# PATTERN CONGRUITY IN ILIANEN MANOBO PHONOLOGY <br> Robert and Felicia Brichoux Summer Institute of Linguistics 

O. Introduction

1. Segmental Phonemes
2. Syllable Patterns
3. Alternate Analyses
O. The segmental phonemics of Ilianen Manobo illustrate a problem of phonemicizing on the basis of pattern congruity. This is an attempt to fit all the phonetic material into a symmetrical set of patterns based on the nonsuspect data. Involved in this problem are the interpretation of certain syllable patterns and the analysis of the phoneme n.
4. The segmental phonemes of Ilianen Manobo ${ }^{1}$ are consonants $\mathrm{p}, \mathrm{t}, \mathrm{k}, \mathrm{P}, \mathrm{b}, \mathrm{d}, \mathrm{g}, \varphi, \mathrm{s}, \mathrm{h}, \mathrm{l}, \mathrm{r}, \mathrm{m}, \mathrm{n}, \mathrm{ng}, \mathrm{w}$, and y , and vowels $i, e, a$, and $u . ?$
1.1 The consonant phonemes of Ilianen Manobo are described according to their manner of production: stops, fricatives, liquids, nasals, and semivowels.
1.11 Voiceless bilabial, dental, velar, glottal, and voiced bilabial, alveolar, and velar stops occur; all have unreleased

[^0]allophones; occurring utterance finally and as the first member of a consonant cluster with the exception of the voiced stops preceding $l$, $r$, or semivowels: $p^{4}$ kepkep 'cling', 'apas 'sufficient', pakpak 'wing'; t 'it ${ }^{\text {it }}$ 'leprosy', datu' 'chief'. tabtab 'pasture'; k wekwek 'night sound', kurut 'curl', ?edtika ' 'endure', bangkew 'spear'; ' we 'wa? 'clearing', 'egke'an ${ }^{\text {ªn }}$ 'slip'; b kebkeb 'chew hard food', ?abas 'pierce', bakbak 'frog', rabrab 'trees burned accidentally'; d 'ayad ?ayad 'exact', dadu 'plow', dabdab 'gossip', 'edlayang 'fly'; g 'egke?ulug 'will fall', guru 'learn', puriga' 'red ants', sanggat 'hang', selegya 'woven bamboo walling'.
1.12 Fricatives occur at the bilabial, alveolar, and glottal points of articulation. $\varphi$ is a voiced fricative and does not occur utterance initially, utterance finally, or as the first consonant of a cluster; it occurs as the second consonant of a cluster only after l, $r$, or semivowels: 'apas 'rash', bulpul 'hair'. $s$ is a voiceless alveolar grooved fricative: ?asu 'dog', pispis 'offspring', seksek 'corner'. $h$ is a voiceless glottal fricative: hane 'expression to begin story', meriha? 'red', wahwa 'longlegged bird', banhew 'raise the dead'; h does not occur utterance finally.'
1.13 Liquids are voiced alveolar lateral, voiced alveolar trill or flap, and voiced bilabial, alveolar, and velar nasals. l 'ulu 'head', 'untul 'epitome', 'al 'al 'ache', lablab 'hog'. Trilled and flapped varieties of $r$ are in free variation in all environments: ?uru 'worry', ${ }^{7}$ egke? ${ }^{\text {er }}$ ?er 'be weary of waiting', rabrab 'trees burned accidentally'; $m$ namat 'leaf chewed with

[^1]betel', temtem 'light lamp', medmeriyu? 'very far'; n has two allophones, [nd], a voiced alveolar nasal followed by a voiced alveolar stop, occurs before 1 or r: sanley 'corn', kenret 'gathers in cloth', and n occurs elsewhere: nana? 'pus', ngaran 'name'. tuntul 'correct', kidnat 'twitch'; ng nanga 'rattan', tungtung 'firefly', ngesnges 'whimper'.

The basis for analyzing [nd] as an allophone of $n$ is the criterion which Swadesh ${ }^{6}$ labelled pattern congruity. The principle states: "...particular formulations must be congruous with the general phonemic pattern of the given language." The general phonemic pattern of Illianen Manobo shows clusters of no more than two consonants; the only exceptions are clusters of three consonants which contain [nd] in forms such as [sandley] 'corn' and [kendret] 'gathers in cloth'. The analysis of $n d$ as an allophone of $n$ allows the interpretation of [sandley] and [kendret] as sanley and kenret, following the general phonemic pattern of the language. Bloomfield ${ }^{7}$ had applied the principle of pattern congruity to the analysis of two consecutive phones, interpreting them as one complex phoneme. He said (p. 90) : "...compound phonemes are combinations of simple phonemes which act as units so far as meaning and word-structure are concerned..." and (p. 131): "Since every utterance contains, by definition, at least one syllabic phoneme, the simplest way to describe the phonetic structure of a language is to state which nonsyllabic phonemes or clusters of nonsyllabic phonemes appear in the three possible positions: initially, before the first syllabic of an utterance; finally, after the last syllabic of an utterance; and medially, between syliabics. In this respect the diphthongs and tripthongs of English play the same part as the simple vowels; it is precisely this fact that compels us to class them as compound phonemes and not as mere successions of phonemes..." and, (p. 136): "We observe especially that the structural pattern leads us to re-

[^2]cognize also compound phonemes which resemble successions of other phonemes, but play the part of a simple phoneme..."

It might at first glance appear that the allophones $n$ and nd of the phoneme $n$ are not in complete complementary distribution, but that their distribution concides in the intervocalic position, where both occur: 'enem 'six', ?ende ?i 'where'. This overlapping distribution is, however, only apparent and not actual. $n$ of 'enem 'six' is an allophone of the phoneme n , but nd of 'ende. i 'where' is not an occurrence of the nd allophone of the phoneme $n$. It is a sequence of the phoneme n and the phoneme d. It is only nd before 1 or $r$ that is an allophone of $n$; nd between vowels is a sequence of $n$ plus $d$. This indicates that the present analysis is a case of phonemic overlapping; the same phonetic sequence is sometimes interpreted as one phoneme (the phoneme $n$ ), and sometimes, as a sequence of phonemes ( $n$ plus $d$ ).

Bloch ${ }^{8}$ allows the analysis of a phone as a member of one phoneme in one environment and as a member of another phoneme in another environment, so long as the environments are defined and it is thus clear to which phoneme a given occurrence of the phone belongs: "Is the phonemic analysis of

[^3]a dialect valid if it forces us to assign successive occurrences of the same sound to different phonemes? . . The intersection or overlapping of phonemes will be called partial if a given sound $x$ occurring under one set of phonetic circumstances is assigned to phoneme $A$, while the same $x$ under a different set of conditions is assigned to phoneme $B$; it will be called complete if successive occurrences of $x$ under the same conditions are assigned sometimes to A , sometimes to B."

Fitting the Ilianen Manobo data into Bloch's definition: "The intersection of overlapping of phonemes will be called partial if a given sound [nd] occurring under one set of phonetic conditions (before lor $r$ ) is assigned to phoneme $n$, while the same [nd| under a different set of conditions (intervocalic) is assigned to phonemes $n$ plus $d$; it will be called complete if successive occurrences of [nd] under the same conditions are assigned sometimes to $n$, sometimes to $n$ plus d." The latter is not the case; the Ilianen Manobo analysis is a case of what Bloch calls partial, not complete, intersection.

Bloch concludes:" "Partial intersection...can never lead to uncertainty in practice and may therefore be admitted in theory without violating sound phonemic method. The same cannot be said, however, of complete intersection. Examples are rare, and are always the result of an error in the analysis." It is therefore allowable, following Bloch's statement, to analyze [nd] as described above, and it is here considered to be the preferable analysis. Thus the Ilianen Manobo pattern of twoconsonant clusters need not be violated. ${ }^{11}$
1.14 The semivowels, $y$ and $w, ~ a r e ~ n o n s y l l a b i c ~ h i g h, ~ f r o n t, ~$ unrounded; and high, back, rounded vocoids, respectively. They occur in positions in which consonants occur except in those which are contiguous to a syllabic vocoid of the same quality. y 'ayad 'ayad 'exact', beyqey 'shore', yapyap 'winnow'; w 'awa? 'go out', sewsew 'wade', welwelengi 'shake it'.

[^4]1.2 The vowel phonemes of Ilianen Manobo are high, close, front, unrounded i; mid, open, central, unrounded e; low, open, central, unrounded a; and high, close, back, rounded u. ${ }^{11}$ i wayig 'water', ?itu? 'puppy', merani 'near', ?iwad 'turn one's back'; e [i:] high, close, back, lengthened, unrounded allophone occurs only in the final syllable of an utterance in calling style ${ }^{12}$ [ware ${ }^{7}: \mathrm{n}$ ] 'there is no more (calling style)', [ 'uyi: ] 'yes (calling style)'. Mid, open, central, unrounded [e] does not occur contiguous to vowel a nor utterance finally. ${ }^{13}$ beinggey 'sister-of-mine', teru' 'finger', 'emew 'dumb', 'eyan 'that'. a bayi 'sister', taru ' 'falsehood', deruwa 'two', (vowel a does not occur before a semivowel in the same syllable); u niyug 'coconut', 'upal 'monkey', palu 'heel', 'elukuy 'friend', (u does not occur contiguous to w ).
2. Careful examination of Ilianen Manobo utterances yields two distinct syllable patterns, CV and CVC. These primary patterns are found in sequences which do not contain segments which might be interpreted as either syllabic or nonsyllabic, i.e. high vocoids (here indicated by $S$ ) adjacent to other vocoids: ge.lat CV.CVC 'knife', lab.lab CVC.CVC 'hog', me.ma. 'an CV.CV.CVC 'betel nut', 'eb.pi?.pi? CVC.CVC.CVC 'launder'. Application of these primary patterns to the remaining data, i.e. those containing high vocoids adjacent to vocoids, results in the analysis of the majority of such high vocoids as consonants: 'a.yam CV.SVC 'ayam CV.CVC 'pet', 'e.sa.wa CV.CV.SV ?esawa CV.CV.CV 'spouse', key.kew CVS.CVS keykew CVC.CVC 'you, yours', yap.yap SVC.SVC yapyap CVC.CVC 'winnow'.

[^5]Still remaining are the data which contain sequences of a high vocoid and another vocoid, in which the high vocoid is contiguous to a consonant in the same syllable or is the only phoneme in the syllable, for example, [lu.al] 'outside'. The primary patterns allow no consonant clusters within the same syllable nor vowel clusters across syllable boundaries; therefore it can be postulated, that there is a phonemic semivowel ${ }^{14}$ occurring between the adjacent vocoids and patterning as a consonant so that [lu.al] CS.VC becomes luwal CV.CVC 'outside', [pi.ak] CS.VC piyak CV.CVC 'chick', [da.un] CV.SC dawun CV.CVC 'leaf', [wa.ig] SV.SC wayig CV.CVC 'water', and [ba.i] CV.S bayi CV.CV sister'. The interpretation of words like [bai] as two syllables is based on both slowed speech and calling-style speech. In a tape recording played slowly, what is heard [bai] in person-to-person informant work is heard bayi; in some idiolects [bai] occurs as ba9i; both of these facts lend weight to the two-syllable conclusion. In the utterancefinal syllable in calling style, vowel a is replaced by [i:], allophone of $e$, see fn .12 . Therefore if the a of [bai] is in the final syllable, one would expect its calling style form to be [*bi:y]; but the form in calling style remains [bai], giving support to the conclusion that the vowel a of [bai] is in the penultimate syllable. Thus, the primary syllable patterns form the basis for interpretation of certain phonetic vowel clusters. Transition is attributed phonemic status so that the semivowels have zero allophones in intervocalic positions contiguous to high vocoids. Or, what is phonetically $i$ is $i$, $i y$, and yi phonemically; $u$ is treated similarly.
3. Alternate analyses are available for the treatment of the stop-continuant pairs $b$ and $\varphi, d$ and $r$, and $g$ and $h$; and for the treatment of the central vowels a and e.
3.1 An alternate analysis to be considered for b and $\varphi$, $d$ and $r$, and $g$ and $h$ arises from the fact that $\varphi$ does not ocecur utterance initially, utterance finally, or as the first consonant of a cluster, and occurs as the second consonant of a cluster only after $\mathrm{l}, \mathrm{r}$, or semivowels. The alternate analysis is an

[^6]attempt to eliminate these phonemes with a limited distribution by uniting $b$ and $\varphi$ as one phoneme, $g$ and $h$ as one phoneme, and, by analogy and for symmetry's sake, $d$ and $r$. Although the members of each of these pairs are in minimal contrast ('abas 'pierce', 'aqas 'rash', dadu 'plow', daru 'sickness', puriga ' 'ant', meriha? 'red'), there is a possibility of uniting each pair phonemically if the occurrence of each stop, $C$, is phonemicized in certain environments as CC. In environments where only the stop may occur, it is phonemicized C; in environments where either the stop or the continuant may occur, the continuant is phonemicized $C$ and the stop, CC. For example, $\varphi$ in the intervocalic position or following $l, r$, or a semivowel, is phonemicized b ; b in the intervocalic position is phonemicized bb ; b in other positions is phonemicized b . Thus b and $p$ are complementary in their distribution and may be analyzed as allophones of one phoneme, b. ${ }^{15}$

The alternate analysis parallels morphophonemic reductions which occur at morpheme boundaries. In each of the following examples, two successive occurrences of the same stop reduce to a single occurrence of the stop: mib- + ba'al becomes miba'al 'made', mid- + daru becomes midaru 'was sick', mig- + genat becomes migenat 'left'. The alternate analysis also parallels the consonant replacements which occur at morpheme boundaries. In the following examples, the stop phone in the utterance-inital position is replaced by the corresponding continuant in the intervocalic position: ne- + bindas becomes nepindas 'torn', me- + diyu' becomes meriyu? 'far', me- + ga'an becomes maha'an 'soon'.

The alternate analysis seems workable for $b$ and $\varphi$. $\varphi$ can be phonemicized as between vowels and after l, r, and semivowels; and be phonemicized as bb between vowels and as

[^7]b in all other positions. For $d$ and $r$, however, the alternate analysis is less advantageous. Since $d$ and $r$ contrast in all of the five possible invironments, there can be an $r$ allophone of the phoneme $d$ occurring intervocalically and after $l, r$, and semivowels, to parallel the other stop-fricative sets; but there will also be an $\mathbf{r}$ phoneme occurring in all positions except intervocalic. g and h contrast in all positions except utterance finally, where $h$ does not occur. There can, therefore, be an $h$ phoneme occurring in all positions except intervocalically and finally.

Considering the alternate solution in view of the total distribution of the three stop-continuant sets, it now appears that the main advantage of the alternate analysis is economy of phonemes: $\varphi$ is eliminated from the phoneme inventory. The advantage previously given, that of eliminating phonemes with limited distribution, no longer is an advantage because the alternate analysis yields several phonemes with limited distribution; in fact, all of the five resulting' phonemes show some limited distribution. The first analysis given, that of interpreting the six phones as six separate phonemes, has the advantage of symmetry, and now is seen also to have the advantage of postulating phonemes having the widest possible distribution. Therefore, the first solution is chosen as the preferable one.
3.2 An alternate analysis of the central vowels a and e arises from the fact that vowel a does not occur before a semivowel in the syilable. It can therefore be postulated that e before a semivowel in the same syllable is an occurrence of an e allophone of the a phoneme. The phonemic status of a and $e$ is not affected; but instead of the a phoneme having only the allophone a, and the e phoneme having the allophones e and $i$ :, an a phoneme then has the allophones a and $e$, and the e phoneme has the allophones e and i:. This is another example of partial overlapping. An example of a morpheme ending in e plus a semivowel is: sukey 'pay'. sukey undergoes a stem vowel change, e becomes a when suffixed: sukey + -an becomes sukayan 'is paid'. When the e of sukey 'pay' is postulated to be the e
allophone of a, the morphophonemics is simplified because the need to explain this change is eliminated. sukey can then be written *sukay (allophone e precedes a semivowel in the same syllable) and sukayan will contain the allophone a which precedes a semivowel in the following syllable.

The analysis originally given in section 1.2 appears more advantageous for the data than the alternate analysis because the original analysis has the advantage of phonemic simplicity. The alternate description is the more complicated one, involving a larger number of allophones and involving two phonemes with phonetically identical allophones; its only advantage is that it provides for a simpler morphophonemics, a consideration actually outside the realm of phonemic analysis.

It would also be possible to postulate that [i:] in the ut-terance-final syllable of calling speech is an allophone of a, rather than of $e$, as syllable-final a in a regular style is replaced by [i:] in calling style. But syllable-final e in regular style is also replaced by [i:] in calling style and it is impossible to tell from the calling style form which vowel the form contains in regular style: regular style, [ ${ }^{1} \mathrm{ini}{ }^{7}$ ad] ] 'here I am'; calling style, [ 'ini ?i:d]; regular style [mid 'engked] 'he has stopped'; calling style, [mid 'engki:d]. Thus even if morphophonemic factors were considered valid considerations, the morphophonemic replacements would not be simplified by the alternate analysis. In the case of the original analysis, there is one morphophonemic replacement, a becomes $e$, and in the case of the alternate analysis, there is also one replacement, e becomes a. It is better on all counts to analyze [i:] as a member of the phoneme to which it is most phonetically similar, the phoneme e.


[^0]:    ${ }^{1}$ Ilianen Manobo is a Malayo-Polynesian language spoken in the interior of the province of Cotabato on the island of Mindanao, Philippines. The present paper is based on approximately twenty months of tield work by Mrs. Brichoux at periods between September, 1956, and August, 1959. This study was under the auspices of the Summer Institute of Linguistics, in cooperation with the University of North Dakota. Chief informants were Mrs. Tigar Zacharias, a monolingual speaker about 35 years old; and Inter Mantinanggit and Latipa Panduan, girls about 17 years old, bilingual speakers of Manobo and English. We are grateful to Jean Shand, Richard E. Elkins, and Howard P. McKaughan, all of the Summer Institute of Linguistics in the Philippines, for valuable discussions of the material.

    2 For a description of suprasegmental phenomena and juncture, see "Suprasegmental Features of Ilianen Manobo", an unpublished paper by Jean Shand.

[^1]:    ${ }^{3}$ For the analysis of the unreleased allophones of $p, t$, and $k$, we are indebted to Richard E. Elkins, "The Phonemes of Southern Bukidnon Manobo", "Papers on Philippine Linguistics", Folklorc Studies XII (Tokyo, 1953), pp. 108-110. In this preliminary phonemic statement for the dialect adjacent to Ilianen Manobo, Elkins describes the allophones on the basis of their distribution within the syllable: the unreleased allophones occur syllable finally and the released allophones occur syllable initially.
    ${ }^{4}$ In cases of phonemes having no distributional limitations, each phoneme is illustrated in the various environments in which it occurs: utterance initially, intervocalically, utterance finally, first consonant of a cluster, and second consonant of a cluster.
    ${ }^{5}$ Less than a dozen occurrences of utterance-initial $h$ have been found, and some of these are loan words.

[^2]:    ${ }^{6}$ Morris Swadesh, "The Phonemic Principle", Language X, 1934, pp. 117-129, reprinted in Joos, Readings in Linguistics, (Washington, american Council of Learned Sccieties), 1957, p. 35.

    7 Leonard Bloomfield, Language (New York, Henry Holt and Company), 1933.

[^3]:    ${ }^{8}$ Bernard Bloch, "Phonemic Overlapping", American Speech XVI, pp. 278-284, 1941, reprinted in Joos, Readings in Linguistics (Washington, American Council of Learned Societies), 1957, p. 93. Bloch in cunversation adds the requirement that all allophones of a phoneme share some feature in common and since d does not share any leature with $n$ Bloch thereiore rejects the allophonic interpretation we have postulated. Our analysis, however, is congruent with his article referred to above. A somewhat parallel illustration of similar phones being analyzed as allophones of different phonemes is the English $h$-aspiration problem as handled by Pike. He also applies the criterion of patterning and states: "In Enghish the problem is made more complex by the tact that [h] occurs as a separate phoneme in words like hæt 'hat', but that the [h] is pronetically similar to the aspiration following the [p] in pat [ ${ }^{\text {h }} \not \mathrm{th}^{\text {h }}$ ] 'pat'. Nevertheless the nonphonemic aspiration [b] and the phonemic $h$ must not be equated, since the $p$ does not occur at the beg nning of heavily stressed syllables unaccompanied by [h] ...This essential association tends to force the two into a single phoneme...Furthermore. there is no parallel for consonant clusters which include [ $h]$ when these clusters constitute the first part of a syllable, so that a cluster initially with *ph would not fit any nonsuspicंous pattern whatsoever; this is additional evidence tat in English [ $p^{\mathrm{h}}$ ] is a single phoneme." (Kenneth L. Pike, Phonemics, Ann Arbor, University of Michigan Press, 1947, p. 134.)

[^4]:    ${ }^{9}$ Ibid., page 94.
    ${ }^{10}$ In some idiolects the allophone nd occurs only before $r$ and not before 1; [sanley] 'corn', [kenoret」 'gather in cloch'. Ine phonemic analysis of these idiolects is the same as for those idiolects in which [nd] occurs before l, differing only as to the distribution of the allophones: [nd] occurs before $r$, but [nd] does not occur before 1 .

[^5]:    11 The vowels are illustrated in the following environments: contiguous to another vowel, bounded by two consonants, preceding a semivowel in the same syllable, and utterance finally.

    12 In the final syllable of an utterance in calling; style, the phoneme a of regular speech is replaced by the $i$ : allophone of the phoneme $e$, and the $e$ allophone of the phoneme $e$ is replaced by its $\ddot{i}$ : allophone. Thus 'uya? 'yes' in the regular speech becomes 7uye? and in calling speech ["uyi]. ?uli? ke?en 'come home' in regular speech becomes [? ${ }^{7}$ uli? ke ${ }^{7}: n$ in in calling speech.
    ${ }^{13}$ Occasionally the form [be], denoting emphasis, occurs in regular speech; however, its usual form is [ $\mathrm{bi}_{i}$ :], with calling style intonation. This is the only occurrence of utterance-final $e$; therefore it is assumed that, [ $\left.\mathrm{b}_{\mathrm{i}}:\right]$ is the norm and that it signals calling style whenever it occurs.

[^6]:    14 Most phonetically similar to the high vocoid in the sequence, or if two, the 1irst: [n!.ug] niyug.

[^7]:    ${ }^{15}$ The six phonemes under consideration occur in the five environments listed in fn. 4, except for the following cases: $b$ and $h$ do not occur utterance finally; $\propto$ occurs as the second consonant of a consonant cluster only after $l, r$, or semivowels and never as the first consonant of a cluster nor utterance initially; $h$ has been found to occur as the first consonant of a cluster only before $w$ and the following clusters have not been found to occur: *wd, "yd, *ry, and *lr. The latter case of $h$ and the clusters listed as not occurring may be due to an inadequate corpus. (Note examples given in the phoneme listings under each of these phonemes for envircnments.)

