

A RE-EXAMINATION OF COOK'S GOGO-YIMIDJIR WORD LIST

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THE recent diachronic study of Gogo-Yimidjir by de Zwaan (1969a) has illustrated one more aspect of the contribution to the early knowledge of Australia made by Lieutenant James Cook and his associates as a result of their voyage along the east coast, the bi-centenary of which is being celebrated this year. Closer study of the data presented by de Zwaan and re-examination of other evidence do nothing to diminish the value of Cook's work, but do cast considerable doubt on some of de Zwaan's conclusions.

This re-examination of the data and conclusions is divided into four sections :

- (a) An examination of what sources are available ;
- (b) study of the data as presented in these sources ;
- (c) comparison of the word lists collected in 1770 with those collected in the 1890's and 1960's, with particular emphasis on the interpretation of the spelling in the early lists ;
- (d) conclusions regarding phonological and other changes in Gogo-Yimidjir.

THE SOURCES

Comparison of some items in Cook's word-list (as quoted by de Zwaan) with the later versions of the same items suggested that there had been errors in the interpretation of Cook's hand-writing, presumably by Hawkesworth.¹ Such items are listed in Table 1.

TABLE 1
Suspicious Items in Cook's Word List, Hawkesworth Edition

Item Number	Cook's List	Roth's List	de Zwaan's List
4	<i>melea</i>	<i>milka</i>	<i>milga</i>
11	<i>marigal</i>	<i>mangal</i>	<i>mangal</i>
15	<i>eddmal</i>	<i>damal</i>	<i>damul</i>

It seemed very probable that Cook really wrote these items as *melca*, *mangal* and *edamal*. The decision was therefore made to investigate what other sources were available and to re-study de Zwaan's results, using the most reliable data.

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¹ The source used by both Roth and de Zwaan was Hawkesworth's edition of " Lieutenant Cook's Diary " (London, 1773). (N.B.—Hawkesworth, not Hawksworth as spelt by de Zwaan.)

It was found² that there are three early hand-written copies of Cook's Journal, on one or other of which all published versions are based : (1) a copy in Cook's own hand, held by the Australian National Library, Canberra ; (2) a copy made by the clerk of the *Endeavour*, Richard Orton, which is now in the Mitchell Library, Sydney ; and (3) a later copy, composite, in several hands.

In addition, there is another version of the word-list in the Journal of Sir Joseph Banks.³ He discusses (p. 136) the unreliability of the methods necessarily used to elicit the vocabulary, and states that, to overcome this drawback, " Myself and two or three more got from them as many words as we could, and having noted down those which we thought[t] from circumstances we were not mistaken in we compared our lists ; those in which all the lists agreed, or rather were contradicted by none, we thought our selves morally certain not to be mistaken in. Of these my list chiefly consists"

Photocopies of the relevant pages of the Cook and Orton versions were obtained, by courtesy of the libraries concerned. These are identical except in hand-writing ; clearly, one is a copy of the other, and it is presumed that Cook's version is original. The Orton version has alterations in Cook's hand⁴ (but none in the word-list). Cook's word list is shown in Plates I and II.

Banks' list is quite different, and the list published by Hawkesworth is a composite of both, but omits some words from each.⁵

A further source of useful information is Roth (1901).⁶ In this work he not only quotes Cook's word-list and gives his own list for the same items, but also explains some of the discrepancies. Roth's source for Cook's list, like de Zwaan's, was the Hawkesworth edition, but there are puzzling discrepancies between some of the items as reported by Roth and by de Zwaan.

Some data of marginal interest are reported by Lanyon-Orgill (1961). This is a word-list in Bulponara, a language which is said (Schmidt, quoted by Lanyon-Orgill) to be related to Gogo-Yimidjir. It was spoken between Trinity Bay and Weary Bay, North Queensland.⁷ It was written in 1801 by a Midshipman Wright, and has a few items of interest in this case.

A useful reference on the spelling and pronunciation of English in the mid-eighteenth century is Holmberg's (1956) edition, with commentary, of the " Treatise on English Pronunciation ", by James Douglas.

² Information from the introduction to the Library Board of South Australia's Facsimile Edition of Cook's Journal, edited by Wharton (1893).

³ Banks (1770), Vol. II, pp. 136-37. (Edited by J. C. Beaglehole.)

⁴ See Reed (1969), p. 14.

⁵ See footnote by the editor in Banks (1770), Vol. II, p. 137.

⁶ N.B., this is not referred to by de Zwaan, who quotes only unpublished manuscripts by Roth.

⁷ This language is probably the modern Koko-Bididji, or Bididji (Capell (1963), No. Y24). According to O'Grady, Voegelin and Voegelin (1966), p. 53, this belongs to the same linguistic sub-group (Eastern Pama) as Gogo-Yimidjir.

THE DATA

Table 2 gives the word-lists as written by Cook and as published in the Beaglehole edition of Banks' Journal, together with the equivalents according to Roth and de Zwaan. The lists are rearranged, where necessary, to follow de Zwaan's numbering system (i.e., the order as listed by Hawkesworth), and additional items are added at the end. Numbers 49-53 are in Cook's list, 54-58 in Banks' list, and 59-61 are mentioned in Cook's Journal (as quoted by Roth) but are not in his list, and so are included in parentheses. Item 34 is in parentheses for the same reason. Capital letters are not used for words in the lists; in the early hand-written lists all aboriginal words were written with initial capital letters.

TABLE 2
Gogo-Yimidjir Word Lists

Item Number	English Equivalent	James Cook (1770)	Sir Joseph Banks (1770)	W. E. Roth (1901)	J. D. de Zwaan (1967)
1	head	<i>whageegee</i>	<i>wageegee</i>	<i>kambogo</i>	<i>gambogo</i>
2	hair	<i>morye</i> or <i>more</i>	<i>morye</i>	<i>moari</i>	<i>mori</i>
3	eyes	<i>meul</i>	—	<i>mil</i>	<i>mil</i>
4	ears	<i>melca</i>	<i>melcea</i>	<i>milka</i>	<i>milga</i>
5	lips	<i>yembe</i> or <i>iembi</i>	<i>yembe</i>	<i>yirmbi</i>	<i>yimbi</i> (inland) <i>bunu</i> (coast)
6	nose	<i>bonjoo</i>	<i>bonjoo</i>	<i>bunu</i>	<i>budil</i>
7	tongue	<i>unjar</i>	<i>unjar</i>	<i>ngandar</i>	<i>yandar</i>
8	beard	<i>waller</i>	<i>wallar</i>	<i>walar</i>	<i>walar</i>
9	neck	—	<i>doomboo</i>	<i>dumu</i> (chest)	<i>dumu</i> (chest)
10	nipples	—	<i>cayo</i>	<i>guyu-mil</i> <i>guyu</i> (breast)	<i>guyu</i> (inland) <i>mara</i> (coast)
11	hands	<i>mangal</i>	<i>mangal</i>	<i>mangal</i>	<i>mayal</i>
12	thighs	<i>coman</i>	<i>coman</i>	<i>kuman</i>	<i>guman</i>
13	navel	<i>toolpoor</i> or <i>julpur</i>	<i>toolpoor</i>	<i>dorlbor</i>	<i>dulbur</i>
14	knees	<i>ponga</i>	<i>pongo</i>	<i>bunggo</i>	<i>buygo</i>
15	feet	<i>edamal</i>	<i>edamal</i>	<i>tamal</i>	<i>damal</i>
16	heel	—	<i>kniorror</i>	<i>nuro</i>	<i>nuro</i>
17	cockatoo	<i>wanda</i>	—	<i>wandar</i>	<i>wandar</i>
18	sole of foot	—	<i>chumal</i>	<i>jammal</i>	—
19	ankle	—	<i>chongarn</i>	<i>chunggan</i>	<i>duygan</i>
20	nails	<i>kolke</i> or <i>kulke</i>	<i>kulke</i>	<i>gulgi</i>	<i>gulgi</i>
21	sun	<i>galan</i> or <i>gallan</i>	<i>gallan</i>	<i>ngalan</i>	<i>ngalan</i>
22	fire	<i>maianang</i> or <i>meanang</i>	<i>meanang</i>	<i>yoku</i> <i>wulunggur</i> (<i>mintjil</i> —hot)	—
23	a stone	<i>walba</i>	<i>walba</i>	<i>nambal</i>	<i>nambal</i>
24	sand	<i>ioo'wal</i> , <i>yowall</i> or <i>iovalba</i>	<i>yowall</i>	<i>yual</i> (beach)	<i>yiwal</i> (beach)
25	a rope or line	<i>goorgo</i> or <i>gurka</i>	<i>gurka</i>	<i>gurka</i>	<i>gumbin</i> (<i>gurga</i> —whip)
26	a man	<i>bamma</i> or <i>bāmā</i>	<i>bama</i>	<i>bama</i>	<i>bama</i>
27	male turtle	<i>poenja</i> or <i>poinga</i>	<i>poinja</i>	<i>bornda</i>	<i>bonda</i>
28	female turtle	<i>mamingo</i>	<i>mameingo</i>	<i>mami-ngu</i>	<i>mamiyo</i>
29	canoe	<i>maragan</i>	<i>maragan</i>	<i>maragan</i>	<i>maragan</i> (coast) <i>wayga</i> (inland)

TABLE 2—Continued
Gogo-Yimidjir Word Lists—Continued

30	to paddle ..	—	<i>pelenyo</i>	<i>birlinu</i> (fut.)	<i>bilinu</i> (fut.)
31	sit down ..	—	<i>takai</i> (set down)	<i>dakaya</i>	<i>dagay</i>
32	smooth ..	—	<i>mierbarrar</i>	<i>moimon</i>	<i>moymun</i>
33	dog ..	<i>cotta</i> or <i>kota</i>	—	<i>goda</i>	<i>guda</i>
34	pole cat ..	(<i>quoll</i>)	—	<i>tekol</i>	<i>degol</i>
35	loriquet ..	<i>perpere</i> or <i>peer-pier</i>	—	<i>birbir</i>	<i>birbir</i>
36	blood ..	—	<i>garmbe</i>	<i>garnbi</i>	<i>ganbi</i>
37	wood ..	—	<i>yocou</i>	<i>yoku</i>	<i>yugu</i>
38	bone nose-pin ..	—	<i>tapool</i>	<i>tabul</i>	<i>dabul</i>
39	a bag ..	—	<i>charngala</i>	<i>dan-gara</i>	<i>nyunyn dimbur</i>
40	arms ..	<i>aco</i> or <i>acol</i>	—	<i>ngaku</i> (shoulder)	<i>yagu</i> (shoulder)
41	thumb ..	<i>eboorbalga</i>	—	<i>ngakul</i> (arm)	<i>yagul</i> (arm)
42	fore, middle and ring finger	<i>egalbaiga</i>	—	<i>yerba balka</i> (do like this)	<i>gulur</i>
43	little finger ..	<i>nakil</i> or <i>eboornakil</i>	—	<i>galbai-go</i> (long)	<i>mayal-gulur</i>
44	sky ..	<i>kere</i> or <i>hearre</i>	—	<i>ngakin</i>	<i>ngagin</i>
45	a father ..	<i>dunjo</i>	—	<i>tjiri</i>	<i>diri</i>
46	a son ..	<i>iunurre</i>	—	<i>peba</i> (<i>dunu</i> sister's husband)	<i>beba</i> (<i>dunu</i> any husband)
47	a great cockle ..	<i>moenjo</i> or <i>moingo</i>	—	<i>yumur</i>	<i>yumur</i>
48	cocos yams ..	<i>māracoln</i>	—	<i>monji</i>	<i>moyndi</i>
49	teeth ..	<i>mulere</i> or <i>moile</i>	—	<i>diremandi</i>	<i>ganga</i> (yam)
50	chin ..	<i>iacal</i>	—	<i>mulir</i>	<i>divimandi</i> (coconut)
51	penis ..	<i>hereil</i> or <i>kerrial</i>	—	<i>ba-ri</i>	<i>mulir</i>
52	scrotum ..	<i>coonal</i> or <i>kunnol</i>	—	<i>gonlon</i>	<i>bari</i>
53	legs ..	<i>peergoorgo</i>	—	<i>dilbar</i> (testicles)	<i>buru, gunul</i>
54	an exclamation	—	<i>cherr</i>	—	<i>dilmar, gundil</i> (testicles)
55	an exclamation	—	<i>cherco</i>	—	<i>yari</i>
56	an exclamation	—	<i>yarcaw</i>	—	—
57	an exclamation	—	<i>tut tut tut tut</i>	<i>yir-ké</i>	—
58	article ..	—	<i>ge</i>	<i>tut tut tut tut</i>	—
59	white streaks painted on upper lip and breast	(<i>carbanda</i>)	—	<i>yi-e</i> (here)	<i>yi</i> (this)
60	kangaroo..	(<i>kanguroo</i>)	—	<i>kapan-da</i> ("marks-with")	—
61	a proper name ..	(<i>yaparico</i>)	—	<i>ganguru</i>	<i>wurumugu</i> (red kangaroo)
			—	<i>yaborego</i>	—

A source of some uncertainty in the hand-written lists of Cook and Orton are the initial (capital) letters, which all editors have taken to be *J*. In fact, these could just as well be *I*, as shown by comparison with the capital letter in such English words as *I*, *Islands* and *Industry* in the text of the Journal; see Plate I. Compare also *J* in the reproduction of Cook's signature, facing p. 96 of Reed (1969). Certainly

in cases where this symbol has been written as an alternative to what is written *Y* in another case, it seems reasonable to interpret it as *I*. For example, Cook probably wrote "Yembe or Iembi", not "Yembe or Jembi". In only one case does *J* seem a more likely choice, and the arbitrary decision has been made to write *j* in this case (*julpur*, item 13) and *i* in all other cases.

Of the three items listed in Table 1, the second and third are clearly *mangal* and *edamal* in Cook's and Orton's lists, and are printed as such in Banks' Journal. The case of *melca/melea* is not quite so definite; the letter in question is clearly different from the second letter of the same word in both Cook's and Orton's writing, and practically identical with the *c* in *aco* and *acol*, but it is also rather similar to the final *e* of *yembe*, especially as written by Cook. Banks (Beaglehole edition) has *melcea*. Obviously, *melca* must be accepted. See Plates I and II.

Another item in which the list published by Hawkesworth is incorrect is No. 29, *marigan*. Cook, Orton and Banks all have *maragan*. Also probably incorrect is No. 19, *chongurn*. Banks has *chongarn*, which is closer to Roth's *chunggan* and de Zwaan's *[dungan]*. For No. 48, Cook and Orton appear to have *māracotn*, not *maracotu*.

Three items from the Hawkesworth edition are quoted differently by Roth and by de Zwaan; these are (Roth version first), No. 1, *wageege/wagugu*, No. 15, *edamal/eddmal*, and No. 32, *mier carrar/mien carrar*. Comparison with other lists shows that *wageege* and *edamal* are correct. The third item is found only in Banks' list, and is there *mierbarrar*. The correct version, therefore, cannot be decided on.

de Zwaan quotes Roth's word for female turtle (No. 28) as *nami-ngu* (compare *namcingo* in Hawkesworth and *[mamiyo]* in de Zwaan's list). This is an obvious misprint or slip, as is demonstrated by the fact that *mami-ngu* appears on three occasions in Roth (1901).

Some comments made by Roth are relevant (items numbered as on Table 2):

1. Cook's name is probably a corruption of *bai-tchir-tchir*=to cover.
2. The Koko-Negodi⁸ term is *mo-yi*.
18. *jammal*=foot and smaller toes, on Annan River and Mount Cook.
19. *chunggan*, on the Annan River and Mount Cook.
23. *nambal*=any and every stone.
39. *dan-gara*=parcel rolled up in tea-tree bark.
41. [There is no word for thumb]; probably=*yerba balka*, i.e., "Thus make!"
"Do like this!", etc.,⁹ the action of the questioner, in pointing to the thumb to arrive at its name, being misinterpreted by the savage.

⁸ Koko-Negodi or Koko-Negó-di is Roth's name for the language spoken immediately to the north of Gogo-Yimidjir country from Barrow Point to Cape Melville. (Capell's Njegudi, No. Y105.)

⁹ de Zwaan quotes Roth as having *balal-ba* (do like this!) for this item. However, *yerba balka* is probably correct, both because it corresponds closely to Cook's word and because *[balga]* is still (de Zwaan (1969b), p. 96) the verb "to make". *Yerba* may be a suffixed form of *[yi]*, this.

Go. of every kind dead & alive here were they
once brought hither planted and cultivated by the
hand of Industry and here are preserved for more
cattle at all seasons of the year than ever can
be brought into this country

Then we consider the Proximity of this Country to the
New Holland, New Britain & several other Islands
which produce Cocoa Nutt & any other fruit & sugar
for the supporting of man & beast & so that they
should not long ago have been brought hither
by it not being done it should seem that the natives
of this Country have no commerce with their
neighbours the New Hollanders, it is very probable
that they are a different people & speak a different
Language for the advantage of such a voyage being
up this point I shall give a short Vocabulary of a
few words in the New Holland Language which I learnt
when in Endeavour River —

English	New Holland
The head	Whaguzee
" Hair of the head	Moryjor more
" Eyes	Meal
" Ears	Molea
" Lips	Yembe or Jombi
" Teeth	Mutere or Motic
" Chin	Meal
" Beard	Haller

Photograph of p. 298 of Cook's Journal held in the National Library, Canberra.

English	New-Holland
The Tongue	Unjar
" Nose	Bonjoo
" Naval	Tookpoor or Julpur
" Penis	Hereic or Herrial
" Scrotum	Coonal or Hunnel
" Arms	Res or Acob
" Hands	Mangal
" Thumb	Eboorbalga
" Fore middle & ring finger	Egalbalga
" Little Finger	Kahit or Eboorna hit
" The Thighs	Coman
" Knees	Ponga
" Legs	Puigoorgo
" Feet	Edamal
" Nails	Kothic or Kulkic
" Stones	Walba
" Sand	Toowal, yowall or Joralla
" Ropes or Lines	Goorgo or Gurka
" Fire	Maianang or Meanang
" The Sun	Galan or Gallan
" Sky	Here or Hearre
" Father	Dunjo
" Son	Jumuan
" Man	Bamma or Bama
" Day	Lotta or Kotto
" Water	Perpene or Pempier
" Locusts	Wanda
" Male Turtle	Poenja or Poingee
" Female	Mamingo
" Great Cockle	Moengo or Moingo
" Corals	Maracota
" Canoe	Maragan

Photograph of p. 209a of Cook's Journal held in the National Library, Canberra.

42. [No word]; probably *galbai-go*, i.e., long, etc.¹⁰
43. *eboornakil*; the "eboor" is "yerba" [as in 41].
45. *duno*=term applied by a man to express his sister's husband.
46. *yumur*=son (when addressed by his father).
59. Under the date 28th June, 1770, Captain Cook states "... and the upper lip and breast of one of them was painted with streaks of white which he called carbanda"; evidently the modern *kapan-da*, i.e., marks-with.
- 56, 57. Elsewhere the navigator speaks of *yarcaw* and *tut, tut, tut*, etc., as supposed expressions of admiration; the former is the modern *yir-ké*, a note of exclamation indicative of surprise, while the latter is still used as exclamatory of swift motion, e.g., a fish shooting along in the water.
- Banks described items 54-57 as "expressions maybe of admiration which they continually used while in company with us".¹¹ Regarding item 58, he says: "They very often use the article Ge which seems to answer to our English 'a' as Ge Gurka a rope."
61. This was the name of a native met by Cook. Roth says that the name still existed as a personal name in his time, and was derived from the name of a spot near Cape Flattery.

COMPARISON OF WORD-LISTS

It is important to remember that Cook and his companions spoke English, and few would have had much knowledge of any other language. It is most unlikely that they would have known any non-European language. The words in their lists would have been spelt so that they would be pronounced "correctly" by an Englishman. Therefore, there is no justification for assigning a single phonetic interpretation to any letter of the alphabet, especially to the vowel letters. Every case must be judged on its merits; for example, the letter *r* may represent a flap or trill, as it seems to in Cook's *here* or *unjar*, or retroflexion, as, possibly, in *garmbe* (which may have been [gɔɹɒbi]¹²) or simply as length in the preceding vocoid, as it probably does in *charngala*. The flap or trill may also be written as *rr*—possibly this represents a trill rather than a flap, e.g., *kearre* or *iunurre*. Or—a second example—*u* may be [u] or [ʊ], as in *kulke* or *gurka*, or a low central vocoid, an allophone of Gogo-Yimidjir [a], as in *unjar* or *chumal* (compare English *unjust* or *chum*).

Some distributional features of the English language tend to lead to errors in transcription of an Australian aboriginal language by an English speaker. One such is the absence of word-initial [ŋ]. An English speaker would be likely to either not hear this sound in this position, or to hear it incorrectly. This is amply borne

¹⁰ de Zwaan quotes this as *gallai-go*.

¹¹ P. 137. In a footnote, the editor refers to Roth's comments on these and other words in the list, although he mistakenly attributes them to H. Ling Roth.

¹² The present writer follows de Zwaan in using Pike's system of phonetic notation in this paper.

out by the study of word-lists collected by linguistically untrained people (e.g., many in Curr (1886)), as well as by the personal experience of the present writer, who, in his early field work (despite having studied a little Malay, and despite knowing that word-initial [ŋ] was common in Australian languages) made such errors as *muku* for [ɣuku], *wanyi* for [ɣunyi], *wuti* for [ɣuti], *andayura* for [ɣandayura] and *nayira* for [ɣayira] (all words from western Queensland languages). It is highly likely, then, that Cook and Banks would have heard items 7, 21, 40 and 43 "incorrectly". The fact that Gogo-Yimidjir lacks word-initial vowels (de Zwaan, 1969a, p. 204) supports this interpretation for items 7 and 40.

A second such feature of English is that almost all nasal-stop sequences are homorganic. Consequently, a sequence such as [nb] will most likely be heard as mb. This probably occurred with item 36.

A third feature is the absence of a short, high, back vocoid in syllable final position in English, although the long vocoid [u:] does occur there. The word final [ʊ] heard in Australian languages, which is close in quality to the English short /u/ (as in *Cook*) rather than English /u:/ (as in *boot*) will therefore tend to be heard as close to the English syllable final [ou], generally written as *o* (as in *go*). This is another noticeable feature of many old word-lists (e.g., in Curr).¹³

Finally, it is necessary in a diachronic study to be conservative. One must not postulate a specific change unless the evidence strongly favours it. In fact, if the evidence can reasonably be interpreted in such a way as to indicate that there has been no change, this must be done.

With these remarks in mind, we can now examine the word-lists in Table 2 in more detail. The word "change" in the following notes refers to diachronic change, and the expression "no change" means "there is no justification for postulating any phonological or lexical change in this item in the period 1770-1967".

Item 1. A simple case of misunderstanding (see Roth's remark, quoted above).

Item 2. Roth's spelling is rather strange, and no explanation can be offered for this. The word is the same now, as far as one can tell, as in 1770.

Item 3. The apparent [u] on-glide before final [l] is probably not significant. There is no other evidence of change.

Items 4 and 5. A possible change from medial [ɛ] or [ɛ̃] to [i]. The *r* in Roth's *yirmbi* is puzzling. There is evidence of possible dialectal and/or semantic change in the word *bunu*.

Item 6. Possible change [ndʒ] to [n]. Compare item 45. There is a temptation in these cases to interpret the *j* as [ɟ], but this cannot be justified.

Item 7. Evidence of a change in the distribution of palatalization; see note on item 18. Otherwise no change, as initial [ɣ] would not have been heard.

¹³ de Zwaan himself appears to have difficulty in distinguishing between the Gogo-Yimidjir phonemes /o/ and /u/. Compare his *ɣagu*, *ɣagul* (1969a, p. 206, item 40) with *ɣago* and *ɣagol* (1969b, pp. 148-49).

Items 8, 11, 12, 13. No change.

Item 9. Probably no change (see de Zwaan, 1969a, p. 203).

Item 10. Apparent change from [α] or [a] to [u] or [ʊ]. In the absence of other evidence of this change, this is probably not significant.

Item 14. No change. de Zwaan appears to have interpreted *pongo* as [pongo] rather than [pongo] (1969a, p. 208). There is no justification for this—compare the English pronunciation of *bongo*, *Congo*, *drongo*. An Englishman would not normally hear [ng] as different from [ŋg]. Hale (1966, p. 172) has reconstructed the Proto-Pama-Maric word for knee as **puŋku*.¹⁴

Item 15. The initial *e* is probably /yi/, “this”.¹⁵ The morpheme is therefore the same as at present.

Item 16. No change. Word-final [ɔ] would be likely to be written *or* by an English speaker.

Item 17. No change. See de Zwaan (1969a), p. 205.

Item 18. This is obviously the same word as item 15 [*damal* ~ *dʒamal* ~ *tʃamal*]. It appears, therefore, that, in 1770 and the 1890's, a plosive followed by a low vowel could be palatalized, and also that devoicing could occur with palatalization. (The latter is attested also by item 19, and for 1770, by items 54 and 55; the former for 1770, by items 7 and 27, and both for 1770 by item 39.) According to de Zwaan, neither of these can occur at the present time.¹⁶

Item 19. The *r* in Banks' spelling serves simply to retract and lengthen the preceding vowel. [tʃ] was heard in 1770 (see note on item 18). Otherwise no change.

Items 20, 21, 24. No change.

Items 22 and 23. Possible morphemic changes. de Zwaan (1969a, p. 210) considered that [*walba*] became [*nambal*] by phonological changes (although he thinks Cook may have failed to hear final *l*; see p. 205). Such a complex change seems unlikely. Compare *walba* with Roth's *woba*, “red clay”, and *wobur*, “crest of hill”. Also, in Wright's Bulponara word-list, *walaba*, “a stone”. It is possible that Wright heard a non-existent vowel between *l* and the following consonant, as he also writes *mileka*, ear. (Compare item 4.)

Item 25. Possibly a minor change in meaning.

Items 26, 28, 29, 30, 31. No change.

Item 27. Probably no change, apart from the wider distribution of [dʒ] in 1770 (see note on item 18).

¹⁴ Gogo-Yimidjir is classified by O'Grady, Voegelin and Voegelin (1966) as a member of the Pama-Maric language group.

¹⁵ See de Zwaan (1969b), p. 132. See also the remarks on item 58.

¹⁶ See de Zwaan (1969a, pp. 213–14; 1969b, pp. 27–28, 58–59). However, it is hard to reconcile de Zwaan's statement that palatalization and devoicing do not occur together, with his listing of [tʃ] as an allophone of [d] (1969a, p. 213; 1969b, pp. 27–28. See also p. 54 for an occurrence of [tʃ].)

Item 32. As this would be a very difficult morpheme to elicit, no weight can be attached to the apparent change.

Item 33. No change. (In Wright's Bulponara word-list the word for "dog", and also for "wallaby", is given as *gooda*.) Hale (see O'Grady (1966), p. 95) reconstructs the form **kuta* for Proto-Pama-Maric.

Item 34. The similarity between the words given here seems such that a mishearing by Cook is indicated. The word "quoll" is not in Cook's or Banks' original lists, and so presumably was not elicited with the same care as other words.

Item 35. The final *e* of *perpere* is not intended to be pronounced separately, but, with the preceding *e*, represents a single vocoid (cf. English *here*, *mere*). There is therefore no change in this item.

Items 36, 37, 38. No change.

Item 39. In view of Roth's explanation (see above) the different morpheme elicited by de Zwaan does not necessarily indicate any morphemic change. See also the note on item 18.

Item 40. No change.

Items 41, 42. Roth explains these as misunderstandings (see above). The *e* of *egalbaiga* may be modern */yi/*.

Item 43. "Mishearing" by Cook. See comment by Roth, quoted above.

Item 44. Despite de Zwaan's comment (1969a, p. 203), such a mishearing is quite feasible. *[k]* before a high front vocoid will probably be advanced, and is then close to a palatal stop. If the Gogo-Yimidjir phones, as heard in 1770, were not *[dʒ, tʃ]* but genuine palatals, or, as in many Australian languages, lamino-alveolars, such a mishearing is even more likely. Many examples could be found to illustrate this point.¹⁷

The indecision shown by Cook on whether to write *j* or *g* in two other cases (items 27 and 47) suggests that the sounds he heard were, indeed, not *[dʒ]* but were intermediate between the English phonemes */dʒ/* and */g/*.

Item 45. This would be a very difficult item to elicit, and no weight can be attached to any apparent semantic change.

Item 46. Probably no change—the final *e* is most likely silent.

Item 47. The apparent change from final *[o]* to *[i]* is not significant in the absence of evidence of other such changes.

Item 48. Possible lexical change, but should be regarded with caution in the absence of a comprehensive dictionary of botanical terms.

Item 49. No change.

¹⁷ For example, in Wemba-Wemba the English "cattle" has become *[tʃa:ɬɬ]* (Hercus (1969), p. 228). In Kalkatungu there is occasional fluctuation between *[tʃ]* and *[k]*, e.g. *[tʃipulu~kipulu]* (Blake (1969), p. 13). The present writer has on more than one occasion heard the Waluwara morpheme *[tʃira]* as *[kira]*, and has recorded a case in Ngamani of an English */t/* becoming *[k]*: *[kamiyaku]*, "tomahawk".

Items 50, 51, 53. Possible lexical change. (Note apparent metathesis in item 51: *golon-gunul*.)

Item 52. The change from [n] to [nd] may be due to a mishearing. The change in the second vowel must be regarded as doubtful, in view of Cook's uncertainty about its nature.

Items 54, 55. No comparison. See note on item 18.

Items 56, 57, 59, 60, 61. No change, at least before 1900.

Item 58. This may be the modern /yi/, "this". This raises an interesting question as to possible lenition of the palatal stop, [dj] becoming [y]. So *ge* [dji] becomes [yi]. The changes in items 6 and 45 could then be attributed to this same process, with the glide [y] then fusing with the nasal to form the palatal nasal. A similar process could possibly explain the loss of *b* from *doomboo*, item 9 ([*dumbu*] > [*dumvɛu*] > [*dumu*]). However, this is purely speculation, especially as the initial *e* in *edamal*, *eboorbalga*, *egalbaiga* and *eboornakil* has been identified with the morpheme /yi/.

CONCLUSIONS

de Zwaan reached two conclusions regarding the phonology of Gogo-Yimidjir:

- (a) That changes in back vowels are frequent and that in a significantly large majority of cases this change is upwards, i.e. from [o] to [u].
- (b) That there has been a shift from alveolar to velar nasal.

In view of the tendency for an English speaker to hear syllable-final [ʊ] as closer to the sound he would write as *o* than to that he would write as *u*, it is felt that the evidence for conclusion (a) is not sufficient to justify an hypothesis of phonological change.

de Zwaan quotes five cases to support his conclusion (b). The present writer finds it impossible to see how three of these five cases could be interpreted in this way: in items 7 and 40 there is an apparent change from initial zero to initial velar nasal, and in item 21 an apparent change from initial [g] to [ŋ]. As regards the other two cases, item 14 would certainly have been spelt the same way by Cook and Banks whether the nasal were alveolar or velar, while item 43 does indeed show an apparent change from alveolar to velar nasal. However, it can be explained as a mishearing, as also can items 21, 7 and 40. There is therefore no evidence to support conclusion (b).

Of a total of 51 cases where we can compare the 1770 version of a morpheme with a later version, there is no real evidence of interphonemic change in 45 cases, doubtful evidence in two cases (items 4 and 5, [e] > [i]), and stronger evidence in four cases ([dʒ] > [o] in items 6 and 45, [a] > [u] in item 10, and [o] > [i] in item 47). We are not justified in drawing any conclusion from this amount and variety of evidence.

There is, however, some justification for postulating an intraphonemic change in that the distribution of palatalization has changed since 1900 so that a plosive

followed by a low vowel can no longer be palatalized (items 7, 18, 27, 39). In view of doubt regarding the situation as of to-day (footnote 14), a further conclusion that a devoiced palatalized plosive, permissible before 1900 (see items 18, 19, 39, 54, 55) is no longer allowed, must remain tentative.

There are six cases (disregarding such doubtful items as 32 and 48) where the evidence seems to indicate another kind of change. In one of these cases (*bunu*, items 5-6) the change took place after 1900. Allowing for possible errors in others of these items, it seems reasonable to conclude tentatively that less than 10% of the 1770 vocabulary has been replaced at the present time by different lexemes. Further field work may clarify the situation.

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