Linguistics 1A   Morphology

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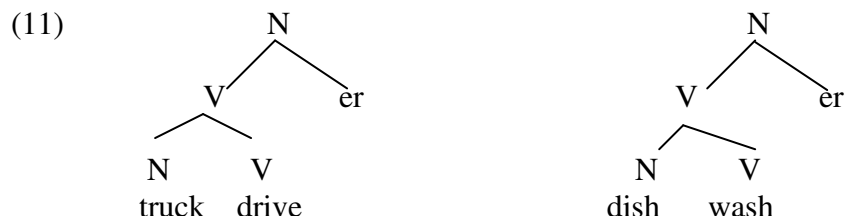
Although the right-hand member is the head in English, the left-hand member of a compound is more important in one respect: it receives the main stress. The stress patterns of some of the compounds in (1)-(3) are as indicated in (9). (There are exceptions to this however, such as all the P-V compounds).

(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)

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         N                              N
        / \                            / \
       V   er                         V   er
      / \                            / \
     N   V                          N   V
   truck drive                    dish wash
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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) $concern_N$ - $unconcern_N$
                              $match_N$ - $rematch_N$

(15) tie_V – $untie_V$
                              $paint_V$ – $repaint_V$

(16) $happy_A$ – $unhappy_A$

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

(17)   to $swim_V$ – $swim\text{-}er_N$
                              to $sing_V$ – $sing\text{-}er_N$

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

(18) $solid_A$ – $solid\text{-}ify_V$
                              $glory_N$ – $glory\text{-}ify_V$

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

(19)   to do_V – $do\text{-}able_A$
                              to $dispense_V$ – $dispense\text{-}able_A$

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) $throne_N$ – $de\text{-}throne_V$
                              $slave_N$ – $en\text{-}slave_V$
                              $cloud_N$ – $be\text{-}cloud_V$

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
                íllustrate – illustrát-ion
                grammátical – grammaticál-ity
                jústify – justifý-able

(22)   stándard – stándard-ize
                defénsive – defénsive-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$_I$-less$_{II}$
       reason-able$_I$-ness$_{II}$

       *fear-less$_{II}$-ity$_I$
       *tender-ness$_{II}$-ify$_I$

However, there are some apparent counterexamples to this:

(25)   develop-ment$_{II}$-al$_I$

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