Language Games

The term *language game* refers to a fairly widespread language play phenomenon in which phonological forms of words are systematically alterred so as to disguise what they are. Other terms that are sometimes used instead of *langauge games* are secret languages, disguised speech, play-languages, and ludlings. The most well-known language game in the English-speaking world is Pig Latin. To change a normal English word into Pig Latin, the word-initial consonant (or consonant cluster) of the English word is moved to the end and then the vowel [e] is added after it.   For example, the way one would say *Pig Latin* in Pig Latin would be [ɪgpe ætɪnle].

Not all language games are like English Pig Latin. In other language games, words are alterred in a different manner. Crucially, though, with any language game, the difference between the language game word and the corres-
ponding word in the real language is a systematic one. In this way, the language game is potentially productive.   When presented with a new word the speaker can automatically convert it into the corresponding language game form, and when hearing a language game form for the first time the

speaker can immediately recover what the   corresponding normal language word is.   Because of this latter notion of recoverability certain types of language play, such as rhyming slang, should not be considered a language game.

This article first discusses a typology of language games in which the various possible phonological alternations that occur in language games cross-linguistically are presented and exemplified. (The typology to be discussed owes much to Laycock 1972.)

The second part of the article discusses the use of language games as phonological evidence.

1. Phonological Typology of Language Games

As Laycock (1972) has shown, language games cross-linguistically can be described in terms of one or more of the following four mechanisms: insertion, rearrangement, substitution, and deletion. For example, the English Pig Latin discussed above is a fairly complex language game in that it involves two mechanisms: rearrangement and insertion. It involves rearrangement since word-initial consonants are moved to the end of the word, and it involves insertion since the vowel /e/ is inserted after the moved consonants. Other language games are simpler involving only a single mechanism. Language games that employ insertion or rearrangement are much more common cross-linguistically than language games employing deletion or substitution. In the following subsections each one of these mechanisms is examined. It is shown that while different language games

may make use of the same mechanism the specific details of how that mechanism is used varies across language games.

1.1 Insertion

Language games that make use of insertion derive their words by inserting a (language-specific) group of phonemes to some part (or parts) of the real language word. Where the insertion takes place varies depending on the language game. In some language games insertion may occur before (or after) every syllable of the word. In other language games it occurs before (or after) every vowel of the word. And still in other language games insertion occurs only in one specific location within the word.

There are language games that insert a sequence of phonemes before or after every syllable of the word. For example, Malayalam has a language game in which the sequence *pa-* is inserted before every syllable of the word. Thus the Malayalam name *kamala* is realized in the language game as *paka-pama-pala*. In one dialect of a very common Latin American Spanish language game the sequence *-pV* (where *V* stands for a copy of the

preceding vowel) is inserted after every syllable. Thus the Spanish word *grande* 'big' is realized in the language game as *granpa-depe*.

   In some language games the inserted sequence appears only once in the word. The location of the inserted sequence is usually made with respect to the first or last syllable of the word. In English Skimono Jive the sequence *sk-* is

inserted before the first syllable of the word. Thus the word *you* would be pronounced as *skyou*. Finnish has a language game in which the sequence *tä* is inserted after the first syllable. Hence *jonglööri* 'juggler' is realized as *jong-tä-lööri*. Egyptian Arabic has a language game in which the inserted sequence *tinV* (where *V* is a copy of the penultimate vowel) appears before the final syllable of the word. Thus the Egyptian Arabic *yeddihali* 'he gives it to me' has the language game form *yeddiha-tina-li*.

      Not all language games that make use of the insertion mechanism insert a sequence at syllable boundaries. There are language games in which the inserted sequence occurs within the syllable. One possibility is that the inserted sequence is inserted after every vowel of the word. So, for example, in another dialect of the Latin American Spanish language game mentioned above, *grande* 'big' is realized as *grafa-ndefe* with insertion after each vowel rather than after each syllable. In the German language game B-Sprache insertion occurs also after the vowel. Thus *das* 'that' is pronounced as *da-ba-s* in B-Sprache. On the other hand, in the English language game ap-talk, which is less common than Pig Latin, the phonetic sequence [ap] is inserted after the syllable-initial consonants (ie, before each vowel of the word). Thus the word *pencil* would be realized as *papencapil* (ie, [pap´nsapɪl]). There is a variation on ap-talk known as Abi-dabi in which the inserted sequence is [ab] rather than [ap]. However, the location of the insertion is the same. In

Abi-dabi the word for *pencil* would surface as [pab´nsabɪl]. Chinese is reported by Yip (1982) to have a language game also in which there is insertion after the syllable-initial consonant. In

the Chinese game the sequence *ayk* is inserted there. Thus the Chinese word *pey* is realized as *p-ayk-ey* in the language game.

It seems that in language games like those just described in which the inserted sequence occurs within the syllable the following generalization can be made: If the inserted sequence begins with a vowel (as in the English and Chinese language games described above) insertion occurs after the syllable-initial consonants, but if the inserted sequence begins with a consonant (like in German B-Sprache) the insertion occurs after the vowel. In other words, vowel-initial sequences are inserted after consonants while consonant-initial sequences are inserted after vowels. As a result, the language game form is not more complex in terms of syllable structure than the corresponding word in the actual language.

One other type of insertion game that is found is exemplified by the Japanese language game known as Babibu. To form a Babibu word the sequence *bV* is inserted after each mora of the Japanese word. (The *V* is a copy of the vowel from the preceding mora--if the preceding mora has no vowel, *u* is inserted.) Thus the Babibu counterparts of the Japanese words *asita* 'tomorrow' and *minna* 'everyone' are *aba-sibi-taba* and *mibi-nbu-naba*, respectively.

In examining insertion games from a cross-linguistic perspective it is interesting to note that so many insertion games have a bilablial consonant as part of the inserted sequence. This is not only true for language games from Malayalam, Spanish, German, English, and Japanese described above, but it is also true for insertion games in languages like Javanese, Tagalog, and Hebrew. It is quite possible that the widespread occurrence of a bilabial consonant in the inserted sequence is due to language contact and/or bilingualism. Discussion of such a possibility is beyond the scope of this article.

1.2 Rearrangement
One of the most common mechanisms cross-linguistically that language games make use of is rearrangement. Language games that make use of rearrangement are sometimes referred to by the

term Backwards Language. (See Bagemihl 1989.) In such language games the language game word is formed by rearranging part of the normal language word. However language games differ as to exactly how this rearrangement takes place. In some language games various syllables of the words rearrange in a specific manner, in other language games parts of syllables rearrange, and in still other language games there is a complete reversal of the phonemes. Also attested are language games in which the words are formed by rearranging either just the consonants or just the vowels of the normal language words. These

various types of rearrangements are exemplified below.

Probably the most common type of rearrangement in language games involves syllables. There are many attested ways that syllables can rearrange in forming the language game word. In one of the many language games that Conklin (1956) reports for Tagalog, language game words are formed by moving the last syllable of the word to the beginning. Thus the Tagalog word *maganda* 'beautiful' is realized in the language game as *damagan*. On the other hand, Cuna has a language game in which the first syllable of the word is moved to the end. For example *uwaya* 'ear' has the language game form *wayau* (but see the discussion of Cuna in Section 2).

Besides syllables moving to the end or the beginning of words, language game forms are often produced by syllable interchanges. In the Bantu language Luchazi the last two syllables of the word exchange positions. For example the expression *tuye kundzivo* 'Let's go to the house' is realized in the language game as *yetu kuvondzi*. In a language game reported for the Sudanese language Zande it is the first two syllables of the Zande word that interchange to produce the language game form. For example, *baramu* 'European' has the language game form *rabamu*. Finally, in another of the Tagalog language games described by Conklin (1956) the first and last syllables of the word interchange to produce the language game word. As an example the Tagalog word *kapatid* 'sibling' is realized as *tidpaka* in the language game.

The interchanges and movements that are found in language games such as those described above always seems to at least involve the first or last syllable of the word. There do not seem to be any language games in which, for example, two word-medial syllables interchange. Moreover, in language games that involve the movement of syllables, there is no effect on monosyllabic words. Thus such words would have the same form in the language game as they do in the actual language.

There are some language games that make use of rearrangement in which parts of two different syllables interchange with one another. For example, in Burmese the rhyme (ie, the vowel and syllable final consonant, if any) of the first and last syllables interchange in order to produce the language game words. For example, *mixbow* 'fireplace' is realized in the language game as *mowbix*. On the other hand, Conklin (1959) reports that in the language of Hanunoo, spoken in the Philippines, language game words are created by interchanging the first and last CV-sequence of actual Hanunoo words. For example, the Hanunoo words *rignuk* 'tame' and *balaynun* 'domesticated' have the language game forms *nugrik* and *nulayban*, respectively. Similarly, in a Finnish language game words are created by exchanging the initial CV sequence of two consecutive words. Thus *tule sisaan* 'come in' is realized as *sile tusaan* and *kenkänsä polki* is realized as *ponkansa kelki*.

There are language games in which words are formed by

either rearranging some of the consonants or by rearranging some of the vowels. For example, Javanese has a language game in which the first two consonants of the word exchange positions. Thus the Javanese word *ˇduwit* 'money' has the language game form *wuˇdit*. A somewhat more complicated consonantal rearrangement game involves Hijazi Arabic in which languauge game words are formed by any possible interchange of the root consonants. Thus a form like *maktab* 'office' which consists of the root consonants /k/, /t/, and /b/ and the prefix /m/ has the following five possible language game forms in which only the root

consonants interchange: *matkab*, *mabtak*, *mabkat*, *makbat*, and *matbak*. A language game in which words are formed by an interchange of vowels is reported by Conklin (1956) for Tagalog. In this game, the Tagalog word *di:to* 'here' is realized as *do:ti*.

A different type of rearrangement that seems somewhat common cross-linguistically involves language games whose words are formed by the complete reversal of phonemes of the words of the actual language. Such a language game is reported by Conklin (1956) to occur in Tagalog where, for example, *salamat* 'thanks' is realized as *tamalas*. Also Laycock (1972) reports an identical game in New Guinea Pidgin where, for example *tumora* 'tomorrow' is realized as *aromut*.

One final type of rearrangement game that is quite unique is the French language game known as Verlan. Depending on the size and the composition of the French word, the corres-

ponding Verlan word may be formed by the reversal of phonemes, the movement of a syllable, an interchange of consonants, or even the movement of a sequence of syllables. In an open monosyllable such as *vu* 'seen' the Verlan form is realized as *uv* where there is a reversal of the phonemes. In most closed monosyllables there seems to be a movement of the final consonant to the beginning and then an insertion of a schwa after it. For example, *flic* 'cop' which is phonetically [flik] has the Verlan form [k™fli]. Similarly *pote* ([pot]) 'friend' has the Verlan form [t™po] and *boite* 'nightclub' ([bwat]) has the Verlan form [t™bwa]. On the other hand a few closed monosyllables seem to form their Verlan forms by an interchange of the consonants and with vowel reduction. For example, *bus* 'bus' has the Verlan form [s™b] and *femme* ([fam]) 'woman' has the Verlan form [m™f]. Two and three syllable French words form their corresponding Verlan versions by either moving the first syllable to the end or the last syllable to the beginning. This is most apparent with three syllable words. For example, *défonsé* ([def~ose]) 'stoned' has the Verlan form [f~osede] in which the first syllable has moved to the end while *policier* ([polisye]) 'policeman' has the Verlan form [syepoli] in which the last syllable has moved to the beginning. Finally, words of four syllables rearrange their bisyllabic

sequences.   For example, *appartement*   ([apaRt™m~a])
'apartment' has the Verlan form [t™m~aapaR]   in   which it
appears that the first two and last

two syllables have interchanged.   Verlan is thus unique in that
several different types of rearrangements are found in a single
language game.

1.3 Substitution
Another mechanism that language games sometimes make use of
is substitution.   Substitution is not as common as insertion or
rearrangement.   Language games that make use of substitution
will replace a certain part of the normal language word with a
specific phoneme or group of phonemes.   An example of a
substitution game is reported by Sherzer (1982) for Maracaibo
Spanish.   In this language game the words are formed by taking
Spanish words and replacing their vowels with nonsense words.
The replacement for the different vowels are as follows: [a] is
replaced by *agwara*,   [e] is replaced by *emuger*,   [i] is replaced by
isimil,   [o] is replaced by *ofo*,   and [u] is replaced by *ugacher*.
Thus, the Spanish word *rosa* 'rose' is reallized as *rofo-sagwara* in
the language game.

    Moroccan Arabic has a substitution game in which the first
consonant of the word is replaced with /h/.   For example, the
Moroccan words *faˇr* 'mouse', and *l-yuma* 'today' (literally, 'the
day') are realized in the language game as *haˇr* and   *h-yuma*,
respectively.   If the word is a verb, then the first consonant of the
verbal root is replaced by /h/.   Thus *n-gls-u* 'let's sit' is realized
as *n-hls-u*.   If the verbal root begins with a vowel then /h/ is
added before it.   For example,

n-akul 'I eat' has the language game form *n-hakul*.
    A very interesting and somewhat complex language game that
involves substitution is found in Amharic.   In the Amharic game
the first root vowel of the actual word is replaced by the
diphthong /ay/ while the second root vowel is replaced by /™/.
Crucially, the language game words are normally just two syllables

with the second syllable beginning and ending in the exact same consonant. For example, the Amharic words *s'afe* 'write', *k™bad* 'difficult', and *s™kk™r*, 'drunkard' have the language game forms *s'ayf™f*, *kaybd™d*, and *saykr™r*, respectively. If the original Amharic word has only one syllable or more than two syllables the corresponding language game form still has two syllables. For example, the monosyllabic *hed* 'go' has the language game form *hayd™d*, and the trisyllabic *s™dd™b™* 'insult' has the language game form *saydb™b*.

1.4 Deletion

A fourth mechanism that language games can employ is deletion. This appears to be the rarest of the four mechanisms that language games make use of.   Language games that make use of deletion derive the language game word by systematically deleting some part of the word from the actual language. As an example of deletion Laycock (1972) cites a language game from the Indonesian language Murut.   The   form   in the   Murut language game is derived by

deleting all or part of the final syllable of the actual Murut word (but a monosyllabic word consisting of just a CV syllable does not undergo any change). For example, the Murut phrase *mapanday kow kia ra ragu nu murut* (Laycock does not provide a gloss) is realized as *mapan ko ki ra rag nu mur* in the language game.

1.5 Combinations

Language games that combine more than one of the above mechanisms are quite common cross-linguistically. Many of these involve the two most common mechanisms, insertion and rearrangement. One example of this that has already been noted is English Pig Latin in which the word-initial consonant (or consonants) is moved to the end and the vowel /e/ is added after the moved consonant(s). Thus the word *scram* in Pig Latin is realized as *amscrey* [æmskre]. If a word does not begin with a consonant then just the vowel [e] is added to the end. Consequently, all Pig Latin words begin with a vowel.   Other languages are known to have Pig Latin like language games.

Kurdish, for example, has a Pig Latin type game that has an additional complexity. In the Kurdish game, initial consonants are moved to the end, the phonetic sequence /eide/ is added after the moved consonants, but unlike Pig Latin, /s/ is inserted at the beginning of the word, so that all words in the language game begin with an /s/ rather than with a vowel. Thus the Kurdish words *qS™l* 'crow' and *˙oul´R* (place name) have the language game forms *s™lqSeide* and *soul´R˙eide*, respectively.

Another type of combination that is found among language games are games involving both insertion and deletion. An example of this is an Indonesian language game in which the sequence [ok] is inserted after the initial consonant(s) of the penultimate syllable and then there is deletion of all but the initial consonant of the final syllable. Thus the Indonesian words *penjara* 'jail', *pesta* 'party, *begini* 'like this', and *bayar* 'to pay have the language game forms *penjokar*, *pokes*, *begokin*, and *bokay*, respectively.

Finally, there are also language games that involve insertion and substitution. One example of this is an English language game, most likely borrowed from German, that is known as Double Dutch. In this game an English word like *bar* would be realized as *barharlefar*.   Basically what happens is that the syllable (*bar*) is reduplicated twice with the sequence *le* being inserted between the first and second reduplications. (Reduplication can be viewed here as a type of insertion.)   Moreover, after the first reduplication /h/ replaces the syllable-initial consonant and after the second reduplication /f/ replaces the syllable-initial consonant.   In words of more than one syllable this complex process is done for each syllable of the word.

2. Language Games As Phonological Evidence

Language games are frequently used as evidence in phonological analysis. Language game evidence has been used to support such notions as syllables and syllable structure,

abstract underlying representations, and phonological rule ordering. However, often the language game evidence is ambiguous in that it is subject to more than one possible interpretation.

Language games provide evidence for the syllable as a linguistic unit. This is apparent from insertion games in which a sequence of phonemes is inserted at syllable boundaries and from rearrangement games in which whole syllables are moved. In order to generate words in these games speakers must be able to divide words in terms of syllables. It is interesting to note that what the language game evidence shows is that speakers of different languages do not divide words into syllables in the same manner. This can be seen in comparing the Tagalog and Luchazi rearrangement games described above. In the Tagalog game a consonant sequence consisting of a nasal followed by an obstruent is considered heterosyllabic while in Luchazi the same sequence is considered tautosyllabic. The Tagalog word *maganda* has the language game form *damagan* where the last syllable has moved to the beginning. Notice that the language game form is not *ndamaga*. Hence the language game treats the /nd/-cluster as being heterosyllabic. In Luchazi, the word *kundzivo* has the language game form *kuvondzi* where the last two syllables have interchanged. Notice that the language game form is not *kunvodzi*. Hence, in Luchazi the nasal must be considered tautosyllabic with the following obstruent.

Relatedly, langauge games provide evidence that the syllable consists of an onset constituent (the part of the syllable consisting of the initial consonant or consonants) and a coda constituent (the part of the syllable consisting of the final consonant or consonant consonants) in addition to the nucleus (the vowel or other syllable peak). Evidence for this is that insertion games and rearrangement games seem never to split up syllable-initial consonants or syllable-final consonants (although see the discusion on diphthongs below). For example, insertion games never insert a sequence of phonemes in the middle of a syllable-initial consonant cluster or in the middle of a syllable-final consonant cluster. Also, in English Pig Latin it is the entire word-

initial consonant cluster that moves to the end. Thus language games seem to treat syllable-initial consonants and syllable-final consonants as units.

Turning to the suprasegmental features of tone and length, language games appear to provide evidence that tone as well as length may be represented differently in different languages. This can be seen by comparing a rearrangement game in the Bantu language Sanga with a similar game in Thai. In Sanga the word *mukwe:tu* has the language game form *mutu:kwe* in which the last two syllables have interchanged. Here the language game form maintains the original tone pattern as well as the original vowel length pattern since the penultimate vowel remains long. Thai has a similar language game in which syllable rhymes inter-

change. However, when they interchange, the vowel length and tone patterns can interchange also so that the original tone and vowel length pattern are not maintained. For example, *duu n`á°* with rising tone on the final syllable has the language game form *d`á° nuu* with rising tone on the initial syllable. This suggests that in Thai, tone and length are represented as features of the (vowel) phoneme whereas in Sanga they would be represented independently of the phonemes. That is, the language game evidence supports an autosegmental representation of tone and length in Sanga but not in Thai.

Often, within the same language, language game evidence may appear to be inconsistent or ambiguous. One particular problem that comes up in several different language games relates to the analysis of diphthongs. A diphthong consists of two parts, a peak and either an off-glide or an on-glide. In the phonological analysis of diphthongs a question often arises as to whether the off-glide should be considered part of the nucleus or part of the coda and whether the on-glide should be considered part of the nucleus or part of the onset. Language games in which insertion occurs after the vowel (or, rather, the syllable nucleus) can potentially provide evidence as to how diphthongs are being analyzed by speakers. For example, if insertion splits up a diphthong with an off-glide then that off-glide is being analyzed as part of the coda; if

insertion does not split up a diphthong (ie, if insertion occurs after the off-glide) then the off-glide is

being analyzed as part of the nucleus. However, the relevant data is often inconsistent. Consider German B-Sprache mentioned above in which the sequence *bV* (where *V* stands for a copy of the preceding vowel) is inserted after the vowel (or nucleus). When the relevant syllable has a diphthong with an off-glide the insertion may either split up the diphthong or occur immediately after the diphthong. Thus the German *haus* 'house' is pronounced in B-Sprache as either *ha-ba-us* or *hau-bau-s*. (The latter form can optionally be realized as *ho-bau-s* with coalescence.) In the first variant *ha-ba-us* the /u/ off-glide is being analyzed as part of the coda so it is not repeated as part of the language game sequence. In the second variant *hau-bau-s* the off-glide is being analyzed as part of the nucleus so it is repeated as part of the language game sequence. Since the same speakers use both variants one cannot conclude in this case that there is a dialectal difference in how German diphthongs should be analyzed. Rather the B-Sprache evidence suggests that German maintains an ambiguity on whether an off-glide is part of a nucleus or part of a coda.

A problem concerning the analysis of an on-glide is found in English with the sequence [ɪu] as in the word *cute* [kɪut]. Should the [ɪ] on-glide be considered part of the nucleus or should it be considered part of the onset? Since in Pig Latin the entire word-initial onset moves to the end of the word it has direct bearing on how the on-glide [ɪ] should be analyzed. English speakers neatly divide into three dialects on how

they pronounce *cute* in Pig Latin. Some speakers pronounce *cute* as [utkɪe], some pronounce it as [utke], and others pronounce it as [ɪutke]. Speakers of the [utkɪe] dialect clearly are analyzing the [ɪ] as part of the onset since it moves with the /k/, and speakers of the [ɪutke] dialect clearly are analyzing [ɪ] as part of the nucleus since it does not move with the rest of the onset. It seems quite likely that speakers of the [utke] dialect are also

analyzing [ɪ] as part of the onset. The only difference between [utke] speakers and [utkɪe] speakers is that [utkɪe] speakers can violate the phonotactics of English by allowing an [ɪ] on-glide before [e]. Normally in English the [ɪ] on-glide only occurs before [u]. It is not uncommon in general for languge games to have forms that violate the phonotactics of the actual language, given that one purpose that speakers have in using a language game is to disguise what they are saying.   The [utke] speakers unlike the [utkɪe] speakers are unable to violate English phonotactics so the [ɪ] deletes before [e], but crucially it deletes after it has moved with the [k] of the onset. Consequently, in both [utke] and [utkɪe] the [ɪ] on-glide is being analyzed as part of the onset whereas in [ɪutke] the on-glide is being analyzed as part of the nucleus. English Pig Latin speakers do not vary between these different forms. Either speakers have the [utke]-[utkɪe] variant or they have the [ɪutke] variant.   Thus the Pig Latin evidence suggests that

English speakers are divided as to whether they analyze the [ɪ] on-glide as part of the onset or as part of the nucleus.

   Language games can be used as evidence to argue for both abstract underlying representations and the need for phonological rule ordering.   An example that illustrates this is the rearrangement game found in the Panamanian Indian language Cuna discussed by Sherzer (1970). As mentioned above, in this language game, words are formed by moving the first syllable of the actual Cuna word to the end. Sherzer notes that some Cuna words have more than one possible form in the language game. In order to account for this he suggests that some speakers have abstract underlying representations while others do not. Consider the Cuna word *uwaya* 'ear'. In the language game in which the first syllable is moved to the end some speakers have the form *wayau*, but other speakers have the form *ayau*. (Vowel sequences are considered to be in separate syllables rather than constituting diphthongs.) In order to account for this difference it needs to be pointed out that in Cuna the glide /w/ always occurs between /u/ and /a/. Thus, it is possible to posit a phonological rule that inserts /w/ imbetween a sequence of /u/ and /a/. This

would mean that the underlying representation for the word meaning 'ear' might be the abstract /uaya/ rather than the less abstract /uwaya/ which is equivalent to the phonetic form. In order to account for the variation of this word in the language game Sherzer suggests that some speakers have abstract underlying repre-

sentations while other speakers do not. Specifically, speakers who have the language game variant *ayau* form this variant directly from the abstract underlying representation /uaya/ while speakers who have the language game variant *wayau* form it based on the less abstract underlying representation /uwaya/. Sherzer concludes that speakers in the same community may have different underlying representations.

However, there is an alternative analysis of the Cuna language game that avoids the conclusion that speakers of the same community have different underlying representations. Under the alternative analysis, all speakers have the abstract underlying representation /uaya/, but the way the language game rule (ie, move the first syllable to the end) and the w-insertion rule is ordered with respect to one another varies among speakers. For example, speakers who have the language game form *wayau* order w-insertion before the language game rule. Thus, w-insertion would apply first to /uaya/ producing *uwaya*, and then the language game rule applies producing *wayau*. On the other hand, speakers who have the language game form *ayau* apply the language game rule before w-insertion. Thus, the language game rule first applies to the underlying form /uaya/ producing *ayau*. This has the effect of preventing w-insertion from applying since /u/ no longer occurs before /a/. The variant forms of the Cuna language game may then actually be evidence for the necessity of rule ordering relationships in phonology.

The Cuna example just discussed illustrates how language game evidence is often subject to more than one plausible interpretation. The Cuna game may be providing evidence for rule ordering or it may be providing evidence that speakers in the

same community have different underlying representations. Ambiguity in interpretation is quite common when language games are used as phonological evidence. Consequently, language game evidence on its own usually does not carry much weight in phonological analysis, but it may become strong when used with other types of phonological evidence.

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