Inter-onset   government   in   Korean

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0. Introduction: This paper concerns governing relations established between two onsets across a licensed empty nucleus. We focus on the cases where the failure of inter-onset government blocks proper government.

1. Proper government

As claimed by Heo (1994) and Rhee (1996), the rhyme does not branch in Korean. Following this, an apparent consonant cluster is in fact separated by an empty nucleus. Consider the structure of the word *kimc^hi* as an instance:

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                          N   «« P.G ««  N
                          |             |
(1)    O1    N1    O2    N2     O3     N3
       |     |     |     |      |      |
       x     x     x     x      x      x
       |     |     |            |      |
       k     i     m            c^h    i
                    ↑_____  ↓
                    inter-onset government
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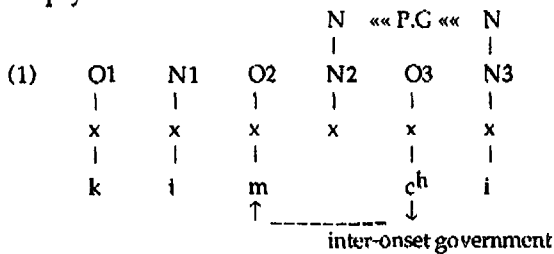
The empty nucleus N2 is licensed to remain uninterpreted by virtue of the two conditions; proper government and inter-onset government. N2 is properly governed by the following nucleus N3, which is not itself licensed. In addition, O3 governs O2. Therefore, N2 is not phonetically interpreted. However, if either of these conditions fails, the empty nucleus is realised as **i**.

The notion of proper government is defined by Kaye (1993) as follow:
(2)   Proper Government (Kaye, 1993 : 94): α properly governs β if
      i.   α and β are adjacent on the relevant projection,
      ii.   α is not itself licensed, and
      iii.   No governing domain separates α from β.

For inter-onset government, the governor must be superior to the governee in the governing hierarchy, which is determined by the **headship** of an expression and the **Complexity Condition.** Headed expressions are assumed to be governors and headless expressions are assumed to be governees. Between headless expressions, governors are required to be less complex than governees.

Therefore, the governing hierarchy of Korean onsets can be given based on Headship and the Complexity Condition as follows:
(3)   Governing hierarchy of Korean onsets

expressions	liquids	nasals	neutral obstruents	tense/ aspirated
headship	h e	a d l	e s s	headed
no. of elements	1	2 ~ 3	2 ~ 3	
governing potential	‹-------- better governee		--------› better governor	

For instance, all penultimate empty nuclei are interpreted, when the following domain-final nucleus is empty. This is seen in the data given in (4) below: (ø indicates an empty nucleus)

(4)   sasømø   sasim   'deer'
        yərømø   yərim   'summer'
        mɛtøpø   mɛtip   'knot'

The interpretation of the penultimate empty nuclei is accounted for as follows. The final empty nucleus is p-licensed, therefore it cannot p-license the preceding nucleus, which must be realised. The word *sasømø* 'deer' is taken as an example to illustrate this fact:

(5)   a.   O   N1   O   N2   O   N3
                | | | | | |
                x   x   x   x   x   x
                | | | |
                s   a   s   m
                                   N // P.G «« N
                                   | |
        b.   O   N1   O   N2   O   N3
                | | | | | |
                x   x   x   x   x   x
                | | | ⇓ |
                s   a   s   [i]   m

(5a) is the lexical representation of *sasømø*. Note that there are two successive empty nuclei. In (5b), the empty nucleus N3 is p-licensed by virtue of its domain-final position. N2 is not domain-final and thus cannot be p-licensed in the same way as N3. However, the potential proper governor of N2, i.e. N3 is itself licensed, which means that the conditions for proper government are not satisfied. Therefore, N2 is not p-licensed and must receive phonetic interpretation according to the ECP. As a result, the unlicensed empty nucleus N2 is realised as ɨ.

However, there are many examples in which an empty nucleus has a potential proper governor, but is nevertheless interpreted. This is explained by the notion of inter-onset government, which is discussed in the following section.
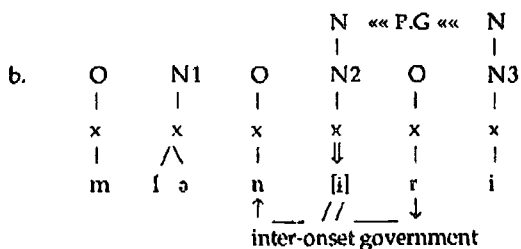
2.   Inter-onset government

Let us consider the data given in (6) below:

(6)   myənøri   myəniri   'daughter-in law'
        tasøri   tasiri   'to rule'
        omøri   omiri   'to fold'

Note that although there is a potential proper governor for the penultimate empty nuclei, they are realised. This is illustrated in the following configuration given in (7) below:

(7)   a.   O1   N1   O2   N2   O3   N3
                | | | | | |
                x   x   x   x   x   x
                | /\ | | |
                m   ɨ ə   n   r   i

```
                          N  «« P.G ««  N
                          |             |
b.     O    N1     O     N2    O       N3
       |    |      |      |     |        |
       x    x      x      x     x        x
       |    /\     |      ⇓     |        |
       m    ſ ə    n     [i]    r        i
                   ↑ __ // __ ↓
                   inter-onset government
```

(7a) represents the lexical structure of *myənøri*. The empty nucleus N2 is followed by a nucleus, which is not itself licensed. We might expect that N2 will not be phonetically realised, since there is a potential proper governor, i.e. N3, like the example in (1). However, as seen in (7b), N2 receives phonetic interpretation, which indicates that there must be something else affecting the interpretation of domain-internal empty nuclei in Korean besides proper government.

To be clearer, let us consider the inter-onset government by dividing into four groups: when the governor is a liquid, a headed expression, a nasal and a neutral obstruent.

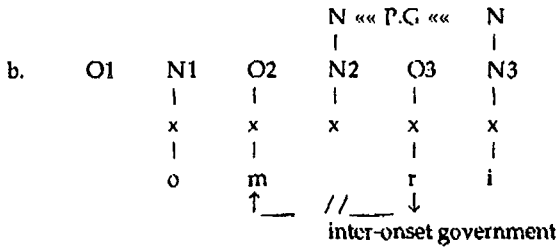### 2.1   When the governor is a liquid
In the case where a properly governable empty nucleus is followed by a liquid, and is preceded by another consonant, the empty nucleus is always interpreted, except when the two flanking consonants are identical. Since inter-onset government in Korean is a right to left affair, as stated earlier, it can be predicted from the representation of onsets. In other words, the liquid r is the weakest one in the governing hierarchy of non-nuclear expressions and thus it cannot govern any other expression. Relavant examples are given in (8) below:

(8)   myənøri   myəniri   'daughter-in law'
       yətørømø   yətirim   'pimple'
       pərørɛ   pəllɛ   'warm'

The examples in (8) show that a properly governable empty nucleus before a liquid is not p-licensed if the preceding onset is either a nasal or a headless obstruent. However, it is p-licensed, if the flanking onsets are identical.

Recall that the complexity condition allows a governing relation between two onsets which contain the same number of elements. Accordingly, nothing prevents the intervening empty nucleus from being properly governed. As a result, it is not phonetically realised. Let us consider the case where a properly governable empty nucleus fails to be licensed. Consider the following configurations given in (9) below:

(9)   *omøri*   umiri   'to bend'
```
a.     O1   N1    O2    N2   O3    N3
       |    |     |     |    |     |
       x    x     x     x    x
       |    |     |     |    |
       o    m           r    i
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```
                         N «« P.G «« N
                         |              |
b.    O1    N1    O2    N2    O3    N3
            |     |     |     |     |
            x     x     x     x     x
            |     |           |     |
            o     m           r     i
                  ↑__  //__ ↓
                  inter-onset government
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(9a) represents the lexical structure of *omøri*. Note that the empty nucleus has a potential proper governor, which is not itself licensed. It is adjacent to N2 on the nuclear projection. All the conditions for proper government are satisfied. However, what is important is the nature of the flanking onsets. As seen in (9b), r is not able to govern m. Therefore, although N2 is properly governed by the following nucleus, it is not p-licensed because of the failure of inter-onset government. As a result, it is realised as i.

2. 2   When the governor is a headed expression
Properly governable empty nuclei are never interpreted before tense and aspirated consonants. Consider the examples in (10) below:

(10)   kakøs'i   kaks'i   'bride'
        tarøkʰomø   talkʰom   'to be sweet'
        to:ŋøcʰimi   to:ŋcʰimi   'a food'

It can be seen that the empty nucleus before a headed expression is never realised. Since headed expressions can always govern headless expressions, this is simply understood as government in terms of headship of a governor.

2. 3   When the governor is a nasal
It gets interesting, when we look at examples where the potential governor is a headless obstruent or a nasal. Let us first consider the case where a nasal acts as a governor. Relevant examples are given in (11) :

(11)   totømi   totimi   'strainer'
        sørøma   salma   'perhaps'
        ɔnøni   ɔnni   'sister'

The examples in (11) above show that a properly governable empty nucleus followed by a nasal is not phonetically realised, if it is preceded by either a liquid or a nasal. However, it receives phonetic interpretation, if the preceding onset is a headless obstruent.

In the examples, where nasals are preceded by liquids across a properly governable empty nucleus, inter-onset government is established between the two onsets, allowing the empty nucleus to be p-licensed, hence inaudible. The liquid r before a licensed empty nucleus must gain the element ʔ. As a result, l is manifested. When both the governor and governee are nasals, the empty nucleus is licensed. According to the Complexity Condition, equal complexity for governor and governee is allowed.

What is of importance is the governing relation between a headless obstruent and a nasal. As we have seen previously, neither neutral obstruents nor nasals are headed. In addition, the number of elements involved in nasals and headless obstruents is the same. Consider the following configurations, where *totømi* is taken:

(12)   a.   O1   N1   O2   N2   O3   N3
              | | | | | |
              x   x   x   x   x   x
              | | | | |
              t   o   t   m   i
                                N   «« P.G «« N
                                | |
        b.   O1   N1   O2   N2   O3   N3
              | | | | | |
              x   x   x   x   x   x
              | | | ⇓ | |
              t   o   t   [i]   m   i
                              ↑__ // __↓
                              inter-onset government

(12a) is the lexical representation of *totømi*. N3 is adjacent to the preceding nucleus N2 and it is not itself licensed. Therefore, it can be a proper governor of N2. N2 is flanked by the two onsets, a neutral obstruent t̲ and a nasal m̲. They both are headless and thus the Complexity Condition will determine whether or not N2 is realised. However, as seen in (12b), the nasal m̲ is not able to govern the preceding obstruent t̲. Accordingly, the empty nucleus N2 is not p-licensed and thus is interpreted.

The failure of inter-onset government between the ordered sequence of a neutral obstruent and a nasal means that the Complexity Condition is not satisfied. As noted from the above, nasals contain the same number of elements as neutral obstruents. However, it appears that they are unable to govern neutral obstruents, although the Complexity Condition allows equal complexity for the governor and the governee. We observe that if an onset dominates the element H in the governed position, it can only be governed by a headed expression regardless of its complexity. This may be the reason that only the element H can be lexical head in Korean onsets.

2.4   When the governor is a headless obstruent

Let us first consider the examples given in (13) below:

(13)   canøti   canti   'grass'
        narøkɛ   nalkɛ   'wing'
        cikøsi   cikisi   'slightly'

The examples above show that a properly governable empty nucleus before a neutral obstruent is p-licensed if it is preceded by either a liquid or a nasal. However, it is not p-licensed if the preceding onset is any other headless obstruent.

The examples where a liquid is followed by a netral obstruent can be explained as before: since both are headless, the Complexity Condition determines their governing relation. As seen above, headless obstruents

are more complex than liquids. Therefore, they form an inter-onset governing domain and thus the empty nucleus is p-licensed to remain uninterpreted. Again, ɾ is realised as ḷ by the addition of ʔ before a licensed empty nucleus position.

Let us move on to the examples, where nasals are followed by neutral obstruents. Recall again that they both are headless and thus the governing relation between them is determined by the Complexity Condition. However, there is no element H present in the governed position and thus we predict that inter-onset government between them is satisfied according to the Complexity Condition. Consider the following configurations, where *canøti* is taken as an instance:

(14)　a.　　O1　　N1　　O2　　N2　　O3　　N3
　　　　　　 |　　　 |　　　 |　　　 |　　　 |　　　 |
　　　　　　 x　　　 x　　　 x　　　 x　　　 x　　　 x
　　　　　　 |　　　 |　　　 |　　　　　　　 |　　　 |
　　　　　　 c　　　 a　　　 n　　　　　　　 t　　　 i

　　　　　　　　　　　　　　　　　　 N　«« P.G «« N
　　　　　　　　　　　　　　　　　　 |　　　　　　 |
　　　 b.　　O1　　N1　　O2　　N2　　O3　　N3
　　　　　　 |　　　 |　　　 |　　　 |　　　 |　　　 |
　　　　　　 x　　　 x　　　 x　　　 x　　　 x　　　 x
　　　　　　 |　　　 |　　　 |　　　　　　　 |　　　 |
　　　　　　 c　　　 a　　　 n　　　　　　　 t　　　 i
　　　　　　　　　　　　　　 ↑_____↓
　　　　　　　　　　　　　 inter-onset government

(14a) represents the lexical structure of *canøti*. The final nucleus N3, which is not itself licensed can properly govern the preceding empty nucleus N2. Therefore, if inter-onset government between the flanking onsets holds, N2 has no interpretation. As seen in (14b), O3 is able to govern O2 because of the Complexity Condition and hence N2 is not interpreted. By comparing the configuration in (12) and (14), note that the presence of the element H in governed position must be an additional criterion in determining inter-onset government of Korean besides headship and complexity .

Let us now consider the case where two headless obstruents fail to form an inter-onset governing relation. Our prediction is that the empty nucleus between them is phonetically interpreted, since the governee contains the element H, which means that the Complexity Condition is not valid in this context. Consider the following configurations:

(15)　*hatøcɛpi*　　　 həticɛpi　　　 'miscellanies'
　　　 a.　　O1　　N1　　O2　　N2　　O3　　N3　　O4　　N4
　　　　　　 |　　　 |　　　 |　　　 |　　　 |　　　 |　　　 |　　　 |
　　　　　　 x　　　 x　　　 x　　　 x　　　 x　　　 x　　　 x　　　 x
　　　　　　 |　　　 |　　　 |　　　　　　　 |　　　 |　　　 |　　　 |
　　　　　　 h　　　 ə　　　 t　　　　　　　 c　　　 ɛ　　　 p　　　 i

```
                          N  «« P.G ««  N
                          |            |
b.   O1   N1   O2    N2   O3   N3   O4   N4
     |    |    |     |    |    |    |    |
     x    x    x     x    x    x    x    x
     |    |    |     ⇓    |    |    |    |
     h    ə    t     [i]  c    ε    p    i
                     |__  // __ ↓
                        inter-onset government
```

(15a) is the lexical representation of *hətøcεpi*. It is seen that the properly governable empty nucleus N2 is flanked by two headless obstruents. However, as seen in (15b), O3 is not able to govern O2 and thus N2 receives phonetic interpretation. Note that properly governable empty nuclei are always interpreted, when they are flanked by headless obstruents. This contrasts with the case of nasals and liquids where equal complexity for the governor and the governee are tolerable. This may also provide an account for why the gemination of headless obstruents is not possible, whereas gemination of nasals or liquids is possible in Korean.

3. Conclusion

The notion of inter-onset government together with proper government determines the interpretation of domain-internal empty nuclei in Korean. It is assumed that headed expressions may govern headless expressions. Korean has a peculiar property in terms of inter-onset government between headless expressions. Concretely, if an onset in the governed position dominates the element H, it must be governed by an onset which contains the element H as head.

References

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