Vedda music / by C.S. Myers.

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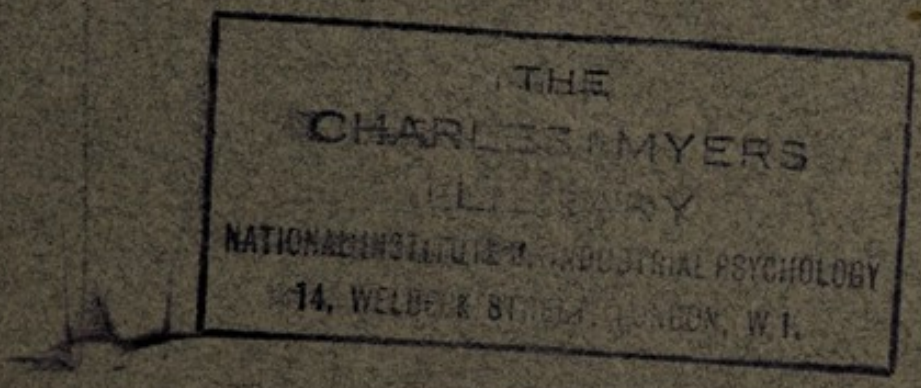

VEDDA MUSIC

BY

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CHAPTER XIII

MUSIC

By C. S. Myers.

Introductory.

The account of Vedda music given in this section is based upon an examination of thirty-four phonographic records of songs obtained from the Veddas by Dr and Mrs Seligmann[1].

These songs are probably simpler in structure than any other native songs hitherto studied.

Nine of the tunes are composed of only two notes. In three others the tune consists also of two notes, but with the addition of one or more unimportant grace-notes. These twelve songs may be conveniently classed as belonging to Group A.

Twelve other songs consist of three notes only. These we shall class under Group B.

Nine songs contain four notes, and one consists of five notes. These we shall consider as Group C.

Of the songs in Group A, in no case is the range sensibly greater than our whole-tone interval. With the exception of two anomalous songs, no song in Group B has a range sensibly greater than our minor third. With one exception, no song in Group C has a range greater than a fourth.

There is evidence that the songs of Group A are more archaic than those of Groups B and C. For, unaware of the above system of classification, Dr Seligmann was asked to indicate those songs which appeared to him (on grounds of language, ceremonial, etc.) most probably archaic and those

[1 We received the manuscript of this chapter from Dr Myers in November 1909, but owing to our absence from England, publication was deferred for six months. Meanwhile, in the *Quarterly Magazine of the International Musical Society* (Year xi, Part 2, 1910) there appeared a short account of Vedda music by Herr Max Wertheimer, based on an examination of four phonographic records obtained by Frau M. Selenka. Dr Myers has thus had no opportunity of alluding to Herr Wertheimer's observations in this chapter.]

which were likely to be modern or foreign. Of the ten songs which he considered to be probably archaic, four belong to Group A, four to Group B, and only two to Group C; while of those in which he suspected modern, or foreign influence, only one belongs to Group A, five to Group B, and five to Group C. None of the Sinhalese songs collected by Dr Seligmann belongs to Group A.

In this connection it is also noteworthy that the Sitala Wanniya Veddas are considered by Dr Seligmann to have been less exposed to outside influence than other Veddas, and that of the three songs sung by them belonging to Group C two are believed by him to be late or foreign. There are altogether eight songs of the Sitala Wanniya Veddas, in only two of which is an interval sung sensibly greater than a whole-tone.

While the Sitala Wanniya Veddas may be considered the most primitive, the Veddas of Dambani and Bulugahaladena are semi-civilised, having absorbed much Sinhalese culture, and the Bandaraduwa Veddas are also much affected by the Sinhalese, with whom they are now living. The Henebedda Veddas have only lately begun to be affected by the Sinhalese.

Not only is Vedda music primitive because the notes of each song are so few and the range so small, but also because the natives are ignorant of any other than vocal music. Dr Seligmann writes that the "uncontaminated Veddas," e.g. those of Sitala Wanniya, have no musical instruments whatever. Others, however, e.g. those of Henebedda, although they had no drums at the time of his visit, borrowed them, when opportunity offered, from the Sinhalese, especially for songs belonging to the *kolamaduwa* ceremony. The two oldest Vedda ceremonies, namely, the dancing round an arrow in order to get game (p. 213), and the *kirikoraha* ceremony in which the dance is round an offering of coconut milk (p. 218), were accompanied by the rhythmic slapping of the hands on the abdomen and thighs. At Bandaraduwa, the Veddas were found to possess drums of Sinhalese pattern and make.

The songs of the Veddas may be divided according to their purpose into two main classes, the one consisting of charms and invocations, the other of lullabies and songs sung for amusement. Dr Seligmann observes that among all Veddas the

invocation songs are accompanied by dance movement, and that the purpose of such song and dance is to produce possession by the *yaku* or spirits.

Methods of Analysis.

The speed of the phonograph used for studying the records of these songs was so regulated that every record reproduced a tone $c' = 256$ vibrations per second, a tone of this pitch, emitted by a pitch-pipe, having been always sounded into the recording phonograph just before each record was taken by Dr Seligmann in the field. Consequently when the reproducing phonograph emitted the note, one was sure that the speed of this instrument agreed with that of the instrument into which the song had been sung. That is to say, the reproducing phonograph reproduced the exact tempo and pitch of the recorded song.

A rough notation was then made of the song, a metronome being employed to determine its approximate tempo.

Finally a more accurate determination of the pitch of the various tones was made by means of an Appunn's Tonmesser, an instrument consisting of a box of carefully-attuned metal tongues, any one of which could be sounded at will by means of a bellows worked by the feet. The particular instrument employed contained 65 tongues, the pitch of each tongue differing by two vibrations per second from its neighbour and the extreme range being an octave, from c° to c', i.e. from 128 to 256 vibrations per second[1].

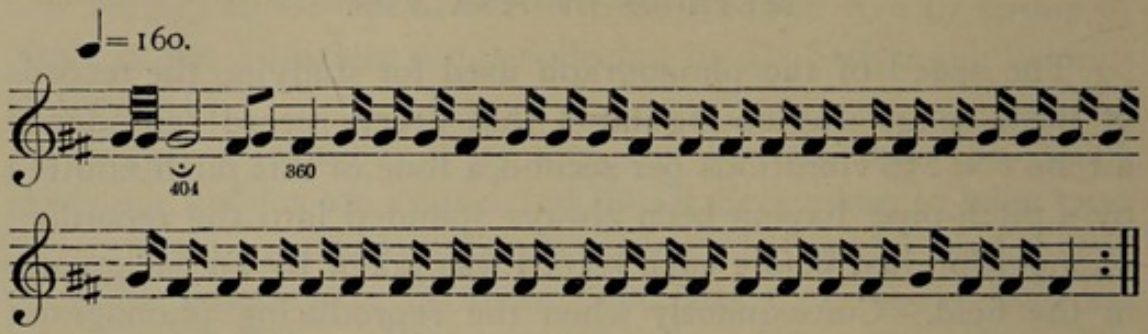
The songs are transcribed as accurately as our European notation allows. Bars are only inserted when the regularity of the rhythm clearly permitted their use. A + or − above a note indicates that it should be somewhat sharpened or flattened. Greater precision may be obtained by observing the numbers written beneath the notes. These give the mean vibration-frequency of the tone in question, obtained by comparison with the standard Tonmesser. The sign V indicates a "breath mark," i.e. a short rest during which the singer draws a breath.

[1] For further details in manipulation, the reader is referred to the writer's Essay on "The Ethnological Study of Music," in *Anthropological Essays presented to Edward Burnett Tylor*, Oxford, 1907, pp. 235—254.

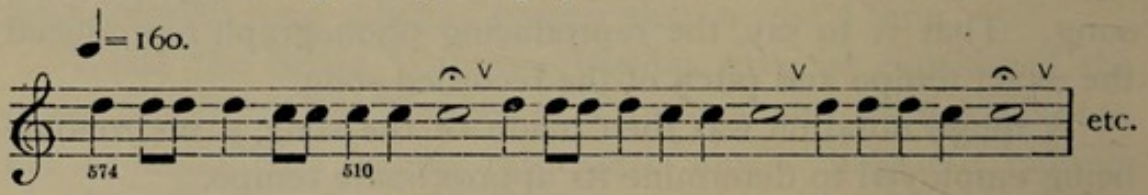
Notation of the Records.

GROUP A.

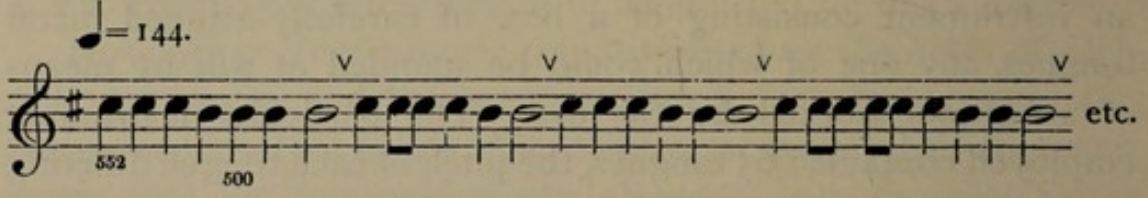
No. 40. Invocation to the *Nae Yaku* sung by Kuma of Dambani.



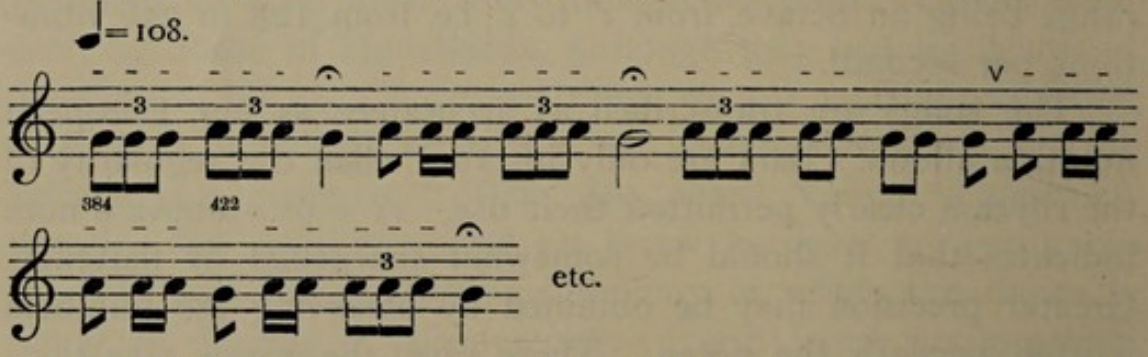
No. 22 A. Commemorating women whose husbands were treacherously killed while collecting honey; sung by Hudumenike of Bandaraduwa.



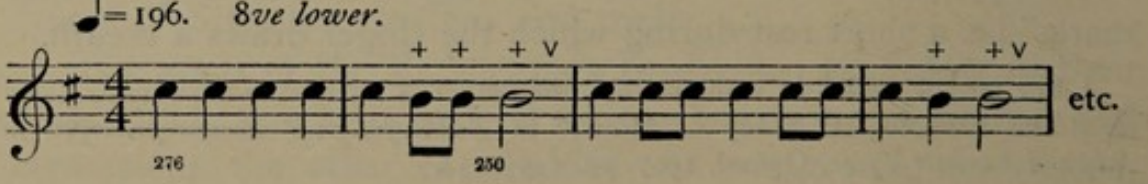
No. 21. Sung by women to men returning without honey; song of Sitala Wanniya Veddas.



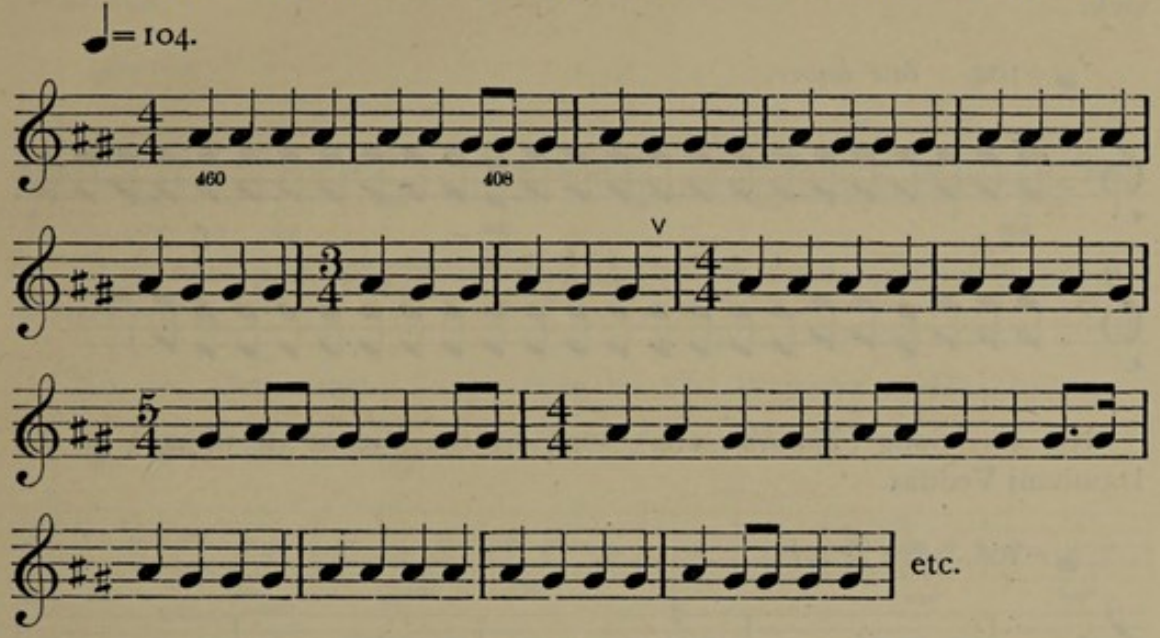
No. 38. Sung while taking honey; song of the Sitala Wanniya Veddas.



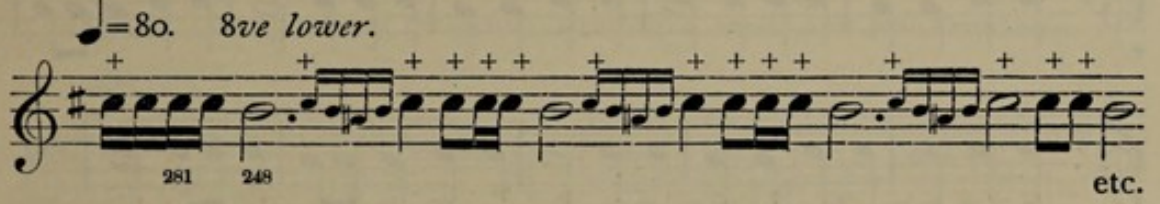
No. 11 (2). Amusement Song of the Veddas of Bandaraduwa; sung by Tissahami, the "Vedda Arachi."



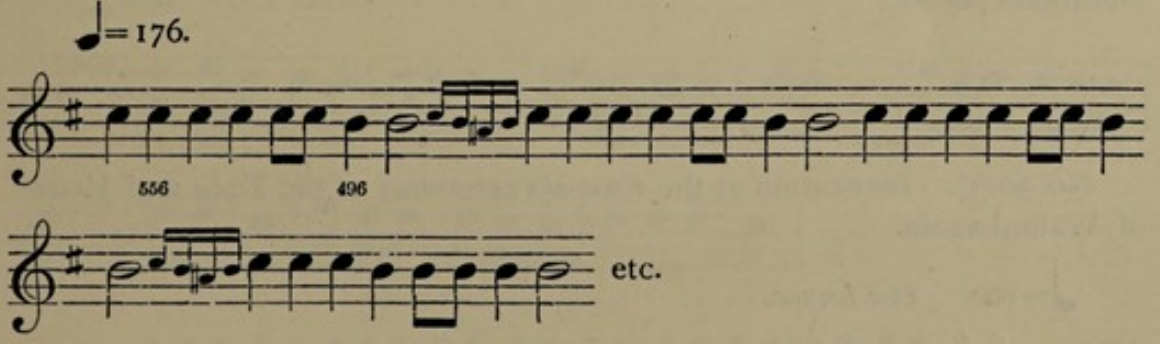
No. 18 (2). Song of the Bandaraduwa Veddas when driving monkeys.



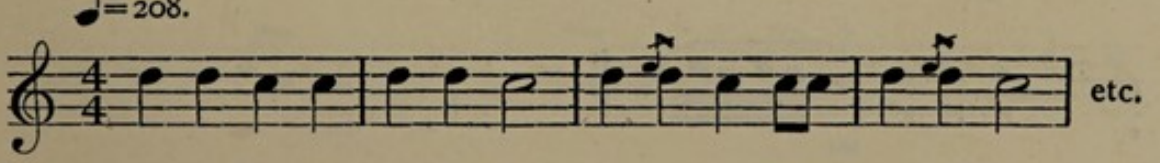
No. 1 (1). Invocation at the *kirikoraha* ceremony of the Kovil Vanamai Veddas; sung by the "Vedda Arachi."



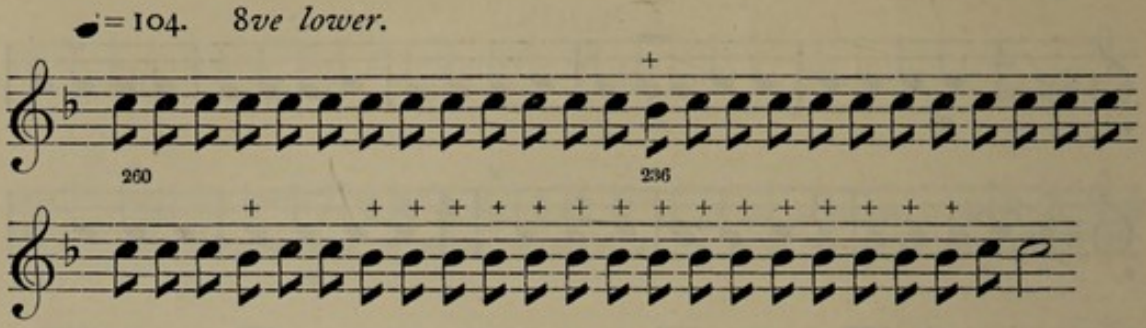
No. 1 (2). Invocation at the *kirikoraha* ceremony of the Kovil Vanamai Veddas; sung by the "Vedda Arachi."



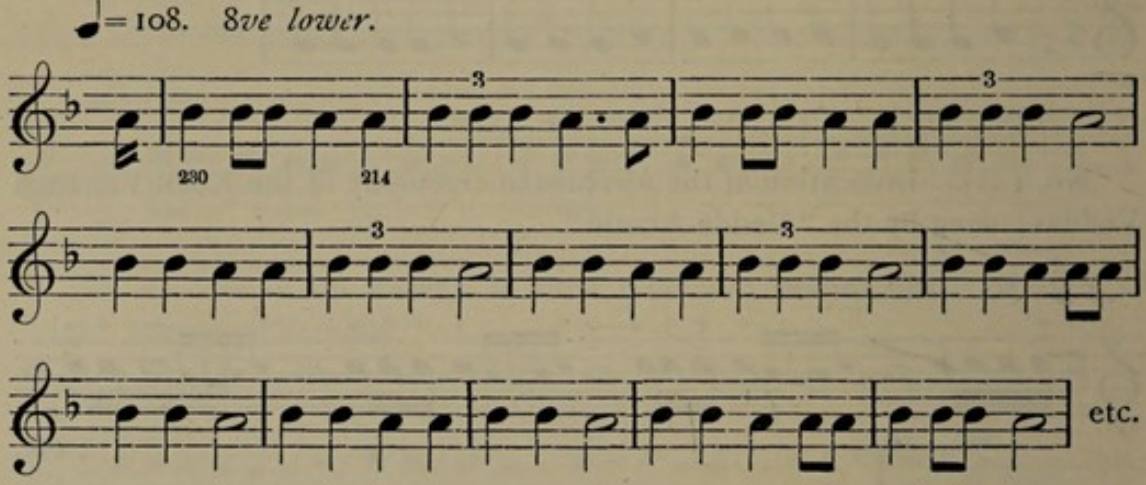
No. 19. Lullaby; sung by Hudumenike of Bandaraduwa.



No. 52. Invocation sung during ceremony to exorcise *Yaku* from the sick.



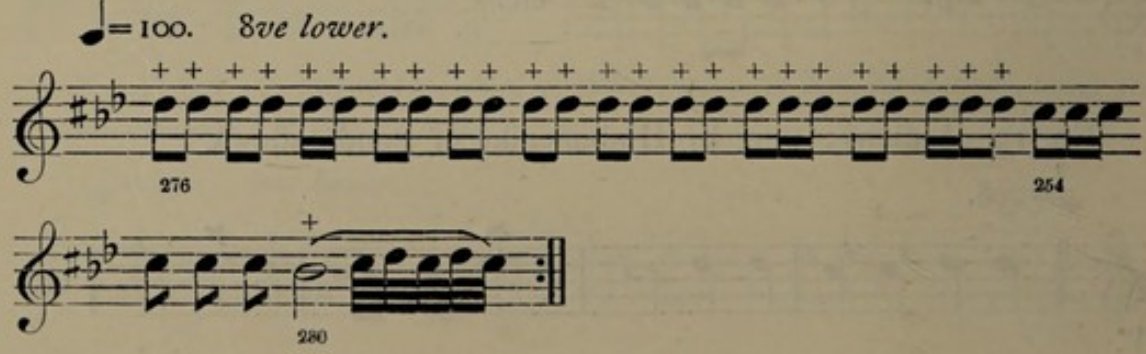
No. 42. Song (*Tandina* etc.), sung by the Vidane (headman) of the Dambani Veddas.



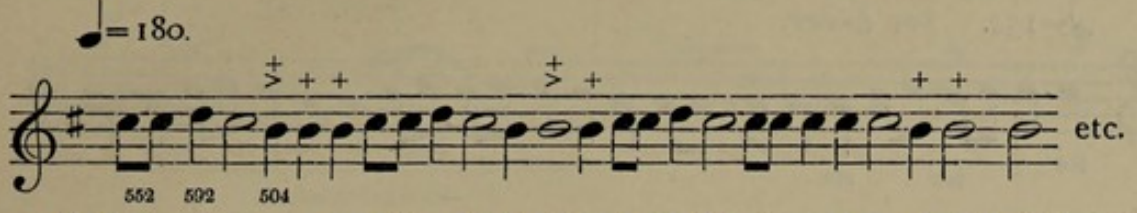
No. 43. Song (*Talapita Sindu*), sung by Kuma of Dambani. The tune is that of No. 42, but the tones are *e* and *f*, corresponding to 160 and 172 vibrations per sec.

GROUP B.

No. 30 (1). Invocation at the *Ruwala* ceremony of the *Yaka* and *Yakini* of Walimbagala.

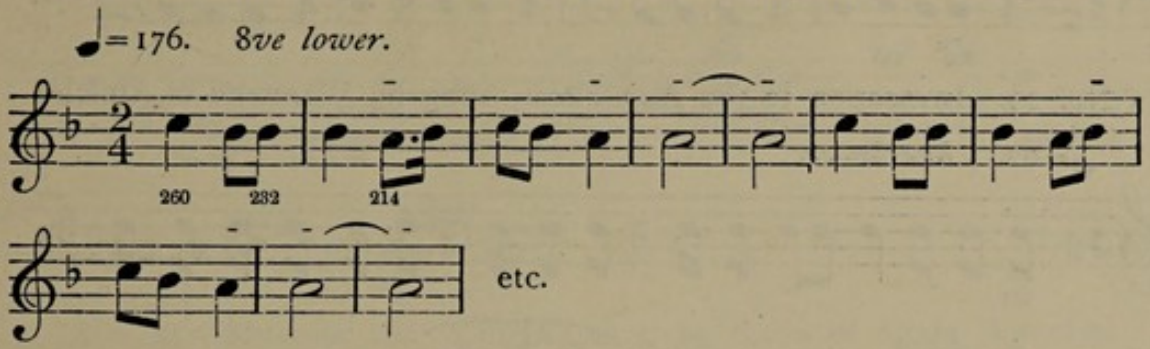


No. 37. Song; the first part sung by Tandi, wife of Handuna of Sitala Wanniya.

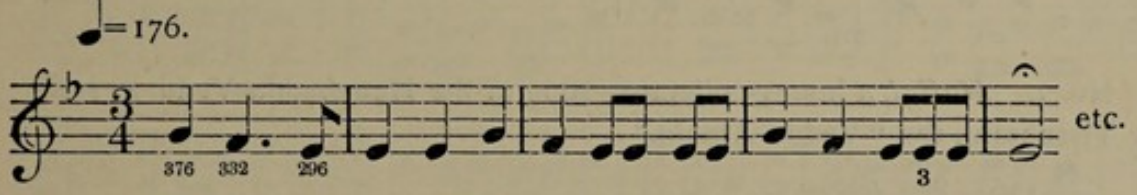


The second part sung by the husband to the same tune but in different pitch $b' = f^0\sharp$.

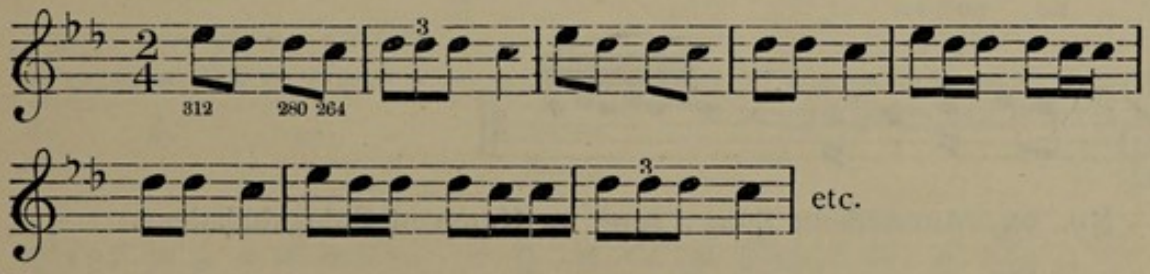
No. 31. Amusement Song; sung by Sita Wanniya of Henebedda.



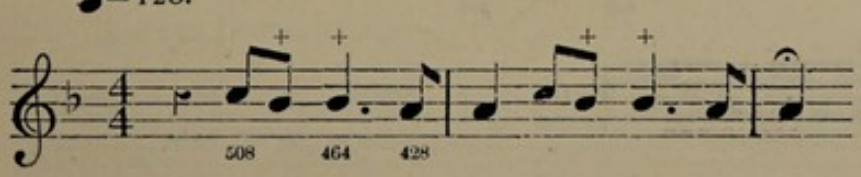
No. 20. Song asking for gifts; sung by a woman of Bandaraduwa.



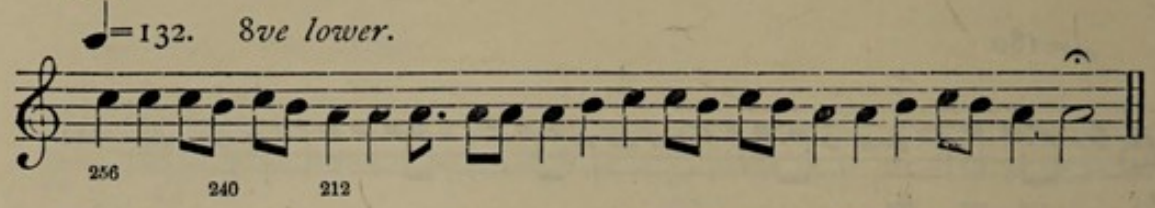
No. 31 A. Dance Song; sung by Sita Wanniya of Henebedda.



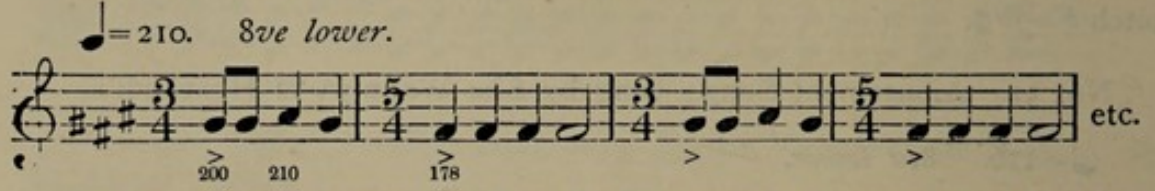
No. 34 (2). Lullaby; sung by Tandi, wife of Handuna of Sitala Wanniya.



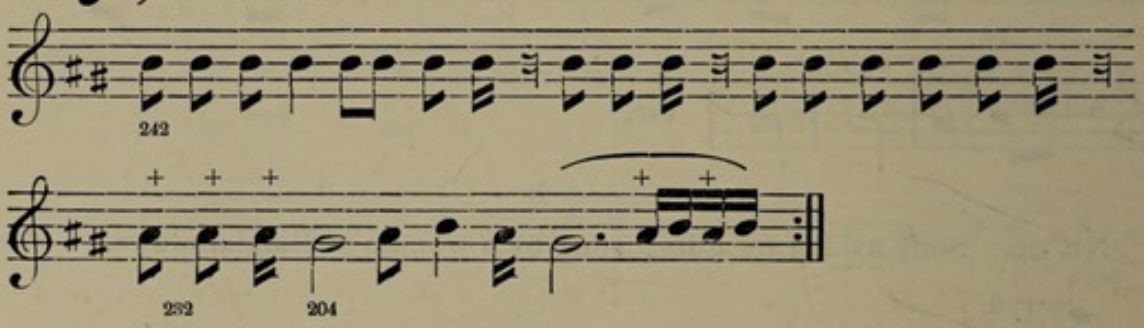
No. 27. Invocation of the Mahayakino at the *kolamaduwa* ceremony; sung by Handuna of Henbedda.



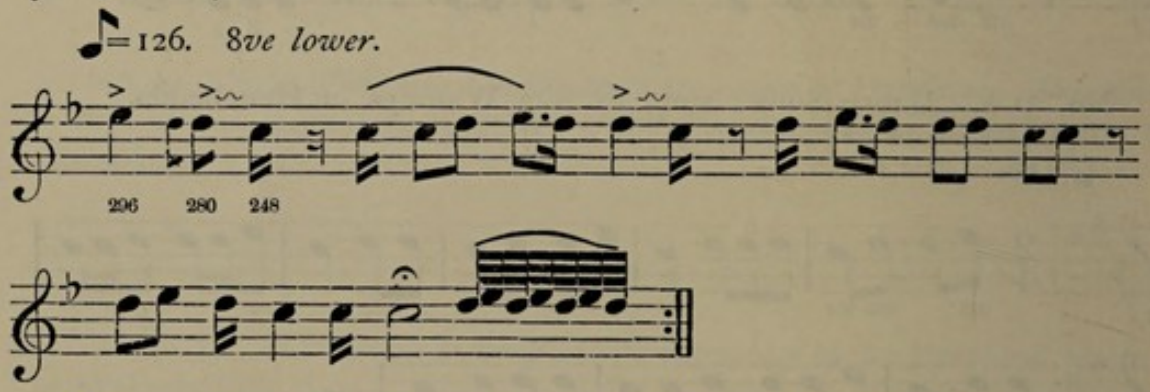
No. 36 (2). Amusement Song; sung by Handuna of Sitala Wanniya.



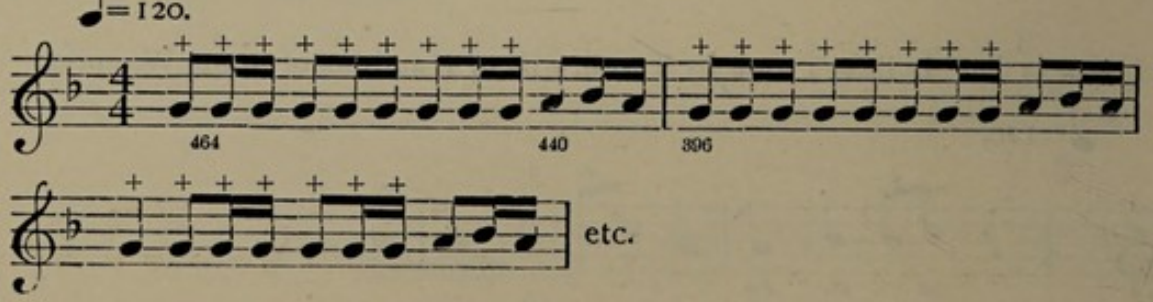
No. 29. Invocation to the *Nae Yaku*; sung by Wannaku of Uniche.



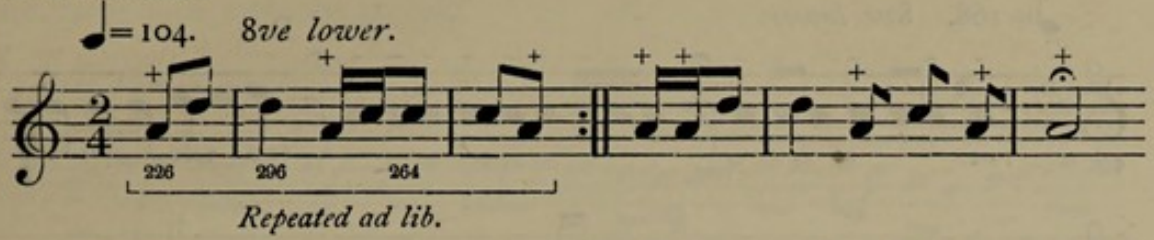
No. 2. *Maligi*, a honey-collecting song of the Henebedda Veddas; sung by Tissahami, the "Vedda Arachi."



No. 39. Amusement Song; sung by Kuma of Bulugahaladena.

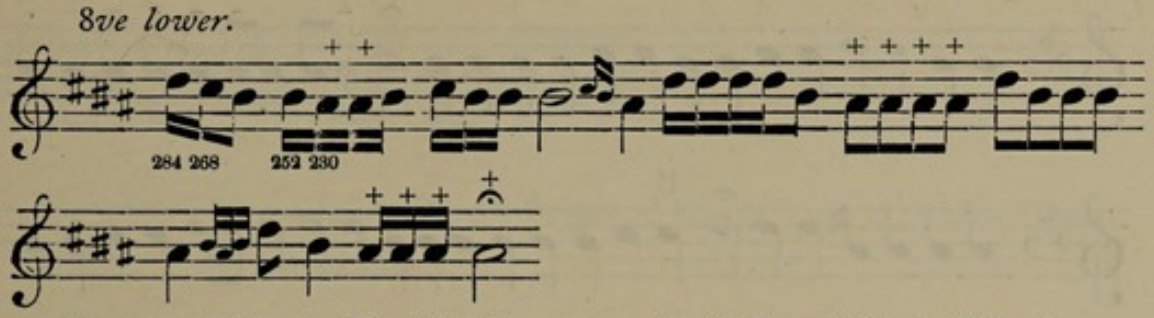


No. 14 (2). Invocation used by the Bandaraduwa Veddas; sung by a Sinhalese[1].

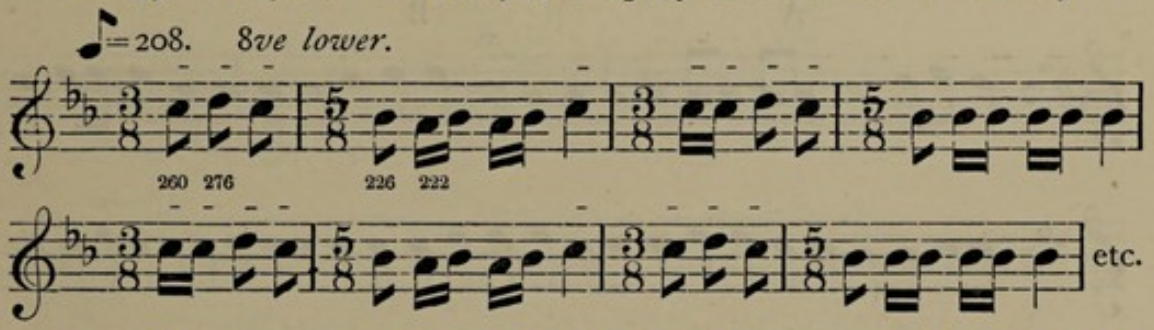


GROUP C.

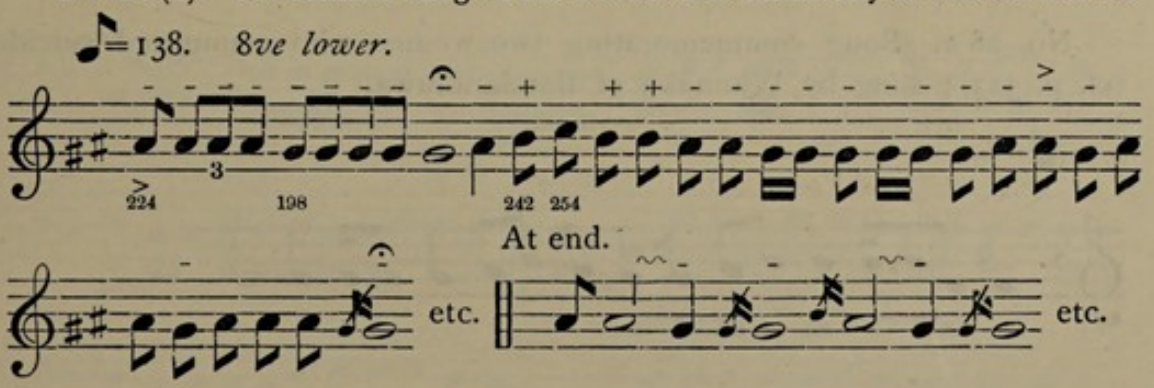
No. 32. Invocation of Bambura Yaka; sung by Handuna of Sitala Wanniya.



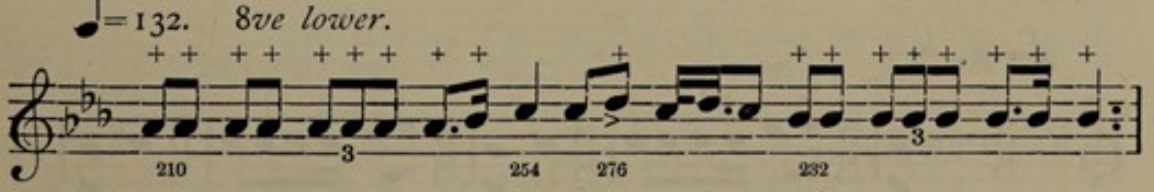
No. 33. Mulpola Itia Waniya; sung by Kaira of Sitala Wanniya.



No. 26 (1). Invocation sung at the *kirikoraha* ceremony at Bandaraduwa.

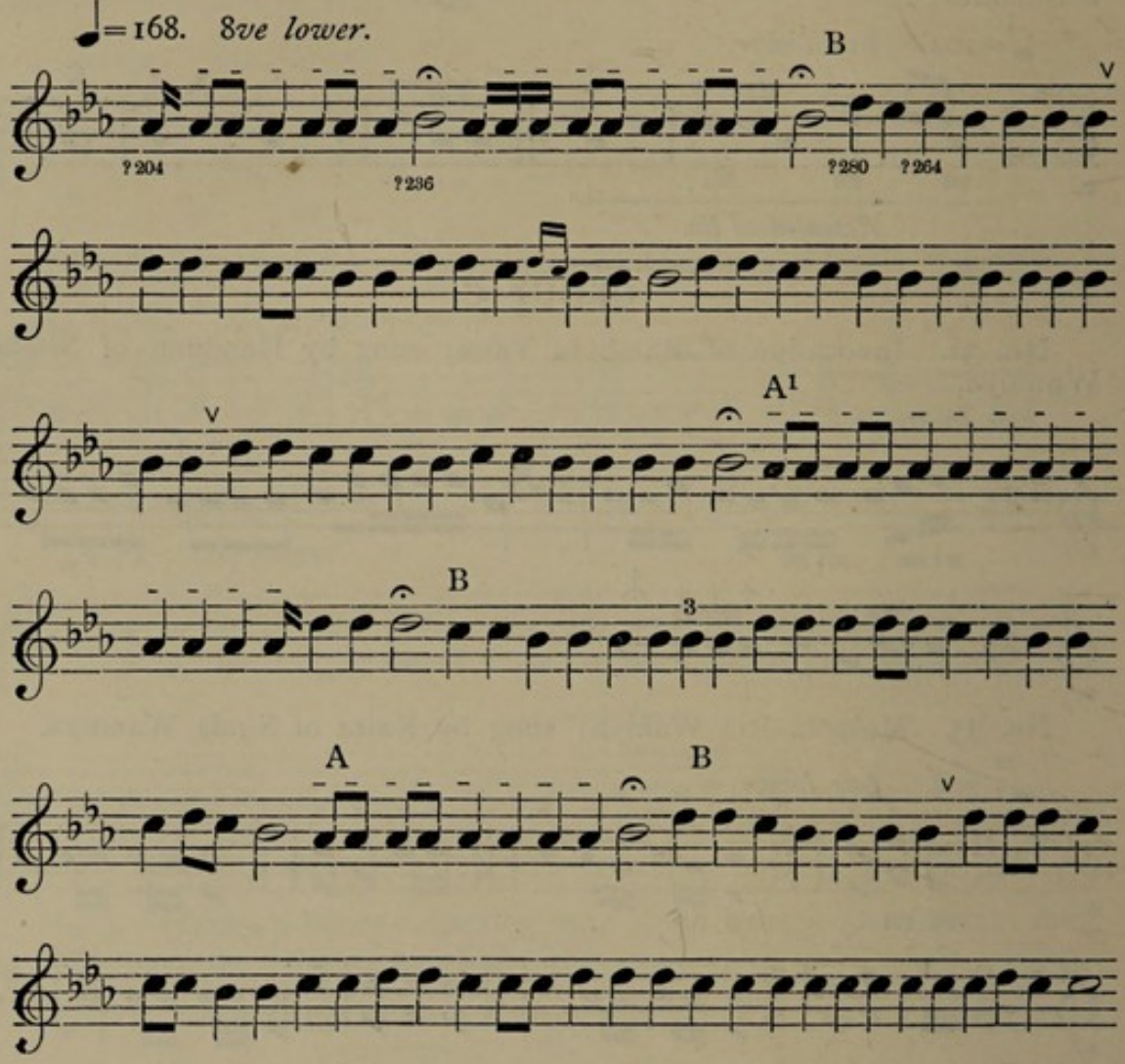


No. 53 (1). Sinhalese rice-harvesting song; sung at Hemberewa (see footnote, p. 356).

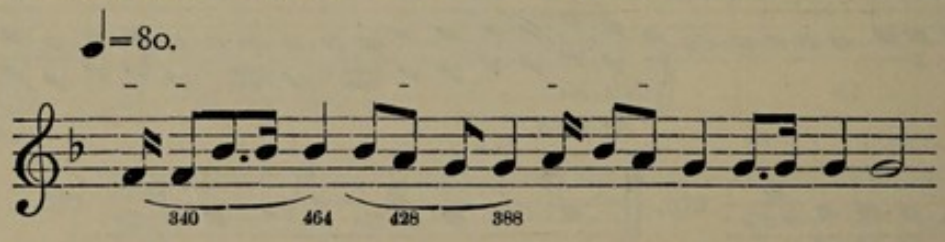


[1] Dr Seligmann is uncertain when this invocation is used; it is probably foreign.

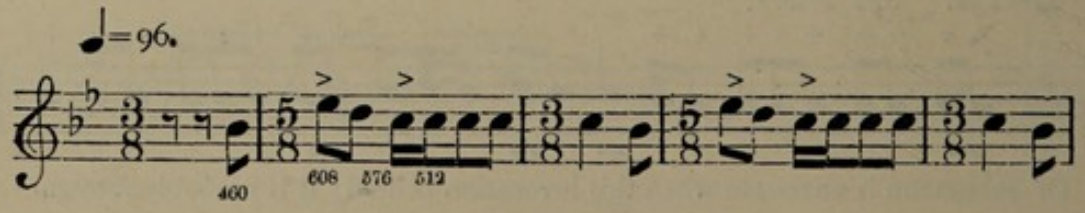
No. 44. Sung when taking honey; sung by Poromala of Henebedda.



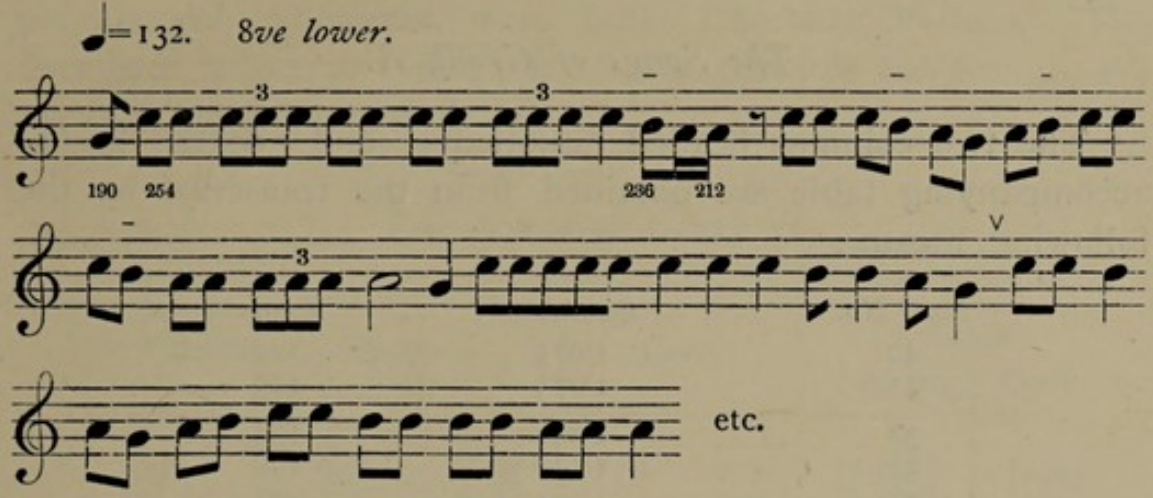
No. 28 A. Song commemorating two women who committed suicide (cf. p. 323); sung by Wannaku of Bandaraduwa.



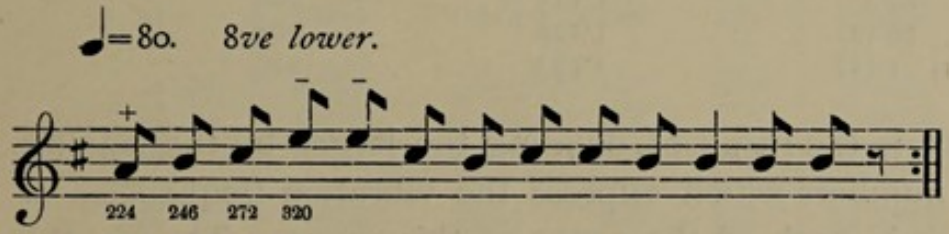
No. 34 (1). Lullaby; sung by Tandi, wife of Handuna of Sitala Wanniya.



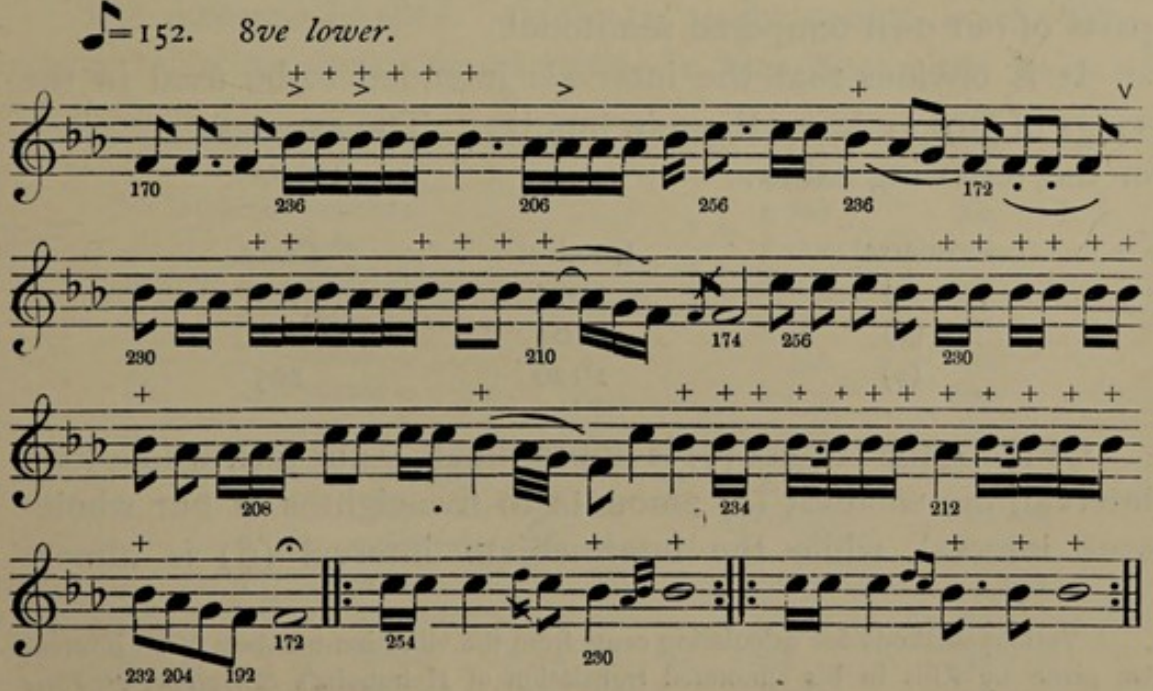
No. 51. Sinhalese song; sung at Alutnuwara at night while watching the crops (see footnote, p. 356).



No. 5 (2). Invocation to Bilindi Yaka and Kande Yaka at the Kirikoraha ceremony.



No. 41. Invocation by the Dambani Veddas of the *Nae Yaku*.



Analysis of the Intervals.

The Songs of Group A.

The two columns headed "quotients" and "cents" in the accompanying table are obtained from the transcript by the following means:

Song No.	Quotients	Cents
42	1·075	125
43	1·075	125
38	1·099	164
52	1·110	168
21	1·104	171
11 (2)	1·104	171
1 (2)	1·121	198
40	1·121	200
22 A	1·125	205
18 (2)	1·128	208
1 (1)	1·133	216

The quotient is the result of dividing the larger by the smaller of the two numbers which express the vibration-frequencies of the two tones in each of the songs of this group. Thus in the case of Song No. 42, 230 divided by 214 (the figures given in the transcript) yields the quotient 1·075. The cents are hundredth parts of our own tempered semitone[1].

It is obvious that the intervals intended to be used in the songs of Group A are three in number. The averages are given in the following table:

Interval	Quotient	Cents
(α)	1·075	125
(β)	1·104	168
(γ)	1·126	205

Of these the largest (γ) is approximately our own whole-tone interval, the smallest (α) amounts to five-eighths of our whole-tone interval, while the intermediate interval (β) is almost

[1] Various methods for calculating cents from the vibration-numbers of an interval are given by Ellis in his annotated translation of Helmholtz's *Sensations of Tone* (3rd edition, London, 1895), pp. 446—451.

exactly half-way between the values of the two extremes[1]. The interval (α) occurs only in two songs sung by different individuals, who, however, were both Dambani Veddas. The Dambani singer of No. 43 is also responsible for No. 40, the interval of which falls in (γ).

The Songs of Group B.

Song Number	Quotients		Cents		Range Quotients	Range Cents
29	1·043	1·137	73	223	[1·186]	[299]
36 (2)	1·050	1·124	84	202	[1·180]	[287]
2	1·057	1·129	96	210	[1·193]	[306]
27	1·067	1·132	112	215	[1·208]	[327]
39	1·055	1·111	94	181	[1·172]	[275]
31 A	1·061	1·114	102	187	1·182	289
34 (2)	1·084	1·094	140	157	1·186	297
30 (1)	1·087	1·104	144	172	[1·200]	[316]
31	1·084	1·121	140	197	1·215	337
37	1·072	1·095	121	157	[1·175]	[279]
20	1·132	1·122	199	219	1·270	414

The columns headed "quotients" and "cents" in the foregoing table measure the intervals—in this Group the pairs of

[1] For purposes of comparison, the following details may prove useful:

Interval.		*Quotient.*	*Cents.*
Our tempered semitone		1·059	100
,, ,, tone		1·122	200
,, ,, minor third		1·189	300
,, ,, major third		1·260	400
,, ,, fourth		1·335	500
,, ,, tritone...		1·414	600
,, ,, fifth...		1·498	700
Our just (or pure) semitone	(15 : 16) ...	1·06	111·731
,, ,, ,, minor tone	(9 : 10) ...	1·111	182·404
,, ,, ,, major tone	(8 : 9) ...	1·125	203·910
,, ,, ,, minor third	(5 : 6) ...	1·200	315·641
,, ,, ,, major third	(4 : 5) ...	1·250	386·314
,, ,, ,, fourth	(3 : 4) ...	1·3	498·045
,, ,, ,, tritone	(32 : 45) ...	1·406	590·224
,, ,, ,, fifth	(2 : 3) ...	1·500	701·955

intervals—for the various songs as in the previous Group. The last column, headed "range," expresses (also in the form of quotients and cents) the interval between the highest and lowest notes of each song. When that interval is not actually sung but only calculated, the figures are enclosed in brackets. Song No. 14 (2) is omitted from this group as its range and structure are obviously different from the rest. Dr Seligmann independently characterises this song as "almost certainly foreign... I find it was sung by a Sinhalese. I should neglect it." Song 20 is again exceptional. Its range exceeds four semitones (400 cents), or a major third. Here again Dr Seligmann—having regard only to evidence of a non-musical character—observes that "the words of this song are very late." Song No. 37 is somewhat exceptional. The intonation, moreover, is not very reliable.

The remaining songs of this Group fall into three divisions, the averages for which are shown in the following table:

Interval	Quotients		Cents		Range	
					Quotients	Cents
(δ)	1·054	1·130	92	213	1·192	305
(ϵ)	1·059	1·112	98	184	1·177	282
(ζ)	1·085	1·106	142	175	1·200	317

It is evident that the range of notes in these three divisions is not sensibly different. It amounts approximately to our minor third.

This interval is divided in the case of divisions (δ) and (ϵ) into two intervals, one of which is somewhat smaller than our semitone, while the other is in (δ) larger, in (ϵ) smaller than our whole-tone.

In the case of division (ζ) the interval of a minor third is divided into two intervals which are much more nearly equal to one another. The same feature characterises Song No. 20, where the major third is almost equally bisected.

In only four of the eleven tunes of this group is an interval appreciably larger than a whole tone actually sung by the singer.

This is shown by the unbracketed numbers in the columns headed "range." In No. 20 an interval of 414 cents (slightly exceeding a major third) is sung, but this song, as we have already observed, is exceptional. In Nos. 31 A and 34 (2), an interval somewhat less than a minor third is sung, in the former of 289, in the latter of 297 cents. In No. 31 the interval (337 cents) slightly exceeds a minor third.

The intervals sung in the anomalous song No. 14 (2) are of 467 and 269 cents.

The various average values of quotients and cents in the songs of groups A and B are set out in the following tables:

Quotients.

I.	II.	III.	IV.	V.	VI.
1·054	1·075	1·085	1·104	1·126	1·177
1·059			1·106	1·130	1·192
			1·112		1·200

Cents.

I.	II.	III.	IV.	V.	VI.
92	125	142	168	205	282
98			175	213	305
			184		317

It will be noticed that the difference between I and II, III and IV, IV and V is about thirty cents, and that the difference between V and VI is about thrice this value.

The Songs of Group C.

It will be remembered that the songs of this group contain four different notes. The intervals between the highest and lowest notes (maximal range), the intervals between alternate notes (an intervening tone omitted) and the intervals between

immediately successive notes are shown in the following table of quotients. Brackets indicate, as before, that the interval in question was not actually sung but only calculated.

Song Number	Maximal range	Interval between alternate notes		Interval between immediately successive notes		
32 (also 46)	1·23	[1·17]	1·13	1·10	1·06	1·06
33	[1·24]	[1·17]	[1·17]	1·10	1·06	1·06
53 (1)	[1·31]	[1·21]	[1·19]	1·10	1·09	1·09
26 (1)	[1·28]	[1·22]	[1·13]	1·13	1·09	1·05
34 (1)	1·32	[1·25]	[1·19]	1·12	1·11	1·06
[1] 51	1·34	[1·24]	1·20	1·12	1·11	1·08
28 A	1·35	[1·26]	[1·17]	1·15	1·09	1·07
44	? 1·37	[? 1·29]	? 1·19	? 1·16	? 1·12	? 1·06
5 (2)	1·43	1·30	? 1·27	? 1·18	1·11	1·10
41	1·46	1·37	1·21	1·13	1·10	1·05

The songs appear to fall into four divisions. In the first of these the maximal range is expressed by the quotient 1·235—equal to 365 cents—(nearly a neutral third), and the intervals between successive notes are expressed by the quotients 1·06, 1·10,—equivalent to 101 and 165 cents respectively. In the third division, the maximal range amounts to 1·33 or 496 cents (almost exactly equal to a just fourth) while the successive notes average 1·06, 1·10 and 1·14, i.e. 101, 165, and 227 cents. A very similar interval in song No. 53 is trisected into almost equal intervals, each approximately of 165 cents. In the case of the last division, the maximal range averages 1·445, equivalent to 637 cents (an acute diminished fifth), and the intervals comprise again an almost pure fourth, a slightly exaggerated major third, and other intervals common to other songs of the group. Of the two songs in this division Dr Seligmann writes that in "No. 5.....there are signs of foreign influence in the invocation as it stands, but it has a good old Vedda basis," and that "No. 41 is probably late."

Hence the most significant of the smaller intervals between

[1] These songs are said to be Sinhalese, but in most respects they closely resemble the Vedda songs of this group and are therefore included in it.

successive notes occurring in the songs of Group C are equal to 101, 165, 227 cents, which are successively different by about 63 cents. But it will be remembered that the difference between certain intervals employed in Group B was found to be about 30 cents, half of the difference just observed. In Group C we have just found the neutral third of 365 cents divided into two intervals, one of 101 and the other of 165 cents, representing approximately three and five of these hypothetical units, each of 33 cents. The same intervals were found in the division of the fourth of 496 cents into 5, 3 and 7 of such units. Again in three songs of Group B, the average interval of 317 cents is divided into intervals of 142 and 175 cents, differing by 33 cents. In view, however, of the want of precision in intonation, it is difficult to believe that these differences are significant.

The value of the fourth, when actually sung in the songs 28, 34 (1), 51 of Group C, averages 1·337 or 503 cents. Consequently it is almost pure. A pure minor third is sung in No. 34 (1). A neutral third is sung in No. 32, the value of which is 1·235 or 365 cents. In No. 5 (2), the minor third which is sung is small, amounting to 1·176 or 281 cents. The diminished fifth and the fourth sung in No. 41 correspond respectively to 655 and 543 cents.

Of the smaller intervals, the interval of 165 cents is certainly one of the most important. It occurs frequently in Group C and also (as 168 cents) in Group A, where it is exactly midway between the other two intervals (125 and 205 cents) met with in this group.

Analysis of the Rhythms.

In the majority of the songs the *time* is fairly regular, but the *accents* often recur irregularly owing to the variable numbers of syllables. The following extracts from the writer's note-book will serve to illustrate this general lack of regular measure:

No. 22 A. Want of regular accent; number of notes *ad libitum* according to words.

No. 21. Irregular accent according to number of syllables (see notation).

No. 38. Time regular but without regular accent.

No. 1 (1). Frequent interpolation of extra beats owing to extra syllables. *Rate* of beats constant. Little or no grouping of beats into larger units (i.e. no measure, bar or tact).

No. 53. The words dictate the number of notes.

No. 20. Considerable variation in time and in number of notes, regulated by breathing and by number of syllables.

No. 26. With variations according to recitative.

No. 28. No regular accent.

In some songs, however, the measures were more obvious. Thus,

No. 51. Very rhythmical, but occasionally an odd syllable is inserted.

No. 5. Fairly regular, save for a few extra syllables.

In only a few was the rhythm very well marked, as the following extracts show:

No. 11 (2). Very regular rhythm and accent.

No. 18 (2). Very regular rhythm.

No. 34 (1). Regular save for breath-marks.

No. 14 (2). Strict tempo save for breath-marks.

No. 36. Strict time.

In five songs, the rhythm is particularly noteworthy owing to the occurrence of bars of five beats. Thus, in No. 18 (2), a bar of five beats is inserted three times in the course of the song. One of them is shown in the part transcribed. In No. 14 (2), a five-bar is introduced in strict time at the close of the tune. Again in Nos. 33, 34 (1), 36 (2) there are alternate groups of three and five beats. In other words a bar of eight beats is sub-divided into two bars containing three and five beats respectively.

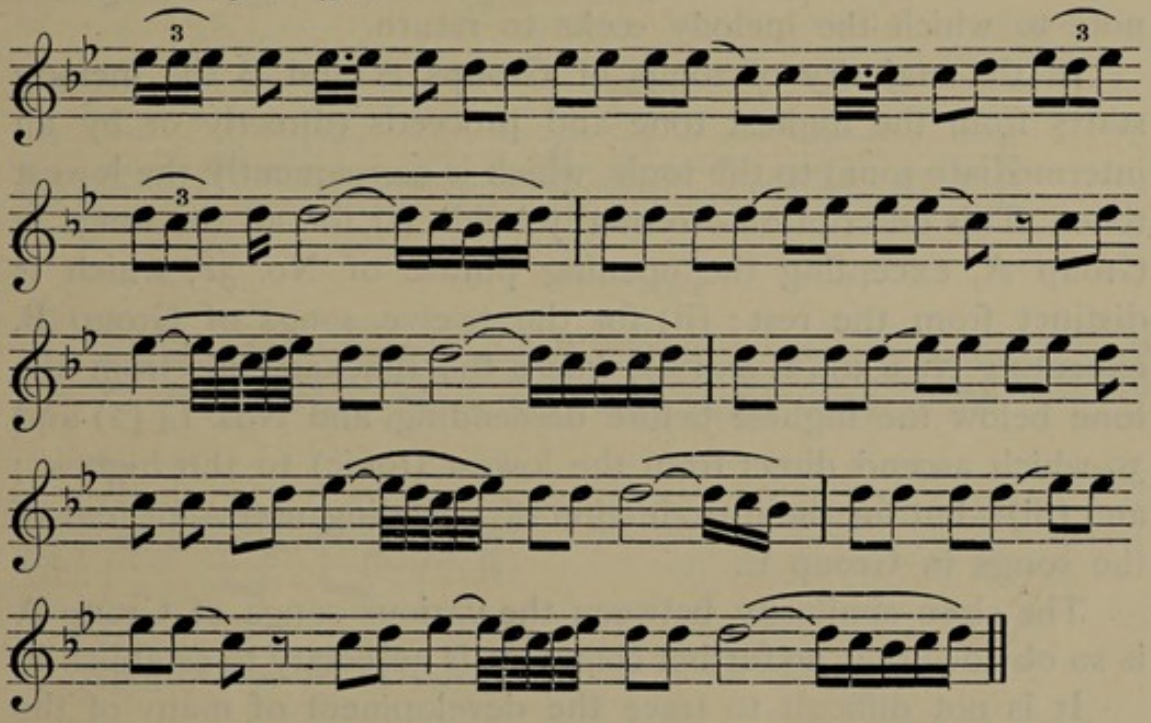
With these exceptions and the striking exception of No. 20, no one of the songs is clearly in triple measure, although occasionally, e.g. in No. 22 A, a bar of three beats is introduced into a song.

Generally speaking, where the accent occurs sufficiently regularly for the measure to be apprehended, the accent is found to lie on the first of every two or four beats.

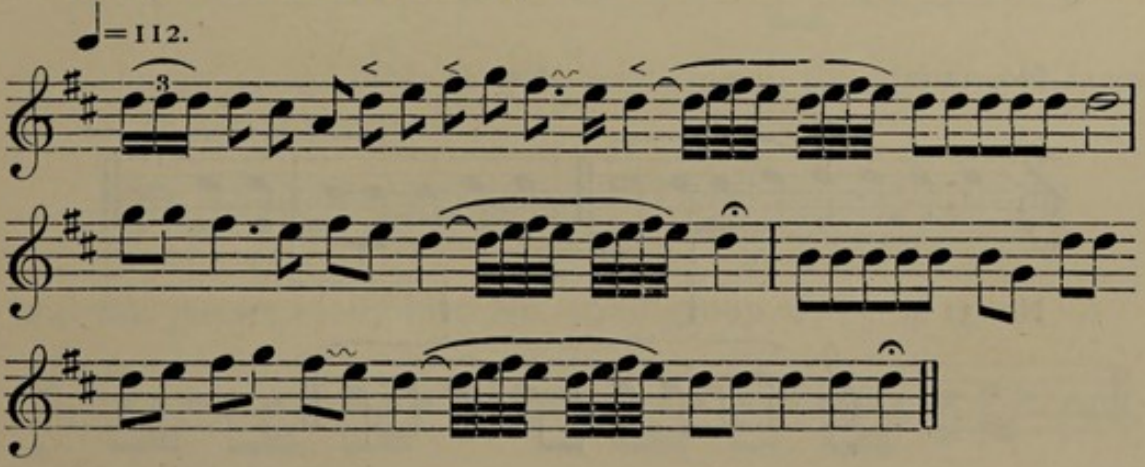
General Character of Songs.

The songs have an exceedingly plain character, and are devoid of the ornamentation with which we meet in many examples of primitive music. The few embellishments which occur in Nos. 1 (1), 1 (2), 2, 29, 32, are quite slight and simple. They present a contrast in this respect when compared with Nos. 50 and 23, which are records of other than Vedda music from Ceylon. I am indebted to Mr R. R. Broome, B.A., of Christ's College, Cambridge, for their notation.

No. 50. Charm (reputed to be Arabic) sung by the Arachi of Girandura.
Time very irregular.



No. 23. Sinhalese Love Song.



Another feature is the precision with which the notes are hit. There is not a single example of that *glissando* from note to note, which is so frequently met with among certain primitive peoples.

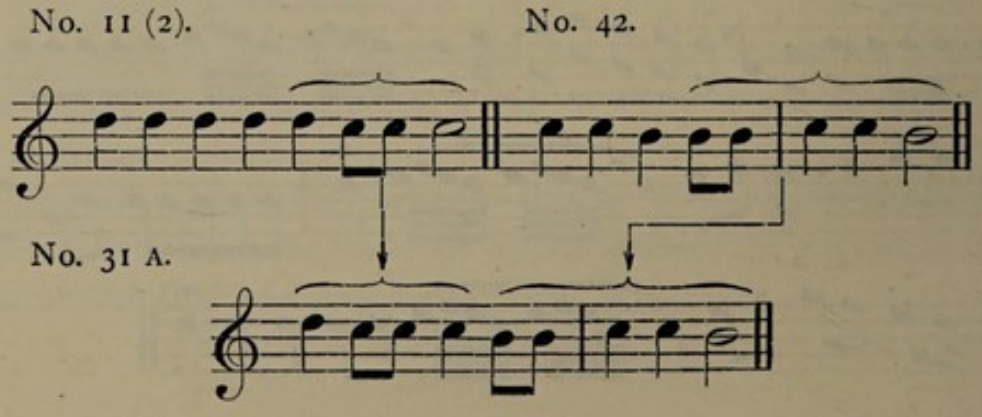
In only one song does more than one singer take part, and in this, No. 37, the second singer merely repeats the melody of the first when the latter has finished. There is hence no instance of two or more simultaneously sung notes.

But perhaps the most striking characteristic of Vedda music is the apparent feeling for tonality. In every song a tonic note is clearly present, which is, so to speak, the centre of gravity of the melody, emphasised by accent, duration, or frequency—a note to which the melody seeks to return.

In the majority of songs of Groups A and B the melody starts from the highest tone and proceeds (directly or by an intermediate tone) to the tonic, which is consequently the lowest tone. This description essentially holds, (i) for all the songs in Group A, excepting the opening phrase of No. 38, which is distinct from the rest; (ii) for the twelve songs of Group B, excepting Nos. 36 (2) and 37, where the tune ascends from the tone below the highest before descending, and Nos. 14 (2) and 39 which ascend direct from the lowest (tonic) to the highest; and (iii)—but for the introduction of a leading note—for four of the songs in Group C.

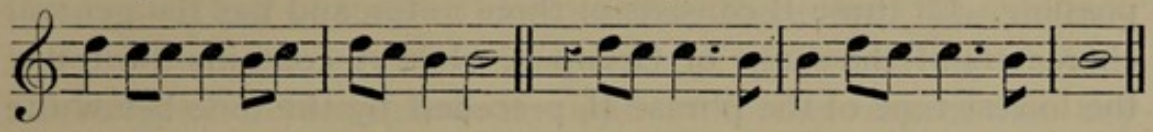
The close similarity between the various songs of Group A is so obvious that no further comment is necessary to establish it.

It is not difficult to trace the development of many of the songs of Group B from those of Group A. For example:



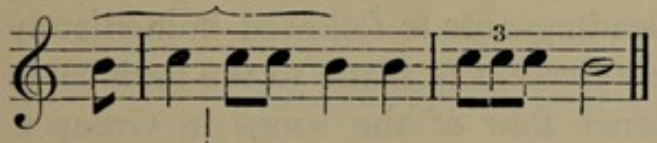
From the last song, No. 31 A, there is an easy transition to certain other songs of the same group, e.g. to

No. 31. No. 34 (2).

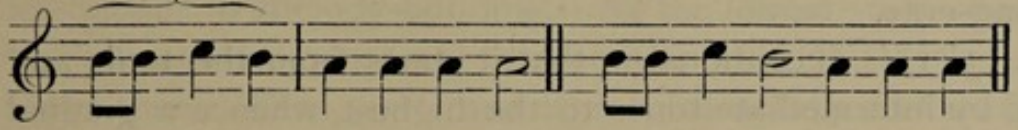


We can also indicate the relation between No. 42 of Group A and five other songs of Group B.

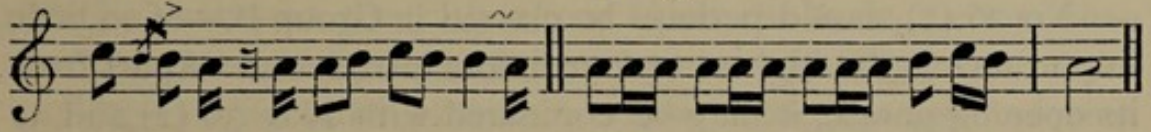
No. 42.



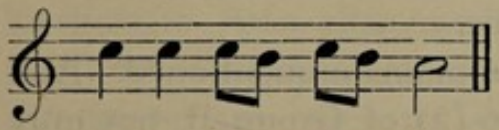
No. 36 (2). No. 37.



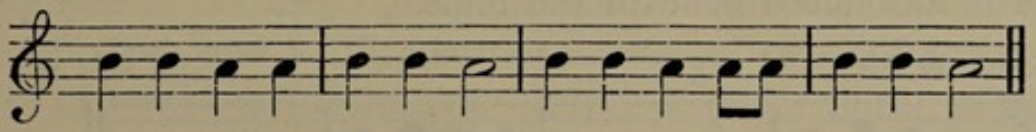
No. 2. No. 39.



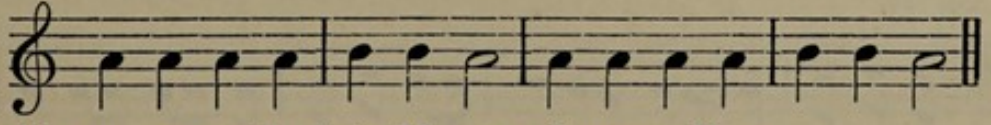
No. 27.



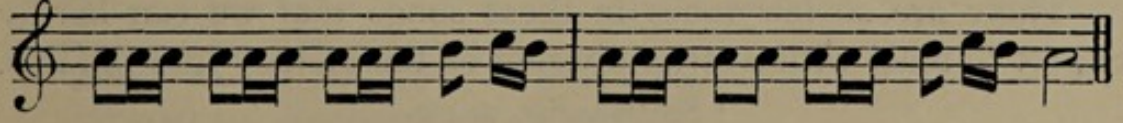
Again, No. 19 of Group A



by a change comparable to that occurring in the opening phrases of No. 38 easily becomes



and this passes easily into No. 39 of group B:—



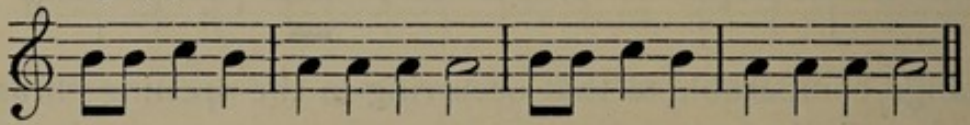
The introduction of a fourth note into the melody is seen in its most elementary form in the case of song No. 44[1]. Here, a division into two phrases, A (modified at A^1) and B, is clearly possible. Of these B consists of three notes, and has the general characters of the songs of Group B, while A contains the tonic, the lowest tone of the phrase B, preceded by the tone below the tonic, that is to say, by the leading-note. The use of the leading-note is clearly foreshadowed in the opening phrase of Song No. 38 in Group A. Four other songs in Group C, Nos. 28, 34 (1), 51 and 5 (2), have a definite leading-note. In Nos. 28, 34 (1) and 51, the leading-note is followed immediately by the highest note, whence a descent is made to the tonic as in the songs of Group B. Hence four of the songs in Group C only differ in structure from those of Group B by the addition of a leading-note.

No. 53 (1) is exceptional in that it starts from the tonic and ascends by intermediate tones to the highest, whence a gradual descent is made to the tonic. It is a Sinhalese song.

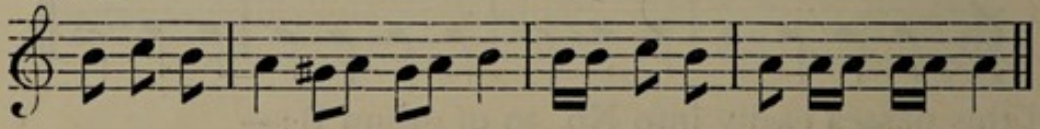
No. 26 (1) should perhaps be classed in Group B,—of so little importance is the highest or fourth note introduced. Apart from its opening phrase, it may be compared with Nos. 36 (2) and 37 of that group, both of which ascend from the note below the highest, before descending to the tonic.

Only one other song of Group C remains unmentioned. And this, No. 33, is extremely like No. 36 (2) of Group B, not only in structure but in the curious rhythm. An unimportant semi-tone is introduced beneath the tonic.

No. 36 (2).



No. 33.



There are so few tones in these songs that we can hardly expect to meet with a strict division of the melody into phrases.

[1] See transcript, p. 350.

Yet in songs Nos. 26 (1), 38, and 44 there are opening phrases distinct from the body of the song. And in No. 44 this opening phrase (marked A in the transcript) is repeated in its original (or, as at A^1, in a modified) form during the song. The melody is thus very easily divisible into a series of alternating phrases, attaining a higher stage of development in this respect than any other of the melodies under investigation. Nos. 26 (1) and 41 (both of which Dr Seligmann suspects to be of modern date) have a short terminal phrase, clearly separable and differing in character from the remainder of the song.

Conclusions and Comparisons.

In the Vedda music we seem to meet with the very beginnings of melody-building. At the lowest stage (Group A) we have a two-note song descending from the higher to the lower tone. Then (in Group B) a third note is added higher in pitch than either of the preceding. Lastly (in Group C) a fourth note is introduced, generally a tone below the tonic, the influence of which throughout most of the songs is very clearly felt.

There is no other people in whose music the gradual construction of melody on these simple lines can be discerned. If we turn to Australian music[1], we usually meet, it is true, with small intervals between successive tones, but the range of tones throughout any one song is considerable. Among the American Indians it is also rare to find a song consisting only of two notes. Only four of the forty-three American Indian melodies collected by Abraham and v. Hornbostel[2] consist of two notes, and in three of these the interval is a neutral or minor third. Similar results are yielded by the older collections of Baker[3] and Stumpf[4]. The music of the natives of New Guinea, Borneo and Africa is decidedly more complex than that of the Veddas.

Turning to the music of Southern India, we find that only two or three of thirteen phonographic records, obtained from

[1] Karl Hagen, *Ueber d. Musik einiger Naturvölker*, Hamburg, 1892.

[2] Phonographirte Indianer Melodieen aus British Columbia, in the *Boas Memorial Volume*, New York, 1906, pp. 447—474.

[3] *Ueber d. Musik d. nordamerik. Wilden*, Leipzig, 1882.

[4] *Vierteljahrs. d. Musikwiss.*, 1886, S. 405—426.

natives of Gujar, Malabar and Tanjore[1], at all resemble in simplicity the Vedda music. Five of them have a range of tones compassing an octave, while three others range over a sixth. Of the three most primitive songs one is a prayer, the other two being children's songs. It cannot be said that in general character they very closely resemble the Vedda songs.

The intervals among the Veddas appear to have been developed by the successive addition of small intervals to those previously used. There are only two or three exceptional cases [Nos. 20, 34 (2), 53 (1)] in which the added intervals are approximately equal to the original; and these instances are possibly accidental. In nearly all the remaining songs of Group B, the additional third tone consists of approximately a semitone added above the whole-tone interval which starts from the tonic. The two intervals thus comprise a minor third. This minor third tends to be smaller than our own tempered or untempered interval. A major third occurs only in a single song, and a neutral third is also only once sung. In Group C, the fourth, when sung, is in most cases approximately true, although in one song it is smaller, in another decidedly larger, than our own tempered or untempered interval. A fifth occurs but in one song and is distinctly smaller than ours.

We can only conclude from these data that in the absence of musical instruments, musical intervals are by no means fixed among the Veddas, and that this want of fixity becomes more striking, the greater the number of notes introduced into the song. In dealing with the songs of Group A, we were able to range without difficulty the intervals under three heads. But with the songs of Groups B and C such classification became increasingly difficult and more uncertain.

From what we know of primitive music elsewhere, it was not to be expected that the Veddas would sing pure minor or major thirds. For a long time, even in European music, thirds were regarded as dissonant. What does, however, seem unusual, is that the fifth, in the one Vedda song in which it occurs, bears so little resemblance to the consonant interval which has the ratio 2 : 3. It is almost a quarter-tone flat. On the other hand, the

[1] *Sammelb. d. internat. Musikgesellsch.* 1904, Bd v, S. 348—401.

fourth is several times sung nearly in the consonant ratio of 3 : 4. Inasmuch as the fifth is so much more consonant than the fourth, we should have expected to have found its intonation purer than the fourth.

For the same reason we might have expected to have found the fifth preferred to the fourth, but the fifth only occurs in one song, while the fourth is sung in several. But the intervals of the Veddas appear to have been developed, as we have already said, not by taking a harmonious interval and dividing it into smaller intervals, but by starting with small (and uncertain) intervals and adding further intervals to them. It is only in the more advanced songs (and these are very few in number) that relatively large intervals are sung. And here we appear first to meet with the influence of harmony in fixing the size of such consonant intervals. Despite the fact that to our ears tonality is so well-marked throughout the Vedda songs, the approximate consonance of intervals is only reached when the two tones immediately succeed one another.

As regards the rhythm of the Vedda songs, it is noteworthy that in Indian music Abraham and von Hornbostel found frequent instances of the interpolation of a 3- or a 5-pulse measure in music otherwise of common time. They note that change of rhythm is "so frequent that we are often unable to detect any constant primary rhythm at all, but are compelled to imagine a continual modification of measure[1]." This remark is applicable, as we have seen, to much of Vedda music, while in other Indian and Vedda songs a definite rhythm can be readily apprehended. In many parts of the world primitive music is characterised by "a delight in change and opposition of rhythm, and a demand that relatively long periods filled with measures of diverse length be apprehended as an organic whole or 'phrase'[2]." This is a characteristic of several of the Vedda songs.

[1] *Op. cit.* S. 398.

[2] C. S. Myers, *Brit. Journ. of Psychol.* 1905, Vol. 1, p. 405.

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