

LINGUISTIC DIFFERENTIATION IN CENTRAL BICOLANDIA

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The term "Bicolandia" refers to a political bloc of six neighboring provinces — Camarines Norte, Camarines Sur, Albay, Sorsogon, Catanduanes, and Masbate — on or near the Bicol peninsula of southeast Luzon, Philippines. The Bikol language, containing a number of more or less divergent dialects, is spoken in Camarines Sur, Albay, Catanduanes, southern Camarines Norte, northern Sorsogon, and the island of Burias, Masbate. (See Map 1.)

During 1958–59, I collected material for a survey of Bikol dialects.¹ The survey covers the entire Bikol-speaking area, with data from about three-fourths of the municipalities. The present paper deals with a segment cut out of the central part of this area — a section of south-central Camarines Sur down through north-central Albay. (See Maps 1 and 2.) The municipalities of Pili, Baao, Nabua, Iriga, and Buhi, Camarines Sur, and Libon, Polangui, Oas, Ligao, and Guinobatan, Albay, are included. This segment was chosen for a sample study because of the relatively great amount of dialect variation found here.

The transect is an inland region. It is cut off from the east coast by mountains and there are hills to the west. There is a good road going down through the area, but relatively poor transportation directly toward either coast except to the east coast from the upper and lower ends of the transect. This transect includes all the municipalities — but not all barrios — west of the mountains in Albay but leaves out three in Camarines Sur — Bula, Bato and Balatan.

Most of the transect consists of moist lowland plains and dry open lowlands and slopes. The predominant crops are wet rice and coconut (Lynch 1959:27). Buhi is in an upland region and is somewhat isolated by mountains and poor transportation.

Map 2 shows the national highway going through all the municipalities with the exception of Buhi and Libon. Buhi can be reached from Iriga or Polangui; Libon can be reached from Bato and Polangui. There is a mountain trail (not shown on Map 2) to the coast from Buhi and there are roads to both coasts from Ligao.

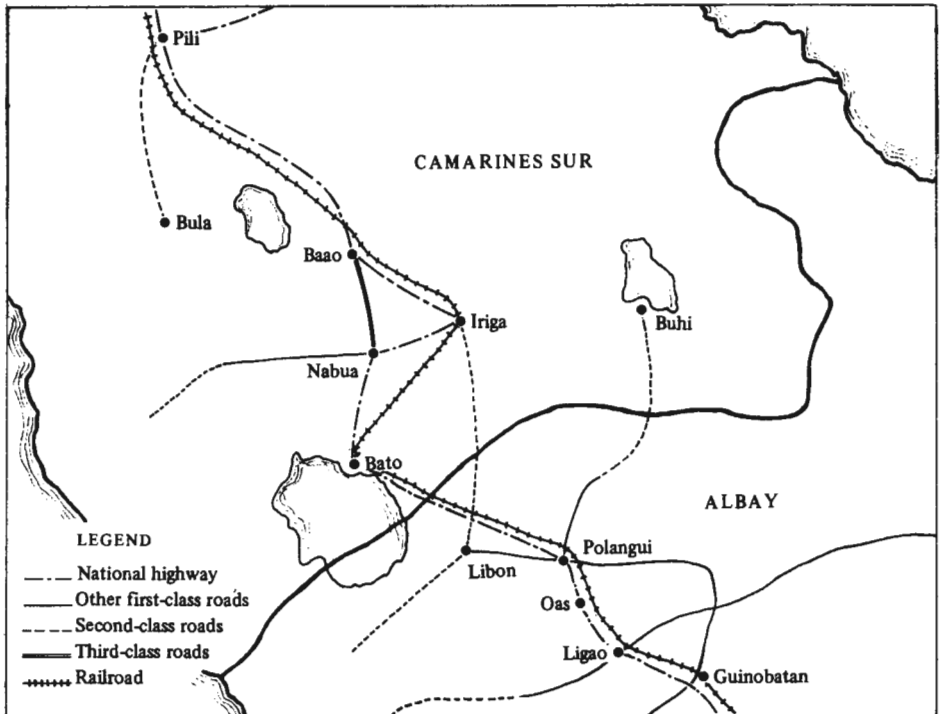
The District of Rinconada was a political district under the Spanish in 1829. It consisted of the municipalities of Bula, Baao, Nabua, Iriga, Buhi, and Bato, Camarines Sur. The District of Iriga at the same time consisted of the municipalities of Libon, Polangui, Oas, Ligao, Camalig, and Capsava (Census of the Philippines 1918). Guinobatan seems not to have come into existence yet, but is between Ligao and Camalig.

Pili, Camarines Sur, the northernmost town in the sample, is at the meeting place of three dialect areas and, according to an informant, the three dialects are spoken within the municipality of Pili. Within Pili poblacion and the barrios to the north of it is spoken

¹The dialect survey was started at the suggestion of Frank Lynch, S.J. Most of the data were collected at the Ateneo de Naga with the help of Father Lynch and the staff of the Bicol Area Survey. This paper is taken from a part of my M.A. paper (Anderson 1960). Besides the material presented here, the M.A. paper also contains other phonemic and phonetic isogloss maps and also a number of lexical isogloss maps, along with a discussion of their interpretation.



Map 1 - The Bikol Area



Map 2 - The Transect

what Bicolanos call "real Bikol." This is the kind of Bikol spoken in Naga City, the largest city of Bicolandia, and in the rest of the Bikol-speaking area north and west of Pili. In barrios facing Partido, a district in eastern Camarines Sur, Partido Bikol is said to be spoken. In other municipalities covered in this paper, informants said that "all the people talk the same." The evidence shows, in cases where there is more than one informant from a municipality, this is not quite true, but only in Pili are the differences great enough so that the people give different names to the dialects.

The data on which this paper is based consist mainly of single lexical items. Textual material was collected, but extensive textual material was collected only from some municipalities. The word list for the lexical items was prepared as follows. A list of approximately 225 words was first collected from a sample of twelve municipalities. For nine other municipalities a list of about 70 words was taken. From twelve other municipalities a list of about thirty words was taken. In the analysis of these data, systematic differences in the occurrence of certain phonemes in cognates were noted. But the amount of data was found to be insufficient to solve all the problems raised, so it seemed necessary to have a substantially longer list. Conklin's list (Conklin 1951), containing 2278 items culturally relevant to the Philippines, was then collected from several informants. I.e. each informant provided a part of the list, but the whole list was collected only once. On the basis of these items, a list of about 250 words was prepared which was expected to elicit forms giving examples of the varying phonemes. In its final form the second list comprised 225 items. It also contained basic vocabulary (the 100-word list) items not included in the first list. The combined first and second lists now contained about 450 words. Aside from the basic vocabulary items, the list aimed at a maximum of phonemic variation and a minimum of lexical variation. This combined list was then collected from all the informants, except that from most municipalities from which the complete first list had already been collected it was not collected again.

Sixteen informants provided the material discussed in this paper. For Iriga and Polangui, one informant gave the first list and one the second. Four Buhi informants were used, two giving roughly the first list and two giving roughly the second. Both lists were collected from both Oas informants. This was done because the two Oas informants sounded quite different to me, although each assured me that everyone in Oas talked as he did.

All informants except two were students at the Ateneo de Naga, and were contacted there. One Buhi informant was contacted on a visit to Buhi and one Polangui informant was contacted in Manila, where she was a summer school student at the Philippine Normal College. All the material was taped, with the exception of that from one of the four Buhi informants.

Dialect differentiation might be the result either of geographical or of social distance. Here only the geographical dimension is really controlled. To what extent is the social dimension controlled? No questions were asked of the informants which directly related to social class. The best indication of the social position of the informants is the fact that two of them (the above-mentioned informants from Buhi and Oas) were college graduates and the rest were high school or college students at a good private school. This is significant in view of the fact that Lynch (1959: 37) reports that in Canaman, Camarines Sur, "of those five years of age and over in 1948 only one out of five have gone beyond the fourth grade, one out of 14 beyond high school, and one out of 250 beyond the secondary level." It is likely that the majority of students at the Ateneo de Naga are of better than average economic status. However, the most elite class is more likely to send its children

(sons more than daughters, who they might want to stay closer to home) to Manila colleges rather than local ones. Probably the majority of Ateneo de Naga students tend to be of above average social status, but not of the very highest. But as far as I know, any particular student might be of any social level.

II. LEXICO-STATISTICS²

All of the municipalities and the two Oas informants were compared with all the other municipalities (or informants) lexico-statistically, using Swadesh's 100-word list. As mentioned above, two Iriga and Polangui informants were used, each giving half of the lexical items. Thus the basic vocabulary was given in part by one informant and in part by another. Seventy-one of the basic vocabulary items were on the first list, twenty-four on the second, and five on neither. Of the four Buhi informants, no two gave exactly the same list. One gave the first list and some additional items, another gave most of the first list and the 200-word Swadesh list, another gave the second list, and another gave part of the second list and a little of the first. So for the basic vocabulary, they were all lumped together. If I had more than one answer for an item, I flipped a coin to decide which to use in the calculations. The coin-flipping method was also used, for Buhi and other municipalities, when one informant volunteered two answers for an item and said there was no difference in meaning.

The only municipality for which there is a complete basic vocabulary list is Buhi; for the others there is a list of 93–95 words, except Baao, for which there are only 89.

Each list was compared with each other list and distances in centuries were calculated according to Swadesh's method. Table 1 gives the percentages of shared retentions and

TABLE 1
GEOGRAPHICAL ORDERING

	Distance to Nearest Century										
	Pi	Ba	Na	Ir	Bu	Lb	Po	Oa1	Oa2	Lg	Gu
Pili		7	8	8	7	7	6	7	8	7	7
Baao	82		3	2	6	6	4	5	6	7	7
Nabua	78	91		1	5	4	3	5	4	6	8
Iriga	78	93	97		4	5	3	5	4	7	5
Buhi	80	84	87	88		5	2	4	4	5	5
Libon	82	84	89	86	86		2	3	2	3	5
Polangui	83	88	91	91	95	93		2	2	4	4
Oas 1	80	85	85	85	89	91	93		3	3	3
Oas 2	78	84	89	88	89	93	95	92		4	3
Ligao	81	80	84	82	85	90	88	90	89		4
Guinobatan	81	82	78	85	85	86	89	90	91	89	

Percent of Shared Retentions

²Marvin Mayers gave much helpful advice in making the lexico-statistical counts and charting them.

distances to the nearest hundred years. The towns are arranged in geographical order. Table 2 shows the towns (or informants) rearranged according to degree of divergence. There seem to be three dialect cores: Pili is separated from all the other municipalities; Nabua, Baao, and Iriga form a second group, and Polangui, Oas, Buhi, Libon, Guinobatan, and Ligao form a third group. Pili is slightly closer to the third group than the second.

Polangui's relative closeness to all other towns may be noted. It is the closest town to Pili lexico-statistically. It is the closest to Nabua, Baao, and Iriga after each of them to the others. In its own dialect group, it is the closest to four out of six. It is also closer to both Oas informants than they are to each other.

Map 3 is an attempt to show the relative distances graphically. It may be seen that it is very similar to the geographical positions of the municipalities, except for Pili.

III. PHONEMIC ISOGLOSSES

Maps 4-9 are phonemic isogloss maps.³

Map 4 pertains to vowels. These in general reflect Proto-Malayo-Polynesian */ð/. Map 5 pertains to reflexes of */h/. Map 6 pertains to glottal stop /ʔ/: its presence or absence and/or its position before or after a medial consonant. Map 7 pertains to /d/: /ɾ/. Map 8 pertains to */l/. Map 9 pertains to stress and length.⁴

TABLE 2
RELATIVE DISTANCE BY TIME DEPTH

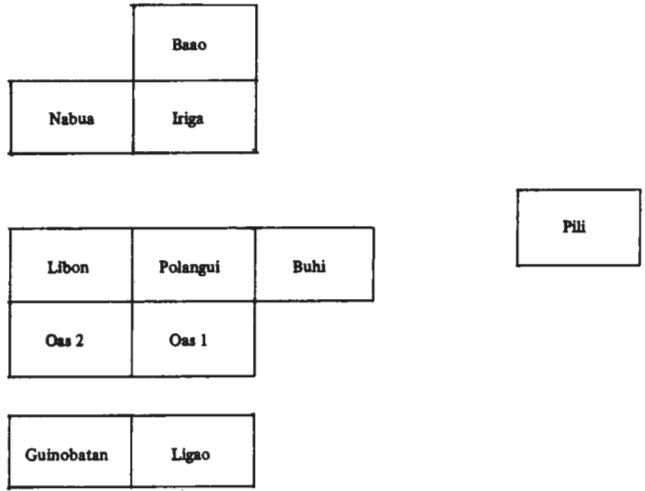
	<i>Distance to Nearest Century</i>										
	Ir	Na	Ba	Po	Oa2	Bu	Oa1	Lb	Gu	Lg	Pi
Iriga		1	2	3	4	4	5	5	5	6	8
Nabua	97		3	3	4	5	5	4	8	6	8
Baao	93	91		4	6	6	5	6	7	7	7
Polangui	91	91	88		2	2	2	2	4	4	6
Oas 2	88	89	84	95		4	3	2	3	4	8
Buhi	88	87	84	95	89		4	5	5	5	7
Oas 1	85	85	85	93	92	89		3	3	3	7
Libon	86	89	84	93	93	86	91		5	4	7
Guinobatan	85	78	82	89	91	85	90	86		4	7
Ligao	82	84	80	88	89	85	90	90	89		7
Pili	78	78	82	83	78	80	80	82	81	81	

Percent of Shared Retentions

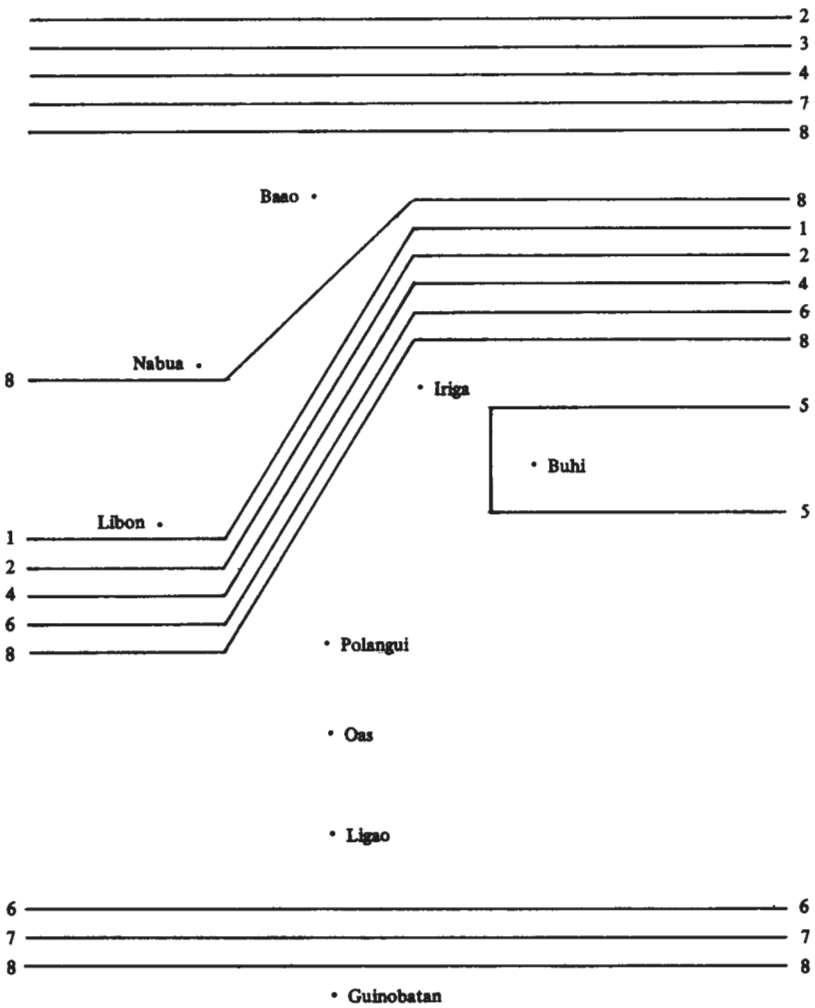
³For some items there are not cognates from all informants. This is not mentioned in the map legends except when it seems of importance.

⁴From the examples on the maps, there might appear to be only one phoneme, with length [ː] occurring with penultimate stress [ˑ]. However, examples like Baao, Nabua /maráy/ "good," maráy/ "recover from illness," indicate that these are separate phonemes in at least some idiolects.

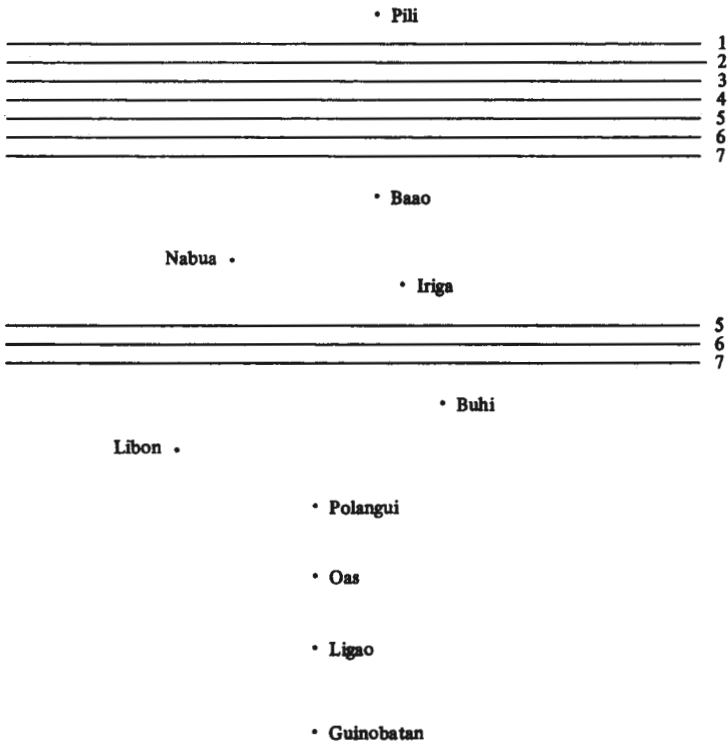
Map 3. Relative Distance by Time Depth



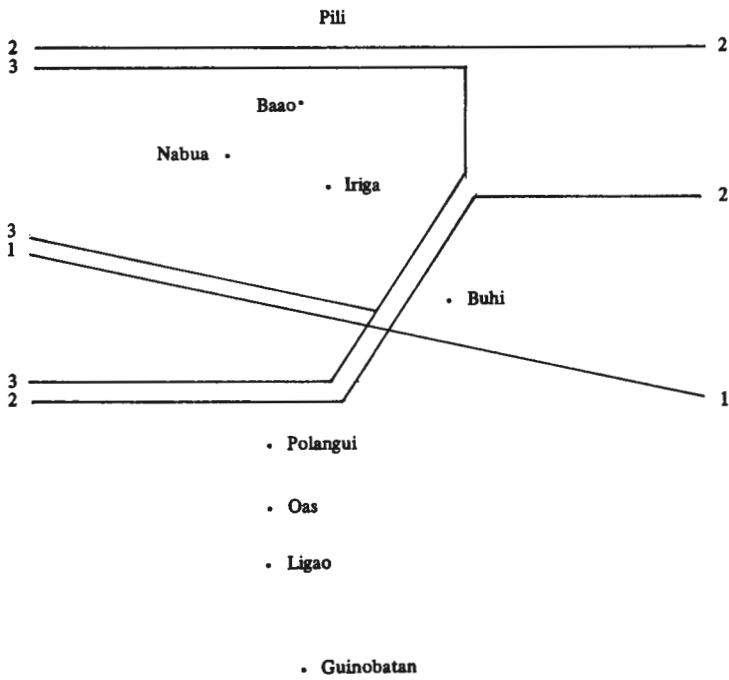
Map 4. */ə/



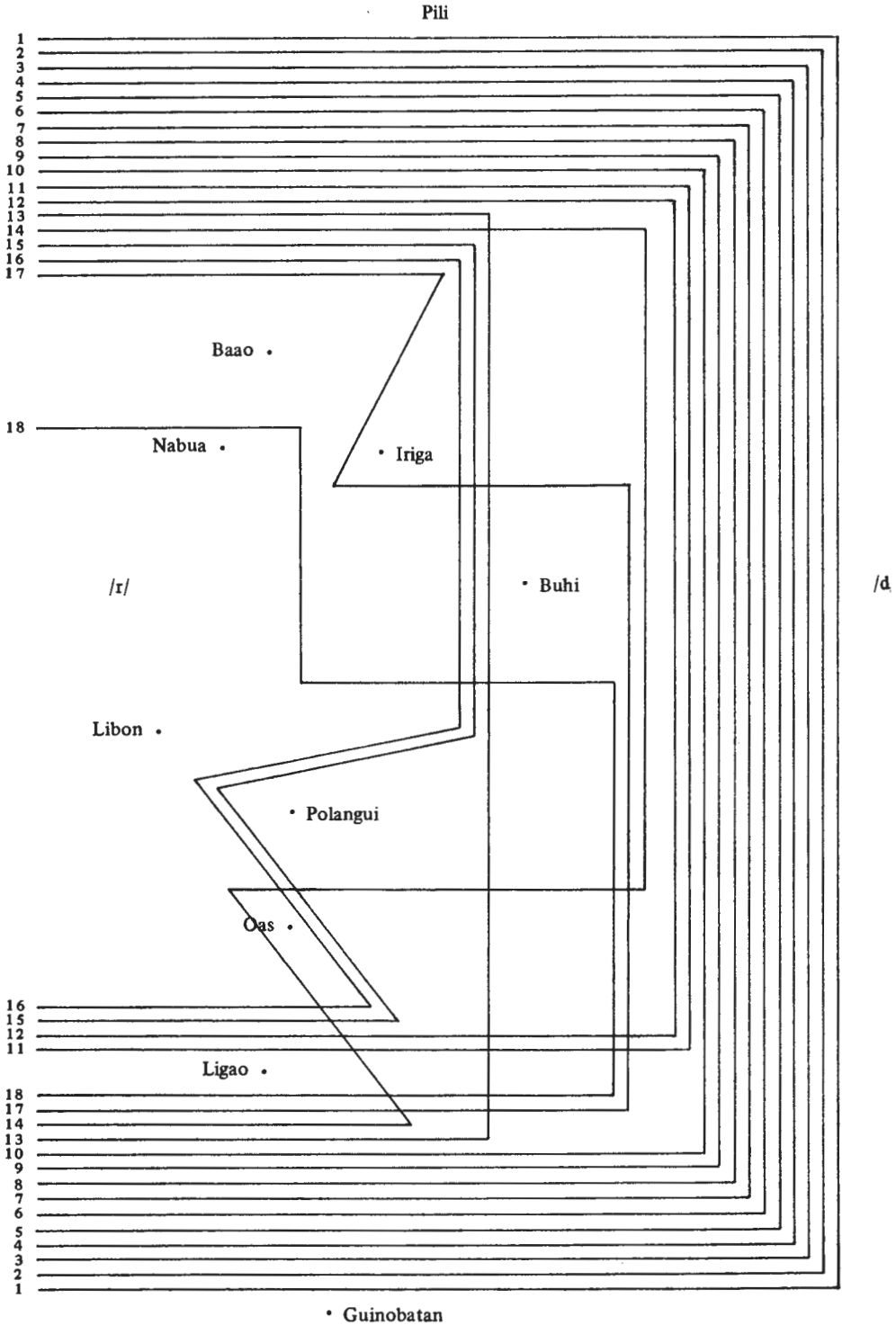
Map 5. */h/



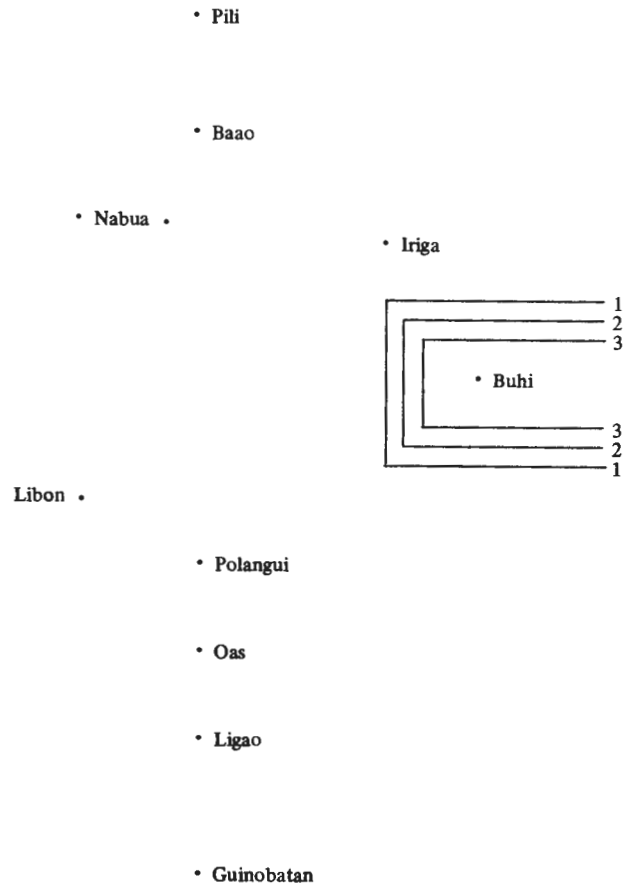
Map 6.



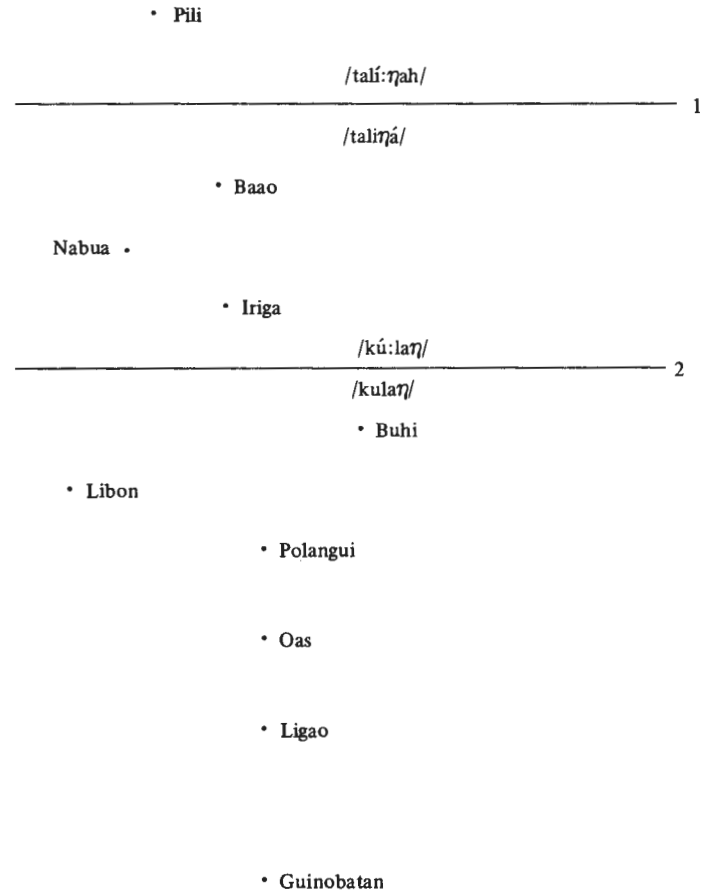
Map 7. /d/:/r/



Map 8. */l/



Map 9. Stress and Length



On the maps the isoglosses are numbered. Each isogloss stands not only for the word given, but for a set of words listed in the map legend for that map and isogloss number.

The only cases where informants within a municipality are distinguished by any of these phonemes are the exclusively Buhi isoglosses. One informant does not have the exclusively Buhi vowel feature, /ð/ after /u/, while the others do (Map 4). Another informant is inconsistent. For /ɣ:/ /l/ (Map 8), the informants differed only for one common word: /ʔaɣki:/ /lalaki/ "man."

Map 4. 1. Pili etc. /u/: Iriga etc. /ð/ in the environments /aC(C)-/, /iC(C)-/, and /-C(C)-/. (1) "weave" /há:bul/ etc.: /ʔabðl/ etc., (2) "acid" /masakrút:/ /masakrót/, (3) "deep" /hará:rum/ etc.: /ʔararám/, (4) "itchy" /magatúl:/ /magatðl etc., (5) "stand" /tindúg:/ /tindðg/, (6) "thick" /mahíʔbúg/ etc.: /maʔibʔág/ etc., (7) "tooth" /ní:pun/ etc.: /nipðn/, (8) "strong" /makusúg:/ /makðsðg/, (9) "curly" /kurún:/ /kðrðŋ/, (10) "press" /dú:ʔun/ etc.: /rðrðʔðn/ etc., (12) "chin" /kuʔkúʔ/ etc.: /kðʔkðʔ/ etc., (13) "bury" /lubún:/ /lðbðŋ/.

2. Pili /aCu/: Baao etc. /uCu/: Iriga etc. /ðCð/. (1) "hear" /daŋúg:/ /ruŋúg:/ /rðŋðg/ etc., (2) "inside" /salaʔúg:/ /saluʔúg/ etc.: /salðʔðg/ etc., (3) "wall" /lanúb:/ /lðnðb/ (no cognates for Baao, Iriga, Nabua, Libon), (4) "pregnant" /badús:/ /mabrus:/ /bðdðs/ etc., (5) "six" /ʔanúm:/ /ʔunúm:/ /ʔðnðm/, (6) "drown" /lamús:/ /lumús:/ /lðmðs/ etc.

3. Pili /a/: Baao etc. /u/ in the environments /-Cu/ and /-(ʔ)y/. (1) "full (container)" /panúʔ:/ /punúʔ/, (2) "cough" /ʔabúh:/ /ʔubú/, (3) "full (after eating)" /basúg:/ /busúg/, (4) "sound" /tanúg:/ /tunúg/, (5) "what?" /ʔanúh:/ /ʔunú/ etc., (6) "cigarette butt" /ʔapús:/ /ʔupús/, (7) "hole" /labút:/ /lubút/, (8) "ginger" /laʔyáh:/ /luʔyá/ etc.

4. Pili /a/: Baao etc. /u/: Iriga etc. /ð/ in the environment /-Ca/. (1) "heavy" /magabát:/ /magubát/ etc.: /magðʔbát/ etc., (2) "husked rice" /bagás:/ /bugás:/ /bðgás/, (3) "dry in sun" /bulád:/ /bðlád/ (no cognate for Pili), (4) "wait" /halát:/ /ʔulát:/ /ʔðlát/ etc., (5) "four" /ʔapát:/ /ʔupát:/ /ʔðpát/, (6) "rotten" /lapáʔ:/ /lupáʔ:/ /lðpáʔ/.

5. Pili etc. /u/: Buhi /ð/ in the environment /uC-/. (1) "star" /bitú:ʔun/ etc.: /bituʔən/, (2) "worm" /ʔú:lud/ etc.: /ʔuwðd/, (3) "hair" /bú:huk/ etc.: /buwðk/.

6. Pili etc. /u/: Iriga etc. /ð/: Guinobatan /a/ before /y/ in final and reduplicated syllables except after (unvarying) /u/. (1) "unhusked rice" /parúy:/ /parðy:/ /paráy/, (2) "termite" /ʔanúy:/ /ʔanðy:/ /ʔanáy/ (no cognate for Pili), (3) "house" /balúy:/ /baláy/ etc.: /baláy/ (no cognates for Pili). (4) "cooked rice" /ʔumúy:/ /ʔə máy:/ /ʔumay/. (5) "bridge" /tuytúy:/ /tðytðy/ (no cognates for Pili, Buhi, Guinobatan), (6) "long (time)" /halúy:/ /ʔðlðy/ etc.: /ʔðláy/ (no cognates for Baao, Nabua).

7. Pili, Guinobatan /a/: Baao etc. /u/ before /y/ in final syllables after /u/. "horn" /suŋáy:/ /suŋúy/.

8. Pili, Guinobatan, Libon /a/: Baao, Nabua /u/: Iriga etc. /ð/ before /w/ in final syllables. (1) "soup" /sabáw:/ /sabúw:/ /sabðw/, (2) "unripe" /ʔiláw:/ /ʔilúw:/ /ʔilðw/, (3) "lake" /dá:naw/ etc.: /ranúw:/ /ranðw/, (4) "fly (insect)" /lá:ŋaw/ etc.: /laŋúw:/ /laŋðw/, (4) "fly (insect)" /lá:ŋaw/ etc.: /laŋúw:/ /laŋðw/, (5) "shallow" /habá:baw/ etc.: /ʔabá:baw/ etc.: /ʔabá:bðw/ etc., (6) "melt" /tú:naw/ etc.: /tunúw:/ /tðnðw/, (7) "wash hands" /ʔunáw:/ /manunúw:/ /ʔənáw/ (8) "wash hands" /maghanáw:/ /nanúw:/ /ʔanéw/, (9) "cold" /magnáw:/ /ʔagnúw:/ /magnéw/, (10) "sun" /ʔaldáw/ etc.: /ʔaldúw:/ /ʔaldéw/.

Map 5. 1. Pili /h/: Baao etc. /w/ in the environment /u-a/. (1) "alive" /bú:hay:/ /bú:way/ etc., (2) "tears" /lú:haʔ:/ /luwáʔ/.

2. Pili /h/: Baa0 etc. /y/ in the environment /i-i/. (1) "urine" /ʔi:hiʔ/: /ʔiyiʔ/.

3. Pili /h/: Baa0 etc. /φ/ in the environments /u-u/ and /a-a/. (1) "hair" /bú:huk/: /buúk/, /búk/, (2) "knee" /tú:hud/: /tuúd/, /túd/, (3) "expensive" /mahál/: /maál/, /mál/.

4. Pili /h/: Baa0 etc. /ʔ/: initially. (1) "pestle" /halʔúh/: /ʔalʔú/ etc., (2) "kiss" /hadúk/: /ʔarúk/ etc., (3) "poison" /hí:luh/: /ʔilú/, (4) "late" /hú:rih/: /ʔú:ri/ etc.

5. Pili /h/: Baa0 etc. /ʔ/: Buhi etc. /φ/ base-initially after prefix. (1) "sick" /naghihí:lan/: /nagʔí:ʔilan/: /nagílan/, (2) "thick" /mahiʔbúg/: /maʔibʔúg/ etc.: /maiʔbðg/ etc., (3) "slippery" /mahalnás/: /maʔalnás/: /maalnás/ etc., (4) "thin" /mahimpís/: /maʔimpís/ etc.: /maimpís/ etc., (5) "wide" /mahí:was/: /maʔí:was/: /maiwás/.

6. Pili /h/: Baa0 etc. /w/: Buhi etc. /φ/ in the environment /a-u/. (1) "tree" /ká:huy/: /kawúy/: /ká:uy/ etc., (2) "leaf" /dá:hun/: /dawún/: /dá:un/ etc.

7. Pili /h/: Baa0 etc. /y/: Buhi etc. /φ/ in the environment /a-i/ (Guinobatan /e-i/) (1) "sew" /tahiʔ/: /tayiʔ/: /taiʔ/, /teiʔ/, (2) "wipe" /pá:hid/ ~ /pá:id/: /payíd/: /pá:íd/, /paíd/, /pé:id/.

Map 6. 1. Pili etc. /ʔ/: Buhi etc. /ʔ/ ~ /φ/, /φ/ between vowels. (1) "who?" /siʔisáy/: /siisáy/, /siʔisáy/ ~ /siisáy/ etc., (2) "know" /taʔú/ etc.: /taú/, /taʔú/ ~ /taú/ etc., (3) "hot" /maʔinit/. (4) "lose" /daʔúg/ etc.: /raúg/ etc., (5) "right" /tuʔú/ etc.: /tuú/, /tuʔú/ ~ /tuú/ etc., (6) "year" /taʔún/: /taún/, (7) "bad" /raʔút/ etc.: /raʔát/ ~ /raót/ etc., (8) "inside" /salaʔúg/ etc.: /salðg/ etc., (9) "kind" /mabú:ʔut/ etc.: /mabððt/, /mabəʔs/ ~ /mabððt/ etc.

2. Pili /Cʔ/, /ʔC/: Baa0 etc. /:C/: Buhi etc. /ʔC/. (1) "bone" /tulʔán/: /tú:lan/: /tuʔlán/, (2) "pestle" /halʔúh/: /ʔá:lu/: /ʔaʔlú/ etc., (3) "new" /baʔgúh/: /bá:gu/: /baʔgú/, (4) "rat" Pili no cognate: /bá:buʔ/: /baʔbá/, (5) "straight" Pili no cognate: /tú:lid/: /tuʔlíd/, (6) "all" Pili no cognate: /ʔá:min/: /ʔaʔmín/, (7) "ginger" /laʔyáh/: /lú:ya/: /luʔyá/, (8) "chin" /kuʔkúʔ/: /kú:kuʔ/: /kðʔðʔ/ etc.

3. Pili etc. /ʔC/: Baa0 etc. /Cʔ/: Libon /:C/. (1) "thick" /mahiʔbúg/ etc.: /maʔibʔúg/ etc.: /maibúg/, (2) "sweet" /mataʔmís/: /matamʔís/: /matá:mis/, (3) "night" /gaʔbí/ etc.: /gabʔí/: /gá:bi/.

Map 7. Pili etc. /d/: Baa0 etc. /r/. (1) "fishbone" /dú:gih/ etc.: /rú:gi/ etc., (2) "lake" /dá:naw/ etc.: /ranúw/ etc., (3) "needle" /dá:gum/: /ragúm/, (4) "adhere" /dukút/ etc.: /rukút/ etc., (5) "remember" /rðmdðm/ etc.: /rðmrðm/ etc., (6) "hear" /danúg/ etc.: /ruʔúg/ etc., (7) "hand-span" /dá:ʔaw/ etc.: /raʔáw/ etc., (8) "hearth" /dapúg/: /rapúg/, (9) "kiss" /hadúk/: /arúk/, (10) "earth" /dagáʔ/: /ragáʔ/, (11) "pregnant" /badús/ etc.: /mabrús/ etc., (12) "press" /dú:ʔun/ etc.: /ruʔún/ etc., (13) "blood" /dugúʔ/: /rugúʔ/, (14) "path" /dá:lan/ etc.: /rarán/ (One of the Oas informants has /d/ and the other /r/), (15) "maiden" /dará:gah/ etc.: /rá:raga/ etc., (16) "arm-span" /dupáh/ etc.: /rupá/ etc., (17) "tongue" /dí:laʔ/ etc.: /riráʔ/, (18) "lose" /daʔúg/ etc.: /raʔúg/ etc.

Map 8. 1. Pili etc. /l/: Buhi /ʔ/ initially before /ð/, /a/, /u/, /l/. /ʔ/ ~ /φ/ base-initially after prefix. (1) "drown" /lamús/ etc.: /ʔðmðs/, (2) "cook" /lutúʔ/: /ʔutúʔ/, (3) "dislocation of bone" /lupúʔ/: /naupúʔ/, (4) "pale" /maluʔsiʔ/: /mauʔsiʔ/, (5) "man" /lalá:kih/ etc.: /ʔaʔaki/.

2. Pili etc. /l/: /w/ in the environments /u-u/, /a-u/, /u-ð/, /aʔ-u/, /uʔ-a/. (1) "river" /sulún/: /suwún/, (2) "feather" /balú:kag/: /bawukág/, (3) "back" /taludtúd/: /tawudtúd/, (4) "pillow" /ʔulú:nan/ etc.: /ʔuwunan/, (5) "rest" /paʔiʔá:luʔ/ etc.: /hiʔawúʔ/, (6) "worm" /ʔú:lud/ etc.: /ʔuwðd/ etc., (7) "pestle" /ʔaʔlú/ etc.: /ʔaʔwú/, (8) "bone" /tuʔlán/ etc.: /tuʔwán/.

3. Pili etc. /l:/ /ɣ/ in the environments /a-a/, /a-ə/, /ə-a/, /ə-ə/, /a-n/, /a-s/, /ə- finally. (1) "palm of hand" /pá:lad/ etc.: /pá:ʔad/, (2) "recover from illness" /malaymá:y/ /maʔaymá:y/, (3) "path" /dalán/ etc.: /daʔán/ etc., (4) "house" /balðy/ etc.: /baʔðy/, (5) "floor" /salðg/ etc.: /saʔðg/, (6) "snake" /há:las/ etc.: /ʔá:ʔas/ etc., (7) "wait" /ʔðlát/ etc.: /ʔðʔát/, (8) "dry in sun" /ʔalán/ /ʔðʔán/, (9) "sit" /ʔðláʔ/ etc.: /ʔðʔáʔ/, (10) "dry in sun" /bðlád/ etc.: /bðʔarð/, (11) "big" /dakðlðʔ/ etc.: /dakəʔáʔ/, (12) "current (as of river)" /sðlðg/ etc.: /masðʔðg/, (13) "long (time)" /ʔðlðy/ etc.: /ʔðʔðy/, (14) "slippery" /mahalnás/ etc.: /maaʔnás/ etc., (15) "sour" /maʔalsðm/ etc.: /maaʔsðm/, (16) "itchy" /magatðl/ etc.: /magatðʔ/, (17) "weave" /ʔabðl/ etc.: /ʔabðʔ/, (18) "man" /lalá:kih/ etc.: /ʔaʔakí/.

Map 9. 1. /:/ on penult: /'/ on last syllable. (1) "charcoal" /ʔú:riŋ/ /ʔuríŋ/, (2) "deep" /hará:rum/ /ʔararúm/ etc., (3) "dog" /ʔá:yam/ /ʔayám/, (4) "dull" /maŋú:rul/ /maŋurúl/ etc., (5) "ear" /talí:ŋah/ /taliŋá/, (6) "earthquake" /lí:nug/ /linúg/, (7) "fear" /tá:kut/ /takút/, (8) "eyebrow" /kí:ray/ /kiráy/, (9) "needle" /dá:gum/ /ragúm/ etc., (10) "pity" /mahí:rak/ /ʔirák/ etc., (11) "poison" /hí:luh/ /ʔilú/, (12) "path" /dá:lan/ /rarán/ etc., (13) "pick up" /pú:rut/ /purút/, (14) "provisions" /bá:lun/ /balún/, (15) "round" /bí:lug/ /bilúg/, (16) "fire" /kalá:yuh/ /kalayú/, (17) "heart" /pú:suʔ/ /pusúʔ/, (18) "tears" /lú:haʔ/ /luwáʔ/.

2. /:/ on penult: /'/ on last syllable. (1) "frying pan" /kawá:liʔ/ /kawalíʔ/, (2) "lacking" /kú:lan/ /kulán/, (3) "do, make" /gí:buh/ /gibú/, (4) "run" /dalá:gan/ /dalagán/, (5) "write" /sú:rat/ /surát/, (6) "saw" /lagá:diʔ/ /lagadiʔ/, (7) "go around" /lí:but/ /libút/, (8) "clear" /malí:naw/ /malináv/, (9) "dizzy" /lí:buŋ/ etc.: /libðŋ/ etc.

Interpretation

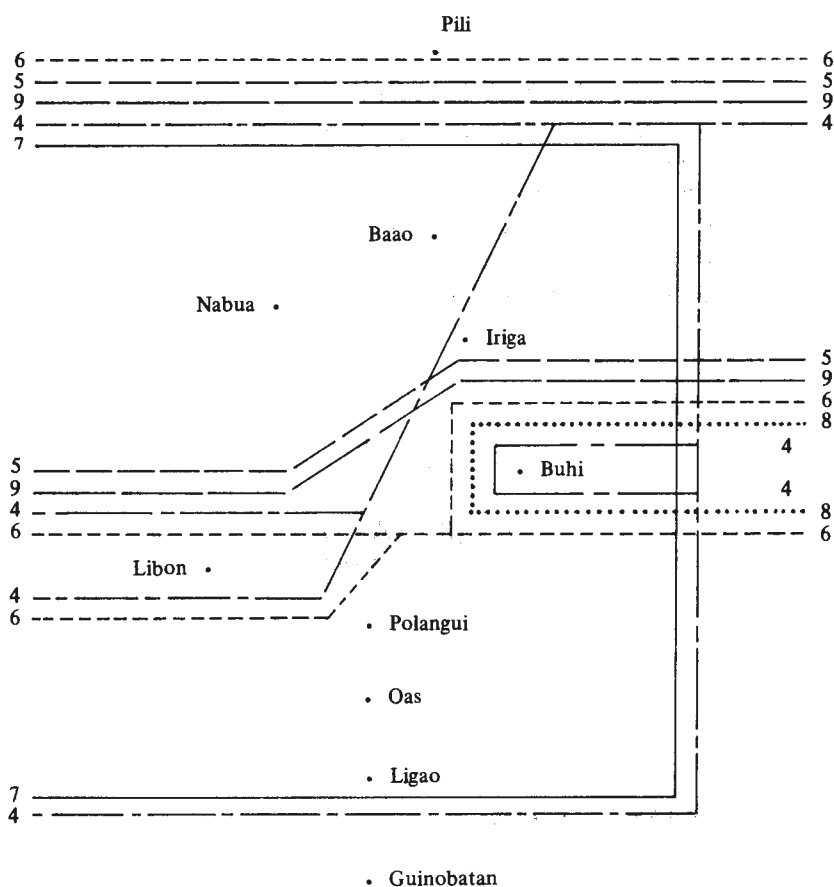
Map 10 summarizes the isoglosses on Maps 4–9. Numbers of the relevant isogloss maps are given. The lines are not quite of equal weight, so far as degree of differentiation is concerned. However, if we consider the lines to be roughly equivalent in value, the count of lines between neighbors comes out as follows:

Pili-Baao	5
Iriga-Buhi	5
Nabua-Libon	4
(Pili-Guinobatan)	4
**	
Buhi-Polangui	3
Libon-Polangui	2
Ligao-Guinobatan	2
Baao-Iriga	1
Nabua-Iriga	1
Baao-Nabua	0
Polangui-Oas	0
Oas-Ligao	0

Note that those municipalities with four or more lines between them are in different dialect groups lexico-statistically (see Table 2 and Map 3) and those with three or fewer are in the same dialect groups.

There appear to be discontinuities on some maps – i.e. reflexes with discontinuous distributions. The /d:/ /r/ isogloss appears to be discontinuous (Map 7), with /d/ occurring

Map 10. Summary of Phonemic Isoglosses



only in Pili and Guinobatan, except for sporadic instances of it in between. /ay/ (:/uy/) (Map 4.7) also occurs only in Pili and Guinobatan, and /aw/ (:/əw/) (Map 4.8) occurs only in Pili, Guinobatan, and Libon. /ʔC/ is discontinuous in that it does not occur between Pili and Buhi (Map 6.2, 3). To take /d/ : /r/ as an example, there are the following possibilities:

1. /r/ is an innovation which spread through the central area, but not so far north as Pili nor so far south as Guinobatan.
2. /d/ is an innovation which Pili and Guinobatan developed independently.
3. /d/ is not really discontinuous, but extends east from Pili and Guinobatan along the coast on the other side of the mountains.⁵

If (3) is true, (1) could still be true. Or perhaps /d/ and /r/ are both innovations which spread over different areas. Suppose that /d/, /ay/ and/or /aw/ are innovations, which spread along the coast from the Pili area to Guinobatan. This would suggest relatively greater communication (or less dialect differentiation) along the seacoast than inland.

⁵This is actually the case for all the items mentioned, based on data not used in this paper.

However, these problems can be solved only by studying the whole area both distributionally and historically.

IV. PHONETIC ISOGLSSES

Map 11 concerns sequences of */a/ and /i/, and assimilation of the first to the second. Differences with regard to this sequence are found within the Buhi-Libon-Polangui-Oas-Ligao-Guinobatan area. A trend may be seen for assimilation to become more marked as one moves south. Assimilation before /i/ is most extreme in the southernmost town, Guinobatan, where the reflex of /ai/ in other towns is phonemically /ei/, the /e/ phoneme presumably having its origin in Spanish loans. (No examples were found in any municipality of contrast between /ei/ and /ai/.)

Map 11

/á/ before /yi:/i/
/a/ before /hi:/i:/i/

Pili • [babá:iI] /babá:yih/
[mahémpis] /mahúmpis/

[babaiI] /babayí/
Baao • [pa?Ihá:lO?] /pa?Ihá:lu?/

[babá:iI] /babá:yi/ • Nabua
[ma?Ib?ógg] /ma?ib?úg/ Iriga • [babá:iI] /babá:yi/
[ma?Ihpís] /ma?ihpís/

Buhi • [babá:e] /babá:i/
[mal?bógg] /mai?bóg/

Libon • [babaI] /babai/
[malóás] ~ [mæloás] /maiwás/

Polangui • [babá:e] /babá:e/
[mal?bógg] ~ [mæI?bógg] /mai?bóg/

Oas • [babá:iI], [babé:I] /babá:i/
[mæImpís] /maimpís/, [meIhpís] /hpís/

Ligao • [babá:e] /babá:e/
[mæI?bógg] /mai?bóg/

Guinobatan • [babÉ:I] /babé:i/
[mEI?bógg] /mei?bóg/

V. LEXICAL ISOGLOSSES

Lexical isogloss maps were included in Anderson 1960 (74–91). These are not included here, but a few of the findings might be noted.

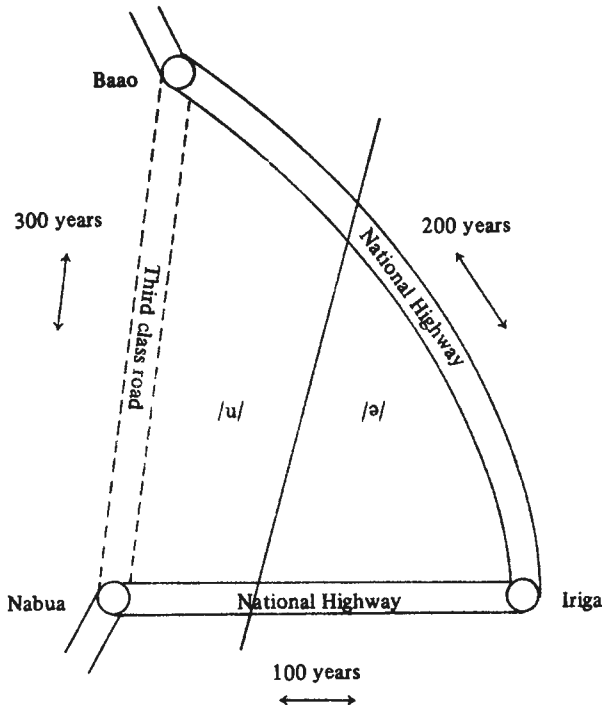
A fair number of items showed no lexical variation at all — i.e. the words were all apparently cognate. In a number of other cases, a cognate was given for all informants but one (Anderson 1960: 76–78).

Some isoglosses were shared by only two municipalities. The two municipalities sharing exclusively the largest number of isoglosses were Nabua and Iriga (Anderson 1960: 80). As for isoglosses shared by more than two municipalities, a large number were exclusively shared by Baao, Nabua, and Iriga (Anderson 1960: 81). Another set of isoglosses fell on or around the boundary between Camarines Sur and Albay, which was also the border between the old districts of Rinconada and Iriga (Anderson 1960: 83). Another group of isoglosses sets off Pili on the north and Guinobatan on the south from all or most of the municipalities between (Anderson 1960: 84). (Compare Phonemic Maps 4 (.11, .12).

VI. RELATIONS BETWEEN DIFFERENT KINDS OF ISOGLOSSES,
LEXICO-STATISTICS, AND OTHER FACTORS*In Rinconada*

Rinconada was the Spanish political district which included among other towns Baao, Nabua, Iriga, and Buhi. The name is still used by Bicolanos to refer to the area. The old northern boundary is well marked linguistically. Lexico-statistically, Pili and Baao are much farther apart than any other neighboring municipalities (700 years). Phonemically

Map 12



the boundary is marked by five (Map 10) phonemic isoglosses. The boundary is also marked by many individual lexical isoglosses (Anderson 1960: 81).

The southern border of Rinconada, which is also the Camarines Sur-Albay border, is not so sharply marked linguistically. Nabua is only 400 years from Libon and 300 years from Polangui. There are only four phonemic isoglosses (Map 10) between Libon and Nabua. The two isoglosses setting off Libon from Polangui are partly shared with Nabua (Maps 5 and 6).

Five phonemic isoglosses separate Buhi from Iriga. However, two of these are uniquely Buhi isoglosses and one is not shared by all Buhi informants. Buhi is only 400 years from Iriga lexico-statistically. Nevertheless Buhi apparently belongs linguistically with the Albay group rather than with the Rinconada group. Buhi is said to have been settled by refugees from eruptions of Mayon Volcano (see Map 1) in 1628 and 1814 and perhaps this is the background.

Rinconada — we no longer use the term to include Buhi — is interesting with regard to the relation between different kinds of isoglosses and lexico-statistical counts. There is one phonemic isogloss between Baao-Nabua and Iriga. Baao and Nabua have both replaced their /ð/ phoneme with /u/ in all environments while Iriga has retained /ð/. But lexico-statistically Nabua is closer to Iriga than to Baao. In fact, it appears that lately Nabua has been communicating with Baao mostly via the main highway, which goes through Iriga (Map 12). When cultural vocabulary is taken into consideration, as it is in the lexical isogloss maps, Nabua and Iriga look still closer together and Baao still farther away from both of them. There are 14 lexical isoglosses separating Nabua from Iriga, 22 separating Baao from Nabua, and 24 separating Baao from Iriga. Nabua, Baao and Iriga share 10 exclusive isoglosses (Anderson 1960: 81). Five of these are basic vocabulary items. Nabua and Iriga share 11 exclusive isoglosses (Anderson 1960: 80). None of these are basic vocabulary items. Thus it seems likely that a shift developed in the speech communities. On the basis that cultural vocabulary is the least conservative of these three things — the others being phonemic systems and basic vocabulary — we may make some historical guesses. At some time in the past, Nabua, Baao, and Iriga were one speech community. Later (about 200 years ago?) Nabua and Baao remained in one speech community, but both had less communication with Iriga. Around this time, Nabua and Baao lost /ð/. Since then — perhaps after the construction of the highway? — the boundaries of Nabua's speech community have shifted so that now there is much more direct communication with Iriga than with Baao.

Summary and Conclusions

Three dialect cores were found lexico-statistically. Phonemic isoglosses were mapped and summarized on Map 10. The biggest clusters of phonemic isoglosses were found to coincide with the lines established lexico-statistically.

Some phonemic isoglosses (4.7, 4.8, 7.) and some lexical isoglosses (Anderson 1960: 84) were shared by Pili and Guinobatan, the towns at the north and south of the transect, as against all or most of those in between. Pili was also slightly closer lexico-statistically to the Albay dialects than to the Rinconada dialects. Perhaps the dialects east of the mountains are a closer link between Pili and Guinobatan.

Larger-scale dialect boundaries were delineated by sets of lexico-statistical counts and clusters of phonemic isoglosses. Of a middle range of conservativeness probably are individual phonemic isoglosses and clusters of lexical isoglosses.

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