Conversion as Zero derivation: Evidence from affix concatenation
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1) What is conversion?
   a. Conversion is the process by which lexical items change (grammatical) category without any concomitant change in form. (Lieber 2005: 418)
   b. Conversion is one the processes that may take part in the creation of new lexemes in English. (Valera 2005: 20)

2) Types of conversion
   a. Total conversion (Quirk et al. 1985)
      The converted words participate in morphological processes (derivation and inflection).
      bottle\textsubscript{N} → bottle\textsubscript{V} → bottle\textsubscript{N}, bottled\textsubscript{V-PAST}
   b. Partial conversion (Quirk et al. 1985)
      The converted form does not show any derivation or inflection
      best\textsubscript{A} → best\textsubscript{N} → *bests\textsubscript{N-PL}, *bestable\textsubscript{A}
   c. Approximate conversion (Kiparsky 1982)
      There is slight phonological difference between two pairs
      expórt\textsubscript{V} → éxport\textsubscript{N}
      hou[s]c\textsubscript{N} → hou[z]c\textsubscript{V}
      ? sing\textsubscript{V} → song\textsubscript{N}
      ??breathe\textsubscript{N} → breath\textsubscript{V}

3) Examples of conversion (Quirk et al. 1972: 1011-1013)
   a. Verb → Noun
      desire, dismay, cover, retreat, break, turn, rise, catch, swim, look
   b. Adjective → Noun
      daily, comic, valuable, constant, final
      (Alternative: Deletion of Nouns in Adj-N sequence.)
   c. Noun → Verb
      forest, milk, tape, fish, cash, champion, experiment, mother
   d. Adjective → Verb
      dry, empty, narrow, calm, humble, lower, idle

4) Different views on conversion
      i. Two forms are homophones.
      ii. Fails to capture the visible phonological, syntactic and semantic relations between the two. (cf. Kiparsky 1997, Don 2004:932)
      iii. Some words like “long\textsubscript{A}“ and “to long” (to yearn) or “bare\textsubscript{A}” and “bear\textsubscript{N}” should be treated as homonyms. (cf. Jovanović 2003: 426)
   b. Dual membership (Polysemy approach) (cf. Sanders 1988)
      i. Predecessor of the underspecification approach in (4e).
ii. A lexical item may have more than one grammatical category.

iii. “…linguists have generally tended to view one of the functions as more basic than the other.” (Sanders 1988:155)

   - fish (plural) fished (past) – Nouns are irregular
   - drinks (plural) drank (past) – Verbs are irregular

   i. One is derived from the other. (Kiparsky 1982)
   ii. There are conspicuous common characteristics between conversion and derivation.
   iii. No specific argument for zero-derivation in the literature (Don 1993: 35)
   iv. How many zero-affixes are there and what are their semantic value?

   i. Is the zero affix a prefix or a suffix?
   ii. There is no derivation. A simple category-changing rule does the work.
   iii. This explains the regular nature of irregular verbs (grandstanned)

   (cf. baby-sitted, *baby-sat)
   iv. Conversion is not a process of creating a new word (but a new function).

   i. Certain lexical categories are not marked in the lexicon. (Syntax fills in the category)
   ii. Unable to accommodate approximate conversion. (Kiparsky 1982), unless the stress assignment is assumed to take place after syntax not in the lexicon.
   iii. Unable to explain regular plurals but irregular past forms. (cf. (diii))

5) Superiority of zero-derivation hypothesis:
   a. Simplicity: No specific morphological status for conversion.
      Conversion, unlike derivation, may not be a universal morphological process.

   b. Overt relationship between conversion and affixation
      i. Argument structure of converted item.

      They destroy the city → their destruction of the city
      Tom reviews the book → Tom’s review of the book

      cf. John grows tomatoes → *John’s growth of tomatoes
      John tapes the box → *John’s tape of the box

      ii. Directionality of conversion

      The converted verbs, just like derived verbs are generally transitive ones.
      N→Adv, V→Adv, Adv→A, Adv→N, Adv→V mappings are not possible both in derivation and conversion

      iii. Synonymy blocking

      Blocking is an economy principle that can be thought of informally as an injunction to avoid coining synonyms: “If you already have a perfectly good expression for something, don't invent another one.” (Aronoff and Fuderman 2005:219)
*to alcohol (to alchoholize)
*to letter (to write)
*to singer (to sing)

Suffixes derive sbs(nouns) from vbs, and it would be contrary to reason to form such verbs as arrival, guidance, improvement, organization when arrive, guide, improve, organize exist. (Marchand 1969:302)

iv. Relationship with phonological rules
Zero-derivation analysis offers more coherent explanation for approximate conversions.

6) Problems of zero-derivation hypothesis.
   a. The affixal nature of the zero-morpheme. (Is the zero affix a prefix or suffix?) (Strauss 1982)
      i. This, however, is a pseudo-problem given the Right-hand Headed Rule:
         Right-hand Head Rule (Williams 1982:248)
         In morphology, we define the head of a morphologically complex word to be the right-hand member of that word.
      ii. The head changes the part of speech, meaning that the conversion is controlled by adding a suffix, not a prefix in English. (with exceptions for such prefixes as {be-}, {de-} and {en-})

   b. The semantic range of the zero-morpheme. (what are the semantic characteristics of zero-affixes?)
      i. Examples from Marchand (1969: 300)
         bed → spread a bed
              → put to a bed
              → go to bed
              → sleep with
      ii. We have similar problems in defining the meaning of any overt suffix.

   c. Affix interaction (Does the zero-suffix belong to Class One or Class Two?)
      i. If it is Class one, then how come it is attached after class II affixes?
      valuables, engineer, waitress,
      ii. If it is Class Two suffix, why it is not attached to the majority of Class II suffixes?
         * These simply reflect the problem of Lexical morphology/phonology model.

   d. Derived word blocking
      i. Booij (2002: 136)
         It is not easy to find derivationally complex nouns that feed conversion..
      ii. Don (2005:6)
         Also in English the correct generalization seems to be that affixed forms are not available for (verb-forming) conversion.
      iii. Jensen (1990: 95)
It follows that nouns formed with level 1 suffixes can give zero-derived verbs….but not nouns formed with level 2 suffixes.

* These observations are generally wrong!

7) Examples of derived word conversion ((Marchand 1969 and others)

a. N→V

<table>
<thead>
<tr>
<th>vacation</th>
<th>audition</th>
<th>auctioneer</th>
<th>engineer</th>
</tr>
</thead>
<tbody>
<tr>
<td>patronage</td>
<td>bandage</td>
<td>package</td>
<td>frontier</td>
</tr>
<tr>
<td>barrier</td>
<td>pressure</td>
<td>adventure</td>
<td>posture</td>
</tr>
<tr>
<td>closure</td>
<td>miniature</td>
<td>waitress</td>
<td>disruption</td>
</tr>
</tbody>
</table>

b. V→N

<table>
<thead>
<tr>
<th>Review</th>
<th>rematch</th>
<th>preview</th>
<th>restructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>recapture</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

c. A→V

<table>
<thead>
<tr>
<th>bloody</th>
<th>dirty</th>
<th>weary</th>
<th>negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>impersonate</td>
<td>opinionate</td>
<td>alienate</td>
<td></td>
</tr>
</tbody>
</table>

(maybe we can posit two different {-ate} suffix.)--designate

d. A→N

<table>
<thead>
<tr>
<th>valuable</th>
<th>knowable</th>
<th>printable</th>
<th>harmonic</th>
</tr>
</thead>
<tbody>
<tr>
<td>phobic</td>
<td>scientific</td>
<td>Spanish</td>
<td>Korean</td>
</tr>
<tr>
<td>Chinese</td>
<td>affirmative</td>
<td>negative</td>
<td>relative</td>
</tr>
<tr>
<td>protestant</td>
<td>adherent</td>
<td>aspirant</td>
<td>personal</td>
</tr>
<tr>
<td>natural</td>
<td>national</td>
<td>collateral</td>
<td>fundamental</td>
</tr>
<tr>
<td>cautionary</td>
<td></td>
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</tbody>
</table>

8) Problems of Lexical morphology.

a. Undergeneration (Bracketting paradox)

Class One affixes are found after Class Two affixation

[un-grammatical]-ity
[government]-al

b. Overgeneration

Some possible affix combinations are not found.

i. Class One-Class One combination

*[institute-ion]-(i)an *[present-ation]-(i)an
*[realize-ation]-ous *[personal-ity]-ous
*[real-ity]-ize *[resident-y]-ize

ii. Class One-Class Two combination

*[real-ize]-ment *[sign-ify]-ment
*[deform-ity]-ful *[personal-ity]-ful
*[institute-ion]-ism *[antique-ity]-hood
*[relate-ion]-ly *[perceive-tion]-ly

iii. Class Two-Class Two combination

*[kind-ness]-ful *[encourage-ment]-ful
9) Affix types (An alternative to Lexical morphology approach)
   a. Beginning suffixes (Fabb, 1988) (28 out of 43 suffixes)
      * Some suffixes are added only to unsuffixed words.
      
      - V-age (steerage)      V-al (betrayal)      V-ance (annoyance)
      - V-ment (containment) V-y (assembly)      N-age (orphanage)
      - N-hood (nationhood)  N-ism (despotism)  N-an (librarian)
      - N-ist (methodist)    V-ant (defendant)  V-ful (forgetful)
      - V-ant (defiant)      V-ory (advisory)    V-ive (restrictive)
      - N-ful (peaceful)     N-ous (spacious)   N-y (hearty)
      - N-ly (ghostly)       N-ish (boyish)     N-an (reptilian)
      - N-ed (moneyed)       A-ly (harshly)**   N-ate (originate)
      - N-ify (classify)     N-ize (symbolize)  A-ify (intensify)
      * Underlined affixes are classified as Class II suffixes
      ** This might not be true. (luckily, alternatively…)

   b. Closing suffixes (Aronoff and Fuhrhop, 2002)
      * Some suffixes do not allow any other suffix after them.
      
      - N-hood (neighborhood)  N-ful (auditorium-ful)
      - V-ful (regretful)      N-ful (sorrowful)
      - A-ity (reality)        N-dom (kingdom)
      - N-ly (lovely)          N-less (careless)
      - N-ship (scholarship)  N-ling (duckling)
      - N-y (speedy)           V-ory (advisory)
      - A-ly (happily)         A-ness (kindness)
      * Underlined affixes are classified as Class I affixes.
      * {-ly} and {-ness} might be treated as appendix, meaning it can be attached even
        after closing suffixes.

   c. Monosuffix constraints and free suffixes (Aronoff and Fuhrhop, 2002)
      i. Many Germanic suffixes obey monosuffix constraint.
         
         - Monosuffix Constraint
            Suffixes that select Germanic bases select unsuffixed bases.
      ii. This means that Germanic suffixes are the beginning and closing suffixes at the
          same time.

   d. Affix affinity (Plag 1999)
      Certain stem final suffixes have a strong affinity for certain predetermined suffixes.
      i. Stem final verb-forming affix {-ate} takes {-ion} for deverbal nouns.
         designate-ion  impersonate-ion
         invigorate-ion  alienate-ion
      ii. Stem final verb-forming affix {-ize} takes {-ation} to form nouns.
         realize-ation  personalize-ation
         symbolize-ation  materialize-ation
      iii. Stem final verb-forming suffix {-ify} takes {-cation} to form nouns.
         notify-cation  signify-cation
10) Relationship between conversion and affix concatenation

In general, conversion of derived words is rare. Such rarity (and presence) of derived word conversion can only be explained with reference to affix types, if conversion is viewed as a process of derivation by adding zero morphemes.

a. Conversion and beginning suffixes.
   i. In the framework of conversion as zero derivation, we can see that once conversion is applied, no beginning suffixes (nor monosuffixes) can be added after it.
   ii. This explains the rarity of further derivation from the converted words.
   iii. But still we can see that the closing suffix or free suffix may be added. (cf. total conversion in (2a).)

   \[
   \begin{align*}
   \text{milk}_N & \rightarrow \text{milk}_V \rightarrow \text{milker}_N (*\text{milk}-\text{ment}_N) \\
   \text{bottle}_N & \rightarrow \text{bottle}_V \rightarrow \text{bottler}_N (*\text{bottle}-\text{age}_A)
   \end{align*}
   \]

b. Conversion and closing suffixes.
   i. Once a closing suffix (or a monosuffix) is attached, the form cannot undergo conversion.
   ii. This explains the lack of conversion from many derived words.
   iii. But still it allows the conversion from derived words that have beginning or free suffixes. (see examples in (7a), (7c) and (7d).)

c. Conversion and affix affinity
   i. Affix affinity wins over conversion in competition.

   \[
   \begin{align*}
   \text{symbolize} & \rightarrow [[\text{symboliz}]_V-\text{ation}]_N, *[[\text{symbolize}]_V-\text{Ø}]_N \\
   \text{signify} & \rightarrow [[\text{signify}]_V-\text{cation}]_N, *[[\text{signify}]_V-\text{Ø}]_N \\
   \text{alienate} & \rightarrow [[\text{alienate}]_V-\text{ion}]_N, *[[\text{alienate}]_V-\text{Ø}]_N
   \end{align*}
   \]
   ii. This explains the lack of conversion from a word that has a verb-forming suffix as in (7b).
   iii. And this also explains conversion from verbs, if the verbs do not have verb forming suffixes. (prefixes are OK!)

11) Conclusion

a. The noticeable connection between conversion and derivation can only be expressed, when we view conversion as part of the derivation.

b. The apparent problems of zero-derivation is related to the deficiency of Lexical Morphology.

c. With newly proposed affix types, the former problems can be dealt with.

d. The remaining issues are basically semantic, not morphological nor phonological
References

영접사 파생으로 본 품사전환 - 접사화과정을 중심으로

Conversion as Zero derivation: Evidence from affix concatenation

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품사전환이란 하나의 어형태가 모습은 바뀌지 않고 다른 품사로 사용되는 것을 말한다. 이러한 품사전환이 “기능관”등의 고유의 어형성과 관련이 없으나 영접사를 절개하여 만들 어진 일종의 파생형상인식에 대한 논의가 발행된다. 물론 이외에도 본디 하나이상의 품사를 가지고 있는 것으로 규정하는 경우로도 있고 또 품사가 줄여표기된 (underspecification) 것이라는 주장도 존재한다. 전통적으로는 Jespersen (1942) 이후 품사전환을 영접사에 의한 파생이라 설명하였으나 (Marchand 1969) 이러한 입장에 대한 대안이 나타나고 있는 실정이다. 본고는 이러한 여러 가지 대안이 있기는 하지만 여전히 영접사 파생으로 보는 시각이 옳다 는 것을 접사화과정을 중심으로 논의하고자 한다.

먼저 품사전환을 영접사 파생으로 보는 관점이 전는 문제를 검토하여 이러한 문제를 해결할 수 있는 방안을 제시한다. 영접사가 접두사가 접미사인가, 과연 몇 개의 영접사를 인정해야 할 것인가, 영접사의 의미영역을 어떻게 규정할 것인가 등 기존에 제기된 문제는 사실상 형태론의 입장에서 볼 때에는 그렇게 큰 문제가 되지 않을 수도 있다. 반면에 품사전환이 파생과 밀접한 관계가 있다는 것은 영접사 파생의 방법이에 있는 설명할 것이 없다. 영접사 파생은 비파생에서의 뽑으므로 풀어나가지만, 파생의 경우는 영접사 파생이 매우 제한적이다. 그러나 Booij (2002)의 주장처럼 파생어가 겸조 영접사 상의 대상이 될 수 없는 것은 아니며 (to pressure, to vacation), Jensen (1990)이 설명하듯 2군접사가 붙으면 품사전환이 일어나지 않는다고 할 수 없다. (a valuable, to engineer) 본 논문은 (1) 품사전환이 비파생에서 더 흔하게 일어나는 이유가 무엇인지와 (2) 어떤 종류의 파생어가 품사전환을 거치는지를 접사화 제약에 연계하여 설명하고자 한다.

Siegel이후에 전통적으로 받아들여진 접사분류의 (1군 접사, 2군접사) 문제점을 제시하여 이러한 접사의 분류가 있는 괴로مم개 계적, 과사생성, 과다 생성의 문제를 지적하고 Fabb (1988)이후에 연구되는 접사의 특성을 제분류한다. 이에 대한 연구는 진행중이기는 하지만 현재까지의 연구로서는 (1)일단 점수가 되면 그 뒤에 다른 접사를 허용하지 않는 접사 (closing affixes)와 (2) 접사가 이미 첨가된 단어에는 붙지 못하는 접사 (beginning affixes)에 대한 기존의 연구를 바탕으로 이를 영접사 파생과 연결시키기고자 한다.

먼저 최초접사 (beginning)와 영접사 파생을 관찰한다. Fabb가 조사한 바에 의하면 그가 연구한 43개의 접미사 중 28개가 여기에 속한다. 또한 이러한 접사는 기존의 1군접사 (V-al, V-y, N-ify)와 2군 접사 (V-ment, V-ful, N-ly, N-hood)가 있어 있음을 알 수 있다. 품사전환이 영접사 파생이라면 품사전환된 단어에는 최초접사가 첨가되어 단어를 파생시킬 수 없을 것이다. 사실상 arrival, signify, development등의 단어는 실제로 품사전환으로 다른 품사가 될 수 없다. 이러한 공백은 겸조 우연한 것이 아니며 이를 설명하기 위해서는 품사전환을 파생으로 인한 접사화의 방법으로 보지 않으면 안될 것이다. 또한 Aronoff & Fuhrhop (2002)는 영어의 접사가운데에는 자신의 뒤에 다른 접사를 허용하지 않는 최후접사 (closing affixes)가 있음을 확인해 내었다. 품사전환이 일종의 파생이라면 파생을 일으키는 영접사는 이러한 최후접미사 (closing suffixes)의 뒤에는 절가될 수 없을 것이다. {-ity}의 경우 기존의
군접사로 분류하였지만 Aronoff & Fuhrhop는 이를 최후접미사로 분류하였다. 따라서 personality와 같은 단어는 마지막에 {-ity}가 첨가되어 있으므로 품사전환을 통해 새로운 품사를 얻을 수 없음을 알 수 있다. 실질적으로 Aronoff & Fuhrhop의 연구에 따르면 실질적으로 상당수의 2군접사가 최초접사이면서 동시에 최후접사이다. 즉 이러한 접사는 오직 비파생에서 한번 붙음으로서 성과 완료가 되며 이러한 일체의 접사가 붙은 단어는 역시 영접사 파생에 의한 품사전환이 일어나지 않을 것임을 분명하게 예측할 수 있다. 아울러 최초접사도 최후접사도 아닌 접사의 경우는 품사전환이 자유롭게 일어나서 *vacation, bandage, auctioneer, pressure (N→V), bloody, negative, alienate (A→V), 그리고 valuable, hamonic, Spanish, affirmative, aspirant, personal (A→N) 등의 파생어가 품사전환을 일으킬 수 있음을 체계적으로 설명할 수 있다.

이러한 부분은 품사전환을 영접사 파생이 아닌 다른 방법으로는 설명할 수 없는 것이다. 이같은 관점에서 볼 때 영접사 파생에 의한 품사전환이라는 가설은 의미해석의 문제가 있음에도 불구하고 여전히 가장 뛰어난 설명력을 지닌 방법임을 알 수 있다.