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ON THE PHONOLOGY OF BAHASA INDONESIA¹

1 PRELIMINARY REMARKS

1.1 In the recently published Grammar of the Indonesian Language (*Grammatika Indonezijskogo Jazyka*, N. F. Alieva, V. D. Arakin, A. K. Ogloblin, J. X. Sirk. Moskva 1972) one of the authors, Ogloblin, gives an elaborated survey of the phonetics and phonemics of Bahasa Indonesia (BI). His description is based partly on his own investigations, partly on the valuable observations made by other Soviet linguists during the last decennium (among others: N. D. Andreev, L. G. Zubkova). In the subsequent paragraphs I shall give a brief exposition of what seem to me to be the most interesting facts, and I shall offer a few remarks on the phonemic system as it is proposed by Ogloblin.

Comments and additions are given in square brackets. In the quotations of the phonetic data, I adhere to the author's notation as closely as possible.²

My additions and/or transcriptions are labeled with S. In a great number of instances the authors do not indicate the place of the stress. I write the stress wherever I am reasonably certain of its place. '←' stands for 'is the realization of'; '→' means 'is realized as'.

Since the grammar was published before the recent spelling reform, the examples are offered according to the now obsolete norm.

I shall adhere to this practice.

1.2 Andreev, in his discussion of BI phonology, remarks that in general the phonology of the Indonesian language is simple and clear. I am not

¹ I had the pleasure to discuss some crucial problems with a group of Indonesian linguists. Furthermore, I profited from the advice of Professor A. Teeuw.

² For typographical reasons I write [š], [ñ] and [l'] instead of the equivalent IPA symbols, [ʂ] instead of 'barred *h*' and [ɭ] for 'tailed barred *h*'. The hyphen after a consonant ([p, t, k]) indicates the so-called implosive character of that consonant. The author uses C with a subscript plain comma.

inclined to confirm this statement. Rather, I believe, the reverse holds true. BI is a quickly changing language which functions as a vehicle of communication in a complex multilingual society. Although a tendency towards normalization (official language) is demonstrable, the language has not yet achieved a (more or less) fully elaborated orthoepical standard. The continuous mutual interference between regional languages and dialects and BI necessarily results in a gamut of local, social and individual variants. This situation makes the investigation not always easy. In my experience, any informant turned out to be bilingual or plurilingual. It is obvious that this may often have far-reaching consequences as regards the possible actualizations of phonemes, the acceptance of minimal pairs, lexical items and loanwords.

2 OPTIONALITIES

2.1 In my discussion of the facts I shall base myself on the phonemic theory of Trubetzkoy, although I do not agree with his identification rules. In addition, I shall use the notion 'heavy phoneme' introduced by Ebeling 1967 to indicate a phonemic unit which consists of 'basic distinctive features' and one or more 'optional distinctive features', in contradistinction to a 'basic phoneme', which is a set of 'basic distinctive features'. The heaviness of a phoneme is established with the help of the following criterion.

The suppression of the optional feature(s) in a heavy phoneme never leads to a misinterpretation by the hearer. The result (basic form) is always accepted as identical with the initial (heavy) form. The converse procedure, i.e. the addition of (an) optional feature(s) to a basic phoneme yields in some instances a form which is interpreted as identical with the initial (basic) form. In other cases, however, we may obtain a non-existent form, or a form which is not recognized as a possible realization of the form started from. Examples are:

- 1) Dutch *vee* [ve, fe] 'cattle', but *fee* [fe] 'fairy' (voice is an optional feature: /v/ is a heavy phoneme).
- 2) Parisian French *pêcher* [peše, peše] 'to fish', but *péché* [peše] 'sin' (relative degree of openness is an optional feature: /ɛ/ is a heavy phoneme).
- 3) Slovincian ['vuostac, 'vuostāc] 'to stay', but ['gadac] 'to speak' (quantity is optional: /ā/ is a heavy phoneme).
- 4) French *tête* [tɛt, tɛt] 'head', but *tette* [tɛt] 'teat' (quantity is optional: /ɛ/ is heavy).

- 5) Polish *biorę* [bjore, bjoɾɛ] 'I take', but *chorę* [xore] 'sick' (nom. plur. no male persons) (nasality is optional: /ɛ/ is heavy).

If one accepts that a distinctive feature can be optional, then a phoneme can be optional, too. In the following example (6) the heavy variant is marked by the optional presence of a phonemic unit, whereas in (7) and (8) the heavy variants are marked by the absence of it:

- 6) Dutch *nestje* 'little nest' ['nɛstjə] (heavy variant: presence of [t]), ['nɛsjə, 'nɛʃə] (basic variant: absence of [t]), but *tasje* 'little handbag' allows ['tasiə, 'taʃə] only.
- 7) Dutch *melk* 'milk' [mɛlk] (heavy variant: absence of [ə]) ['mɛlək] (basic variant: presence of [ə]), but *lelijk* 'ugly' is ['lələk], never *[ləlk].
- 8) Slovincian 'dog' [pjies] (heavy variant: absence of [x]) [pxjies] (basic variant: presence of [x]), but 'flea' [pxjiel] (gen. plur.), never *[pjiel].

2.2 It is often the case with optionalities that one of the two or more possible realizations of a form *x* is the only admissible realization of a form *y* (compare examples 1, 2, 4):

- 9) BI *lihat* 'to see' ['lihat-, 'lijat-] but *liat* 'tough' ['lijat-].

In other instances the basic variant(s) of two different heavy variants may coincide:

- 10) BI *sair* 'poem' ['saʔir, 'sair, saɪr], *sahir* 'sorcerer' ['sahir, 'sair, saɪr].

2.3 Optionality is always conditioned by the same position: two phonetically and positionally identical sounds (or sound sequences) are functionally different. A sharp distinction must be made between optionalities, neutralization, defective distribution, doublets and free variation.

2.3.1 In Dutch, German, Russian the consonant phonemes /t/ and /d/ are opposed to each other. We are here dealing with two sets of distinctive features of which the fact that they form two separate independent units can be proved by Ebeling's functionality test (1960: 28 ff). Wordfinally, however, the opposition ceases to be operative. Though [t] in Dutch *taal* [tal] 'language' and [t] in *bont* 'fur', *bond*

'alliance' [bɔnt] both lack the larynx buzz, the initial [t] is functionally different from the final one because the former is characterized by the relevant absence of the distinctive feature 'voice' (comp., e.g.: *daal* 'go down' [dal]), whereas the latter is not. We must make a difference between these two different units: final /t/ is an archiphoneme. This way of thinking is based on the concept of distinctiveness and is, according to my opinion, the quintessence of Trubetzkoy's archiphoneme.

2.3.2 In the above mentioned familiar case of /t/ and /d/, there is a phonetic similarity between initial [t] and final [t]. Needless to say, the archiphoneme may be realized as either of the extreme points of the dimension [t-d] or as one of the numerous intermediate possibilities between these two points. The absence of discreteness enables us to substitute [d] or any intermediate sound for [t] without damaging the linguistic identity of the form. The realization depends on individual, social and, of course, positional factors. For instance, in the Basque dialect of Maya (G. N'Diaye, *Structure du dialecte basque de Maya*, The Hague-Paris 1970) the oppositions between the nasals /n, m, ñ/ are neutralized before a consonant and in wordfinal position. In the former case they are realized homorganically with the contiguous consonant, wordfinally as [n]. If this statement is correct, then a pronunciation [ñ] or [m] instead of [n] before [t], [d] or wordfinally is identified by the native informant with [n]. If, however, the informant cannot identify, e.g. final [ñ] with [n], then the form is uninterpretable for him and we are dealing with defective distribution.

2.4 The fact that an arbitrary element x does not occur in a position where an element y occurs (which may or may not have certain features in common with x), does not necessarily point to neutralization. E.g., in Dutch the last consonant in final four consonant clusters is always /t/: *ernst* 'seriousness' [ɛrnst]. A substitution of the feature 'nasal' for 'oral', or of the feature 'dorsal' for 'apical' offers two forms *[ɛrnsn], *[ɛrnsk] which any Dutch speaker will distinguish from [ɛrnst]. However, he is not able to say what these forms mean. A replacement of [t] by [d] does not yield any problem for the interpretation: the dimensions 'apical-dorsal' and 'oral-nasal' are kept apart wordfinally, the dimension 'non-voiced-voiced' is not. It is obvious that if a neutralization has been attested in a certain position, this does not necessarily entail neutralization in those positions where only one of the basic phonemes is attested.

Wordinitially in genuine Dutch words before [i], [t] occurs, not [d]: *tjalk* 'spritsail barge' [tjalk]. A replacement of [t] by [d] does

not result in a meaningful form. Moreover, the pronunciation of loans such as *djati* 'teak' [dʲati] (not *[tʲati]) proves the distinctiveness of voice in this position.

2.5 If there is a functional difference (but positional and phonetic identity) between, say, the Polish phoneme /e/ which allows an addition of one or more extra distinctive features (*in casu* 'nasality') and the phoneme /e/ which does not (example 5), then there is also such a difference in the case of the archiphonemes. Ebeling (1967: 136): "A heavy archiphoneme consists of the same distinctive features as one of the (mostly two) full-fledged phonemes it is founded upon, with the only difference that one feature (the one lacking in the basic archiphoneme) is optional in the heavy archiphoneme and basic in the basic phoneme." Examples:

- 11) The Russian vowel phonemes /e, i, a, o/ are neutralized to /ə/ after unpalatalized consonants in antepretonic position. *domovoj* 'brownie' and *dymovoj* 'smoke' adj. show both [dəmə'voj] and must be phonemicized as /dəmə'voy/. In explicit speech, however, *domovoj* allows a pronunciation [dəma'voj], and *dymovoj* shows a variant [duma'voj]. /a/ in /dəmə'voy/ and /i/ in /dima'voy/ are heavy archiphonemes (with a relative degree of openness, closedness and frontness, respectively, as optional feature(s)), /ə/ is the basic archiphoneme.

2.6 Just as in the case of neutralization one could say that in doublets such as Dutch *Europa* 'Europe' [øü'ropa, ö'ropa, ə'ropa], *zul je, zal je* 'will you' [zəlʲə, 'zalʲə], English *again* [ə'gein, ə'gen], čakavian (Novi) [sramotēl, sramotīl] 'having shamed', Russian *škaf, škap* 'cupboard' [škaf, škap], BI *adik, adek* 'younger brother', 'younger sister' ['adik-, 'adək-], etc., the substitution of the former sound for the latter does not yield a change in meaning. Neutralization means that an opposition between two (or more) phonemes which is established in certain positions, is not operative in (one or more) other positions. However, whereas neutralization is a systematic feature of the phonemic system, doublets are incidental. In analogous positions the opposition of the doublet features is valid, e.g.: the replacement of [ø] in Dutch *zult* '(you) will' by /a/ yields an uninterpretable, meaningless form *[zalt]. In doublets there is an incidental functional equivalence of (phonetically and) phonemically different sounds.

2.7 The difference between optionalities and doublets can be illustrated by the Dutch words ending in [rən] (in the variant of Dutch spoken by the author):

- 12) *torn* 'rip' has two pronunciations: ['tərən] (1) (basic variant) and [tər̃n] (2) (heavy variant), but *torren* 'beetles' is ['tərən] (3), never *[tər̃n] (2).

However, ['tərən] (3), in turn, has a concurrent form ['tərə] (4). These forms are doublets: not every [n] in [rən] can be suppressed ([tərən] (1) is never *[tərə] (4)). On the other hand, not every sequence [rə] allows the addition of [n]: *gore* 'dingy' ['xorə] not *['xorən].

2.8 From what has been stated in the preceding paragraphs it is obvious that there is a difference between optionalities, neutralization and doublets (triplets) on the one hand and free variation on the other. In the latter case we are dealing with a non-functional difference (attested in all possible positions) between two (or more) phonetically different but positionally identical sounds (or soundsequences), e.g., Dutch apical *r* and uvular *r*: *brem* 'broom' [brəm, bRəm], *bier* 'beer' [bir, biR], *roem* 'glory' [rum, Rum], etc.

Dutch *cent* 'cent', *bezem* 'broom' (in the pronunciation of the author) [sɛnt, zɛnt], ['besəm, 'bezəm]: voice is facultative.

3 OGLOBLIN'S DATA

Now I shall discuss Ogloblin's remarks in terms of the preceding paragraphs.

3.1.1 There are six vowel phonemes (p 24):

/i/ (high front unrounded), /u/ (high back rounded),
 /ɛ/³ (mid front unrounded), /ɔ/ (mid back rounded),
 /ə/ (central), /a/ (low).

The last two vowels are opposed to each other by the relative height of the tongue only (p 26 fn 4).

There are many lexical doublets showing /u/, /ɔ/ or /i/, /ɛ/ in facultative alternation (p 29). However, /u/ and /ɔ/ occur also in

³ The author puts a dot under [ɛ] and /ɛ/. I do not understand why he maintains this symbol in the phonemic transcription: no opposition is attested. I write [ɛ] and /ɛ/.

words where the one cannot be replaced by the other, and the same applies to /i/ and /ε/. In those cases, minimal pairs are attested. Examples:

nisan, nesan 'tomb-stone' S['nisan, 'ngsan]
lubang, lobang 'aperture' S['lubañ, 'lobañ], but
pula 'also' vs. *pola* 'pattern'
bila 'when' vs. *bela* 'to defend'.

[I agree with Ogloblin; we are dealing with doublets (see 2.7). The alternation /i~ε/, /u~ɔ/ is not predictable. According to my observations, this phenomenon is rather common, especially in bisyllabic words: *senin, senen* 'monday', *kebon, kebun* 'garden'. It is not conditioned by the closedness of the syllable, as is sometimes assumed, nor is it restricted to the final syllable of the word. Loans of more than two syllables may show the same alternation:

politik 'politics' [politik, pulitik]⁴, but *torpedo* 'torpedo' S[tər'pɛdɔ]
 not *[tʊr'pɛdɔ].]

3.1.2 In the antepenultimate syllable of non-complex morphemes or words (usually loans) the phonemes /i, u, ε, ɔ, a/ tend to change to /ə/:

kalimat 'sentence' [kalimat, kəlimat]
torpedo 'torpedo' [tər'pɛdɔ, tər'pɛdɔ]
pustaka, pestaka 'book' S[pus'taka, pəs'taka].

[There is, indeed, a tendency demonstrable to pronounce /ə/ in the above mentioned position (which could possibly point to optionality). So, alongside of the alternate forms S[pə'litik-, pu'litik-] we encounter S[pə'litik-]. However, it should be remarked that the alternation is not limited to the aforesaid position, as the following instances may show:

Sumatera 'Sumatra' S[su'matəra, sə'matəra, su'matra, sə'matra] (not *[su'mətəra]),
industri 'industry' S[in'dustri, ində'stri, industə'ri, indəstə'ri] (not *[əndə'stri]). Further investigation is needed.]

3.2 In colloquial (non-accurate par. 6) speech, syncope of /ə/ occurs

⁴ In this word the author introduces [k] with a subscript reversed comma without indication of its meaning; [o] is one of the possible actualizations of /ɔ/ in loans. See par. 10 and 58.

before /r, l/ when followed by a vowel in word stems (par. 50, comp. par. 67.4):

beli 'to buy' [bli]

keterangan 'statement' [kətraŋan]

industri 'industry' see 3.1.2.

[About the syncope and/or insertion of /ə/, the authors are very brief. In elliptic use /ə/ seems to be indeed facultative in the above mentioned position. However, it does not seem predictable in European borrowings. The author does not give sufficient information on this subject: here, too, further investigation is needed. I add that /ə/ is facultative between the successive consonants of a prevocalic (initial) cluster /st/ in loans such as:

stem, setem 'voice' S[s(ə)'təm]

setasiun, stasiun, setasion, stasion 'station' S[s(ə)'tas(i)jun,
s(ə)'tas(i)jɔn].]

3.3 In "non-productive morphemes" of three [and more?] syllables [j, w] freely alternate with [i, u], respectively (p 37):

radio 'radio' [radjɔ, radi'ɔ]

rusia 'Russia' [ru'si'a, 'rusja] (p 53)

suami 'husband' [swami, su^wami].

We find this alternation also in the orthography:

ialah, jalah 'is', *uang, wang* 'money'.

[Without any explanation, the author identifies the central oral continuant sounds [u] and [w] (= S[u]) as different phonemes. In general, I agree with this interpretation. According to my own observations, these two sounds are distinguished by a relative degree of openness and, possibly, by the absence vs. presence of local friction and/or quantity. I doubt, however, whether in genuine BI words this opposition exists. In most cases the choice between these sounds is predictable and based on the environment (surrounding phonemes, morpheme junctures). Moreover, in a great number of instances [u] and [w] interchange without any difference in meaning:

lawan 'enemy' S['laʊan, 'lauʊan]

wap, uap 'steam' S[ʊap-, 'uʊap-]

suami 'husband' S[su'ʊami, 'sʊami]

perahu 'boat' S[pə'rahu] (explicit realization)
S[pə'rau, pə'raʊ].

Nevertheless, we must assume an opposition /u/ vs. /w/ after consonant before a vowel because of instances such as *dwi*.. in, e.g. *dwiwarna* 'twocoloured' S[d̥ui..] vs. *duit* 'money' S['duɨt-, d̥uɨt-], *kwalitet* 'quality', *kwantitet* 'quantity', *kwa* 'qua' S[k̥uɑ] never *[kuɑ(..)] vs. *kuah* 'sauce' S['kuɑ, 'kuɑh] (never *[k̥uɑ(h)]). I propose to write /w/ in those cases where [u] is functionally distinct from [u], and /u/ everywhere else:

/dwi.. / vs. /duɨT/,⁵ /kwa(..) / vs. /'kua(h) /.

On a possible opposition /i/ vs. /j/ (= S/y/), the author is very brief. Just as in the case of /u/ and /w/, Ogloblin's statement on the free alternation (p 37) implies that there are positions in which this opposition is operative. However, he does not give any example. On the basis of my own investigations, I believe that /i/ and S/y/ are functionally distinct after a consonant before a vowel, and word initially before a vowel, e.g.:

siah (in *siah lajah* 'to stagger') S['sia(h)] vs. *sjah* 'ruler' S[sja(h)] ← /'sia(h) / vs. /sya(h) /
sial 'out of luck' S['siaj, si'jal] vs. *sjal* 'shawl' S[sjal] ← /'sial, si'al / vs. /syal /
niat 'plan, wish' S['niat-] vs. *njata* 'evident' S['njata] ← /'niaT / vs. /'nyata /
diam 'to live' S['dijam] vs. *djam* 'hour' S[djam] ← /'diam / vs. /dyam /
ion 'ion' S['iɔn, i'ɔn] vs. *Jon, John* 'John' S[jɔn] ← /'iɔn, i'ɔn / vs. /yɔn /
ia 'he, she' S['ia, i'ia] (never *[ia]) vs. *ja* 'yes' S[ja] (incidentally S[i'ia]) ← /'ia, i'a / vs. /ya / (/i'a /).
 The glide after [i] is automatic.

In words of more than two syllables /i/ when followed by a vowel is a heavy phoneme with quantity and absence of local friction as a complex optional feature, the basic phoneme of which is /y/:

radio 'radio' S[ra'diɔ, 'radjɔ] vs. *S radja* 'king' S['radja, 'raja] (never *[ra'dija]).

/i/ and /y/ are neutralized after a vowel before a syllable final consonant and after a vowel in syllable final position, e.g.:

katai (1) (in *orang katai* 'a small man') and *katai* (2) (in *kata-*

⁵ I use capitals in the phonemic transcription in order to indicate neutralization.

katai 'to rave') are both realized as S[ka'taji, 'kataj] ← /ka'taI, 'kataI/.

Although in schoolgrammars and other normative sources emphasis is laid on a syllabic pronunciation of the suffix *i* in *katai* (2), both realizations in either instance are attested, yielding forms of varying syllabicity. In all other positions the choice between [i] and [i] can be described in terms of surrounding phonemes; I propose /i/.]

3.4 The author offers a monophonemic interpretation for the lamino-palatal affricates with oral release (voiceless and voiced, respectively).

[I propose a biphonemic interpretation for these sounds. The paradigmatic procedure enables us to establish the distinctive features and the minimal units which they constitute. The same principle of distinctiveness plays a decisive rôle in the syntagmatic identification/delimitation of the phoneme. Basic in the segmentation procedure is the concept of the phoneme as a set of distinctive features which are relevantly unordered in time. The phoneme, on the other hand, is conditioned by its position. When it can be proved that there is a relevant unorderedness between the features of a single complex sound, we assume a phonemic unit. E.g., if there is no functional difference between [is, š, ši, si] then /š/.

When we discover a relevant order between the features, this necessarily points to two separate units: Dutch *Thaise* ['tajsə] 'Thai' adj. (vs. *tasje* 'little bag' ['tašə]) ← /'taysə/.

When, however, a certain order between features turns out to be not functionally distinct from the same set of features in a different arrangement, then the possible order between the features entails a biphonemic solution: Dutch *tasje* ['tašə, 'tasjə] ← /'tasyə/ (see Ebeling 1960; Kortlandt 1972).

So, if the realizations of the BI affricates /ʃ/ → S[tj, c, ts (incidentally č)], /ʒ/ → S[dj, j, dz (incidentally dž)] do not differ functionally from the realization of a sequence /ty/, /dy/, respectively, we must 'rephonemicize' them as /t/, /d/ plus /y/. According to my (non-instrumental) investigations, such a difference does not exist in Bahasa Indonesia. [dj] in ['radjə] (in the notation of the grammar) appeared functionally (and often phonetically) identical with [j] (in the notation of the grammar) in, e.g.: S *radja* 'prince' S['radja, 'raja].⁶ What has

⁶ In view of the various forms which the phoneme sequences /ty/, /dy/ may assume on the subphonemic level, I consider it a wise decision of the responsible committee that it has voted for *c*, *j*, respectively. In orthographical standardization practical, educational arguments should prevail.

been said about [J], also holds for [ʃ], the lamino-palatal voiced nasal continuant [ɲ, ɲ̃], the lamino-palatal [š, si] and for the [l', li].⁷

3.5 The author introduces three diphthongs /ɔi/, /æi/ and /au/. /æi/ and /au/ are interpreted monophonemically, in distinction to /ɔi/ (p 31).

The first components of the former diphthongs may be realized as [a, ɛ, e] and [a, ɔ], respectively, in regional and/or dialectal pronunciation (p 30) and in careless pronunciation (colloquial speech) (p 31 fn 10). The replacement of wordfinal [æi], [au] by [ɛ, i], [o, u], respectively, is considered to be dialectal, vulgar and incorrect (p 31). In accurate pronunciation these diphthongs may be realized as [ai ai], [au, au], respectively.

[In my opinion, it is not necessary to postulate these two separate phonemic units. To my knowledge there is no proof that the features of the alleged phonemes are grouped together in such a manner that they offer realizations which cause an interpretation which is functionally distinct from the realizations of an appropriate sequence of simple phonemes, for instance */ai, ay/ or */au, aw/.

Based on what has been said in the preceding paragraph, the sequences [æi] and [au] must be interpreted biphonemically:

/a/ plus /I/ (archiphoneme, see 3.3), /a/ plus /u/, respectively. The modifications of /a/, the fronting and narrowing or backing and narrowing in the pertinent positions must be considered facultative positional variants.

It should be clear that this treatment is based only on the principle of distinctiveness; morphological considerations, pattern congruity or phonetic similarity (as, for instance, applied by Andreev 1957, Verguin 1967) have been excluded from the analysis.]

3.6 [The opposition /ny/ vs. /n/ (*njonja* 'madam' S['njonja] vs. *nona* 'miss' S['nɔna] is neutralized before the sequences /ty/, /dy/, /ny/ in syllable final position (p 36):

pandjang 'long' [paɲʃaɲ, paɲʃaɲ]

djalannja 'his, her, their way' [ʃalaɲɲa, ʃalaɲɲa] ← S/'pandyaɲ/, /dya'lannya/.

⁷ Although [ʃ, J, ɲ] are interpreted monophonematically (without any explanation), the marginal S[l', li] (palatalized lateral) in loans such as *gerilja* 'guerilla' S[gə'riliʃa], *melioner* 'millionaire' S[məl'ɔ'ner, mə'l'ɔ'ner, məli'ɔ'ner] seems to be considered as a sequence of two phonemes (p. 38). Compare *mulia* 'noble' /mulia, mulja/ (p. 48).

The status of the nasal phonemes before homorganic stops in loanwords is not discussed. I attested a tendency towards neutralization of /m/, /n/ before labials, and of /n/, /ɲ/ before velars in instances such as:

konkurensi 'competition' S[kəŋku'rɛnsi, kəŋku'rɛnsi]
konperensi 'conference' S[kəmpə'rɛnsi, kənpə'rɛnsi].

3.7 In colloquial style the (voiceless) glottal spirant /h/ disappears between two different vowels; in high style the same holds true for a great number of words (p 38). In careless speech this sound may disappear in all positions (p 45).

[In non-initial position /h/ is an optional phoneme:

lihat 'to see' S['lihat-, 'lijat-] but *liat* 'tough' S['lijat-] (never *['lihat-]).

(The author writes [liat,] for the former word. This does not seem to be in accordance with the phonetic reality. A glide is automatic in this position.)

tudjuh 'seven' [tuJuh, tuJu] (p 38) but *tudju* 'direction' [tuJu] (never *['tudjuh]).

Word initially, /h/ functions as an ordinary phoneme, if we take into account pairs such as:

hadjar 'to bring to heel' vs. *adjar* 'to teach'
humban 'to beat up' vs. *umban* 'to throw' (p 38).

According to my informants, the suppression of /h/ necessarily leads to the only possible interpretation: 'to teach', 'to throw', respectively. However, this does not seem to hold for every word initial /h/. Compare the following doublets:

aus, *haus* 'worn out', *haus*, *aus* 'thirsty' S['haus, haʏs, 'aus, aʏs],
 but *aula* 'auditorium' S['aula, 'aʏla] never *['hauila, 'haʏla].

3.8 According to the author, syllable final /k/ is realized as a so-called implosive glottal stop: *bapak* 'father' [bapaʔ]. An implosive [k] is sometimes heard after a preceding [i]: *baik* 'good' [baik,] (p 35). In careless speech between two vowels on boundaries of two-syllabic words the implosive glottal stop may change in a dorso-velar stop (p 45).

[More or less traditionally, Ogloblin uses the notion "implosive" for the syllable final realizations of the phonemes /k, t, p/.⁸ Phonetically, it would be more accurate to describe these allophones as unreleased stops, thus reserving "implosive" for the ingressive pharynx air stops.

This so-called implosive glottal stop is according to my own observations an unreleased backed velar stop (S[k-]) which may freely interchange with a glottal stop or a released dorso-velar stop ([k]) in word final position and before consonants. The latter sound is common in loanwords and seems to be a still spreading individual variant in genuine BI words (due to orthographical rules). [k] is regular before the suffixes /an, i/:

banjak 'much, many' S['banjaʔ, 'banjak-, 'banjak]
kebanjakan 'mostly' S[kəba'njakan].

Before a vowel in initial and medial position only [k] is attested:

anak 'child' S['anaʔ, 'anak-, 'anak]
anakmu 'your child' S[a'naʔmu, a'nak-mu, a'nakmu]
makan 'to eat' S['makan]
ma'na 'meaning' S['ma'na, 'mak-na, 'makna].

In *anakmu* and *ma'na* the most common realization of /k/ is that of a close transition.

Ogloblin does not give special information on cases such as:

anakku 'my child'
memabukkan 'to make drunk'. I attested [ʔk], [k:] and [k].

The latter realization is quite common.]

3.9 Following Andreev 1957, the author does not assign [ʔ] a phonemic status.⁹ This sound has two different functions in BI:

- a) syllable final variant of the phoneme /k/,
- b) facultative indicator of a morpheme boundary (p 40).

In explicit pronunciation in loans [ʔ] may occur between two vowels: *soal* [soʔal] (along with S['soal]) 'problem' (p 40).

⁸ Andreev 1957 considers the syllabic/word final /n, m, ŋ/ to have also "implosive" variants.

⁹ The notation of [ʔ] as /ʔ/ must be a printer's error (p. 20). Furthermore, it would have been most recommendable to distinguish the 'pepet' (= /ə/) from the graphic representation of the phoneme /ɛ/ in those instances where examples are offered in the BI spelling only. The more so, as the grammar is said to be written not only for specialists (p. 4).

[I quite agree with Ogloblin that the glottal stop functions as a juncture signal; it is relevant on the phonetic level as a delimitative feature indicating a morpheme boundary. However, I believe that it is not facultative (in the sense that it may freely occur when certain conditions of phonetic environment and morpheme boundary are met), but optional (in the sense of pars. 2.1-2.2), at least in elliptic speech:

keempat S[kəʔəm'pat-, kəəm'pat-] 'the fourth' but *kehendak* S[kəhən'dak-, kəən'dak-] 'wish' (never *[kəʔəndak-]).

This phenomenon is quite common in a number of languages, e.g.:

Russian: *pogoreli* 'they burned up' [pəgə'rel'ɪ] but
po gore li 'along the hill' [pəgə'rel'ɪ, pəgə'rel'ɪ]

Dutch: *een oor* 'an ear' [ə'nor, ən'or]
een noor 'a Norwegian' [ə'nor, ə'n:or]

English: *tea meeting* ['tʰijmi:tʌŋ]
team eating ['tʰijmi:tʌŋ, 'tʰijm:ɪtʌŋ]
team meeting ['tʰijmi:tʌŋ, 'tʰijm:i:tʌŋ]

East Slovincian: ['pətsets, 'pət:sets] 'to overlook a few stalks during the mowing'
['pətsets, 'pʉtsets] 'to flow away'.]

3.10 The author considers [f, z, š, x, ɣ] to be stylistic variants of genuine Indonesian phonemes because they only occur in loans (p 32, 40 ff).

[The problem of the phonemic status of sounds in loanwords requires further investigation. The analysis offered by the Russian linguist does not give a satisfactory solution. Though a great number of words is now fully incorporated in the *bahasa sehari-hari* as well as in the *bahasa resmi*, Ogloblin does not seem to be prepared to ascribe a phonemic status to sounds such as [f, š, z, x]. However, the evidence adduced in the grammar clearly points to relevant oppositions. Borrowings (from Arabic, Dutch, English, etc.) have found their way into BI to such a degree that they have caused far-reaching modifications in the respective fields of dispersion. There is no reason to ignore this. I believe that /f, z, x/ are full-fledged phonemes which may constitute minimal pairs with, e.g. /p, s, k/, respectively:

pakta 'pact' vs. *fakta* 'fact' (p 41)
zat 'material' vs. *sat* 'ace' (ibidem)
chas 'special' S[xas]¹⁰ vs. *kas* 'cash-desk' vs. *has* (in *daging has* 'filet').

One may be inclined to ascribe /f/ a heavy status. Compare, e.g.:

fikir, pikir 'to think' ['fikir, 'pikir] but *pena* 'pencil' [pena] (never *[fena]). This is impossible in view of words such as *universitas* 'university' [unifersi'tas]
fakultas 'faculty' [fakul'tas] where [f] cannot be replaced by [p]: *fikir* and *pikir* are doublets.

The same holds for loans with /z/ and /x/: *zaman* has two concurrent forms S['zaman, 'djaman]. *zat* 'material', on the other hand, has S[zat-] only, never *[djat-]. *chabar* 'news' S['xabar, 'kabar], but *logika* [loxika] 'logic' (p 42) does not allow a pronunciation *[lokika].

I am not sure about the phonemic status of the voiced counterpart of the dorso-velar voiceless fricative [x] : [ɣ]. I do not believe that these sounds are in opposition. The same holds for [v] and [f].

The relation between [š, si] and [s] is complex and merits further investigation. Contrary to other sources (Verguin 1967, Macdonald, Soenjono 1967), the author does not seem to assume a phoneme /š/.¹¹ The realizations of *sj* in, e.g., *masjarakat* 'society', *sjah* 'ruler' are not functionally distinct from [sj] in ['rusja] *Russia* (p 53); I propose /sy/.

In a great number of instances [š, si] can be replaced by [s], whereas [š, si] can be substituted for [s] in a limited number of instances only. *sjah* 'official' S[sja(h), ša(h), sa(h)] but *sat* 'ace' S[sat-] never *[šat-, sjat-]. However, several informants objected to a realization S[sa(h)] for *Sjah* (proper name) and *sjah* 'ruler'. So, concurrent forms such as S[masja'rakat-, masa'rakat-], S[sja(h), ša(h), sa(h)] *sjah* 'official' are doublets.

This situation is complicated by the fact that there are polysyllabic words in which /i/ is a heavy phoneme in the position /CiV/ and /y/ is a basic phoneme (see 3.3): S[ru'sija, 'rusja, 'ruša], never *['rusa].]

3.11 [b, d, g/ and /p, t, k/ are neutralized in syllable final position (p 35).]

¹⁰ Due to the new orthography, words such as *chas*, *chusus* (old spelling), *khas*, *khusus* (new spelling) 'special' are now often pronounced as [khas, 'khusus].

¹¹ /š/ (p. 84) must be a printer's error in view of what has been said about it on pages 32, 40. In several instances the authors carelessly interchange symbols, e.g. /buṇā/ instead of [buṇā] (p. 39).

3.12 Based on the material supplied in the Soviet grammar and my own additional remarks we arrive at the following system for BI:

non-continuants			continuants								
	stops	flap/ trill	nasals	orals							
				fricatives	lateral	resonants					
						centrals					
						glides	vowels				
	vcl.	vcd.	vcl.	vcd.			high	mid	low		
labial	p	b		m	(f)		w				front back
dental	t	d	r	n	s (z)	l					
palatal							y	i	ɛ ə	a	
velar	k	g		ŋ	(x)			u	ɔ		
glottal					h						

(f), (z), (x) are marginal phonemes

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