Checking Vowel Contrasts by Rhyming

DAVID D. THOMAS

Complex vowel systems such as are frequently found in Vietnam require more refined methods than just simple hunting for minimal pairs in order to establish phoneme indentities and contrasts. Random minimal pairs are deceptive, as the whole system may change form in different environments. [1] My own work on Chrau phonology could have been shortened by a couple of months if I had used a rhyming method from the start, rather than relying on minimal pairs.

Rhyming methods were started independently by two or three investigators in Vietnam, but were refined into a useful tool especially by Richard Phillips in his work on Hrê, Sedang, and Brôu.[2]

The rhyming method is based on the principle that a total system must be seen in a single frame, as different frames may produce different systems. Ideally this would require that a full vowel set be found in every minimal environment. But this is an impossible requirement. To find a full set of 20-40 vowels (or vowel sequences) in just a single minimal environment seems nearly impossible, [3] much less can thay be found for every environment. In order to compensate for this lack of minimal sets, quantity of semi-contrastive material is substituted analytically for the quality of minimally-contrastive sets.

It has been observed that the final consonants in the monosyllabic or semi-monosyllabic languages of Vietnam usually have more effect on the vowel system than do the initial consonants.[4] Final consonants are

1 Cf. David Thomas, ' Remarques sur la phonologie du Chrau ', *Bull. Soc. Linguistique* 57 : 175-91 (1962) ; also Dwight Gradin, ' Consonantal Tone in Jeh Phonemics ', in this volume ; and Eva Burton, Nancy Costello, & Judy Wallace, ' Katu Phonemes ', to be published. Note the five consonant systems given for Palaung in H.L. Shorto, ' Word and Syllable Patterns in Palaung '. *BSOAS* 23 : 552-53 (1960).

2 Unpublished. The principle is of course not new. James Cooper has called to my attention the Chinese rhyme book *Ts ' ie yun* of 600 A.D. (cf. Karlgren, *The Chinese Language*, p.35.)

3 The contrastive set given by Watson for Pacŏh is the nearest to a full minimal set that has been reported yet. Richard Watson, ' Pacŏh Phonemes ', in *Mon-Khmer Studies I*, pp. 135-48 (1964).

4 The customary Chinese distinction between initials (initial consonants) and finals (vowels and final consonants) reflects this same close-knit dependency between vowels and final consonants.

usually fairly simple and unambiguous. So assuming that the initial consonants will have relatively little effect on the total vowel system, we identify and contrast vowels in sets in terms of the final consonants with which they occur. Vowel shiftings, neutralizations, and system changes can then be kept under control. Occasional cases where initial consonants affect the vowel analysis will usually show up fairly plainly. The simple general procedure is as follows :

Prepare a looseleaf notebook in which every presumed vowel phoneme is combined with every final consonant, one combination per page, then alphabetize these in terms of the final consonant : *a, e, ê,... ɯ, ah, eh, êh,... ɯh, ak, ek...* etc. (Tonal languages would have to take tones into account, though tones would be less apt to alter the vowel system.) Enter all words on these pages according to their presumed vowel and final consonant, then check with an informant. Have the informant repeat the words in pairs or groups, while the investigator listens carefully to make sure that the vowel is identical. Occasionally contrast them wih words from lists containing neighboring vowels, lest false distinctions be made. Be ready to discard or add pages as the rhymes indicate. When several words have been adjudged to have the same rhyme, have them repeated immediately after each other with as little interruption as possible. (The shorter the time between words, the easier it is to hear the contrasts.)

Most informants seem to get the hang of this procedure quite readily, so that after a couple of sessions of the linguist having to make the same/different decisions the informant can often start identifying sames and differents himself, or can pick out the one in a set of key words which it rhymes with. If on rechecking on different days the informant is consistent in his responses, and the linguist's ear corroborates those responses, it would give confidence that the informant has really caught on to what he is doing, and this can speed up the whole process considerably, with just occasional rechecking. Judgments of a native speaker are more reliable than judgments of a linguist. Rhyming should be rechecked frequently, as first judgments are often erroneous. Even the informant's first judgments are sometimes erroneous. But with frequent rechecking as new words are added, any questions should resolve themselves.

It is best to stick with one final consonant, checking out its fult vowel set, before going on to another consonant. It is easiest to start with the consonant having the highest frequency of occurrence, as thel

larger the number of words available the surer final results. (We have observed in our languages here that velars often have both the highest frequency of occurrence and the largest set of vowel contrasts.)

This same process will have to be repeated for each final consonant. It seems to be most normal that consonants at the same point of articulation take the same set of vowel phonemes. The environments (final consonants) with the largest number of differentiated vowels would be used as the basis for setting up the basic vowel phonemes, and the other environmental sets can usually be harmonized with this by appeal to neutralization and defective distribution. (cf. 'Pacŏh Phonemes' p.137, 'Remarques Chrau' pp. 178-[83]). A rhyming procedure *per se* does not give a total phonemic solution, but it brings the distributional data into sharp focus, on the basis of which the phonemic decisions can be made.

Investigators should be starting to line up rhyme sets by the time they have a 200-word vocabulary, but preliminary vowel phoneme identifications can't be made with any confidence with anything less than a 1000-word vocabulary (The larger the vocabulary the more also the minimal pairs forcing contrasts into attention.) Final phonemic decisions would probably not be safe with less than a 3-4,000 word vocabulary.

It is recommended that the looseleaf rhyme book be maintained as an exhaustive listing of vocabulary items and be occasionally rechecked until the investigator has at least 5-6,000 words and can correctly identify vowel phonemes on first careful hearing. Some members of the Summer Institute of Linguistics in Vietnam have put their full dictionary descriptions in rhyme book form as a reverse dictionary, making that their permanent record of glosses and definitions as well as of form.

This outlined procedure attempts to balance the roles of linguits and informant to give maximum reliability. The informant initially knows nothing of theoretical phonetics or phonemics, and the linguist's ear is initially not tuned to the special phonetics and phonemics of the language. Taking advantage of the abilities of both helps speed and reliability.

The rhyming method has been found essential to analysis in most

Vietnam languages, particularly those of the Mon-Khmer family with complex vowel systems. (Reported vowel systems in Vietnam Mon-Khmer languages range from 15 to 40 contrastive units [5]). For languges with simpler vowel systems the detailed rhyming would not be necessary.

5 E.g. Brôu 41 vowels, Pacŏh 30, Katu 25, Jeh 20, Sedang 33, Halang 22, Bahnar 15, Koho 15, Chrau Jro 17, Mnong Bunơr 14.