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The phonology of English loan-words in Korean

Abstract. It is generally accepted that the processes whereby loan-words are "copied" to the target language's phonology are fundamentally different from language-internal sound changes. Unlike language-internal sound changes, which occur when the speakers responsible are fully capable of the phonology of the input "source" and the sound changes occur across the entire lexicon, loans tend to be *ad hoc*, show inconsistent correspondences, and need only meet well-formedness conditions within the target language. This paper argues that this is true of small-scale borrowing, but *large-scale borrowing*, by contrast, occurs only if the target-language speakers responsible for the loans have a certain degree of competency in the source language and its phonology, and that consequently large-scale copying is parallel to language-internal sound changes, and can be reduced to sound change rules. It is argued that the correspondences found in forms of English loans in Korean may be reduced to a set of sequenced rules, and that most exceptions to these rules are explicable in much the same way as exceptions to language-internal sound change rules: different source varieties, and orthographic influence.

1. Preamble. Lexical borrowing is an important feature of language contact and is acknowledged for its significant role in the history of languages and language change. Lehmann (1992:274), for example, says that "Whether spontaneous or induced, borrowing is one of the important influences on language." It is, however, generally allotted—whether intentionally or not—a secondary role by historical linguists. The phonological processes undergone by loan-words in their own right are rarely treated; rather, loan-words' role in historical linguistic studies is for the most part viewed as evidence for the phonological processes that affect native words in the target language (TL). The form that loans take—or do not take—provides evidence for earlier phonological systems and their phonetics in the TL, and the dating and sequencing of sound changes within the TL; the phonology of the source language (SL) and the pressure of significant influxes of loans are cited as factors responsible for changes in the TL's phonological system (and, of course, its semantics). Borrowing is frequently invoked to explain "exceptions" to the neogrammarian principle—words that apparently correspond irregularly to forms in earlier stages of the language may be explained as deriving not directly from the earlier form, but via another language or another dialect of the same language.

Thus, although the significance of borrowing both for the development of a language and for the methodology used to reconstruct that development is recognized, the actual phonemic processes involved in borrowing are rarely considered. Thus it is that, although borrowing occupies half a chapter in Lehmann (1992:164-76), the discussion is mostly restricted to semantics and reasons for borrowing. Similarly, although Crowley uses the more accurate term 'copying', he too does not mention the phonological mechanisms involved, and copying is introduced for the reasons mentioned above: evidence for changes in the TL (1997:111-2), the pressures on TL phonologies to alter (pp. 81-3), and as explanations for apparent "exceptions" to regular sound change rules (pp. 240-2). The impression often given is that borrowing is viewed as *ad hoc.*

Moreover, attempts to reduce the process to phonological rules have recently been attacked. Yip (1993:261), following Singh (1987), argues that, as loan-words move from one well-formedness system to a completely different one, "ordered phonological rules miss the point." She argues that the process is not one of conforming to rules, but rather of avoiding various constraints that characterize the phonology of the TL; the various possible representations that result from an initial "perceptual scan", which perceives some sounds as more salient than others, are subjected to the various constraints, and the one chosen is the one that avoids the most high-ranking constraints.

When just a few words are borrowed between two languages and the TL-speakers responsible have little knowledge of the SL, then it is likely that the changes involved may to a certain degree be characterized as *ad hoc,* avoiding constraints rather than conforming to rules, especially with regard to sounds that have no close equivalent in the TL.

In situations, however, in which large numbers of loans are copied in a relatively short time-span, the *ad hoc* characteristics of copying are minimized. Well-formedness conditions are still appropriate, of course, although the syllable structure and phonotactics of the TL are much more prone to being altered under the pressure of loan-words, but I argue that the process becomes more rule-governed and less constraint-conditioned.

Large numbers of loans suggests both the cultural dominance or perceived prestige of the SL by the TL-speakers responsible for introducing them and the frequent exposure of the latter to the SL, with the result that the TL-speakers acquire a significant capability in the SL. Without the mediation of this capability, the large-scale introduction of loans is less likely. Consequently, the TL-speakers are familiar with TL phonology, SL phonology, and how previous loans have been copied, and the latter provide the model—conscious or otherwise—for new

loans. Moreover, inconsistent early loans, especially if they are not yet in widespread common use, are under pressure to conform with the model and are liable to be "corrected", as speakers become aware of the rules.

In short, large-scale borrowing is as reducible to rules as are language- internal sound changes. In such cases, we should be able to establish sound correspondence rules for the former that are as consistent as the latter, and for which apparent irregularities and exceptions—apart from the occasional well-established early loan that has not succumbed to the pressure to conform with the model—can be explained in similar terms: spelling influence, dialect mixing within the TL, or a different source variety of TL than the usual. Descriptive studies of such largescale phonological copying and the phonemic correspondences involved are surprisingly few. They include Lovins (1975) and Quackenbush (1977) with regard to English into Japanese, or Steiger (1991) with regard to Classical Arabic into neighbouring varieties of Old Romance.

With regard to Korean, almost all that exists are *prescriptive* guides to *macchumpŏp* 'orthography', for example Cosŏnŏ Hakhoe (1940), Pak (1984), Pak (1988), and Kim (1988). These works are concerned primarily with "correcting" what are perceived as "incorrect" or "impure" forms. Not all the "corrections" enter general usage, or are even adopted by dictionaries, whereas others do so only after a considerable period of time (see Tranter 1997:161-2).

The discussion presented below is based on data taken predominantly from the text and the advertisements in newspapers and magazines, and include established loans from English into Korean, transcriptions of English-language product- and company-names into *hankŭl,* and nonce loans that permeate the popular media, particularly advertising (Tranter 1997:144-7); compare Haarmann 1986 and Honna 1995 for the identical phenomenon in Japanese).

2. Loan-words in Korean. Over the last half-century the Korean language has absorbed large numbers of loan-words, the vast majority of which are English in origin. Loan-words are estimated to constitute roughly 5% of the total vocabulary of modem Korean (Sohn 1994:528), and though this figure is lower than the equivalent in Japanese—roughly 10% of the vocabulary (Hinds 1974:93)—loan-words nevertheless constitute a major element in the language.[1] Recently, however, the number of English loan-words entering Korean has been continuing to increase unabated. A great number of such words enter the language initially not through the spoken medium, but through the written language, and loan-words are particularly prevalent in advertising and popular magazines. Because Korean possesses its own

distinct alphabetical script, *hankŭl,* such loans must first be transcribed into *hankŭl* and thus they are already largely assimilated to the phonology of the language. Partly because the large number of English loan-words in Korean has created a large resource of analogies for the treatment of subsequent loans, the loan process has become highly regular, and most variation, particularly in the use of paragogic vowels and the representation of English vowel length, is attributable to the coexistence of conservative and innovating varieties. The processes involved do not on the whole appear to involve the same type of "perceptual scan"—not least because the loans tend not to enter Korean through the spoken medium—and subsequent constraints posited by Yip (1993) for English-Cantonese. For instance, relative salience does not appear to be a factor, whereas other factors, such as spelling influence or Japanese influence, not uncommonly override Yip's FAITHFULNESS constraint.

The rules given below are productive, applying to virtually all new words entering Korean from English. Apparent exceptions have largely entered the language not directly from English but through another language, especially Japanese. This was particularly the case during the Japanese occupation of Korea (1910-1945) when the official language of the country was Japanese. Examples include *pakkessŭ* (not **pŏkes)* from English *bucket* via Japanese *baketsu,* and *waisyassŭ* (not **(waithŭ)syŏ(ŏ)thŭ)* 'shirt', from English *white shirt* via Japanese *waishatsu.* Since the end of the occupation, loan-words have generally come directly from English, though in many cases the Japanese version of the word has influenced the pronunciation (see Tranter 1997 for a full discussion). Thus, English *television* can be truncated in Korean, through the influence of the Japanese *terebi,* as *thellepi*—not as **terepi* as would be expected if the word had come wholly via Japanese. Loans from other languages, including isolated Japanese-influenced loans, are disregarded in the analysis below, but reference is made to Japanese either where Japanese influence is standard or where Korean differs markedly from Japanese.

3. Korean phonology. Before proceeding to analyse the processes whereby English words are incorporated into Korean, a brief description of the Korean phonological system, and the spelling-based transcription system used in this paper, is in order.[2] This description constitutes the absolute phonological requirements of Korean, and as such is equivalent to Yip's highest-ranking constraint, OK-σ (1993:263, 272--4).

3.1. Vowels. Korean possesses eight "pure" vowels. They are, with their approximate phonetic values, as follows:

(1) *a*   *ae*   *e*   *i*   *u*   *o*   *ŭ*   *ŏ*
     [a]   [ɛ]   [e]   [i]   [u]   [o]   [ɨ]   [ə]

The distinction between *ae* and *e* has been neutralized in southern dialects (Lee 1971; Hong 1987; Sohn 1994:433), and even among speakers who make the contrast it occurs only in the initial syllable of a word (Martin 1992:25). Another contrast that occurs in initial syllables only is that of phonemic length (not represented orthographically), which distinguished /nuːn/ 'snow' from /nun/ 'eye' (see section 4.5.3.).

Of the above eight vowels, six can occur as rising diphthongs in combination with the element *y-* /j/:

(2) *ya*   *yae*   *ye*   *yu*   *yo*   *yŏ*
     [ja]   [jɛ]   [je]   [ju]   [jo]   [jə]

A distinction of *yi* from *i* does not occur. However, *i* itself has a palatal onglide, and *y-*, *i* and *wi* trigger palatalization of a preceding consonant, most notably of *s* and *ss* (Sohn 1994:434) and of *t* and *th,* though this occurs only between a root and a derivational or inflectional suffix (see Kang 1993:157-8).

Five of the pure vowels can also occur in combination with the element *w-* /w/:

(3) *wa*   *wae*   *we*   *wi*   *wŏ*
     [wa]   [wɛ]   [we]   [wi]   [wə]

The combination *wi* is pronounced as either [wi] or [y] according to dialect (Sohn 1994:433). Regardless of which pronunciation is to be considered the more standard of the two, it serves as the standard representation of English /wɪ/.

Two other vowels are *oe* and *ŭi,* neither found in the transcription of English loan-words.

The occurrence of two vowels in a row in adjacent syllables without an intervening consonant is possible, although mostly this is restricted to Sino-Korean compounds or certain verb inflections.

3.2. Consonants.   The consonant phonemes of Korean are displayed in Table 1. Distribution of the phonemes in Table 1 is conditioned by the following constraints:

1. Intervocalically or after lateral /l/, the unaspirated plosives are voiced [b], [d], [g], [ɟ]. Otherwise they are voiceless [p], [t], [k], [c].

2. Unlike Japanese, Korean phonemically distinguishes /l/ and /ɾ/, but only intervocalically (cf. Martin 1992:28). In other environments,

the distinction is neutralized, and only /l/ occurs word-finally and only /ɾ/ occurs word-initially. It should be noted that word-initial /ɾ/ only occurs in loan-words, and thus is a more recent innovation in the phonology. /l/ and /ɾ/ are represented by the same *hankŭl* letter, and the distinction between intervocalic /l/ and /ɾ/ is maintained in writing by doubled *'ll'* and single *'l'* respectively. The motivation for the use of one letter to represent two phonemes is morphophonemic. A word-final *'l'* is pronounced /l/, and maintains this pronunciation before a suffix that begins with a consonant, but before a suffix that begins with a vowel there is a morphophonemic shift to /ɾ/:

(4) *tal*   [tal]   'the moon'
     tal-kwa [talgwa]   'the moon and ... '
     tal-e   [taɾe]   'to the moon'

Table 1   Korean consonant phonemes

Unaspirated Plosive:	*p*	*t*	*k*	*c*
Aspirated Plosive:	*ph*	*th*	*kh*	*ch*
Ejective Plosive:	*pp*	*tt*	*kk*	*cc*
Lateral:	*l*			
Flap:	*r*			
Nasal:	*m*	*n*	*ŋ*	
Sibilant:	*s*			
Ejective Sibilant:	*ss*			
Glottal Fricative:	*h*			

Table 2   Underlying and neutralized consonants

Underlying Form	Neutralized Form
p, ph, ps, lp, lph	/p/
k, kh, kk, ks, lk	/k/
t, th, c, ch, s, ss	/t/
n, nc	/n/
m, lm	/m/
l, lth, ls	/l/

    3. The combination of *s* or *ss* with *y-*, *i* or *wi* results in palatalization: [ʃ] and [ʃˤ] respectively.
    4. Twenty-four consonants or consonant clusters are permitted in word-final position. However, these are underlying forms that are realized as such only before a suffix that begins with a vowel, converting the environment of the consonant(s) to an intervocalic one (cf. Sohn 1994:439-40). In other circumstances, these twenty-four consonants or consonant clusters are reduced to just seven: /p/, /t/, /k/, /l/, /m/, /n/ and /ŋ/, the first three of which are unreleased. cf. Table 2.

For example, the underlying forms *nach* 'face', *nac* 'daytime' and *nas* 'sickle' are distinguished only before a vowel-initial inflectional particle, such as *-ŭn* (TOPIC): [nacʰɨn], [naɟɨn] and [nasɨn]. In isolation all three are realized phonetically as [natˀ].

5. Consonant clusters occur only intervocalically, and consist of no more than two consonants. There are seventy-five possible two-consonant clusters in Korean (there are no three-consonant clusters at all), although the first element can only be /p/, /k/, /l/, /m/, /n/ or /ŋ/, in other words the same consonants that may occur word-finally, excepting /t/ (cf. Martin 1992:30; Sohn 1994:447). Of these, /m/, /ŋ/ and /l/ occur each with all but one consonant. /n/, /p/ and /k/ are restricted to only a few combinations each. If, however, the cluster occurs at a morpheme boundary, then there are many more than seventy-five underlying clusters possible, phonemically reduced by a number of assimilation processes (adapted from Martin 1992:31):

(5)(a)   *n + r*   /ll/
           l + n   /ll/

(5)(b)   *p* + NASAL   /m/ + NASAL
           t + NASAL   /n/+ NASAL
           k + NASAL   /ŋ/ + NASAL

(5)(c)   PLOSIVE + *p*   PLOSIVE + /pˤ/
           PLOSIVE + *t*   PLOSIVE + /tˤ/
           PLOSIVE + *k*   PLOSIVE + /kˤ/
           PLOSIVE + *s*   PLOSIVE + /sˤ/
           PLOSIVE + *c*   PLOSIVE + /cˤ/

(5)(d)   *t* + LABIAL   /p/ + LABIAL
           n + LABIAL   /m/ + LABIAL
           t + VELAR   /k/ + VELAR
           n + VELAR   /ŋ/ + VELAR

Although the possibilities are broader than in Japanese, which allows only the combination of NASAL + CONSONANT or gemination, Korean is quite poor in the number of consonant clusters that it allows in comparison with English. Moreover, Korean does not allow word-initial or (in isolation) word-final clusters. Consequently, when faced with some other cluster in the donor language, Korean resorts to the same device as Japanese, maintaining the separate pronunciation by the insertion of a short vowel *ŭ* between the consonant in question. Similarly the addition of an *ŭ* at the end of a word maintains a consonant that is not allowed word-finally (in isolation) in Korean.

Hence the monosyllabic English word *stress* is realized in Korean as *sŭthŭresŭ* (cf. *sutoresu* in Japanese).

4. Phonological rules.   The following ordered rules account for almost all new English loan-words in Korean. Words that have entered the language via Japanese, or which have been influenced by Japanese, are excluded. Compound words follow the rules for each component separately. The rules assume that loan-words are derived from Received Pronunciation originals. This is not to say that the loans are borrowed from U.K. English rather than U.S. English, since the medium by which most enter Korean is writing, but the conventional representation of English, such as the lack of rhoticism and flapped d/t and the presence of both a qualitative and a quantitative distinction between /ɒ/ *(o)* and /ɑ:/ *(a(a))*, shows a model closer to RP than to Standard American.

English forms are expressed in the International Phonetic Alphabet, whereas the Korean forms are transcribed in italics. A dash (-) before a form indicates that the rule applies only in word-final environment, and after a form it indicates that the rule applies only in word-initial environment. C (or CC) indicates any consonant (or consonant cluster) not accounted for in previous sub-rules of the same rule. V indicates any vowel.

4.1. Rule 1: Paragogic Vowel Insertion

(6)	-/m/	→	*-m*
	-/n/	→	*-n*
	-/ŋ/	→	*-ŋ*
	-/l/	→	*-l*
	-/ʃ/	→	*-/ʃ/ i*
	-/tʃ/	→	*-/tʃ/ i*
	-/ʒ/	→	*-/ʒ/ i*
	-/dʒ/	→	*-/dʒ/ i*
	-/C/	→	*-/C/ ŭ*

As mentioned above, Korean allows only seven consonant phonemes in word-final position: /m/, /n/, /ŋ/, /l/, /p/, /t/, /k/. The English consonants /m/, /n/, /ŋ/ and /l/ are thus normal in word-final position in their Korean equivalents. English /p/, /t/ and /k/ are sometimes maintained in word-final position in Korean as well (see 4.8.b.).

The remaining word-final consonants in English are regular, palato-alveolar consonants in English taking a paragogic *-i,* the others taking an *-ŭ.*[3] Thus, although *c* can represent English /z/, /ʒ/ or /dʒ/

within the word, /z/ is represented word-finally as *-cŭ* whereas /ʒ/ and /dʒ/ are represented as *-ci*. Compare for example:

(7) *encin*   /endʒɪn/   *engine*
     thŭraencisŭthŏ   /trænzɪstə/   *transistor*

with:

(8) *khaepici*   /kæbɪdʒ/   *cabbage*
     phaenthicŭ   /pæntɪz/   *panties*

Naturally, a Paragogic Vowel Insertion Rule that determines whether the inserted Vowel is *-i* or *-ŭ* would have to be ordered prior to a Consonant Conversion Rule that merges /z/, /ʒ/ and /dʒ/ as Korean *c*.

The following two examples ending in /wɪtʃ/ in English are exceptional in that they contain a preconsonantal *s,* serving phonetically to geminate the following consonant *ch.* Japanese influence is almost certainly responsible in both cases:

(9) *sentŭwischi*   /sændwɪtʃ/   *sandwich*
     sŭwischi   /swɪtʃ/   *switch*

This gemination *(saisiŏt)* is not used anywhere else in the transcription of English, although geminate consonants in Japanese are nowadays standardly transcribed into Korean in this way (Pak 1988:131-2).

4.2. Rule 2: Epenthetic Vowel Insertion.

(10) /mC/   →   *m* /C/
      /nC/   →   *n* /C/
      /ŋC/   →   *ŋ* /C/
      /lC/   →   *l* /C/
      /pt/   →   *p* /t/
      /kt/   →   *k* /t/
      /ks/   →   *k* /s/
      /ts/   →   *ch*
      /CC/   →   /C/ *ŭ* /C/

As mentioned above, certain consonant clusters are allowed in Korean, and if an English cluster has its equivalent in Korean there is no need for an epenthetic vowel, e.g.:

(11)

cŏmphŏ	/dʒʌmpə/	*jumper*
phŭrinthŭ	/prɪnt/	*print*
piltiŋ	/bɪldɪŋ/	*building*
poksŭ	/bɒks/	*box*
selphŭ-	/self/	*self-*

Any clusters in English that are not allowed in Korean must be realized with an intervening /ɨ/, which tends to be devoiced after an aspirate or *s* (Sohn 1994:436).

(12)

khŏŋkhŭriithŭ	/kɒŋkriːt/	*concrete*
khŏphŭsŭ	/kʌfs/	*cuffs*
khŭriim	/kriːm/	*cream*
mosŭkhŭ	/mɒsk/	*mosque*
thousŭthŏ	/təʊstə/	*toaster*

However, the English combination /ts/ tends to be represented in Korean not as *thŭsŭ* but as *chŭ,* giving *phaenchŭ* (not **phaenthŭsŭ*) for English *pants* /pænts/.

Note that Korean treats compounds from two free morphemes as two separate elements. Hence the English suffix *-man* /mən/ is usually treated as if it were /mæn/ to give Korean *-maen,* as in *seilcŭmaen* 'salesman'. Moreover, when two English free morphemes come together, the first ending in a consonant and the second beginning with a vowel, Korean consistently treats them orthographically as separate syllables, and the consonant at the end of the first morpheme is pronounced as if it were in isolation:

(13)

phain-aephŭl	/paɪnæpl̩/	*pineapple*
rok-authŭ	/lɒkaʊt/	*lock-out*
maecik-ai	/mædʒɪkaɪ/	*magic eye*

4.3. Rule 3: Unstressed Vowel Conversion.

(14)

-/ə/	→	*ŏ*
-/ɪ/	→	*i*
-/l̩/	→	*-ŭl*
-/n̩/	→	*-ŏn*
-/m̩/	→	*-ŭm*

Korean and Japanese differ markedly in their treatment of English unstressed vowels. Partly because mora-timed Japanese does not have unstressed vowels, and partly because there is no phoneme among the five vowels of Japanese that is close to schwa, Japanese largely

reinterprets unstressed syllables as if they were stressed and reinstates what may be considered the vowel underlying /ə/ on the basis of the spelling (Quackenbush 1977:162-3). /ə/ spelt *o* becomes Japanese *o* in pronunciation;/ə/ spelt *e* becomes *e;* /ə/ spelt *a* or *u* (/æ/ and /ʌ/ merge in Japanese) becomes *a;* and/ə/ spelt with one or more vowel-letters combined with *r* is reinterpreted as /ɜ:/ and becomes Japanese *ā.*

   Korean, on the other hand, has a phoneme *ŏ* that corresponds very closely to English /ə/, and *ŭl, ŭn* and *ŭm* sound very similar to /ḷ/, /ṇ/ and /ṃ/ and so Korean does not on the whole base its representations on English spelling, but on sound. Compare the following examples from Japanese and Korean:

(15) Jap. *pāgora*   Eng. /pɜ:gələ/   Kor. *phŏŏkŏllŏ*
      Jap. *bōnasu*   Eng. /bəʊnəs/   Kor. *pounŏsŭ*
      Jap. *raitā*   Eng. /laɪtə/   Kor. *raithŏ*

   However, there are Korean examples that contain a vowel other than *ŏ* (or *ŭl, ŏn* or *ŭm),* largely through the influence of Japanese, as illustrated below.

   1. /ə/. Word-finally, /ə/ is regularly represented in Korean as *ŏ.*

(16) *khaunthŏ*   /kaʊntə/   *counter*
      rŏpŭrethŏ   /lʌvletə/   *love-letter*
      sŭphiikhŏ   /spi:kə/   *speaker*

Word-medially also, *ŏ* is the regular equivalent to /ə/.

(17) *hopŏkhŭraphŭthŭ*   /hɒvəkræft/   *hovercraft*
      khaethŏphŏlthŭ   /kætəpʌlt/   *catapult*
      pounŏsŭ   /bəʊnəs/   *bonus*

   It must be remembered that in many words in English, a pronunciation with /ə/ alternates with a pronunciation with another vowel. It is generally the latter form that is taken as the basis for the Korean form, although sometimes the former is chosen:

(18) *khonpeiŏ*   /kənverə/   ~ /kɒnveiə/   *conveyor (belt)*
      khomphŭresŏ   /kəmpresə/   ~ /kɒmpresə/   *compressor*
      khontensŏ   /kəndensə/   ~ /kɒndensə/   *condenser*

But:

(19) *khŏmisyŏn*   /kəmɪʃn̩/   ~ /kɒmɪʃn̩/   *commission*

There are, however, a sizeable number of words in which the vowel chosen to represent /ə/ is chosen on the basis of the spelling. Thus *korilla* for English *gorilla* /gərɪlə/. In most cases, Japanese influence is probably responsible. Hence *monoreil* (not **monŏreil* or **monoureil* for English *monorail* or *therasŭ* (not **therŏsŭ* or **thereisŭ)* for 'terrace' are similar in form to Japanese *monorēru* and *terasu* respectively.

2. /ɪ/. In the vast majority of cases, /ɪ/ is represented as Korean *i*.

(20) *phenisillin*   /penɪsɪlɪn/   *penicillin*
     sŏŏpisŭ   /sɜːvɪs/   *service*
     thyuullip   /tjuːlɪp/   *tulip*

With the exception of the word-final sequence /kɪt/ (see 4.4. below), there are just a few examples of *e* rather than *i* representing English unstressed /ɪ/. The most likely explanation is that the Japanese form (based on English spelling) has influenced the Korean, as those words with *e* in Korean also have *e* in Japanese.

(21) *paapekhyuu*   /bɑːbɪkjuː/   *barbecue*   (cf. Jap. *bābekyū*)
     thelle-   /telɪ/   *tele-*   (cf. Jap. *tere-*)

The Japanese influence is not widespread, though, and whereas Japanese very commonly resorts to spelling-based representations of /ɪ/, Korean only occasionally does so. Compare Japanese spelling-based *sōsēji* 'sausage', *semento* 'cement' and *dezāto* 'desert' with Korean sound-based *sosici, simenthŭ* and *ticŏŏthŭ* respectively.

3. /ɪ/ ~ /iː/. Word-final /ɪ/, which tends to lie phonetically between non-word-final /ɪ/ and /iː/, is represented consistently in Korean as short *i*. Note that although Japanese forms occasionally influence the Korean in cases involving an English unstressed vowel, there is no Japanese influence here. Japanese usually represents word-final /ɪ/ as long *ī,* and in many cases lowering to *ē* is found instead (Lovins 1975:54). Korean, on the other hand, consistently uses short *i*.

(22) *khukhi*   /kʊkɪ/   *cookie*   (cf. Jap. *kukkī)*
     pŭraenti   /brændɪ/   *brandy*   (cf. Jap. *burandē)*
     wisŭkhi   /wɪskɪ/   *whisk(e)y*   (cf. Jap. *wisukī)*

4. /l̩/. English /l̩/ is represented in Japanese with either *oru* (after *t* or *d)* or *uru* (elsewhere) if it is spelt without an intervening vowel as *le*. If, however, it is spelt *al, el* etc., the Japanese form is based on the

spelling: *aru, eru* etc. In Korean, on the other hand, the form *ŭl* is normal after any consonant other than *n* (see 4.4.):

(23) *haentŭl*   /hændl̩/   *handle(bars)*   (cf. Jap. *handoru)*
      kheipŭl   /keɪbl̩/   *cable*   (cf. Jap. *kēburu)*
      saentŭl   /sændl̩/   *sandal*   (cf. Jap. *sandaru)*
      syŏpŭl   /ʃʌvl̩/   *shovel*   (cf. Jap. *shaberu)*

In just a few cases, spelling-based influence, almost certainly from Japanese, is seen, such as in *hosŭthel,* not **hosŭthŭl,* for English *hostel* (c.f. Japanese *hosuteru).*

5. /n̩/. /n̩/ or /ən/ is generally represented as *ŏn.* The standard representation for the English suffix '-tion' /ʃn̩/ is *-syŏn. Lousyon* for English *lotion* is exceptional only because it derives from the Japanese form *rōshon.*

(24) *eiphŭrŏn*   /eɪprən/   *apron*
      phellikhŏn /pelɪkn̩/   *pelican*
      phiksyŏn   /fɪkʃn̩/   *fiction*

Some apparent exceptions, such as *naillon* 'nylon' rather than **naillŏn* are due to the existence of two pronunciations in English, one with schwa (/naɪlən/), one without (/naɪlɒn/), the latter being the source for the Korean.

6. /m̩/. The only example of this in the data is *phŭricŭm* for *prism* /prɪzm̩/.

Other unstressed vowels are treated in the same way as their stressed counterparts, hence *misail* for English *missile* /mɪsaɪl/ (as accounted for in 4.5. below).

4.4. Rule 4: Environment-Conditioned Vowel Change.

(25) -/n/ *ŭl*   →   -/n/ *ŏl*
      -/p/ *ŏn*   →   -/p/ *ŭn*
      -/t/ *ŏn*   →   -/t/ *ŭn*
      -/s/ *ŏn*   →   -/s/ *ŭn*
      -*ŏn* /t/ *ŭ*   →   -*en* /t/ *ŭ*
      -*i* /t/ *ŭ*   →   -*e* /t/ *ŭ*
      -*ŭ* /l/ *ŏ* /t/ *ŭ* → -*ŭ* /l/ *e* /t/ *ŭ*

Words ending in /ət/ can be represented in Korean either as *-ŏs* or as *-es* (for the change of final *-thŭ* to *-s,* see 4.8.). Although the latter form would have arisen through the influence of the English spelling or the Japanese form, not every English word ending in *-et* /ət/ is realized

as *-es* in Korean (compare *syŏŏpŏs* below with Japanese *shābetto),* nor is every *-es* in Korean derived from an original spelt with an *e* in English (compare *chokholles* below with Japanese spell-based *chokorēto,* as opposed to **chokoretto).* The general rule is that English -/Clət/ (sometimes also pronounced -/Cələt/) is represented in Korean as *-Cŭlles* (or *-Colles* in the case of *chocolate,* which is exceptional for the same reason as *korilla* or *therasŭ* above), whereas -/VCət/ is represented as *-VCŏs.*

(26) *omŭlles*   /ɒmlət/   *omelette*
      khŏthŭlles   /kʌtlət/   *cutlet*
      chokholles   /tʃɒklət/   *chocolate*
      syŏŏpŏs   /ʃɜːbət/   *sherbet*

The word-final combination /kɪt/ is conventionally represented in Korean as *-khes.* The choice of *e* rather than *i* is probably influenced by the Japanese, which has *-ketto,* or *-ketsu* in earlier loans, on the basis of the English spelling of most cases. Even in the occasional cases which do not represent the vowel in /kɪt/ orthographically with an *e,* such as *biscuit, -khes* is still the form used in Korean.

(27) *rokhes*   /rɒkɪt/   *rocket*   (cf. Jap. *roketto)*
      phikhes   /pɪkɪt/   *picket*   (cf. Jap. *pike(tto))*
      maakhes   /mɑːkɪt/   *market*   (cf. Jap. *māketto)*
      pisŭkhes   /bɪskɪt/   *biscuit*   (cf. Jap. *bisuketto)*

However, /ɪt/ preceded by a consonant other than /k/ is regularly realized as *-is:*

(28) *khŭretis*   /kredɪt/   *credit*   (cf. Jap. *kurejitto)*
      phŭrikis   /frɪgɪt/   *frigate*   (cf. Jap. *furigēto)*

Occasionally, words that normally end in *-es* or *-is* end instead in *-ethŭ* and *-ithŭ* respectively, representing a more conservative variety of Korean. Consequently, a Final Reduction rule that changes *-thŭ* to *-s* should follow the Environment-Conditioned Vowel Change rule presented here. Moreover, Final Reduction must follow the Consonant Conversion rule (see 4.6.) that converts /t/ to *th.* Final Reduction is presented under 4.8. below.

After /n/*, -ŏl* rather than *-ŭl* is found:

(29) *chaenŏl*   /tʃænl̩/   *channel*
      thŏnŏl   /tʌnl̩/   *tunnel*

English /n/ after /t/ or /p/ is copied as -ŭn:

(30) *ouphŭn*   /əʊpn̩/   *open*
     pŏthŭn   /bʌtn̩/   *button*

The morpheme -*son* in English surnames, however, is consistently represented as -*sŭn,* e.g. *Consŭn* 'Johnson'. Note, however, that the suffix -*ent* /ənt/ is consistently converted into Korean as -*enthŭ,* not as **-ŏnthŭ:*

(31) *asŭthŭrincenthŭ*   /əstrɪndʒənt/   *astringent*
     aksenthŭ   /æksənt/   *accent*

4.5. Rule 5: Stressed Vowel Conversion.

(32)(a)   /ɪ/   →   *i*   /iː/   →   *ii*
        /ʊ/   →   *u*   /uː/   →   *uu*
        /e/   →   *e*   /ɜː/   →   *ŏŏ*
        /æ/   →   *ae*   /ɔː/   →   *oo*
        /ʌ/   →   *ŏ*   /aː/   →   *aa*
        /ɒ/   →   *o*

(32)(b)   /eɪ/ →   *ei*   /ɪə/   →   *iŏ*
        /ɔɪ/ →   *oi*   /ʊə/ →   *uŏ*
        /aɪ/ →   *ai*   /ɛə/ →   *eŏ*
        /əʊ/ →   *ou*   /ɔə/ →   *oŏ*
        /aʊ/ →   *au*   /aʊə/ →   *auŏ*

Although Korean and Japanese both have more access to American English than to British English, loan-words are usually adopted on the basis of their British English pronunciation (RP).

4.5.1. Short vowels.
   1. /ɪ/. Without exception /ɪ/ corresponds to Korean *i*.

(33) *chikhin*   /tʃɪkɪn/   *chicken*
     sŭkhiiriphŭthŭ   /skiːlɪft/   *ski lift*
     tŭril   /drɪl/   *drill*

   2. /ʊ/. English /ʊ/ is copied into Korean as *u:*

(34) *khukhi*   /kʊkɪ/   *cookie*
     khusyŏn   /kʊʃn/   *cushion*
     phusipŏthŭn   /pʊʃbʌtn/   *push button*

3. /e/. This is copied as Korean *e*.

(35) *cethŭ*   /dʒet/   *jet*
      ellipeithŏ   /elɪveɪtə/   *elevator*
      pel   /bel/   *bell*

4. /æ/. Korean generally copies English /æ/ as *ae*.

(36) *raemphŭ*   /læmp/   *lamp*
      thaeksi   /tæksɪ/   *taxi*
      thaeŋkhŏ   /tæŋkə/   *tanker*

In some words, /æ/ is copied as *a:*

(37) *amphu*   /æmp/   *amp*
      asuphirin   /æsprɪn/   *aspirin*
      palkhoni   /bælkənɪ/   *balcony*

In some cases of *a,* the word may have entered Korean through a Japanese intermediary form, or else derives from French, but in others this cannot be the reason. Korean *syamphein* 'champagne', for instance, comes unmistakably from English /ʃæmpeɪn/, whereas its Japanese counterpart *shanpan* derives directly from the French /ʃɑ̃paɲ/. In these cases, a spelling influence is most likely responsible for the *a*.

The following are exceptional, in that they raise the vowel even higher to *e.* This is possibly because modem standard Korean *ae* and *e* are frequently identical in pronunciation (Martin 1992:25), or because the words have been borrowed from a different variety of English than usual.

(38) *phŭllesphoom*   /plætfɔːm/   *platform*
      sellŏtŭ   /sæləd/   *salad*
      sentŭwischi   /sændwɪtʃ/   *sandwich*

Lovins (1975:58) gives a few examples from Japanese which substitute English /æ/ with Japanese *e,* e.g. *cabin → kebin.*

5. /ʌ/. English /ʌ/ is copied as *ŏ.*

(39) *khŏpŏ*   /kʌvə/   *cover*
      khŏphŭsŭ   /kʌfs/   *cuffs*
      pŏthŏ   /bʌtə/   *butter*

6. /ɒ/. English /ɒ/ is copied as *o:*

(40)	*mop*	/mɒp/	*mop*
	khoŋkhŭriithŭ	/kɒŋkriːt/	*concrete*
	thŭrollipŏsŭ	/trɒlɪbʌs/	*trolleybus*

Not unoccasionally, however, the source is the unrounded American English [ɑ], which is copied as *a,* such as *tallŏ* 'dollar'.

One notable case is that of *coffee.* The form *khophi* would be expected and this is in fact the form given by the *Essence English-Korean Dictionary.* This, however, is homophonous with a word meaning 'nosebleed', and is usually replaced with *khŏphi,* or with the deliberately lengthened form *khoophi,* the latter, interestingly the form given by the *Essence Korean-English Dictionary,* probably being influenced by Japanese *kōhī.*

4.5.2. Alternating vowels. In some words, a British English vowel may in certain environments either be short or long/diphthongal according to dialect or idiolect:

1. /æ/ ~ /ɑː/. This is represented as *a,* not as **aa,* and only occasionally as *ae.*

(41)	*kŭllasŭ*	/glæs/	/glɑːs/	*glass*
	phŭllasŭthik	/plæstɪk/	/plɑːstɪk/	*plastic*
	phaesŭphoothŭ	/pæspɔːt/	/pɑːspɔːt/	*passport*

2. /ɒ/ ~ /ɔː/. Korean *oo,* represented by only one word in the data:

| (42) | *khŭlloosŭ* | /klɒθ/ | /klɔːθ/ | *cloth* |

3. /ɒ/ ~ /əʊ/. Korean *o.*

| (43) | *khiiholtŏ* | /kiːhɒldə/ | /kiːhəʊldə/ | *keyholder* |
| | *polthŭ* | /bɒlt/ | /bəʊlt/ | *bolt* |

4.5.3. Long vowels. Long vowels are maintained long at this stage in the rules. An optional rule of Vowel Reduction (see 4.9. below) is normally applied, whereby for instance *ii* from /iː/ is reduced to *i.* However, although the outputs *khŭrim* from English /kriːm/ and *cin* from English /dʒɪn/ possess the same vowel *i,* only the former can have a long counterpart *khŭriim.* To prevent the incorrect generation of **ciin* from /dʒɪn/, Vowel Reduction must operate after Vowel Conversion.

1. /iː/. Korean *ii.*

(44) *chiicŭ*   /tʃiːz/   *cheese*
      miithiŋ   /miːtɪŋ/   *meeting*
      khŭlliiniŋ   /kliːnɪŋ/   *cleaning*

   2. /uː/. Korean *uu.*

(45) *cuusŭ*   /dʒuːs/   *juice*
      sŭphuun   /spuːn/   *spoon*
      syuuphŏ   /s(j)uːpə/   *super-*

   3. /ɜː/. Korean *ŏŏ.*

(46) *eksŭphŏŏthŭ* /ekspɜːt/   *expert*
      khŏŏthŭn   /kɜːtn̩/   *curtain*
      sŭkhŏŏthŭ   /skɜːt/   *skirt*

   4. /ɔː/. Korean *oo.*

(47) *hool*   /hɔːl/   *hall*
      syoothŭ   /ʃɔːt/   *short (circuit)*
      phookhŭ   /fɔːk/   *fork*

   water is irregularly copied as *wŏthŏ*.
   5. /ɑː/. Korean *aa.*

(48) *aachi*   /ɑːtʃ/   *arch*
      paa   /bɑː/   *bar*
      sŭkhaaphŭ   /skɑːf/   *scarf*

4.5.4. Diphthongs.
   1. /eɪ/. Korean *ei.*

(49) *kheikhŭ*   /keɪk   *cake*
      reisŭ   /reɪs/   *lace*
      theipŭl   /teɪbl̩/   *table*

   2. /ɔɪ/. Korean *oi.*

(50) *khoil*   /kɔɪl/   *coil*
      poikhos   /bɔɪkɒt/   *boycott*
      poillŏ   /bɔɪlə/   *boiler*

   3. /aɪ/. Korean *ai.*

(51) *kaitŭ*   /ɡaɪd/   *guide*
      raithŏ   /laɪtə/   *lighter*
      sŭphai   /spaɪ/   *spy*

4. /əʊ/. Korean *ou.*

(52) *phŏthŭroul*   /pətrəʊl/   *patrol*
      pŭrouchi   /brəʊtʃ/   *brooch*
      sŭthoupŭ   /stəʊv/   *stove*

5. /aʊ/. Korean *au.*

(53) *anaunsŏ*   /ənaʊnsə/   *announcer*
      khaunthŏ   /kaʊntə/   *counter*
      phauntŭ   /paʊnd/   *pound*

6. The infrequency of falling diphthongs with /ə/ in English has provided very few examples in the data.

(54) *iŏriŋ*   /ɪərɪŋ/   *ear-ring*
      maenikhyuŏ   /mænɪkjʊə/   *manicure*
      heŏthonikhŭ   /hɛətɒnɪk/   *hair tonic*
      toŏ   /dɔə/   *door*
      saphaiŏ   /sæfaɪə/   *sapphire*
      syauŏ   /ʃaʊə/   *shower*

4.6.   Rule 6: Consonant Conversion.   The English-to-Korean consonant correspondences are as follows. Note that as Korean lacks any labial fricatives, English /f/ and /v/ are merged with the corresponding plosives.

(55) /p/   →   *ph*   /b/   →   *p*
      /f/   →   *ph*   /v/   →   *p*
      /t/   →   *th*   /d/   →   *t*
      /θ/   →   *s*   /ð/   →   *t*
      /s/   →   *s*   /z/   →   *c*
      /ʃ/   →   *sy*   /ʒ/   →   *c*
      /tʃ/ →   *ch*   /dʒ/ →   *c*
      /k/   →   *kh*   /ɡ/   →   *g*

$$/m/ \rightarrow m$$
$$/n/ \rightarrow n$$
$$/ŋ/ \rightarrow ŋ$$
$$/h/ \rightarrow h$$
$$/l/ \rightarrow ll$$
$$/r/ \rightarrow r$$
$$/j/ \rightarrow y$$
$$/w/ \rightarrow w$$

As the correspondences are extremely regular and numerous examples are available in section 4.5. above, just a few examples should suffice:

(56) | | | |
|---|---|---|
| *phaiphŭ* | /paɪp/ | *pipe* |
| *phiksyŏn* | /fɪkʃn̩/ | *fiction* |
| *thŏnŏl* | /tʌnl̩/ | *tunnel* |
| *sŭril* | /θrɪl/ | *thrill* |
| *sillintŏ* | /sɪlɪndə/ | *cylinder* |
| *syou* | /ʃəʊ/ | *show* |
| *chimphaencii* | /tʃɪmpænziː/ | *chimpanzee* |
| *khŏp* | /kʌp/ | *cup* |
| *pelthŭ* | /belt/ | *belt* |
| *pitio* | /vɪdɪəʊ/ | *video* |
| *tŭresŭ* | /dres/ | *dress* |
| *tŏ* | /ðə/ | *the* |
| *ciphŏ* | /zɪpə/ | *zipper* |
| *caek* | /dʒæk/ | *jack* |
| *kosip* | /ɡɒsɪp/ | *gossip* |
| *meikhŏ* | /meɪkə/ | *maker* |
| *naepkhin* | /næpkɪn/ | *napkin* |
| *haikhiŋ* | /haɪkɪŋ/ | *hiking* |
| *haemŏ* | /hæmə/ | *hammer* |
| *rencŭ* | /lenz/ | *lens* |
| *risepsyŏn* | /rɪsepʃn̩/ | *reception* |
| *yothŭ* | /jɒt/ | *yacht* |
| *weithŭresŭ* | /weɪtrəs/ | *waitress* |

Note that although Korean makes the phonemic distinction between /s/ and /ʃ/ in most situations, /s/ does not occur before /i/ and neither /s/ nor /ʃ/ occurs phonetically before [j]. Consequently, the combination *sy* is reserved for representing /ʃ/ before all vowels except /i/. The same conventions are applied to the transcription of English, with the result that the English combinations /sɪ/, /siː/ and /sj/ are not distinguished from /ʃɪ/, /ʃiː/ and /ʃ/ respectively, causing the merger of, for instance,

seat /siːt/ and *sheet* /ʃiːt/ as *siithŭ,* and *suit* /sjuːt/ and *shoot* /ʃuːt/ as *syuuthŏ.*

Whereas /s/ does not occur with /j/, the phonemic system of Korean has adapted to allow combinations of dental plosives with /j/ in loan-words, giving *sŭthyuu* from English *stew* /stjuː/, although such combinations are no longer found in native words (Lee 1989:21).

English /p/, /t/, /k/ and /s/ are sometimes realized as the glottalic consonants *pp, tt, kk* and *ss* respectively, allowing the variations *taensŭ ~ ttaensŭ* and *pŏsŭ ~ ppŏssŭ* from English *dance* and *bus* respectively (Sohn 1994:438). In practice, however, such forms are rarely written and the glottalic series in Korean is not used in the transcription of English.

4.7. Rule 7: Consonant Simplification.

(57) *yi*   →   *i*
   wu   →   *u*
   ll-   →   *r-*

This rule accounts for certain consonant changes that are due to gaps in the Korean phonological and orthographic systems. There are cases in which English /j/ and /w/ are represented as zero, because the following vowel does not occur in Korean with a preceding *y-* or *w-*element. Hence *yeast* /jiːst/ becomes *iisŭthŭ* and *wood* /wʊd/ becomes *utŭ.*

In addition, /l/ and /r/ are distinguished in Korean only intervocalically, whereas English distinguishes them word-initially as well. Word-initially, English /l/ and /r/ are both realized as Korean *r.*

Unlike Japanese, which has added the non-native contrasts *b:v, ti:chi, tu:tsu* to its phonemic system in order to accommodate loan-words (Vance 1986:23-4, 32), loan-words have had minimal impact on the phonology of Korean. Thus, English /p/ and /f/ are not distinguished in Korean, nor are /b/ and /v/, nor even /z/, /ʒ/ and /dʒ/. The only conspicuous impact is the use of *r* word-initially, as no native word in standard South Korean begins with *r.* An original initial *r* in Sino-Korean words has been lost before an *i* or *y* and has been changed to *n* in other environments. In North Korea (as well as in Japan, where many of these words were coined), the *r* is maintained both in pronunciation and in orthography (Lee 1990:75):

(58) S. Korea   N. Korea   Japan
   notoŋ   *rotoŋ*   *rōdō*   'labor'
   iron   *riron*   *riron*   'theory'

Even earlier versions of Western loan-words did not allow an initial *r-*, hence *nacio* (via Japanese *rajio)* as an earlier version of modern *ratio* 'radio' (Sohn 1994:440).

4.8. Rule 8: Final Reduction.
a. Optional though normal:

(59) -VC*ethŭ*   →   -VC*es*
      -VC*ŏthŭ*   →   -VC*ŏs*

b. Lexically restricted:

(60) *-phŭ*   →   *-p*
      -thŭ   →   *-s*
      -khŭ   →   *-k*

Although it is normal for English word-final plosives to be converted into Korean with a paragogic vowel *ŭ* (4.1. above), sometimes English /p/, /t/ and /k/ occur in word-final position as well (/t/ spelt *s*), e.g.:

(61) *thip*   [tʰipˀ]   ←   *tip*
      pisŭkhes   [pisɨkʰetˀ]   ←   *biscuit*
      rak   [ɾakˀ]   ←   *rack*

When a vowel-initial inflection is suffixed, such as the subject marker *-i,* the appropriate morphophonemic changes occur, *p* and *k* becoming voiced and *s* regaining its previously neutralized sibilance:

(62) *thip-i*   [tʰibi]   ←   *tip*
      pisŭkhes-i   [pisɨkʰeʃi]   ←   *biscuit*
      rak-i   [ɾagi]   ←   *rack*

It could be argued that Korean should represent the final consonant in these three with *ph, th,* and *kh* respectively, thus maintaining the voiceless plosive in inflection, but inflection is not taken into consideration, and the use of word-final *ph, th* and *kh* is specifically ruled out by Pak (1988:114). Examples, though, do occur exceptionally, such as the stationery trade-name *posŭthŭ-ith* 'Post-It'. It should be added in this connection that Korean /l/ and /ɾ/ are not represented graphemically by distinct letters: intervocalic /l/ in Korean is represented by a doubled *'ll'* in *hankŭl,* whereas word-initial /ɾ/, word-final /l/ and intervocalic /ɾ/ are all represented by a single *'l'*. Because

the final *hankŭl* consonant in, for example, *pel* 'bell' is only a single *'l'*, it is not doubled before an inflection, hence the subject form *per-i*.

Word-final English /p/, /t/ and /k/ are usually fully released in Korean by adding the paragogic vowel *ŭ*. To some extent, the words ending in *-p, -s, -k* represent a more innovative variety of Korean and those ending in *-phŭ, -thŭ, -khŭ* represent a more conservative variety (Sohn 1994:436), although in most cases only one form is now current. The South Korean Education Ministry guidelines (Pak 1988:144-5) prescribe the use of *-phŭ, -thŭ, -khŭ* if the English original is preceded immediately by a long vowel or diphthong—even though Pak (1988:119-20) rules out the rendering of English vowel length distinctions in Korean orthography—or by another consonant, e.g. *kheiphŭ* or *sŭthaemphŭ* from English *cape* and *stamp* respectively, and the use of *-p, -s, -k* if the English original is preceded immediately by a short vowel, e.g. *khaes* from English *cat*. In practice, however, there are exceptions, particularly certain well-established loans that make use of a paragogic vowel despite being preceded by a short vowel in the English original:

(63) *cethŭ*   vs   **ces*   /dʒet/   *jet*
      yothŭ   vs   **yos*   /jɒt/   *yacht*

4.9. Rule 9: Vowel Reduction.   This is an optional (though normal) rule:

(64) *ii*   →   *i*
      uu   →   *u*
      ŏŏ   →   *ŏ*
      oo   →   *o*
      ou   →   *o*
      aa   →   *a*

Standard Korean is claimed to possess the phonemic distinction between short and long vowels, but only in the first syllable of a word. In subsequent syllables, the distinction is neutralized (Martin 1992:32-33, Sohn 1994:453). Length, however, is not represented in the script, and the distinction is no longer made so consistently by younger speakers (Sohn 1994:452). Results of tests carried out by Park (1994:178-80) not only show that younger Koreans frequently cannot determine which vowels are prescribed to be long—on average 56.8% of the words in the sample that are conventionally said to have long vowels were considered to have short vowels by the informants under 35 years of age—but also show that even older Koreans score badly, though moderately better than the younger.

In its treatment of loan-words from English, vowel length has often been distinguished in transcription into *hankŭl* by writing a vowel letter twice for a long vowel as if it consisted of two identical vowels in a row, partly due to the alien sound of the loan-words. Frequently, however, phonemic length in loan-words is as difficult to apply correctly as in native words, and so the second vowel letter may be omitted.[4] Thus *khŭrim* is now more commonly written and pronounced instead of the old-fashioned form *khŭriim* 'cream'. There is still considerable variation in this regard in dictionaries. The *Essence* dictionaries, for instance, consistently represent the length orthographically in the Korean-English volume (Minjungseorim 1972) but consistently do not in the English-Korean volume (Minjungseorim 1980). Another dictionary (Eccardt and Oh 1993:106) under the same entry gives *rekhotŭ* for 'record' but *yumyŏhan rekhootŭ* for 'hit record'. The Education Ministry (Pak 1988:119-20) prescribes short vowels in all cases, but it is not uncommon to find English long vowels maintained at least orthographically. The descriptions above assume that loan-words enter Korean with vowel length maintained and that an optional rule of Vowel Reduction operates afterwards, thus allowing both *khŭrim* and *khŭriim* for *cream,* but only *cin* for *gin.*

5. Examples of rule-ordering. The following three examples should suffice to illustrate the application of the above rules:

(65) English *sign* → Korean *sain*
  Base: /saɪn/
  Rule 1: Paragogic Vowel Insertion: /saɪ/ *n*
  Rule 5: Stressed Vowel Conversion: /s/ *ain*
  Rule 6: Consonant Conversion: *sain*

(66) English *yeast* → Korean *isŭthŭ*
  Base: /jiːst/
  Rule 1: Paragogic Vowel Insertion: /jiːst/ *ŭ*
  Rule 2: Epenthetic Vowel Insertion: /jiːs/ *ŭ* /t/ *ŭ*
  Rule 5: Stressed Vowel Conversion: /j/ *ii* /s/ *ŭ* /t/ *ŭ*
  Rule 6: Consonant Conversion: **yiisŭthŭ*
  Rule 7: Consonant Simplification: *iisŭthŭ*
  Rule 8: Vowel Reduction: *isŭthŭ*

(67)   English *biscuit* → Korean *pisŭkhes*
       Base:
       Rule 1: Paragogic Vowel Insertion: /bɪskɪt/
       Rule 2: Epenthetic Vowel Insertion: /bɪskɪt/ *ŭ*
       Rule 3: Unstressed Vowel Conversion: /bɪs/ *ŭ* /kɪt/ *ŭ*
       Rule 4: Env.-Cond. Vowel Change: /bɪs/ *ŭ* /k/ *i* /t/ *ŭ*
       Rule 5: Stressed Vowel Conversion: /b/ *i* /s/ *ŭ* /k/ *i* /t/ *ŭ*
       Rule 6: Consonant Conversion: *pisŭkhethŭ*
       Rule 9: Final Conversion: *pisŭkhes*

6. Exceptions.   Various examples of (apparent) exceptions have been given above. Many of these may be explained as being loans from some other variety of English. This is typically U.S. spoken English, and such loans are extremely common in the sphere of popular U.S. culture:

(68) *hastokŭ*   ←   *hot-dog*
      halliutŭ   ←   *Hollywood*
      tallŏ   ←   *dollar*

The major other source variety is Japanese "English", which is responsible for a significant number of truncated loans or new formations that are not found in the English-speaking-world (Tranter 1997:155-9):

(69) *sŭtho* ← Jap. *suto* ← *st(rike)*
      oothopai ← Jap. *ōtobai* ← **autobi(ke)*
      taia ← Jap. *daiya* ← *dia(gram)*
      syaaphŭphensŭl ← Jap. *shāpupenshiru* ← **sharp-pencil*
      (= 'propelling pencil')

Other exceptions may be due not to a different variety of "English", but to spelling influence, examples of which have been given under 4.3. and 4.4. above. A final factor, though, is that of deliberate misspelling. This is largely restricted to product- and trade-names, and has its parallel in the West, designed to catch the eye and be memorable. One example above was *posŭthŭ-ith* 'Post-It'. Others include *hayasthŭ* 'Hyatt', *ssenchyurŏl* 'Central', and the Korean company *rokhŏ* 'Knocker [Products]'. Almost all exceptions, therefore, can be attributed to one of the above factors: different source variety, spelling influence, or deliberate misspelling.

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ENDNOTES

[1]Figures vary widely, according to means of calculation. One source quoted by Taylor and Taylor (1995:197), for example, puts European-derived vocabulary at 28%.

[2]There are two main romanization systems for Korean, the McCune-Reischauer and the Yale. The former is accurate phonetically, but obscures the spelling of consonants in the process; the latter maintains the *hankŭl* spelling of consonants, but its representation of vowels is more abstract. I have decided to use a mixed system, representing vowels according to the former, but using the Yale system for the representation of consonants.

[3]One exception to this is *khŭllŏp* rather than the expected **khŭllŏbŭ* from English *club,* which makes no use of a paragogic vowel after an original /b/. Other loan-words that end in *-p* in Korean derive from originals in /p/.

[4]In fast speech there is a strong tendency across languages for two identical vowels in a row to be brought together as a single long vowel, and for long vowels to be shortened (reported for Korean by Kim-Renaud 1987:343-4 and Martin 1992:33), and this may be an additional factor for the loss of phonemic length in Korean.

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