Some Notes on Phonological Description, with Special Reference to Sarawak Malay

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ABSTRACT

This paper presents a preliminary observation on some aspects of the phonology of Sarawak Malay and an attempt at accounting some selected phonological processes within the framework of Lexical Phonology (Kiparsky 1982, Mohanan 1982, 1986). It is shown that the theory, which recognizes three significant levels of representation, namely underlying, lexical, and phonetic representations, not only provides for a directionality in the relationship between the levels, but also has the capacity to apply rules in the Lexical Module, the Postlexical Module, or both. In this way, Lexical Phonology, unlike Phonemic Theory, is able to allow the same phonological rule(s) to apply as part of word-formation and as part of phonetic details, thus enabling one to express phonological processes, such as devoicing of obstruents, very neatly, even more so than Generative Phonology. Also by explicitly recognizing the level of Lexical Representation, the theory aptly gives due recognition to native speaker judgements.

ABSTRAK

Kertas ini mengemukakan tinjauan awal tentang beberapa aspek fonologi bahasa Melayu Sarawak serta usaha memberi huraian terhadap beberapa proses fonologi mengikut pendekatan kerangka teori Fonologi Leksikal (Kiparsky 1982, Mohanan 1982, 1986). Teori berkenaan, yang menyediakan tiga aras representasi, iaitu aras dalaman, aras leksikal, dan aras fonetik, tidak hanya menyediakan arah dalam ikatan hubungan antara ketiga-tiga aras tersebut, bahkan juga berkeupayaan melaksanakan rumus baik dalam medul leksikal, posleksikal, atau kedua-duanya. Dengan demikian, pendekatan Fonologi Leksikal, berbeza dengan pendekatan Teori Fonemik, membolehkan rumus fonologi yang sama dilaksanakan baik dalam proses pembentukan kata ataupun untuk menentukan perubahan perincian fonetik, sehingga huraian yang dilakukan terhadap proses fonologi, seperti nyahsuara obstruen menjadi lebih sempurna, walaupun jika dibandingkan dengan pendekatan Fonologi Generatif. Juga dengan menerima kewujudan aras Representasi Leksikal, teori ini jelas mengenal pasti daya penentu penutur asli.

INTRODUCTION

In what follows, I suggest some areas of research in phonology which I believe are capable of yielding interesting insights. The topics to be covered, when taken together, constitute a large area of study, though here I do not claim to do anything more than to survey the issues and to point the reader in the direction of further research. While I will not be making any new theoretical proposals, the combination of interests and the relative emphasis I place on the various areas of study are original and reflect my own preferences. Ultimately, then, what follows must be seen as a personal statement concerning the kinds of issues which I find interesting and significant in phonology. I present them here in the hope that they may also arouse the interest of readers who have not, in the past, considered these topics as worthy of attention.

For exemplification of my points I will draw upon Sarawak Malay. The languages of Sarawak and Sabah are a gold mine for the linguist, containing a wealth of fascinating facts which need to be documented and analyzed. While I, as an outsider to these speech communities, can observe certain linguistic phenomena, ultimately it is the native speakers themselves who are best placed to observe and analyze these phenomena. If some of the suggestions for further research which are found below can motivate more native speakers to research their own language in a more systematic and professional way, then this paper will have achieved its goal.

THEORETICAL FRAMEWORK

When one comes to describe in a systematic way the characteristics of a language, one must make clear what assumptions about phonological structure are being made. Even if one does not intend to enter into a very detailed discussion of the phonology of a language, one should nevertheless have some conception of the overall structure of the phonology. Otherwise, the statements one makes about phonology may lack coherence or may appear to be a random collection of facts. There is no shortage of theories of phonology from which one might choose. While the abundance of theories makes for a lively, competitive atmosphere for linguistics, it also means that it is very difficult to decide which theoretical model to follow. This is so, not only for persons entering the field of linguistics, but also for professional linguistics who wish to write their phonological accounts for the largest possible audience. Of course, not all linguistics aim to reach the largest possible audience – some prefer to restrict their audience just to those who work within the one framework.

I believe there is much that is good and satisfying in many of the theories that have been proposed in the course of this century and my natural inclination is to seek a way of doing phonology which tries to

reconcile the theories and their differences. More particularly, it is good if one can in some way reconcile the two leading theories of phonology which have been influential in the recent history of linguistics. These two theories are Phonemic Theory (which has its origins in the nineteenth century) and Generative Phonology which emerged in the 1950's. Phonomic Theory has intuitive appeal because the phonemes of this theory fit fairly well with native speakers' feelings about the structural units of their language, although the 'fit' between linguists' phonemes and native speakers' intuitions is not always perfect. Generative Phonology, while rejecting the phonemes of classical Phonemic Theory, nevertheless has appeal to many linguists because it expresses very neatly the full range of processes observable in the phonology of language.

Fortunately, we are not forced to choose between these theories since there is now a model of phonology which in many ways combines the appealing aspects of both Phonemic Theory and Generative Phonology. The theory which I am referring to is Lexical Phonology, as described in Kiparsky (1982), Mohanan (1982), and Mohanan (1986). It is not my intention here to give a full account of their theory – I will do no more than give a very brief overview of phonological structure within this theory, as it applies to Sarawak Malay. For an introduction to the theory proper, I particularly recommend Mohanan (1986).

Three significant levels of representation are distinguished:

1. The Underlying Representation shows the component morphemes of a word using [ ] to demarcate morphemes and words. For example, the Underlying Representation of the Sarawak Malay transitive verb 'give' would be (something like) [[ŋ][bəɣi]] made up of a prefix [ŋ] and a stem [bəɣi].

2. The Lexical Representation shows the form of a word after the word-formation rules have applied. The morpheme boundaries within a word are not indicated in the Lexical Representation. For example, the Lexical Representation of 'give' after the relevant rules have combined the constituent morphemes is [məɣi], showing only word boudaries.

3. The phonetic Representation will indicate full phonetic details of words as spoken in isolation or in connected speech. It may be that the best way to show such detail involves multiple simultaneous descriptions and not just a sequence of phonetic symbols. For present purposes however, the usual conventions of phonetic transcription may apply, resulting in a Phonetic Representation such as [mə̃ɣi], where [ ], as above, indicates word boundaries.

As implied in the above description, there is a directionality in the relationships between the levels: The Lexical Representation results from application of rules to the Underlying Representation and the Phonetic Representation similarly is the result of applications of rules to the Lexical Representation. Lexical Phonology views the phonological rules as a

separate component and each rule in the ordered list of rules is specified as
applying at certain point (s). All the phonological operations which are
needed to convert Underlying Representation to Lexical Representation
make up the Lexical Module, while those operations which convert Lexical
Representation to Phonetic Representation constitute the Postlexical
Module. For each rule, then, one must specify whether the rule applies in
the Lexical Module, the Postlexical Module, or both. All this can be
summarized in the following schematic diagram:

Underlying Representation e.g. [[ŋ][bǝɣi]]

Phonetic Representation e.g. [mə̃ɣi]
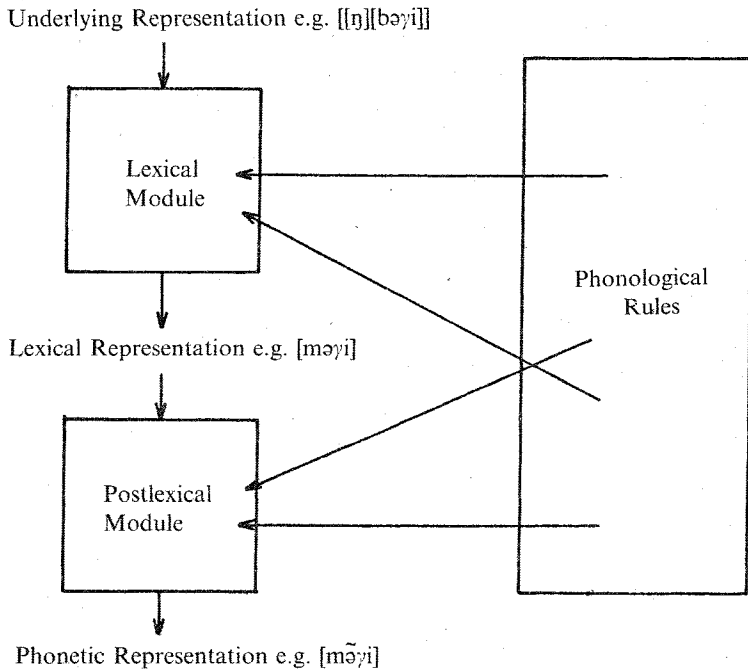
It can be seen that Lexical Phonology, like Phonemic Theory,
recognizes a level of representation (Lexical Representation in Lexical
Phonology, the phonemic level in Phonemic Theory) which native speakers
can easily accept. It is the level at which the distinctions between sounds
which a native speaker is aware of are expressed. Unlike Phonemic Theory,
however, Lexical Phonology allows the same phonological rules to apply as
part of word-formation and as part of the phonetic detail processes. In this
way, Lexical Phonology is not subject to a common criticism of Phonemic
Theory, namely that one and the same phonological process (e.g. devoicing
of obstruents) may have to be stated twice – once as a morphophonemic
rule and once as an allophonic rule. Lexical Phonology allows one to
express phonological processes economically and elegantly, even more so

than Generative Phonology. At the same time, due recognition is given to native speaker judgements by explicitly recognition the level of Lexical Representation. In other words, Lexical Phonology includes the best of both approaches while avoiding the shortcomings of each. For this reason, I see it as a very attractive theoretical model in which to present a systematic account of phonology.

THE LEXICAL MODULE

Following Mohanan (1986), I adopt the principle that any rule application requiring morphological information must take place in the lexicon. The most important rules in this category are those which derive the lexical representations of verbs, as seen in the following examples:

Stem	*Derived Form*	
pupok	mupok	'doing something slowly'
taŋgaɣ	naŋgaɣ	'watch, look'
kəɣat	ŋəɣat	'cut, slice'
cabut	ñabut	'pull up'
bəɣi	məɣi	'give'
dindin	nindin	'make a wall'
gaɣu?	ŋaɣu?	'scratch'
sepak	ñepak	'kick'
halo	ŋalo	'drive away'
meɣ	ŋəmeɣ	'knead'
ajaŋ	ŋajaɣ	'teach'
limpas	məlimpas	'drive away'
ɣuah	məɣuah	'empty, urinate'

I will not attempt to give a formally precise account of these changes here. For the forms above the dotted line, however, the simplest account is one which derives these forms from underlying representations in which a nasal prefix is affixed to the stem. The appearance of before vowel-initial stems suggests as the underlying representation of this prefix. The appearance of before nasal-initial stems suggests in addition an epenthesis rule. For the remaining examples, one might simply posit a coalescence rule in which the nasality of the prefix and the place of articulation of the stem-initial consonant combine to give the desired result. Alternatively the transitive forms might be seen as resulting from nasal assimilation followed by deletion of the oral consonant. These two approaches are sketched below:

1 – Step Approach

2 – Step Approach

ŋ] [b

ŋ] [b

nasal
manner
of
articulation

bilabial
place
of
articulation

[m

↓

m] [b

↓

[m
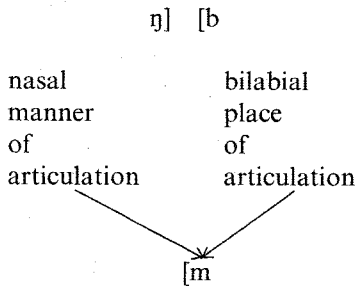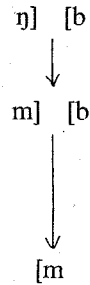
The 1-step approach is the simpler, but the 2-step approach is also appealing because its intermediate step exploits a pervasive phonological process in Sarawak Malay, namely nasal assimilation. I present the two possibilities here without claiming that one is superior over the other. What is important, however, is that the conversion of the oral to nasal consonant makes crucial use of morpheme boundaries. The nasal replacement does not take place morpheme-internally, as can be seen in the examples (məlimpas, not *məlimas).

In addition to describing the changes to stem-initial consonants, it is also worthwhile to compare each change in terms of its generality. Among obstruents, for example, p, t, k, c, and s participate in the nasal replacement process in a highly regular way, while the voiced sounds, b, d, g, j participate in a less predictable way. With these voiced obstruents, one may find instead of nasal replacement (e.g. məɣi 'give') nasal addition only (e.g. məɣi). Nasal addition is in fact the only possibility for a number of forms recorded in the DBP vocabularly list (e.g. baok-mbaok 'hit', not *maok). Using vocabularly list, it is possible to calculate percentages of verbs showing nasal addition only or nasal replacement only (ignoring a small number of items which allow both possibilities). Since differences between Sri Aman and Kuching speakers are also indicated in the list, we may calculate the following comparative percentages:

	Sri Aman	Kuching
m	78%	95%
b ~		
mb	22%	5%
(23 examples)		
n	40%	60%
d ~		
nd	60%	40%
(5 examples)		

ŋ	92%	97%
g ~		
ŋg	8%	3%
(38 examples)		
ñ	52%	60%
j ~		
ñj	48%	40%
(23 examples)		

A close examination of exact percentages like the above reveals important facts about Malay dialects. When one does no more than simply list the occurring patterns, it may appear the Bahasa Malaysia and Sarawak Malay are quite different with respect to which consonants undergo nasal replacement. Closer examination reveals that the voiced obstruents in Sarawak Malay are *not* as regular as their voiceless counterparts with respect to nasal replacement. This has a parallel in Bahasa Malaysia where the voice obstruents *never* undergo nasal replacement:

	Bahasa Malaysia *derived verbs*	*Sarawak Malay* *derived verbs*
p,t,s,k, in stem	məm-, mən-, məñ-, məŋ-	m-, n-, ñ-, ŋ-
b,d,g, in stem	məmb-, mənd-, məŋg-	m/mb-, n/nd-, ŋ/ŋg-

In this way, a deeper point of similarity is brought out between Bahasa Malaysia and Sarawak Malay.

Where there is a very pervasive and highly regular pattern of alternation, exceptions to the rule become particularly interesting. These are a few exceptions to the nasal replacement rules and these deserve closer attention. One example concerns the stem puɲas 'wash (face etc.)'. It is significant that this is the *only* p- initial verb in the data collected by DBP which alternates with mp instead of m. Further interviewing of native speakers showed in fact some speakers could accept the expected m form, muɲas. In any case, this is the only p-initial verb about which there was any conflict of judgement and one is naturally led to ask why this should be the case. Presumably, it is related to the fact that there also exists a verb buɲas – muɲas 'deflower a virgin'. The avoidance of muɲas to mean 'wash' could possibly be seen as an attempt to avoid a homophonic clash with this other verb. This kind of phenomenon has been studied by Farid M. Onn (1980) with respect to the nasal replacement of c-initial verbs in Johor Malay.

A second exception is the alternation acok-nucok 'stab downwards'. At first glance this appears quite odd, since the addition of ŋ is otherwise perfectly regular with vowel-initial stems. Some light can be shed on this strange fact, however, when one realizes that there is a related verb cucok-ñucok 'stab sideways' where the nasal replacement is of the predicted type. Nucok is therefore probably best understood as a semantic and phonological variant of ñucok, with acok created as a new stem to the derived nucok (though still irregular). The semantic difference between the two verbs is an interesting one which is lacking in Bahasa Malaysia which has only cocok 'stab'.

Another process which makes reference to morpheme, as opposed to word boundaries is the optional replacement of a and ɔ morpheme-final position:

Rounding: a → ɔ/ —]

This process appears in the speech of Sri Aman speakers. For some of these speakers, it is virtually obligatory in which case one might propose ɔ in the underlying representations. There is, however, recorded material collected by DBP of Sri Aman speakers who sometimes use a and sometimes use ɔ. It is for these speakers that one may formulate an optional Rounding rule. Examples of forms which undergo this process are:

dua ~ duɔ	'two'
tua ~ tuɔ	'old'
ɣaja ~ ɣajɔ	'king'
sama ~ samɔ	'similar'

Rounding is also found before the [ña] clitic, in which case the Rounding has applied at the end of a morpheme as well as at the end of a word. So, for example, from an underlying [[kata][ña]] 'what he/she said', one speaker in a single stretch of discourse produced kataña, kataña and katañɔ. By having Rounding apply in the Lexical Module in the context of ____], the rule will correctly apply at the end of each morpheme. Were it to apply in the Postlexical Module only, then the context of ____] would restrict the rule application to word-final position which would be incorrect.

THE POSTLEXICAL MODULE

Phonological rules which make no reference to morphology must be examined individually in order to determine whether they apply in the lexical module, the postlexical module, or both. If one adopts the second approach to nasal replacement discussed in section 3, i.e. nasal assimilation followed by deletion of stem-initial obstruent, then the nasal assimilation

must apply before the obstruent deletion which is dependent on the presence of a morpheme boudary. That is, nasal assimilation must apply before at least one lexical rule application. Nasal assimilation must therefore be specified as applying in the lexical module.

One way of establishing a postlexical application of a rule is to show that the rule in question can apply across words. The construction of sentences is seen as taking place after individual words have been formed and any process which depends on the juxtaposition of two words applies in the postlexical module. An example in English is the flapping of t to D, which is found not only word-internally (dəvɪnəDi for *divinity*) but also across words (hɪDəm for *hit him*). One candidate for postlexical rule application in Sarawak Malay is nasalization of vowels following a nasal consonant, evidenced in such forms as:

Phonetic Representation

mə̃ɣi	'give' (< bəɣi)
nĩdoɣ	'sleep' (< tidoɣ)
ŋə̃mẽɣ	'knead' (< meɣ)
mãhãp	'sorry'

The last form cited above shows also that nasalization spreads across h. The verbal forms show also that nasalization must be allowed to apply after nasal replacement. But, by itself, this does not conclusively prove that vowel nasalization has to apply postlexically. It could be ordered after nasal replacement but still within the lexical module. It is necessary, therefore, to test the application of vowel nasalization across words for conclusive proof of postlexical application. Test cases are phrases like:

Lexical Representation		*Phonetic Representation* (?)	
ləmbeŋ	itam	(a)	ləmbeŋitam
spear	black		or
		(b)	ləmbeŋĩtam
suŋe	itam	(a)	suŋẽitam
river	black		or
		(b)	suŋẽĩtam
ɣumah	itam	(a)	ɣumãhitam
house	black		or
		(b)	ɣumãhĩtam

In the time available to me and in the conditions in which I interviewed Sarawak Malay speakers, I was not able to fully satisfy myself about nasalization across words. It did seem that either the (a) or (b) pronunciations were possible, but this could have been due to an eagerness on the part of the speakers to produce the variants I was suggesting to them. One would have to listen to much more natural speech to be sure about this phenomenon. Also, it is not a very easy difference to hear and one must accustom oneself to the voice quality of speakers. Ideally, one would like to have the judgements of linguistically trained native speakers. The application of rules across lexical items is something which is now receiving much more attention than previously and many interesting phonetic facts have come to light in this way. Here I am not able to do anything more than suggest this as an important area of research.

Other processes which are probably postlexical in their domain of application are: stops being unreleased at the end of a syllable; insertion of glides between vowels (diam ~ diyam 'reside', 'live'); vowel rounding in the presence of a contiguous labial consonant.

PLAY LANGUAGES

It is not only the language of adults engaged in ordinary adult conversation which provides us with information about the phonology of a language. One should be prepared to collect and analyse phonological facts from the full range of language activity which takes place in a speech community. In determining the phonological structure of a language, there is no reason why any one mode of language must be given priority over other modes. Formal and informal varieties of languages, stylized varieties (as used in traditional drama, opera, wayang), children's language, language used in speaking with children, etc – all of these are relevant to a full understanding of the phonology of a language.

One type of language activity which can yield interesting insights for phonology is the use of play languages amongst certain groups of individuals. These are 'secret' languages derived from Sarawak Malay by deletion, insertion or transposition of parts of words. Play languages of this sort are not uncommon amongst speakers of Malay languages and there are many variations in the rules for deriving the play languages. One example of such a language was provided by a resident of Sungei Periuk who referred to this play language as Bahasa Tebalit. Some sentences in the ordinary form of her dialect and in the play form are given below:

masa to? aku tiŋgal di Kuciŋ. 'At present I live in Kuching.'
→   sapa to?po? kupu ŋgalpal dipi ciŋpiŋ.

    aku diam di səuah γumah. 'I live in a house.'

→ kupu yampam dipi wahpah mahpah.

    kadaŋ-kadaŋ sida? ia bəγenaŋ. 'They swim everyday.'

→ daŋpaŋ da?pa? yapa naŋpaŋ

In this play language, two rules are involved:

1. Delete all phonological segments in a word up to the last syllable;
2. Attach a rhyming syllable, beginning with p, to the right of each word.

e.g.

ma. sa	→	sa	→	sapa
a. ku	→	ku	→	kupu
ku. ciŋ	→	ciŋ	→	ciŋ piŋ
di	→	di	→	dipi
bə. γe. naŋ	→	naŋ	→	naŋ paŋ

In so far as the rules refer to the last syllable of a word, the play language provides indirect evidence for the location of syllable breaks. Consider, for example, tiŋgal which conceivably could be syllabified in any of the ways shown below (using branches to show the membership of syllables):

(a) ti . ŋgal   (b) ti ŋ gal

(c) tiŋ . gal   (d) tiŋg . al

Since the informant produced the play form *ŋgalpal*, it is clear that *ŋgapl* is being taken as forming a syllable in its own right with ŋg as the onset. This is consistent with syllabification as in either (a) in which ŋ belongs only to the second syllabel or (b) in which ŋ is ambisyllabic functioning simultaneously as the coda to the first syllable and the onset to the second *syllabel*. While the evidence of the play language cannot settle the question of whether it (a) or (b), we can safely exclude (c) and (d) as possibilities. This is a significant result, since we cannot predict on the basis of any universal principles that this would be the case. Compare, for example, English *finger* which is syllabified like (c) above, i.e. fiŋ.ger.

    Note, too, the play forms *diam > yampam* (not *ampam) and *səbuah > wahpah* (not *ahpah). In these cases, the play language is derived from the phonetic representations diyam and səbuwah, rather than what is probably the lexical representations *diam* and *səbuah*.

Since it is the last syllable of each word which is retained in the play form, we also have indirect evidence for word boundaries in the operation of the rules. Notice that *kadaŋ-kadaŋ* is rendered as the single item *daŋpaŋ* in the play language, thereby showing that the speaker takes *kadaŋ-kadaŋ* to be indeed a single word even though it is clearly a reduplicated form.

One must be cautious in drawing conclusions about the phonological structure of Sarawak Malay on the basis of play languages used by a small group of people (a single kampung for example). The more play languages we investigate, however, the more confident we can be about generalizing the findings. I believe there are many insights into the phonology of Sarawak to be gained by extensive and intensive study of such play languages.

VARIATION

It is impossible to describe the phonology of a language without making some reference to variation. One of the most obvious types of variation is the regional variation which I have alluded to already. This is exemplified by contrasts such as *namɔ* 'name' in Sri Aman vs. *nama* in Kuching. James Collins has carried out a fascinating study of some of this regional variation (see Collin 1985), based on elicitation of words and making very effective use of the Swadesh Word List. Rather than discuss such regional variation, I would like to discuss here some evidence of stylistic variation which can be found in the material collected by DBP.

The material consists of numerous stories and folk-tales as told by Sri Aman speakers and tape-recorded by DBP officers in the field. The material consists, therefore, of fluent and extended stretches of discourse, largely monologues on the part of the Sri Aman speakers, but with a certain amount of conversation with the DBP officials also present.

I was interested in the alternative pronunications of morpheme final *a* in the Kuching dialect compared with *ɔ* in the Sri Aman dialect. This contrast was well-known to Sarawak Malay speakers. When I asked Kuching speakers to imitate Sri Aman speakers and to emphasize the special features of the Sri Aman variety, they made a point of pronuncing *ɔ* instead of a in the morpheme-final position. I had also been told that Sri Aman speakers *always* pronounce what appears as morpheme-final a in Kuching as *ɔ*. In order to check on this claim, two officers from DBP and I noted all instances of name-type morphemes in a selection of Sri Aman stories. For each occurrence of such a morpheme, the pronunciation was noted – whether it ended in a or *ɔ*. There was a total of 128 such forms – the clitic ña/ñɔ accounting for a sizeable number of the instances. Of these 128 forms, 78 (or 61%) were pronounced with morpheme-final *ɔ*, while the remaining 50 (or 39%) were pronounced with a.

The explanation for this mix of a and ɔ probably has to do with the accommodation of the Sri Aman speakers to the language style of the DBP officers. It seems that Sri Aman speakers do use a much higher percentage of ɔ's (possibly 100%) in a more natural and less self-conscious setting – a setting which I was unable to observe. Kuching speakers, on the other hand, appear to use 100% of a's both when speaking dialect and Bahasa Malaysia. The Sri Aman speakers appear, then, to have shifted their style in the direction of the Kuching dialect and Bahasa Malaysia. (Since Kuching dialect and Bahasa Malaysia both have final a's, it is impossible to tell, on the basis of this evidence alone, whether Sri Aman speakers are adjusting to the Kuching standard or Bahasa Malaysia.) One can represent the situation as follows:
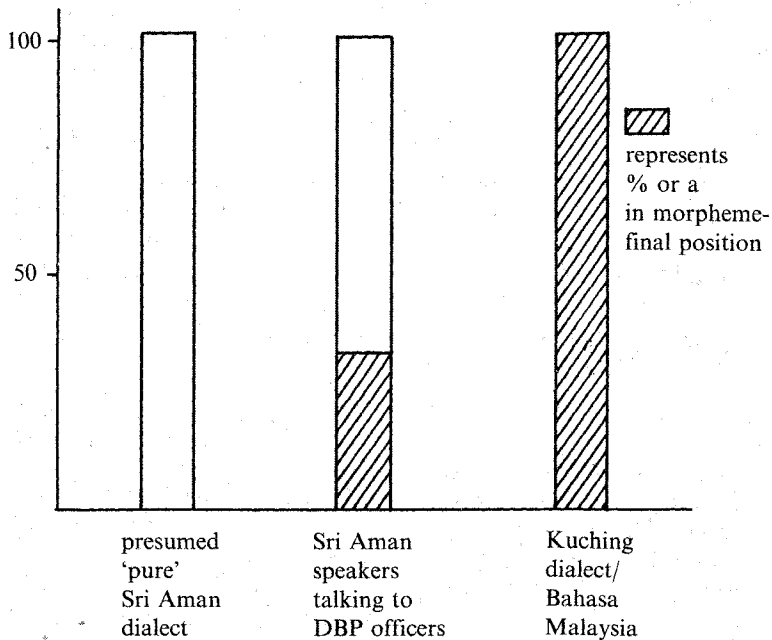
If I am correct in my characterization of the situation, then the accommodation shown by Sri Aman speakers has significant implications for language planning in Sarawak. It can not be assumed that speakers of a relatively minor speech variety will automatically shift to the major variety in the presence of representatives of the major variety. Indeed, it is by *not* shifting to the style of a national standard that speakers can (indirectly) assert their ethnic or regional identity when such speakers *do* shift their style, it shows (indirectly) that such speakers value the target language highly. In the case of the Sri Aman speakers, it seems we do have an

indication that these speakers are willing to recognize the Kuching variety and/or Bahasa Malaysia as more prestigious and that they are willing to adapt their own speech style in favour of the urban or national standard.

Is is likely that the use of nasal replacement (bəɣi > məɣi) is also subject to stylistic variation, similar to what happens in the case of the a-ɔ variation. In the same Sri Aman stories referred to above, one and the same verb may sometimes appear with nasal replacement and sometimes without. Further research is necessary to determine whether the use of nasal replacement varies proportionally with the formality of the setting.

The use of alternative forms to express the same dictionary meaning (as in nama-namɔ, bəɣi ~ məɣi) should not be dismissed as annoying inconsistency. As suggested above, such variation within the one speech community or even within the one individual may be indicative of speakers' attitudes and evaluations of different language varieties. The study of such variation may therefore yield insights into the linguistic mentality of a speech community which would otherwise be difficult to obtain.

ACKNOWLEDGEMENT

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