

GAYO CONSONANT CORRESPONDENCES

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0. INTRODUCTION

Gayo, an Austronesian language spoken in the interior of north-western Sumatra, shows a number of idiosyncratic consonant correspondences that cannot be accounted for by borrowing from neighbouring languages,¹ and must therefore result from shifts which occurred in Gayo itself. The peculiarity of the case is that they are found only in a minority of the lexical items for which Dempwolff (1938: vol.III) provided reconstructions; so far as the forms which fail to show them are identified as cognate loans, it is inherited and not borrowed vocabulary in Gayo that is statistically exceptional. Here we should consider that when borrowing takes place between languages as closely related genetically as are many contiguous ones in Indonesia, it is often a matter of replacing a form by another which differs perhaps only in one phoneme from it, in a more or less predictable way. The process bears more resemblance to that by which an English provincial accommodates his speech to metropolitan usage than to the loan process as usually studied. Widespread borrowing of this kind has been classically documented in Ngaju Dayak (Dyen, 1956). It is coming to appear

by no means abnormal in other Indonesian languages as they receive systematic examination;² and our analysis of the Gayo data will suggest among other things a new approach to those of Javanese, to which they bear an incidental resemblance.

Gayo has had little descriptive attention, which may account for a corresponding failure to attract the notice of comparatists.³ But its lexicon, fortunately, has been recorded at length by Hazeu (1907), from whose 1,148-page dictionary the forms cited here are taken.⁴

The shifts to be discussed affect the PAN consonants *b; *d, *D, *Z (the first two being merged in all, and all three in some, of the languages of the area); *R; and *j.⁵ They are in most environments

*b > \emptyset initially, w ~ \emptyset medially;
 *d etc. > r initially and medially;
 *R > \emptyset initially, γ ~ \emptyset medially, \emptyset finally;
 *j > \emptyset medially.

Words exhibiting these reflexes will be identified as items of the Gayo inherited vocabulary.

The lexemes which can be cited in evidence are not numerous, fewer than eighty in all. This has its own inconvenience; we shall be obliged at times to draw conclusions from a small number of examples, especially where environmental differences of treatment come into question. Some detailed formulations will therefore be provisional. In compensation, doublets showing the reflexes to be expected from borrowing are recorded in about a third of the cases, and then almost always the presumed loan is restricted semantically or collocationally by comparison with its shifted-reflex counterpart.

There are some items referable to PAN bases containing more than one of the relevant protophonemes in which only one of the reflexes shows the shift predicted. Such mixed cases cannot be explained from borrowing, at least without invoking a hypothetical contamination. On the assumption that they are regular I use them to deduce exception rules, in particular a 'semivowel rule' which inhibited the development of successive semivowels, or close non-obstruent segments.

I shall now set out the evidence for the shifts.

1. *b

Taking the reflexes in medial position first, *b is reflected as w in the environment *a—a. This has been accepted as the regular development in Malay (Dempwolff, 1937: vol.II, 20, § 70 (a); exceptions *ibid.*, 21, § 70 (e) 3). But in view of its coherence with the remaining reflexes I assume it to be regular in Gayo also and list all instances,

though borrowing from Malay is possible with some of them. Thus: (1) *babaq *mouth* > awah, ~ babah in phr. + Ach. babah; (2) *kabal *invulnerable* > kawal *guard, defence, guardian, defended area*; ⁶ (3) *kaban *companion, company* > kawan *herd, company* (cf. Mal. kawan); (4) *laban *opponent* > löwön ~ (old persons' speech in 1907) lawan (cf. Mal. lawan); (5) *taban *to hold fast, booty* > tawan *taken prisoner, abducted* (cf. Mal. tawan *to take prisoner*). Note also *tabaR > tawar, no. 75 below.

Following or preceding a back vowel, including o < *-aw, *-b- is generally lost. For this we have (6) *Dabuq *to fall* > tauh (with t- by dissimilatory devoicing, before the shift of *D-, of the first of two heterorganic voiced plosives; there is no contrary evidence in the inherited vocabulary; a similar development is seen in Ach.); (7) *z[ae]but *hairs* > dial. jaut *sugar-palm fibres*; (8) *k-ar-ebaw *buffalo* > koro (with vowel harmony as in nos. 32, 33, 49, 57, 74); (9) *tebus *sugarcane* > tu; (10) *luban *pit* > luang *hole, pit*; (11) *bubu(S) *fish-trap* > u ~ uu; (12) *subuk *to spy on* (Blust, 1971, no. 409) > suk.

It is reasonable to assume *b > (*)w as a first development in all these environments, followed by the loss of *w in contact with u, o. In this connexion two other items have to be noticed. In (13) *qabus *ash* ⁷ > wau, dial. au, *dry sand, sand mixed with ash from base of hearth* we have a case of metathesis with w- preserved under the monosyllable rule discussed in relation to no. 36 below. There is no direct evidence as to whether *b > w antedated the metathesis, but *awu > wau appears more probable than *abu > *bau. In (14) *quban *grey-haired* > wön = uwön ⁸ *grey hair*, however, it is likely that w- developed secondarily from *u- as in the reflexes of *buaq and *buSat, nos. 34-5 below.

In initial position *b is generally lost. No. 36 implies that the development took the same course *b > *w > ø as in the medial cases; the loss of *w parallels that of PAN *w (cf. no. 48, *waDa(S)). Thus: (15) *baqeRu(S) *new* ⁹ > ayu ~ rarely baru + Mal. b(ah)aru; (16) *batan *log ...* > atang *felled trunk, beam*, ~ batang *trunk, tree, plant* + Mal. batang *trunk*; (17) *batu[] *stone* > atu, dial. watu, ~ batu in phr. + Mal. batu; (18) *batuk *to cough* > atuk; (19) *buka *to open* > ukö, ~ occasionally bukö + Ach. or Mal. buka; (20) *bukuk (~ *bu-ŋ-kuk = UAN *buŋkuk) *crooked* > ukuk *to bend forward*, ~ bungkuk *warped, crooked* + Ach. bungko? < *bu-ŋ-kuk; (21) *bulan *moon* > ulön *moon, month*, ~ bulön *month* + Ach. bulöen or Mal. bulan; (22) *buluŋ *foliage* > ulung *leaf*; (23) *buluq *kind of bamboo* > uluh *bamboo*; (24) *bunuq *to kill* > unuh, ~ rarely bunuh + Mal. bunuh; (25) *buri(S) *to flow* > uri *descent of amniotic fluid*; (26) *buSuk *hair* ¹⁰ > uk; (27) *butuq *penis* > utuh; (28) *buzan *unmarried* > ujang *idem*, ~ bujang *marriageable [male]* + Mal. bujang *unmarried*. So too *babaq > awah, no. 1 above; *bubu(S) > u(u), no. 11; and note ayu:

Karo Batak bayu *to twill, make mats.*

Initial *be, and the secondary *bě- arising from vowel weakening in the antepenult, undergo one of two contextually determined developments. Each of these is paralleled in the treatment of *e following initial zero or laryngeal. The whole syllable is lost in three instances: (29) *belas *sympathy* > las *to regret*; (30) *betiis *calf of leg*¹¹ > tis; (31) *bi[tɪ]uka[] *intestines* > (*bětuka >) tukö *stomach*. The loss of *ě- following the disappearance of the consonant appears unitary with that in e.g. *[]e-m-pu *grandparents* > mpu. The contrary cases are associated with a type of vowel harmony found in the context of medial r or nasal, and also exemplified in nos. 8, 49, 57. Thus: (32) *beŋi(S) or *beŋuy¹² *night* > ingi; (33) *bin[e]siq *seed*¹³ > (*bėnih >) inih ~ eneh *idem* ~ elevated bėnih (beside rəm) *paddy* + Mal. bėneh *seed*; and add *beRas > ɔrɔs, no. 74 below. Cf. with these e.g. *eZen > ɔrɔn (no. 54); *enem *six*¹⁴ > ɔnɔm, ~ nam in cpds. etc. + Ach. nam or Mal. ěnam.¹⁵

As in wön < *quban (no. 14), w- has probably developed secondarily from *u- in (34) *buaq *fruit* > wah = uah = uwah (phonologically one form, cf. n. 8); (35) *buSat *to lift*¹⁶ > wöt *to rise, get up, n(u)-wöt to lift up, pick up*. But it is w- < *b- that appears to be preserved in (36) *bajas *interior* > was ~ waas. For this reconstruction Dempwolff cited only a Tagalog word meaning 'north-west' and a Toba Batak one meaning 'dwelling', but when Karo Batak ba:s ~ bagas *interior* is added there is no reason to doubt the connexion. Since the expected Karo form is bagas, ba:s must be a loan from Gayo, showing that the loss of *-j- (below) preceded the shift of the initial. We may then formulate a rule, also operative in no. 13 above, that *w- (< *b-) was preserved in monosyllables except before a back vowel, where, as in medial position, it was lost (nos. 11, 26).¹⁷ The dialect variant watu (no. 17) provides further evidence of *b- > *w-.

There is no indication of a distinctive development of *b in final position; the inherited reflex is probably p as in rukup *upcurved [horns]* < *rukub *protection*.

2. *d, *D, *Z

In the inherited vocabulary *d, *D, and *Z generally merge as r initially and medially. The single exception, *Dabuq > tauh (no. 6 above), results from precedent dissimilatory devoicing.

Initially: (37) *diŋdiŋ *wall, partition* > rėring (with vowel weakening as in all inherited reflexes of 2(CVC) forms, e.g. tėnting *to sift by shaking* < *tiŋtiŋ); (38) *Dalem *inside, depth* > rölöm *deep, ~ dölöm inside, innermost* + Ach. or Mal. dalam; (39) *DataR *flat, level* > rata;

(40) *Deles to slide > rēlas collapsed; (41) *DuSa two¹⁸ > roa, ~ duö in cpds. etc. + Ach. or Mal. dua; (42) *[dD]aRaQ blood > rayoh; (43) *[dD]uRi[] thorn > rwi = ruwi = rui; (44) *Zaket ~ *Zeket to stōk¹⁹ > rakat ~ rakot hitting the mark, ~ dēkat ~ dēköt near + Mal. dēkat + Jav. dēkēt; (45) *Zalan path, road²⁰ > ralan gait, r-ēm-alan to go, ~ jölön way, manner + Ach. jalan idem... + Mal. jalan path, road, course to take....

Medially: (46) *hadep front²¹ > arap idem, ~ ödöp to face towards + Ach. adab idem; (47) *mudaq easy, cheap > murah cheap, open-handed, unstrenuous, ~ mudah easy + Ach. or Mal. mudah idem; (48) *waDa(S) to exist > ara present, existing; (49) *saDeR to prop against²² > sere ~ sere (with vowel harmony as in nos. 8 etc.; for -e < *-eR see below), ~ obsolescent (in 1907) söndör + Mal. sandar < *sa-n-DeR; (50) *quDI(S) rear²³ > p-ur-ön behind, after (: Karo Batak p-udi-:n henceforth); (51) *quDip to live, be alive > urip; (52) *tuDuq to drip > turuh letting rain in; (53) *ku[dD]en cooking-pot > kurön; (54) *eZen to squeeze out²⁴ > oron; (55) *quZan rain²⁵ > urön ~ elevated ujön + Ach. ujöen or Mal. ujan; (56) *tuZuq to point out²⁶ > turuh. Note further sara : Toba, Karo Batak sada one, taring : Karo tading left behind, left over.

The example of rēring < *dīndīn (no. 37) against tēnting < *tiŋtiŋ suggests that the shift may have extended to medial position following a nasal, which was then dropped before the resultant r under pressure of the phonological pattern. This differs from the treatment of *b and *j, but at least one other apparent case can be cited: (57) *[]an[dD]uy to bathe > n-iri idem (with vowel harmony as in nos. 8 etc.), ~ mandi washing of corpse + Mal. m-andi. Cf. also n. 22.

A problem is posed by the word lo day. It was compared by Hazeu with Dayak andau, Jav. ěndon (~ andon), Tagalog arao, which would relate it to *qa(n)Zaw day, sun.²⁷ Different inherited developments of -nZ- and -nd-/-nD- appear prima facie unlikely, but no other obvious etymology is available. If we refer lo with Jav. ěndo-n to a variant (58) *qe-n-Zaw or *qe(n)Zaw of *qa(n)Zaw, it is possible to propose the generalization of a sandhi-form from the phrase mata n lo (< *n ro?) sun; but this solution is speculative.

*Z has not been reconstructed in final position. The reflexes of *-d and *-D, which do not apparently distinguish inherited words from borrowings, are respectively -t and -r as in laut sea, lake < *laud, pusör whorl < *puseD.

3. *R

As with *b, it will be helpful to begin with the reflexes in medial position, where *R is generally reflected as Gayo y. Thus (59) *paRaw

hoarse > payo; (60) *uRat *nerve, vein* > uyöt *muscle, sinew, nerve, fibre, root, creeper*,²⁸ ~ uröt *thread* + Ach. or Mal. urat; (61) *puRuq *quail* > puyuh (+ Ach., Mal. puyoh!); and *baqeRu(S) > ayu, no. 15 above; *[dD]aRaQ > rayoh, no. 42.

An earlier *-y- is to be inferred in (62) *kaRat *to gnaw, bite* > (*kayat >) ket *to bite*, ~ karat *rust; pressing, urgent* + Mal. karat *rust* and Ach. karat *pressing*, with the same development as is seen in e.g. *bayaD > ber (no. 77 below; b- by semivowel rule); and also in *buRaw > bio, no. 76.

Following or preceding a front vowel *-R- is lost, as *-b- is following or preceding a back one. Thus: (63) *uqaRi(S) or *quaRi(S) *sun, day*²⁹ > s-wöi = s-uöi *the day after tomorrow* (originally (*after*) *one day*), ~ in limited contexts ari (beside lo, no. 58) *day* + Mal. hari; (64) *ñiRu(S) *winnowing-tray*³⁰ > niu; and *[dD]uRi[] > rwi, no. 43 above. But the loss of *-R- in (65) *luRuq *to trickle, drizzle* > luh *tears*, ~ ruluh *fallen [fruit, leaves, hair]* + Ach. luroh *to fall* with regular metathesis, cannot be explained in this way - contrast no. 61. It is most simply accounted for by metathesis of l and *R, anterior to the shift, paralleling that of l and r:³¹ *luRuh > *Ruluh > *uluh > luh, though the loss of the first-syllable vowel remains problematic.

Reconstructions of initial *R are relatively infrequent; such evidence as there is of its treatment in Gayo points to a development *R- > (*y- > ?) ø. For this we have, besides the possible secondary case just quoted, only (66) *Rumaq *house, dwelling* > umah. Note also, however, ambu-ambu *fringe* beside rambu < *rambu(S), perhaps by hypercorrection at a stage when forms in ø < *R- were more widely competing with borrowed forms in r-.

Unlike the other protophonemes discussed here, *R has characteristic Gayo reflexes in all three positions; and with *-R we are on firmer ground. A development *-R > *-y underlies the changes *-aR, *-eR > (*-ay >) -e ~ -ε and *-iR > -i, exemplified in (67) *lapaR *hungry* > lape *famine*; (68) *dɛɲeR *to hear*: pɛŋge ~ pɛŋge ~ t(ɛn)ɛŋge ~ nɛŋge apparently < *pɛrɛŋge (or *pɛnɛŋge?) < *pVn-dɛɲeR, etc.;³² (69) *ikuR *tail* > (*ukiR by metathesis³³ >) uki; and in *saDeR > sere ~ sere, no. 49 above.

*DataR > rata, no. 39, is an exception. Ach. has rata *flat, level*, apparently + Gayo, beside a less frequent regular data; perhaps this is a case of double borrowing, with Gayo -a, for *-e, normalized on Ach.

4. *j

No reconstructions of *j in initial position have been proposed. Finally, and medially following a nasal, Gayo shows the velar reflexes typical of Batak languages: -k and -ng(g)-, as in *pusək navel* < *pusej, *ngi* ~ *nggi younger sibling* < *a-n-ji(S). Medially in the absence of nasal augment, however, *j is lost in the inherited vocabulary whatever the vocalism. Thus: (70) *qapeju(S) *gall* > *pau*; (71) *pija(S) *how much?* > *piö-n*; (72) *ijun *nose* > *iung*; and *bajas > *wa(a)s*, no. 36 above.³⁴

5. THE SEMIVOWEL RULE

In a number of cases involving reconstructions where *b is followed later by *R the Gayo form shows one of the expected reflexes, but not the other. The shift of *b but not that of *R is found in (73) *baRa[] *live coals*³⁵ > (*ara-ara > *ərara >) *rara* (+ Karo Batak *rara to glow red*; for the reduplication cf. Jav. *wa-wa*), ~ *börö* in phr. + Mal. *bara*; (74) *beRaS *husked rice* > *orəs*; and, with medial *b and final *R, in (75) *tabaR *antidote* > *tawar counteracting, antidote*. The converse is seen in (76) *buRaw *to drive away*³⁶ > (*buyo >) *bio to drive [cattle], drive away, drive out*. The only item in which both *b and *R appear shifted is *baqeRu(S) > *ayu*, no. 16, which as an original trisyllable with an intervening phoneme may be subject to a special rule.

It is possible to account for these instances by postulating a 'semivowel rule' that inhibited the development of sequences *wVy. But in view of the divergent treatment of no. 76 this depends on the assumption, not in itself implausible, that the initial stages of both shifts were broadly contemporaneous and that their detailed chronology varied according to the nature of the neighbouring vowels.

The hypothesis can be tested by reference to reconstructions in which *b is followed by *y, where we should expect *b > *w to be inhibited wherever inherited *y had remained unshifted. This is borne out by (77) *bayaD *to pay* > *ber*; if *ber* is a loan, it must be an early one, since *-aya- > -ε- is characteristic of Gayo (cf. no. 62 above, and contrast *bayang shadow* + Ach. or Mal. *bayang idem* < *bayaŋ *to sway*). Though *ayu* : Karo Batak *bayu* (p. 201) seems to contradict this, it may be on a par with *ayu* < *baqeRu(S). Correspondingly, with medial *b (78) *labay *yarn* > *labe to skein yarn* may well belong to the inherited vocabulary.

I have found no evidence bearing on the treatment of the converse sequence, PAN *RVb-, in inherited vocabulary.³⁷ But *yVy as well as *wVy may have been inhibited if (79) *layaR *sail* > *reI* (with metathesis as seemingly in no. 65) is an inherited form. As a nautical term per-

haps it is unlikely to be. Certainly *wVw cannot have been ruled out in view of *babaq > awah, no. 1.

However, we can take the semivowel rule further. No instances of the shift of *b before *i have been found apart from the trisyllabic *bi[tT]uka[] > tukö, *bin[e]Siq > 'inih etc. (nos. 31, 33), where antepenult vowel weakening may well have come first.³⁸ If the rule also inhibited the sequence *w + close front vowel, the normal development will have been as in bintang *star* (<?) *bintaŋ, lebih *more* (<?) *lebiq; the want of items showing the shift is explained, but inherited forms will not usually be distinguishable from borrowed ones.

A similar inhibition of the sequence close back vowel + *y could have affected unstressed syllables only in view of nos. 60-1, but would account for the lack of instances of the shift of final *R following *u. PAN *-uy yields -i (as in no. 57, *[]an[dD]uy > n-iri); this development may have come earlier, but it may reflect the same pressure. Thus again e.g. kumur *to gargle* (<?) *kumuR may be an inherited form.

The forms which show these reflexes are a minority of all those that can be related to Dempwolff's reconstructions containing the corresponding protophonemes. I omit from the tabulation below items the occurrence of which is stylistically or collocationally restricted, as well as those in which distinct reflexes may be precluded by the semivowel rule. I have found the following numbers of items with the respective reflexes:

	inherited	borrowed
*b-	27 (nos. 1, 11, 15-36, 73-4, 76)	63
*-b-	15 (nos. 1-14, 75)	26
*d-/*D-/*Z-	10 (nos. 6, 37-45)	25
*-d- etc.	11-12 (nos. 46-56, ?58)	24
*-nd- etc.	2-3 (nos. 37, 57, ?58)	18
*R-	1 (no. 66)	6
*-R-	13 (nos. 15, 42-3, 59-65, 73-4, 76)	23
*-R	5 (nos. 49, 67-9, 75)	8
*-j-	4 (nos. 36, 70-2)	4

Overall, correcting for items which figure twice in the count, inherited vocabulary amounts to about 30 per cent of the whole sample.

To list all items marked as borrowed by these criteria would inordinately lengthen this article. In the Appendix I note all items in either category which figure in a 214-word lexicostatistic list. In this core vocabulary the proportion of inherited items, similarly calculated,³⁹ rises to 56 per cent, reinforcing the presumption that the method I have followed to identify them is valid; but the presence of

so many cognate borrowings even here is remarkable. The incidence of cognate borrowing in Achinese is of the order of 50 per cent for the Dempwolffian vocabulary; Gayo may well prove to be an extreme case of linguistic acculturation.

Lessons may be drawn even from extreme cases. If we tabulate the Gayo reflexes without discriminating between inherited and borrowed forms, in order of frequency, we have

*b:	b, \emptyset (\sim) w (finally p);
*d, *D:	d, r, (l) (finally t < *d, r < *D);
*Z:	r, j, d;
*R:	r, \emptyset (\sim) y;
*j:	\emptyset , d, r (finally k).

We may compare this with a corresponding tabulation of the reflexes in Javanese as usually stated:

*b:	w, b;
*d, *D:	d, d, r, finally also t;
*Z:	d, r;
*R:	\emptyset , r;
*j:	r,

and proceed to establish the Jav. correspondents of the Gayo forms treated in this article.

From *b-, *-b- Jav. has w in 19 cases, and doublets in w, b in seven more, against b in three cases only:

(w) nos. 2, kawal *resistance, defended*; 4, lawan; 5, tawan *booty, prisoners*; 6, dawuh; 10, luwang; 11, wuwu; 13, awu *ash*; 14, uwan *grey hair*; 15, wau *just now*; 16, watang *stave, felled trunk*; 18, watuk; 21, wulan; 23, wuluh *bamboo*; 26, wok *beard*; 29, wēlas *sympathy*; 30, wētis *thigh, calf*; 33, winèh, obsolescent winih; 34, woh; 75, tawar *made harmless*; (w \sim b) nos. 17, watu \sim batu in phr.; 20, wungkuk *crooked* \sim bungkuk (*with*) *back bent*; 28, wujang *unmarried* \sim bujang *marriageable*; 32, wēngi \sim bēngi; 35, a-bot *heavy, weight*, wo-wot-an \sim bo-bot *weight*; 73, wa-wa \sim barah; 74, wos \sim bēras; (b) nos. 8, kēbo < *kebaw; 9, tēbu; 19, buka *breaking of fast*.

From *D-, *-d-, *-D- Jav. has r in nine cases, plus one more with a doublet in d, against one each of d and d:

(r) nos. 39, rata; 41, lo-ro; 42, rah; 43, ri; 46, arēp *to want to, intend to*; 47, murah *cheap*; 48, ora *not to be*; 50, w-uri *behind, after* \sim b-uri *rear*; 52, turuh *to let rain in*; (r \sim d) no. 51, urip \sim udip; (d) no. 6, dawuh; (d) no. 38, dalēm *home, inner room*.

From *Z-, *-Z- Jav. has d in five cases, against one of doublets in d, r:

(d) nos. 45, *dalan path, road*; 54, *ěděn*; 55, *udan*; 56, *tuduh*; 58, *ěndo-n*; (d ~ r) no. 44, *děkět near ~ rakět intimately connected*.

From *R-, *-R-, *-R Jav. has \emptyset in eleven cases, plus two more with doublets in r, against one of r alone:

(\emptyset) nos. 15, *wau just now*; 39, *rata*; 42, *rah*; 43, *ri*; 60, *ot-ot muscle, sinew, nerve, vein*; 63, *we-we [rain] while sun is shining*; (64, OJav. *nyiyu*;) 65, *luh tears*; 66, *omah*; 67, *lapa hunger*; 68, *rungu*; (\emptyset ~ r) nos. 73, *wa-wa ~ barah*; 74, *wos ~ bėras*; (r) no. 75, *tawar made harmless*.

From *-j- Jav. has regularly r. There are three cases: nos. 70, *ampėru ~ r-ěmpėlu*; 71, *pira*; 72, *irung*.

Thus - omitting *j, where no problem arises - in the majority of cases Jav. shows the following correspondences to the Gayo inherited reflexes: *b > w, Gayo \emptyset ~ w; *d, *D > Jav., Gayo r; *Z > d, Gayo r; *R > \emptyset , Gayo \emptyset ~ γ . The pattern of shifting in the two languages is similar, but not identical: Jav. merges (in part) *r, *d, *D, *j, Gayo *r, *d, *D, *Z; the Gayo treatment of *j is wholly idiosyncratic. No one, I take it, will attribute the forms examined above to borrowings from Javanese that are not found in any of the languages that separate Gayo from the outside world, still less argue that Gayo is a Javanese dialect brought to its present location by unimagined historical events. Some may nevertheless be tempted to construct new or revised proto-phonemes on the basis of the Gayo-Jav. agreements; but this I believe to be a pseudo-solution. Just as there are some correspondences of e.g. Jav. b to Gayo \emptyset ~ w, so there are others, more frequent, of e.g. Jav. w to Gayo b (thus Jav. *wasuh ~ wasoh to wash*; Gayo *basuh*, Appendix). This is what one would expect if Gayo, Jav. b both resulted from borrowing, but the incidence was higher in Gayo. The coincidences of Gayo w/ \emptyset and Jav. w are to be attributed to the higher retention probability of certain lexemes, a topic to which I shall return; and it seems that Gayo with its exceptionally high borrowing-rate provides a net to catch some of the most retainable.

Many attempts have been made to explain the multiple reflexes found in Jav.; beginning with Dempwolff's *Tendenz zur Lautverschiebung*, a thin disguise for 'sporadic change' which we should hasten to discard. To account for w \neq b Haudricourt at one time entertained the idea of reconstructing a labiovelar order of consonants, but later abandoned it in favour of the filling of a case vide by interdialectal borrowing (Haudricourt, 1964, 118; cf. idem, 1951, 144-5). The apical stops have begotten a whole literature, which I shall not attempt to summarize here; for a critical discussion see Dahl, 1973, ch. 14. Dahl agrees with Haudricourt (1964, 110-111) that for Jav. - so a fortiori for

western Indonesian languages in general - the distinction between *d and *D in non-final positions is likely to be a ghostly one. But his own solution of the problem, which entails reconstructing three phonemes *d₁, *d₂, *d₃ on the basis of Formosan reflexes, is no more help than others in disentangling the Gayo data. All three of Dahl's phonemes are represented in the material we have cited, at least in initial position: *d₁ (no. 43), *d₂ (39, 40; in medial position 51), *d₃ (41). What is striking in relation to our findings is that previous authors are agreed in treating Jav. r, the most frequent reflex in the vocabulary examined here,⁴⁰ as the secondary development; see most recently Dahl, § 14.19. Finally, Jav. and other reflexes of *R were investigated by Dyen (1953b), who codified four sets of correspondences as *R₁-*R₄. His proposals are criticized by Dahl, who goes so far as to assert that 'the only inherited reflex of *R is ø in Jav. ...' (§ 17.11). Dyen's *R₄ is not represented in our material,⁴¹ but all the others are: *R₁ (nos. 15, 42), *R₂ (60, 66), *R₃ (76).

The retention of inherited forms in a situation which favours cognate borrowing is not solely controlled by their high frequency or core function. Their chance of retention will be multiplied when no cognates exist in the languages from which loans are being drawn, and equally when semantic shift removes them from lexical equivalence with cognates (so 'descent of amniotic fluid', no. 25). Dahl has nevertheless noticed the high frequency of some of the Jav. items with r < *d/*D. Jav. r < *j, d < *Z, ø < *R all are, or may without great objection be considered as, regular inherited reflexes. What an examination of the Gayo facts suggests is the possibility that w < *b, r < *d/*D have the same status. The evidence now coming to light of the extent to which cognate loans may permeate Indonesian languages at least commends a re-examination of the Jav. data, in which due attention might be paid to the character of the items in which the various reflexes appear, and the co-occurrence of the reflexes which are in question. Here let us notice that whereas discrepancies in many languages are naturally discussed in terms of contact between languages, corresponding discussions of Jav. have more often fastened on contact between dialects, including those peculiar to classes or age-groups. But - as is argued in Dahl's examination of *R - Madurese, Sundanese and indeed Malay have all played a role in the historical ecology of Jav. It is true that r corresponding to PAN *d/*D cannot be accounted for by borrowing from any of these three languages; but, if r is accepted as the regular reflex, d and d can be!

APPENDIX

ITEMS FROM 214-WORD LEXICOSTATISTIC LIST

Note the difference of aim in historical and lexicostatistical comparison; items like 'sand' are classed as inherited but, having undergone semantic change, would not be reckoned as lexicostatistical equivalents of their cognates. Loans from non-Austronesian languages are excluded.

Figures in parentheses are the numbers under which items are cited in the text of the article.

*b.

Inherited: *night* ingi (32), *sand* wau (13), *stone* atu (17), *fire* rara (73), *leaf* ulung (22), *seed* inih (33), *berry* [= fruit] wah (34), *mouth* awah (1), *intestines* tětukö, *belly* tukö (31), *hair* uk (26), *new* ayu (15), *to kill* unuh (24). 13 items.

Borrowed: *to wash* basuh + Mal. basoh < *basuq, *to split* blah + Ach. blah or Mal. bĕlah < *belaq, *tree* batang kayu (see 16), *flower* bungö + Mal. bunga or Ach. bungong < *buŋa, *to smell* bau + Mal. bau or Ach. beə < *baSu, *rotten* buruk + Karo Batak buruk < *buRuk, *right, true* bĕnar + Mal. benar or Ach. böna < *bener, *wet* basah + Ach. or Mal. basah < *bas[ae]q (cf. Dahl, 1973, § 8.2), *work* buöt + Ach. buət < *buSat. 9 items.

Ambiguous: *star* bintang (+ Ach. or Mal. bintang?) < *bintaŋ, *to count* bilang (+ Mal. bilang or Ach. bilöeng?) < *bilaŋ. But *all* beh + Ach. abeh *over, finished* < *Sabis *all*⁴² is marked as a loan by its final. 2 + 1 items.

*d etc.

Inherited: *to walk* rĕmalan (45), *day* lo (58), *two* roa (41), *sun* mata n lo (58), *rain* urön (55), *blood* rayoh (42), *to live* urip (51); and putatively *to hear* pĕnge (68). 8 items.

Borrowed: *near* dĕkat (see 44), *twenty* duö puluh (see 41), *tongue* delah + Ach. dilah < *dilaq.⁴³ 3 items.

*R.

Inherited: *fire* rara (73), *root* uyöt (60), *blood* rayoh (42), *tail* uki (69), *to hear* pĕnge (68), *new* ayu (15). 6 items.

Borrowed: *left* kiri + Mal. k-iri < *wiRi, *to flow* jaril (with regular metathesis) + Mal. j-alir < *aliR, *to cut* kĕrat + Mal. kĕrat < *keRet, *hundred* ratus + Mal. ratus < *Ratus, *dry* kring + Mal. kĕring < *keRin, *rotten* buruk + Karo Batak buruk < *buRuk. 6 items.

*j.

Inherited: *nose* iung (72). 1 item.

N O T E S

1. The Gayo language boundary is for more than three-quarters of its length with Achinese, to seaward; in the east with the Malay-speaking area centred on Medan, and in the south-east with Karo Batak. Malay loans, which are numerous, are likely to have entered Gayo via Achinese as well as directly.

2. Cf. for Achinese Shorto, 1975, 100-1.

3. Ferrand (1924, 419) quoted item 17 below, in a general context.

4. The following changes in transcription have been made: ch, j, ny, y for Hazeu's tj, dj, nj, j; e, ε, ɔ, o, u for his é, è, ò, ò̄, oe.

5. Dyen's 'Proto-Malayo-Polynesian' conventions of transcription are followed here; departures from his published reconstructions are indicated in footnotes.

Abbreviations: Ach. = Achinese, Jav. = Javanese, Mal. = Malay, OJav. = Old Javanese, PAN = Proto-Austronesian, UAN = Uraustronesisch, as reconstructed by Dempwolff; cpds. = compounds, dial. = dialectal, (in) phr. = in specific phrases only; C = consonant, V = vowel.

6. But in this sense, with Ach. kaway, Jav. kawal, perhaps a loan from Tamil.

7. Dyen, 1953a, § 112, constructed *abuS. Dahl, § 12.2, has *qabu, and *q- is confirmed by the mainland forms: Shorto, 1975, 90, n. 25.

8. It appears from Hazeu, ix-x, that these spellings represent one phonological form /wön/.

9. Uniting UAN *bayu', *b-ah-ayu', *bəyu', *b-ah-əyu': Dyen, 1953a, § 51.
10. Dyen, 1965, revised his earlier *buhuk to *buS₁₄ek. However, Blust (1969, 91 n.) observes that 'the Bornean evidence would be better accounted for by a reconstruction PAN *buS₁₄uk', and this is equally true of the forms in Ach. and the mainland Austronesian languages.
11. Uniting UAN *bətit' *lower leg*, *bitit' *calf*: Dyen, 1953a, § 57.
12. i.e. UAN *bəŋ[i'].
13. Uniting UAN *binih, *bənih, on the assumption that Karo Batak bñih, Toba boni + Mal. bñih. Some such reconstruction is in any case needed to account for Tagalog binhiq. I take the first i/e of the Gayo reflex to arise secondarily through vowel harmony in view of the most probable formulation of the semivowel rule, below.
14. So Dyen, 1953a, § 133. In 1965 Dyen constructed *'enem[]; Dahl, §§ 13.5, 15.2, constructs *uən₁əm.
15. We cannot explain under this rubric *Sepat *four* (*x₂epat[], Dyen, 1965; *Səpat₁, Dahl, § 14.11) > əpat, ~ mpat in cpds. etc. + Mal. ěmpat < *Se-m-pat. Here ə- probably results from analogy.
16. Two lexemes *to make, do* and *to lift* are to be extracted from *buSat = UAN *bu'at; the forms are distinct in Ach. (Shorto, 1975, 93; 94 and n. 32). *To make, do* is represented by a loan in Gayo; see Appendix, *work*.
17. Note also wöih, dial. öih, öis *water* : literary Jav. warih (< *[bw]ajiq?). (aa represents a long vowel, öi and au short diphthongs: Hazeu, x, xii.)
18. Dyen, 1965, constructed *DewS₃a. I follow Dahl (§ 14.4) in discarding his reconstruction of *ew, and in restoring Dempwolff's *u in this word.
19. *Zeket uniting UAN *dəkət, *d'əkət: Dahl, § 16.3. I add the variant from Gayo and Jav. rakēt *intimately connected*. This derivation appears preferable to Blust's (1971, no. 355) variant *reke(Ct), from Mal., Maranao, which may be susceptible of a loan interpretation.

20. Uniting UAN **dalan*, **d'alan*: Dyen, 1951.
21. Dyen's *[q̄h]adeɸ (1953a, § 124) is disambiguated by Cham *ana?* in *front (of)*: Shorto, 1975, 91, n. 25.
22. Conceivably **sa-n-DeR*, cf. below; but Ach. has the form without nasal augment.
23. UAN **hudi'*. **q-* is established by Cham *hatèy*: Shorto, loc. cit.
24. Dyen, 1951, revising UAN **hədən*; see further Dahl, § 16.3.
25. Uniting UAN **'udan*, **hud'an*: Dyen, 1951.
26. Uniting UAN **tuduh* to *point out*, less Mal. and Tagalog forms, and **[t]und'uk* to *show*: *ibid.*
27. *Ibid.*, uniting UAN **'an(d)av* and **ha(ŋ)g'av*. Dahl, § 16.2-3, prefers **qa(N)g'au*, unhelpful here.
28. Reconstructed as **'uR₂aC[]* in Dyen, 1965, as **uɣat₂* by Dahl, § 14.14. *Creepers* by paronymic attraction of **waRe[dj]* (Blust, 1971, no. 438, partly disambiguated by Ach. *uret*).
29. See Shorto, 1975, 91, n. 25. Dyen, 1962, constructed **WaRi(S)*.
30. UAN **ni[ɿ]u'*, adding OJav. *nyiyu* cited by Hazeu.
31. An early date for this metathesis is not incompatible with its occurrence in such later loans as *ruluh*, which may be ascribed to pressure of the phonological pattern.
32. Unless **-nd-* etc. > *-r-* (nos. 37, 57) is excluded between unstressed vowels, the intermediate forms should be **pěřenge* etc.; if so, *tě-něnge* secondarily from *něnge*, the regular nasal form of *těnge*. Late trisyllabism must account for the absence of vowel harmony; contrast no. 33, where contraction will have taken place earlier.
33. Also in Hova *uhi*.
34. Note also *rangang soot*, to be connected with **qajen charcoal* (cf. semantically Ach. *adang*; and for **q-* Shorto, 1975, 91, n. 25); it may

reflect *q-ar-a-n-jeŋ or a reduplicated *q-ar-ajeŋ qajeŋ. The doublet arang *charcoal* is prima facie ← Mal. arang ← Jav. arěng, but could perfectly well be < *q-ar-ajeŋ if the loss of *-j- preceded antepenult weakening (and then → Mal.?).

35. Dyen, 1965, constructed *baR₁aH[].

36. Dyen, 1953b, constructed *buR₃ew from UAN *buyav and *buļu' to hunt.

37. I cannot at present account for *teRab (rather *tuRaeb?) to *belch* > tɔrɔp, which appears from its vocalism to belong to the inherited vocabulary. Dempwolff's reconstruction needs revision in view of Cebuano Bisayan dug-ab, tug-ab (and Ach. gōrō?ɔb ~ gōmō?ɔb!); Tagalog tigab to *yawn* belongs elsewhere.

38. The later weakening assumed in no. 73 may then be ascribed to pressure of the phonological pattern.

39. i.e. counting one for two items referred to the same base, and excluding those where the reflexes are not distinct.

40. Also in five items where Gayo has cognate loans: la-ra *virgin* < *DaRa(S), ron, ron-don *leaf* < *DaSun, ratu *ruler* < *[dD]atu, urang *crustacean* < *quDaŋ, përih ~ përhèh *smarting* < *pe[dD]iq.

41. But is, along with *R₁-*R₃, in cognate loans.

42. Correcting UAN *[']abih: Jav. wis, Mal. habis, Cham apì:h, Tagalog abas, Hova avi, etc.

43. Not, as Dahl, § 16.4, *Zilaq in view of Ach. and Cham tàla:h.

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