Syllable as Part of I-Grammar: Approaching the Chinese Medial Glide Problem through Rhyming Patterns
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Abstract
The status of the medial glides has been a challenge for the linguists trying to uncover the structure of the Chinese syllable. This paper explains that the syllable is a mental construct thus requiring generative methods which probe into the intuitions of speakers. By drawing upon rhyming intuitions of multilingual speakers, this paper demonstrates how any adequate theory of the syllable must account for systematic judgments by different individuals who presumably speak the same languages. Much of the conflicting evidence of the status of the medial glide may therefore be attributed to systematic differences in the I-grammars of different individuals.

Key words
Syllable, Medial Glide, Rhyme, I-grammar, Chinese

音节的 I-语法性：从押韵直觉理解汉语音节介音问题

摘要
汉语介音归声归韵的问题向来颇受音系家争议。事实上，音节是个抽象的概念，是认知系统的一部分（即 I-语法），所以必须以生成语言学的方法进行调查才能辨析发音人的内在音系系统。通过检验多语者的押韵直觉，本文试图说明一个具备解释力的音节理论必须概括操同一语言的不同说话者系统性的异同。因此，介音归声归韵的问题，应该源自于各个语言使用者不同的 I-语法。

关键词
音节、介音、押韵、I-语法、汉语

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1. Introduction

The structure of the Chinese syllable has been an issue of much contention due mostly to the status of the medial glides. Such is the difficulty that a theory-neutral nomenclature is often cumbersome. Taking a Beijing syllable like *diāo* ‘condor’ for example, it has been variously suggested that the accurate transcription of it would be [tiau], [tjau], [tjau], corresponding to different interpretations of the constituency, shown below.

(1) Different interpretations of the medial glide

   a. Glide as part of Rime

      \[
      \sigma
      \]
      \[
      \text{Onset} \quad \text{Rime}
      \]
      \[
      t \quad i \quad a \quad u
      \]

   b. Glide as part of Onset

      \[
      \sigma
      \]
      \[
      \text{Onset} \quad \text{Rime}
      \]
      \[
      t \quad j \quad a \quad u
      \]

   c. Glide as secondary articulation of Onset

      \[
      \sigma
      \]
      \[
      \text{Onset} \quad \text{Rime}
      \]
      \[
      t' \quad a \quad u
      \]

Arguments have been given for each of the above models, ranging from phonetic/acoustic analyses to phonological patterning (see Yip 2003; Duanmu 2000, 2008; Pan 2006 and references cited therein for various informative discussions). The controversy is further complicated by the multitude of Han dialects, making it quite a

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1 The issues apply equally to a moraic model of the syllable, though for convenience and simplicity, an Onset-Rime model is adopted for presenting the various interpretations. More details in section 2.3.
challenge if one were to argue for a particular representation of the Chinese syllable (see Sun 2006 for example).

This paper explains how the issues may be addressed when evidence is gathered with an explicit understanding that the syllable is essentially a mental construct (i.e. part of I-grammar rather than of E-grammar, Chomsky 1965: Chapter 2). This would naturally lead us to the apparently conflicting evidence, which in reality is a reflection of variation across speakers’ I-grammars.

Following this section, section 2 provides the necessary background on the syllable so that the nature of the key puzzles presented in section 3 may be more clearly presented. Section 4 then explains that the rhyming data in section 3 really reflects a deeper individual difference in their grammars despite the appearance of speakers sharing the same language(s). Section 5 discusses some implications and limitations before section 6 provides a conclusion.

2. Theories of the Syllable

2.1. Syllable as a Mental Construct
Since the controversy circles around the syllable, it is necessary first of all to make explicit our understanding of the concept. Consider for example the English word bus-stop, pronounced [bʌs stop], spectrogram as given in (2).

(2) Spectrogram for bus-stop²

² Recordings (sampling frequency 22050Hz) and spectrograms made with Praat (version 5.1.43).
Every English speaker would interpret the utterance as having the characteristics in (3).

(3) Judgments of the utterance *bus-stop* by English speakers
   
   a. *Bus*-stop is made up of two syllables.
   b. The first syllable is [bʌs].
   c. The second syllable is [stɔp].

These characteristics do not seem to have very clear correlates with the acoustic properties shown in the spectrogram. For example, the perceived syllable boundary between *bus* and *stop* is not discernible acoustically in (2). If silence were the cue for syllable boundaries, then the syllable break would be at [t]. Similarly, the presence of the initial [b] has to be inferred since it cannot be determined when articulation actually began. Appealing to morpheme boundary would not help either because similar problems arise with words like *active* (morpheme boundary *act-ive*) which speakers perceive as being made up of two syllables [æk.tɪv]. In this case, there is again not acoustic indication for when [k] ends and [t] begins, and syllable boundaries do not align with morpheme boundaries.

(4) Spectrogram of *active*
It is important to understand that our failure to find acoustic or phonetic correlates to syllable boundaries does not take away the reality of the speakers’ perception listed in (3). A responsible linguist must still account for the fact that English speakers have such judgments about these words. The obscurity of correlation between (2) and (3) provides us with a strong argument for the syllable as a mental construct.

By the same spirit, a study of Chinese syllables must take into account judgments by individual speakers who may have different mental grammars (I-grammars). While phonetic analyses may be helpful, one must realize that articulatory or acoustic studies do not provide direct evidence for the I-grammars of the speaker, as demonstrated in the preceding paragraphs.

Up to this point, the term syllable has been used to describe a prosodic unit perceived by the speaker of a language. Speakers are often able to indicate what each syllable is for words presented to them with relatively general agreement between speakers of the same language. For example, *mbira* ‘musical instrument played with the finger (pronounced [mbira])’ is perceived by the Zimbabweans as having two syllables [mbi] and [ra], while Chinese speakers typically hear it as having three syllables [m.bi.ra]. The fact that the same pronunciation is perceived differently by speakers of different languages defies a purely acoustic or articulatory explanation. Thus, one has a second argument for the syllable as a mental construct (see also Blevins 1995 for arguments based on phonological patterning).

While there may be other interpretations of the theoretical construct syllable, this paper focuses on the syllable as a mental construct. It is this notion that is of particular
relevance to the understanding of the human language faculty as part of the theory of the mind.

2.2. Diagnosing the Syllable

Having established that the syllable is a mental construct, the logical next step would be to figure out how properties of that mental construct can be studied. Within the generative enterprise, this is typically done with speaker intuitions. Beginning with judgments of syllable boundaries, pause insertions and relevant play languages, syllables can be identified from a given utterance. An example is given for banana in (5).

(5) Syllables in banana
   a. Judgment: [bæ.næ.nə]
   b. Pause insertion: [bø <PAUSE> næ <PAUSE> nə]
   c. F-language: [bø.fə.næ.fæ.nə.fə]³

Admittedly, F-language is not the only play language one can use to identify the boundaries of a syllable, and not all speakers of English are familiar with F-language. What is important here is that if an English speaker is asked to explain his intuitions about the syllables in banana and if that same speaker were asked to insert pauses into the word banana, the loci of intuited boundaries and that of pause insertion coincide. If that speaker has also learnt a play language such as F-language, the loci of syllable hiatus would agree with that of the two earlier tasks. These tasks are independent of one another, and their convergence can only be interpreted as motivated by a deeper mental organization of sounds.

Duanmu (2008:52f) points out that speaker intuitions are not always clear. He reports, for example, that city made up of ci.ty or cit.ty depending on different speakers. Since syllable is a mental construct (hence part of I-grammar), some variation across speakers is in fact to be expected as no two individuals are likely to have exactly the same mind.⁴ Duanmu’s reservations may therefore be set aside. In any case, any methodology will have its grey areas. What one should do is to make appropriate and

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³ F-language is a play language spoken by some English-speaking children. Each syllable of the word is repeated with its onset replaced by [f]. Hence cat is cat.fat; tickle is tie.fie.kle.fle; and so on.

⁴ A more challenging situation arises when the same speaker has ambiguous judgments. This however may reflect ambisyllabicity, making it a non-argument against the use of speaker intuition. In any case, the problem is relatively slighter in Chinese where syllable boundaries are often very clear due to their strong alignment with morpheme boundaries.
careful applications so that informative results may be obtained.

Within a syllable, constituencies are evidenced by similar methods. In this case, one can search for judgments of alliteration, assonance, rhyming, patterns found in play languages and also prosodic patterns sensitive to complexity of the rime, such as stress assignment, which often coincide with syllables containing a branching rime (e.g. Stress-to-Weight, Myers 1987).

Not all tools are available to the study of Chinese syllables, and likewise, not all limitations of the tools apply. For example, stress is elusive to most Chinese speakers, making that an unviable diagnostic. Conversely, Chinese typically does not involve polysyllabic rhyming like English (e.g. father and rather rhymes in English), hence the use of rhyming to determine the internal constituencies of the Chinese syllable is more effective than English (see Yip 2003 for discussion on using rhyming for English, though her reservations for English should not extend to the study of Chinese syllables).

2.3. Onset-Rime Model and the Moraic Model
Implicit in the preceding paragraphs is the idea that the syllable is made up of two major constituents: Onset and Rime. The issue is therefore whether the medial glide in Chinese (e.g. -i- in diāo ‘condor’) is part of the onset or the rime. However, Yip (2003) argues that the dubiety of the medial glide actually indicates that the Onset-Rime model of the syllable is an erroneous one, and suggests that the Moraic Model (Hyman 1985, Hayes 1989, among others) might eliminate the problem altogether.

In the moraic model, segments are either associated to moras (moraic) or they are directly associated to the syllable (non-moraic). Moraic segments carry weight and impact on the prosody, while non-moraic ones do not. Unlike the onset-rime model, there is hardly any constituency internal to the syllable, potentially reducing the controversy of the medial glide to nothingness. This approach only works if medial glides never contribute to syllable weight, for if they do, one would still need to determine if the medial glide is moraic. Such a situation would merely be a restatement of the same problem found in the onset-rime model. However, glides by definition are followed by a vowel, which could in principle be associated with both moras, so it is theoretically possible to always assign the glide as non-moraic.

However, there are reasons to believe that the moraic model has not solved the problem after all. The ensuing section presents some data from rhyming that invite more careful consideration. Essentially, these patterns require identification of the position of the medial glides in such a way that even the moraic model will find difficult to avoid.
3. Rhyming Puzzle

The preceding section explains the syllable as a mental construct, clarifies the value of speakers’ intuitions with respect to reservations raised in earlier studies, and points towards why any model of the syllable must ultimately still grapple with the issue of the medial glide in Chinese.

As pointed out in Yip (2003), much of the data used for determining the position of the medial glide is pooled together from a large group of speakers, making it impossible to tell if variation is intra- or inter-speaker. In some cases, the data might not even relate to a speaker of the language. For example, the fanqie language (反切语) known as la-mi is founded on the Guangzhou dialect (standard Cantonese), but I have not been able to find any speaker of la-mi today. It would not make sense for me to infer the mental grammars of a modern Cantonese speaker on the basis of la-mi data which is not generated by that speaker.

What remains largely available is rhyming. All my informants have fairly clear intuitions of what rhymes and if something rhymes better than others. Consider trilingual speakers of English, Putonghua and Cantonese in Singapore, and the judgments of rhyming given below in (6).

(6) Judgments of Rhyming (Singapore)

a. English
   i.  steam
   ii.  team
   iii. beam

   The three words above are judged to rhyme equally.

b. Putonghua
   i.  duān 端 ‘end’
   ii.  guān 关 ‘close’
   iii. gān 干 ‘dry’

   Some speakers judge that (i~ii) rhymes more strongly than (i~iii) or (ii~iii).
   Some speakers judge that only (i~ii) rhymes.

c. Cantonese

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5 Multilinguals are common in Singapore. Many grew up learning and speaking Putonghua, English and a Chinese language at roughly the same time. These languages are used with different degrees of frequency and for different purposes though.

6 Putonghua spoken in Singapore is known locally as Mandarin. However, the term Mandarin is somewhat confusing, which is why I shall not use it here.
The judgments above appear to be quite robust across my Singapore informants who are trilinguals for English, Putonghua and Cantonese. There are two puzzling things about the above data: (i) rhyming judgments differ across languages for the same speaker and (ii) there appears to be different degrees of rhyming even for monosyllables.

In (6a), only -eam [i:m] participates in the rhyming. This can be seen from the fact that in as a pair (6ai–ii) does not rhyme better than (6ai–iii) or (6aii–iii), indicating that having more identical segments does not make the pair rhyme better than another. The situation is different for Putonghua when (6bi–ii) are judged to rhyme better than (6bi–iii) or (6bii–iii) for some, and for others only (6bi–ii) rhymes. In (6c), only the pair (6ci–ii) rhymes. What is striking about (6b) and (6c) is the presence of a medial glide.

As far as I have been able to ascertain, the situation shown in (6) applies to other similar cases for my informants. In (7) below, I provide the judgments of my Malaysian informants, and in (8) of my Hong Kong informants. For ease of comparison, the same set of words is used.

(7) Judgments of Rhyming (Malaysia)

a. English
   i. steam
   ii. team
   iii. beam

   The three words above are judged to rhyme equally.

b. Putonghua
   i. duān 端 ‘end’
   ii. guān 关 ‘close’
   iii. gān 干 ‘dry’

   The pair (i–ii) rhymes more strongly than (i–iii) or (ii–iii).

c. Cantonese
   i. [kua55] 瓜 ‘melon’
   ii. [kʰua55] 夸 ‘praise’

   Only (i–ii) are judged to rhyme.

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7 There are three Cantonese-speaking areas in Malaysia. This informant is from Serembang.
iii. [ka\textsuperscript{55}] 家 ‘home’  
The pair (i~ii) rhymes more strongly than (i~iii) or (ii~iii).

(8) Judgments of Rhyming (Hong Kong)

a. English
i. steam
ii. team
iii. beam
The three words above are judged to rhyme equally.

b. Putonghua\textsuperscript{8}
   i. duān 端 ‘end’
   ii. guān 关 ‘close’
   iii. gān 干 ‘dry’
   The three words rhyme equally.

c. Cantonese
   i. [kua\textsuperscript{55}] 瓜 ‘melon’
   ii. [k\textsuperscript{h}ua\textsuperscript{55}] 夸 ‘praise’
   iii. [ka\textsuperscript{55}] 家 ‘home’
   For some, the pair (i~ii) rhymes more strongly than (i~iii) or (ii~iii).
   For others, all three words rhyme equally.

What we are seeing here is systematic intra-speaker variation along the inter-language dimension. Regardless of whether one adopts an onset-rime model or a moraic model of the syllable, the status of the medial glide must be addressed.

4. Different I-Grammars or the Same Language

The rhyming puzzle in section 3 is easily understood if one recognizes the distinction between I-grammars and E-grammars. The informants are all trilinguals in the same set of languages; English, Putonghua and Cantonese. Other than minor lexical differences, these informants are mutually intelligible to one another in whichever languages they choose to converse in.

\textsuperscript{8} Few in Hong Kong actually speak Putonghua well enough to count as a second language. The principal informant here spent her childhood in Hong Kong then moved to Singapore where she grew into adulthood. Her judgments on English and Cantonese are identical to those I found in Hong Kong. Likewise, interviews with a few other Hong Kongers who have learnt Putonghua also appear to share the principal informant’s intuitions.
In the ensuing paragraphs, discussions will be made for Putonghua, Cantonese and English.

4.1. Putonghua

Regardless of what one thinks about the status of Putonghua, the speakers investigated either learnt it together with their first languages or in the case of the particular Hong Kong trilingual informant, had learnt it for a large part of her life. These are all highly competent speakers of the language and regard it as among their native languages.

Beginning with the speakers’ intuition for Putonghua, here is a table for comparison.

(9) Rhyming intuitions across speakers

<table>
<thead>
<tr>
<th>Pairs</th>
<th>Syllable type</th>
<th>Singapore</th>
<th>Malaysia</th>
<th>Hong Kong</th>
</tr>
</thead>
<tbody>
<tr>
<td>duān 端 ‘end’</td>
<td>CGVN-CGVN</td>
<td>Rhymes strongly</td>
<td>Rhymes strongly</td>
<td>Rhymes</td>
</tr>
<tr>
<td>guān 关 ‘close’</td>
<td>CGVN-CGVN</td>
<td>Rhymes weakly or does not rhyme</td>
<td>Rhymes weakly</td>
<td>Rhymes</td>
</tr>
<tr>
<td>duān 端 ‘end’</td>
<td>CGVN-CVN</td>
<td>Rhymes weakly or does not rhyme</td>
<td>Rhymes weakly</td>
<td>Rhymes</td>
</tr>
<tr>
<td>gān 干 ‘dry’</td>
<td>CGVN-CVN</td>
<td>Rhymes weakly or does not rhyme</td>
<td>Rhymes weakly</td>
<td>Rhymes</td>
</tr>
</tbody>
</table>

What is evident in (9) is that the G does not participate in the judgment of rhyming for the Hong Kong speaker. Only the last two segments are relevant. For the Malaysian speakers, the medial glide does have an impact on rhyming, so that identity of the medial glides between two syllables would produce a stronger intuition of rhyming than if only the final two segments were identical across two syllables. Singapore speakers appear to be a mix. Some speakers have intuition similar to Malaysian speakers, while others require that the medial syllable must be identical for rhyming to occur.

In the case of the Hong Kong speakers, one can only infer the constituency of the final two segments, i.e. VN forms a constituent, as shown in (10), but the status of C and G cannot be inferred.

(10) \( \sigma \) (Hong Kong)

? ? Rime
It is important to note that the medial glide cannot be inferred to be part of the onset on the basis of this rhyming data since all that is inferable is that it is not part of the rime. To determine if the G is part of onset, one possibility is to study alliteration, i.e. a comparison between *diao~dian* with *diao~dao*. From what I can gather of my informants both pairs *diao~dian* and *diao~dao* alliterate, with no one pair judged as more alliterative than the other. This means that one has no evidence from alliteration that C and G form, a constituent. In the absence of other evidence, the Hong Kong Putonghua syllable would be as given in (11).

(11)  
\[ \sigma \text{ (Hong Kong)} \]
\[ \text{Rime} \]
\[ C G V N \]

It may well be that (11) needs revision, and it is possible that other evidence could lead one to postulate a different structure. All I am saying here is that rhyming and alliteration only provide strong evidence for the constituent of VC.

Moving on to the Malaysian speakers of Putonghua, we find that the medial glide participates in rhyming. A viable model of the Malaysian syllable would be as given in (12).

(12)  
\[ \sigma \text{ (Malaysia)} \]
\[ \text{Onset} \]
\[ \text{Rime’} \]
\[ \text{Rime} \]
\[ C G V N \]

The structure in (12) is identical with the typical structure used in classical Chinese phonology where the Initial (声母) and Final (韵母) form the two main components of
the syllable with the Final also dominating the medial and the rime (韵).

Unless one accepts the model in (12), it is hard to account for why the medial glide would create a stronger impression on rhyming. In other words, syllables that have the same rime will be judged to rhyme, and syllables that have the same rime’ will be judged to rhyme more strongly. As a note of precaution, alliteration would not be useful in the case of Malaysian Putonghua since diao–dao would alliterate anyway with the onset being identical. Hence, diao–dao alliteration would not provide arguments for constituency of CG. However, if speakers judge diao–dian to alliterate better than diao–dao, that would be a problem for (12). As far as I have been able to determine, this is not true.

Finally, Singapore. Some of the informants have similar judgments as the Malaysians, in which case, they would have the structure in (12). This is hardly surprising since Malaysia and Singapore are very close neighbors with many people having families or relatives residing in both countries.

For those who require identity of the medial for rhyming, a number of models are possible. One option is to use (12) and stipulate that rhyming applies at the level of rime’. Another option is to have a ternary branching rime so that G, V and N are sisters dominated by the same rime node. The third option is to have the GV as the nucleus and N as the coda. Either of these three options would be consistent with the rhyming intuitions.

The predictions made by the options are different, and one can check them. I shall not delve into them here, since the point to be made presently is that different speakers of the same language can have very different mental grammars.

As can be seen in the preceding paragraphs, the differences between the Hong Konger, Malaysian and Singaporean can be accounted for by differences in how their I-grammars organize the syllable. Given that the speakers are very different people, it would not be logically coherent to attempt a search for the single syllable structure for Putonghua.

4.2. Cantonese

This section moves on to Cantonese. While it is widely known that Cantonese is a native language among the majority of Hong Kongers, there is no lack of native Cantonese speakers in Malaysia or Singapore. In (13) below, I provide a summary of the rhyming judgments.

(13) Rhyming intuitions across speakers

<table>
<thead>
<tr>
<th>Pairs</th>
<th>Syllable type</th>
<th>Singapore</th>
<th>Malaysia</th>
<th>Hong Kong</th>
</tr>
</thead>
<tbody>
<tr>
<td>[kua⁴⁴] 瓜 ‘melon’</td>
<td>CGV–CGV</td>
<td>Rhymes</td>
<td>Rhymes</td>
<td>Rhymes</td>
</tr>
</tbody>
</table>
When one compares (13) with (9), it is evident that judgments of rhyming appears to be exactly the same for the same speakers across Putonghua and Cantonese. Consequently, the syllable structures proposed for Putonghua in the preceding section can be extended to Cantonese.

The coincidence across Putonghua and Cantonese for Singapore, Malaysian and Hong Kong speakers respectively is remarkable, which points rather strongly at the idea of a consistent I-grammar for each speaker, rather than a consistent representation for a language (E-grammar).

**4.3. English**
The last piece of the puzzle is English, where Hong Kong, Malaysian and Singaporean speakers appear to agree on what rhymes and what does not. This is hardly puzzling at all since the English stimuli set given *steam, team, beam*, does not involve glides. Naturally, one would expect the speakers from all three countries to judge the rhyming to be equally strong across any two subpairs.⁹

**5. Discussion and Limitations**

**5.1. Importance of Recognizing the I-Grammars**
From the careful study of rhyming patterns, it is easy to see how dangerous it is when one does not make clear the object of linguistic study: I-grammar or E-grammar. The syllable is a mental construct and hence must be studied as such, otherwise, the data would appear to be conflicting, leading the researcher into a serious of dilemmas.

For this reason, the true generativist is wary about pooling data of different

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⁹ Some of us may be curious about words like *tune, few or swipe*. As far as I have been able to determine for the speakers in the three countries, *tune* and *few* are probably [tiun] and [fiu] respectively so that the [i] is part of the nucleus rather than the glide. Words involving a labial glide like *swipe* however are more likely to have [sw] as the onset, so that [w] is a glide.
individuals together, and may choose instead to work in-depth with principal informants to uncover the I-grammar of that individual. Research does not stop here of course, for if one wants to know something about the typical speaker of some community, one should check the intuitions of a few other speakers for convergence with the principal informant. This is in fact what is seen in the situation presented in sections 3 and 4, where speakers of the same language (say, Cantonese or Putonghua) belonging to different communities (Singapore, Malaysia or Hong Kong), can have very different intuitions. It would be unwise to discard these intuitions as inaccurate or to doubt the linguistic competence of these speakers, especially given the clear patterns of their judgments and the robustness of the intuitions. It is perhaps best to understand that individuals have different I-grammars because their language acquisition experiences have been different. People belonging to the same social community are likely to have more similar acquisition experiences than those belonging to different communities, consequently, people within the same community are more likely to have similar judgments. This explains the graying out effect of languages in general where communities of countries at a political border can communicate even if they claim to speak different languages. In Southern India for example, Tamil is spoken in Tamil Nadu and Malayalam is spoken in Kerela, but at the border, the languages appear to blend and people there speak Talayalam. Until one recognizes the reality of I-grammars, one would continue to be fazed by variability of linguistic data and conflicting evidence across speakers.

5.2. Is I-grammar Singular?
Prima facie, the data presented in sections 3 & 4 suggest that each individual, no matter how multilingual has only one I-grammar. This can be seen from how the Singapore speaker had the same judgment for rhyming regardless of the language, likewise the Malaysian or the Hong Konger.

However, it is premature to make such a conclusion. Rhyming data is just one among many types of data that help us explore the mental linguistic system. While the study here points us in that direction, one should not be too hasty in jumping to such conclusions. After all, if one looks more carefully at the English data, these speakers allow onset consonant clusters (e.g. *steam*) which are not found in either Putonghua or Cantonese. Does this indicate that there can be different I-grammars for the same individual or does this indicate that multilinguals simply have a lexicon that is structured in such a way as to put lexemes into subgroups corresponding to social perceptions of what word belongs to what language?

5.3. The Study of Chinese Syllable
The rhyming data presented comes from Cantonese, Putonghua and English spoken in three different places, and is hardly representative of all Chinese languages. However, the point that is being made here is that the set of all Chinese languages is not a coherent I-grammar. Given that the syllable is part of I-grammar, any attempt to discover the structure of the Chinese syllable is doomed to conflicting evidence that cannot find satisfactory resolution. In fact, Sun’s (2006) rather comprehensive study ended up concluding that half the data argue for the medial glide as part of onset and the other half argue for the medial glide as part of the rime. The dilemma eventually forced him to conclude that the medial glide did not belong to either, which ultimately became inconsistent with all the pieces of evidence he gathered.

However, once one recognizes that the syllable is a mental construct, the variation is expected since each individual will have distinct I-grammars. This does not mean that a community will not have a language, rather the community’s language will be the overlapping parts of the various I-grammars of the individuals that form that community. The community’s linguistic behavior can then be studied with the help of corpora.

5.4. Limitations
As mentioned before, the present paper has dealt largely only with rhyming data and may not have probed deeply enough into the intuitions of each speaker with more carefully constructed experiments. The conclusions drawn about syllable structures are thus founded only on this singular strand of evidence.

However, facts cannot be denied, and any future account must take into consideration the patterns of rhyming no matter what new evidence turns up. Rhyming is a universal phenomenon with fairly consistent and strong intuitions found in any speaker of any language. While there may be grey areas, it is not something that should be dismissed too hastily.

6. Conclusion
This paper concerns itself with the issue of determining the syllable structure in Chinese, though it ultimately explains that such an attempt must be guided by an understanding that the syllable is a mental construct (i.e. part of I-grammar). Consequently, explorations must be made with an awareness that different speakers of even the same language may have distinct syllable structures. The relevance of this point is made with a more careful study of intuitions about rhyme in Cantonese, Putonghua and English as spoken by trilinguals in Singapore, Malaysia and Hong Kong. The results show that even though they speak the same languages, the speakers have distinct intuitions that indicate very different configurations of their syllables.
This does not mean that one should be excused from a rigorous study by simply attributing all variation to individual differences. Rather, one should exercise even more rigor by carefully discerning inter-speaker variation from intra-speaker variation. Inter-speaker variation produces tendency patterns found in a community due to pooling of language behaviors of various individuals, and may not lend itself to a coherent analysis for mental constructs such as the syllable.

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