcernN
    matchN - rematchN

(15) tieV - untieV
    paintV - repaintV

(16) happyA - unhappyA

But now consider the affix -er. When this attaches to a verb, the resulting complex word is a noun:

(17) to swimV – swim-erN
to singV – sing-erN

Or consider -ify: it attaches to an adjective or noun, but the whole complex word is a verb:

(18) solidA – solid-ifyV
    gloryN – glory-ifyV

Conversely, -able attaches to a verb, but derives a complex adjective:

(19) to doV – do-ableA
to dispenseV – dispense-ableA

For these affixes, then, it does make sense to say that they are nouns, verbs or adjectives, and that they head the complex words in (17)-(19). The only difference with more familiar nouns, verbs and adjectives is that they are bound, rather than free, morphemes.

What might be the difference between those derivational affixes that do change the category of the word they attach to, and those that do not? Considering the examples in (14)-(19), we see a certain pattern: the non-category-changing affixes are prefixes, while the category-changing ones are suffixes. This brings the rule that stated which morpheme is the head of a compound in English to mind: the right-hand morpheme is the head of the complex word. Perhaps the Right-hand Head Rule does not just apply to compounds, but to complex words more generally. However, it should be noted that, if we do want to apply the Right-hand Head Rule to derivations as well as compounds in English, there are a few apparent exceptions to it, in particular the verbalizing prefixes de-, en- and be-:

(20) throneN – de-throneV
    slaveN – en-slaveV
    cloudN – be-cloudV

Phonologically speaking there are also two classes of affixes. Some affixes are stress-attracting, meaning they change the stress pattern of the word they attach to in such a
way that the main stress is shifted to a syllable closer to, or in, the affix. Other affixes
do not affect the stress pattern of the word they attach to. This division cuts across the
category-changing versus non-category changing affix divide. Stress-attracting affixes
are also referred to as class I affixes; some examples are given in (21). Stress-neutral,
or class II, affixes, are illustrated by the examples in (22).

(21) sólid – solíd-ify
illustrate – illustrát-ion
grammétical – grammaticál-ity
jústify – justifý-able

(22) stándard – stándard-ize
defénsive – défénsive-ness
pénny – pénny-less
grammátical – un-grammátical

It has been proposed that this different behaviour can be accounted for if it is assumed
that the processes of class-I and class-II affixation and the rules that determine word
stress are ordered with respect to one another. In particular, class-I affixation is said
to apply before the stress-rules, while class-II affixation is ordered after it. Thus,
class-II affixation applies too late to influence the word’s stress pattern:

(23) attachment of class-I affixes → stress rules → attachment of class-II affixes

If it is correct that all class-II affixation takes place after all class-I affixation, in
accordance with (23), the prediction is that class-II affixes should always occur
outside of class-I affixes, never the other way around. This is by and large correct:

(24) express-ion-lessII
reason-ableI-nessII
*fear-lessII-ityI
*tender-nessII-ifyI

However, there are some apparent counterexamples to this:

(25) develop-mentII-alI

Moreover, there are many more ordering restrictions between affixes in English that
do not follow from the class-I versus class-II distinction. The suffix -ic, for example,
mainly seems to attach to words that are derived with -ist first. It seems as if affixes
can impose certain demands on the type of host they want to attach to: they can select
for a particular host.

The selectional demands of an affix can also be such that the word it attaches to must
occur in a particular form, different from the one in which that word occurs on its
own. Consider for example what happens when we pluralize the noun index:

(26) index – indic-es
Clearly, we do not want to say that *indic* is a different noun from *index* – rather, it is the form this noun takes when the plural suffix is added. In such cases, where there are alternative realizations of the same morpheme, we speak of *allomorphy*. Thus, *index* and *indic* are *allomorphs* of the same morpheme.

Affixes themselves can also have allomorphs. For example, the deverbal nominalizing suffix *-er* (as in *work-er, drive-er, help-er* etc.) occurs as *-or* in some latinate forms:

(27) translate-or
     instruct-or

As a final point with respect to the selection of particular hosts by affixes, it should be noted that in some cases the host need not be an independently existing word (a possibility we already considered in connection with synthetic compounds above). As noted, the suffix *-ic* mainly wants to attach to nouns derived in *-ist*. But in some instances, the *-ist* noun in question does not occur independently:

(28) spiritual – spiritual-ist – spiritual-ist-ic
    surreal – surreal-ist – surreal-ist-ic

    cannibal – #cannibal-ist – cannibal-ist-ic
    character – #character-ist – character-ist-ic