

AN ANALYTICAL STUDY ON THE SINGING STYLE OF THE DAMBANA ĀDIVĀSI COMMUNITY IN SRI LANKA

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Abstract

Indigenous people in Sri Lanka (*Ādivāsi*) are usually an isolated community living in a country or region who have a specific language, culture, and way of life belonging to generations that are endemic to each country or region. While indigenous communities are the inheritors of the earliest history of a country, those in Sri Lanka are referred to as the “*Vedi*” community (*Veddas*). Possessing a unique language, culture, and lifestyle, they have coined the term “*Wanniyalaeto*” (forest dwellers) to refer to themselves. The purpose of this research is to identify the music of the *Dambāna Ādivāsi* community and to examine the characteristics of their music from an ethnomusicological aspect. The analysis of this research is twofold: qualitatively and quantitatively. Data was collected through the use of audio-recorded interviews, field observations, formal discussions as well as studying existing literature on the matter. The basic features of chanting can be seen in the *Vedi* chants of the *Ādivāsi* folk, while reflections of man’s first attempts at singing a line of words can be gleaned at through *Vedi* songs. *Vedi Daru Nalavili* (indigenous lullabies) in the *Dambana* region are a prominent source in the study of ethnomusicology in Sri Lanka. In finding the unique identity possessed by *Ādivāsi* music through examination of the notations and tonality of their music, a new method of analyzing audio recordings is introduced in this study. Here, the use of Python programming to extract and filter the pitch-time data of an audio signal and then graphically analyze it using Origin is utilized. Within this analysis approach, the tonality of the music, as well as the quotients between successive intervals was also noted. A significant aspect of this study is that while the music of the *Ādivāsi* community is discussed in researches, a quantitative study into it has not been approached since Myers’ analysis of *Ādivāsi* music, which is found as a chapter in the text by the Seligmanns in 1911, which might also be the given time frame of the identification. This study also goes on to show that the music of the *Veddas* can indeed be considered as prehistoric music³, and the importance of conserving this intangible cultural heritage is of utmost importance in contemporary times.

Keywords

Ādivāsi, prehistoric music, Sri Lankan indigenous music, Vedda community.

INTRODUCTION

The United Nations State of the World’s Indigenous Peoples report considers the definition of an indigenous community to be as outlined by Jose R. Martinez Cobo as,

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... those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal systems. (United Nations Department of Economics and Social Affairs, 2011).

In adherence to this definition, the *Vedda* (also written as *Vedda*, *Vedi*) or what later came to be referred to as the *Ādivāsi* community of Sri Lanka can be identified as a community of indigenous people in Sri Lanka. This is further supported by the fact that these communities have been shown through many literary texts as to having existed before the first historic settlements in Sri Lanka by foreign entities such as the Portuguese, Dutch, or British, the presence of cultural affairs unique and isolated to them in contemporary times, and the continuance of a developed social system within their community.

It is documented that the earliest civilizations of Sri Lanka were separated into two main communities based on whether they worshipped the *Nāgayo* (serpents) or the *Yakshayo* (demons) (Amarawansa Thero & Dissanayake, 1994; Blundell, 2012; Withanachchi, 2017). The former has been attributed to those who were seafarers and/or led livelihoods connected to water sources, while the latter were described to occupy the more central areas of Sri Lanka, particularly engaged in cultivations and forestry (Kulatillake, 1991). The *Mahavamsa* mentions the origin story of the *Veddas* to be in the form of the offspring of the *Yaksha* tribe's queen, *Kuveni* (Amarawansa Thero and Dissanayake 1994). Indigenous communities themselves refer to *Kuveni* in their own language as *Kukulapola Kiriamma*, and proclaim that they are descended from her. However, archeological evidences suggest that the *Veddas* show links to have existed 34,000 years ago, predating *Kuveni* by a great amount, and studies even suggest a link between *Veddas* and specimens of prehistoric man found in Sri Lanka (Deraniyagala, 1971).

While historically hunting and foraging have been the livelihood of the *Veddas*, it has been seen that the exchange of goods with the main population of the country has taken place (De Silva and Punchihewa, 2011). While trade between the main populace had taken place, the Seligmanns had observed that the *Veddas* had not started to share their cultural elements with the main population until around the 20th century⁴ (Myers, 1911)⁵. The livelihoods of the *Veddas*, however, began to change drastically in the past 50 years, the most notable event being the declaration of indigenous land as a part of the *Maduru Oya* wildlife sanctuary in 1983 by the Government of Sri Lanka. Following this, the *Vedda* community had to abandon their hunting and foraging practices due to the loss of rights to do so in the forest areas by the 270/9 gazette published on November 9, 1983. This forced the indigenous community to not only abandon their unique lifestyle, but also to adapt to contemporary farming practices to sustain themselves (Wanniyalaeto 2014). Furthermore, they express woe in having to conform to laws set out by “Englishmen” and having their land and, in extension, their freedom confined to a minuscule portion of what they used to enjoy by the laws set out by the government (Wanniyalaeto, 2014).

⁴ This statement, however, needs to be taken under the understanding that cultural changes may have already occurred by the time the Seligmanns conducted their study on the *Veddas*. Since there are no recordings of the music of the *Veddas* predating the ones recorded by the Seligmanns this study will factor those recordings and findings as a foundational baseline.

⁵ Myers notes that the Seligmanns observations were that while most of the *Vedda* tribes did not exchange cultural affairs with the Sinhalese, some tribes, given the opportunity, would incorporate Sinhalese percussion instruments in their rituals and songs.

With these conditions, the cultural identity of the *Veddas* is put to risk. Myers describes songs that were sung to commemorate the success or failure of hunts or forages for honey in his chapter of the Seligmans' account of the *Vedi* community published in 1911. But in contrast to the early 20th century, modern-day indigenous communities have very little practical use for these songs as they are bound by the current laws to abandon the lifestyle that was inherent to their culture. So it is not only a decline in the uniqueness of their lifestyle, but also a decline of their culture that is prevalent in modern times. Thus, an urgent need to not only conserve, but also compare and estimate the degree to which their culture has changed is important for the protection of this intangible cultural heritage.

Within the context of this research, the music of the *Dambana Ādivāsi* community has been considered on a judgment sampling basis for analysis. Using the lyrical and contextual background of these songs, the identity of the indigenous community's music is established qualitatively. Following this, a novel approach to analyze these songs quantitatively is introduced and applied in order to establish the cultural identity present in these songs quantitatively. This method can also be applied to provide an inroad to measure the changes and influences of contemporary music sources on modern recordings of indigenous music. The following are aimed to be accomplished through this research.

- Identifying the sociocultural practices, in particular the music of the *Dambana* Indigenous community.
- Examining the music of the said community from an ethnomusicological perspective to establish the cultural identity of the music of the community.
- Development of a new approach to analyze audio recordings of prehistoric music in order to draw comparisons between different samples to a higher degree of accuracy, as well as aid in the reconstruction of these songs to their original form.

The research employs a mix of both qualitative and quantitative methods, while data was mainly collected through field visits and observations, formal interviews, and perusing literary sources and existing audio recordings in archives.

LITERARY SURVEY

Many international and national scholarly works provide a variety of accounts on the *Ādivāsi* community of Sri Lanka. The first mentions of the community in English texts were the accounts of life in (then) Ceylon by Robert Knox in 1681. The epitome of texts on *Veddas* is widely accepted as the account written by the Seligmans in 1911. While this is an extensive account of the ceremonies, societal structure, properties, and cultural practices of the *Veddas*, the chapter on Music of the *Veddas* by C. S. Myers plays a crucial role as it is the only in-depth analysis of their music till the present day. This lack of an extensive study to the level given by the Seligmans and Myers on the music of the *Veddas* is mentioned in many reports on the indigenous community written within the last two decades (De Silva & Punchihewa, 2011). This gap is what this study attempts to address, specifically, to reexamine the musical analysis laid out by Myers.

Some texts refer to two main types of *Veddas* as *Gam Veddo* (*Vedda* communities that have formed village-like social structures) and *Gal Veddo* (*Vedda* communities that frequented or occupied caves and rock formations or their immediate vicinities) (Vimalavansa Thero 2000), while a third type called *Muhudu Veddo* has also been mentioned in other texts (Seligmann and Seligmann 1911; Dart 1985; Weerakkody and Muhudu Veddo Premaweera, 2013). This latter type formed settlements around the Eastern and Northern coastal regions and is mostly employed in livelihoods connected to fisheries. R. L. Spittel's non-fiction literary works "Wild Ceylon" (1924), "Far-off Things" (1933); and novels such as "Savage Sanctuary" (1941) and

“Vanished Trails” (1950) provide valuable insight into the lifestyle of the *Ādivāsi* community as well as reflects on their interactions with various communities external to their own. However, within his works, there is rarely a mention of the *Muhudu Veddo*, and the descriptions are mostly revolving around *Gam Veddo*.

The Sri Lankan ethnologist Nandadewa Wijesekara goes into a detailed description of the lifestyle and distribution of the *Veddas* in his book “*Veddas in Transition*” (1964), but a deep discussion of their music is absent. De Silva and Punchihewa (2011) have given a rather extensive and excellent effort in describing the modern socioeconomical and statistical conditions of the *Ādivāsi* community. While this text has been cited by many authors writing on the *Ādivāsi* communities, this too does not include a discussion on the music of the *Veddas*, akin to that brought up by Myers in 1911. C. De Silva Kulatillake has taken strides to analyze the music of the *Veddas* in his book (1991) as well. While he too collected and archived several *Vedi Gee* (songs of the *Veddas*) in 1984, his analysis on the collection gives note to the monomelodic feature present in their singing style. He further elaborates that while the language of the *Veddas* is pronounced at a faster speed, and this quality is present even in their songs, the prevailing sense of a meter in their music is a strange feature. The rushed pronunciation should not allow for a meter within their music, nor are they even aware of such a construct within music, yet a rudimentary notion of timing is present (Kulatillake, *The Veddas* 2009). These audio recordings are currently kept at a variety of collections in the country, including the National Archives, Archives of the National Broadcasting Corporation, university archives as well as personal collections. A great number of recordings on folk music recorded by him are also housed at the C. De Silva Kulatillake Archival and Research Unit at the University of the Visual and Performing Arts, Sri Lanka.

Further mentions of rites of passage within the *Ādivāsi* communities regarding birthing ceremonies are given in Uthpala Ekanayake’s book *The Music of the Prehistoric People of Sri Lanka* (2015) as well as within texts mentioned above. These rituals play an important part in the establishment of the identity of the music of the *Veddas*, as well as in providing a contextual background to understand the lyrics of these songs.

THE DAMBANA ĀDIVĀSI COMMUNITY

While it has been documented that there was a rather large distribution of *Vedda* settlements in the historic periods of Sri Lanka, we can only see a very few of these in present times. While a few settlements can be seen in the Eastern coastal area, Figure 1 clearly shows the greater density of the indigenous community in the *Badulla* district. The central city for the *Ādivāsi* community can be seen to be *Dambāna*, a *Gramā Seva* Division of *Mahiyanganaya*, which is in the *Badulla* district. The indigenous community refers to *Mahiyanganaya* as *Bintenna*, which is rooted in the Pali language to mean “flat land.” Many estuaries of the *Mahaveli* River can be found within this area.

village is mainly a tourism-based area, and a more real picture of the *Veddas* can be seen as moving to the outskirts of the *Kotabakiniya* village. It has also been noted that the main livelihood of employed members of the indigenous community is in Chena or paddy cultivation. While some members also engage in tourism activities, a few discrepancies between quantitative and qualitative descriptions of their income sources are noted in De Silva and Punchihewa's report.

THE IDENTITY OF ĀDIVĀSI MUSIC IN SRI LANKA

While the vast majority of the modern-day *Ādivāsi* community follow Buddhism, their cultural identity and historic practices are deeply rooted in the worship of *Yakshayo* (demons). Even in the present day, rituals and traditions to worship male demons (*Kande Yaka*, *Indigolle Yaka*, *Bilindi Yaka*, *Kadawara Yaka*), female demons (*Ela Kalu Sāli*, *Maha Kalu Pāli*, *Maha Yama Palli*), *Kiri Ammāwaru* (ancestral female deities) (*Indigole Kiriamma*, *Unapane Kiriamma*, *Kukulāpola Kiriamma*), and a number of *Deviwaru* (gods) (*Bandāra Deviwaru*, *Irugal Bandāra*) can be seen (Maddumage, 2021). These rituals can be seen in the form of white magic. *Næ Yakun Pidum Maduwa*, *Næ Yakun Adukku Maduwa*, *Hangalē Panama*, *Hækmē Natuma*, and *Kirikoraha Natuma* are a few rituals that take place even in modern days, not merely as a show for tourists but as an essential part of their lifestyle. These rituals are filled with a healthy number of *Vedi Gee* (*Vedi* songs), which is one form in which indigenous music can be seen in. Some of these songs are sung exclusively at particular rituals within the community and are not sung in the presence of an outside audience.

Referred to as “*Yādini*”, the lyrics to many of these songs implore blessings to be bestowed upon the singer (and the people involved in the ritual) from their ancestral deities. Referred to as *Na Yakun*, they can be called upon by any member of the Indigenous community (Blundell 2012). These blessings may be for a fertile harvest, successful hunts, or even to ward off sickness. These are often rather lengthy and sung in a prose style. One such song is as mentioned below.

*Ara uni kiri-
gal poj-je
van-ga-na
van-ni-ya
ara de-va
gal poj-je
ran-ga-na
van-ni-ya...*⁷

To he (the *Yakshaya*) who has taken residence in *giri gal poththa* (*Girigala* mountain),

to he (the *Deviya*) who has taken residence in *deva gal poththa* (*Devagala* mountain) ...

(this is a song that seeks to praise the relatives and deities of importance to the singer)

Here, while each line contains only one or two words, they are often broken down into two or three syllables as shown above to compensate for the rhythm and meter of the song. This sense of rhythm is further enhanced by the repetition of lines (or more precisely words), or by replacing a single word in a previous line and repeating it in the same rhythm. During the course of these rituals, it is often seen that they engage in body percussion. This was also observed by the Seligmanns as well as other documentations on the *Veddas* in the 20th century.

While songs for blessings are present, it was also seen that there are songs sung by *Ādivāsi* womenfolk to their husbands who return after unsuccessful trips into the forest to collect honey

⁷ This song is given in audio recording #02. Audio recording #01 is also a such *Yādini* song.

(Seligmann & Seligmann, 1911). The importance of food within a lyrical context is emphasized further in lullabies.

When compared to many other traditional lullabies in Sri Lanka, those of the *Ādivāsi* community are rather fast-paced. Giving a special place for phonetics that appeal to young infants, these lullabies are often two- or three-note melodies with extra notes added as grace notes when phonetic sounds are dragged while singing the lullaby. The use of phrases such as “*ammī rōi roi roi rōi – appī rōi roi roi rōi*” and “*ten tendināne tendinānē*” is also seen as an enhancement to the phonetic nature of the lullabies. The lyrical line, “*Pati andanne monnata do bala*” (why is the infant crying?) is greatly found in multiple places of the lullaby. In some instances, the line is sung as with the *i* sound in *pati* being dragged (*patī*) while in other instances the word *andanne* is broken into syllables and the last phonetic sound is dragged as *an-dan-nē*. The lyrical content of their lullabies mainly revolves around this question, asking it in one line and proceeding to ask the infant if he will be appeased with a specific item of food and stop crying. This is often followed by the person singing the lullaby asking another to give some of the mentioned food items to the infant (Weerakkody, 2013).

Patīdan-nē mon-nā-ta do bala	Why is the baby crying?
gavarage thelatai an-dan-nē	It cries asking for the fat of the bull
e-kā-t di-pā-n pa-tī-tā	
...	Give one for the child then
go-na-la bok-ki-ta an-dan-nē	...
...	
hin-tha-la ma-le-ta an-dan-nē	It cries asking for <i>Gonala</i> (a type of potato)
...	...
katu-ala bok-ki-ta an-dan-nē...	It cries asking for a vegetable (that grows as a vine)
	...
	It cries asking for <i>Katuala</i> (a type of potato)

The *Veddas* are described in most accounts as being in tune with the nature around them. While they hunt for meat, they are often described as nonviolent toward their fellow humans. This compassion and simplicity are expressed greatly in their songs. Lullabies are often a reflection of their livelihoods of foraging, and the experiences they derive while out in the forests. While the womenfolk usually do not step outside of their homes, most recordings of *Ādivāsi* lullabies are sung by men. This stands true for many recordings and attempts at recording their lullabies⁸.

Romance is also a part of the music of the *Veddas*⁹, often describing activities in the forest. Invitation to a female member of the community to enjoy the freshness of the fruits of the forest, to witness the sights of the birds, and such are described in the lyrics of these songs.

When looking at the music of the *Veddas* qualitatively, understanding that these songs have been passed down through oral traditions for millennia, as well as the nature of these songs, suggests that the collection of indigenous music must be a limited and small one. The use of phonetic sounds to enhance their songs, as well as the syllabic approach to sounding out words to preserve rhythm, is indicative of a tribal aspect in their music. Furthermore, studies have shown that these songs are in fact mostly comprising of two-, three-, or four-note melodies. This is a rare feature that has not been observed even in the indigenous tribes of the Oceanic-

⁸ Audio recordings #07 #08, #09, #10, #11, and #12 are all lullabies. A point of interest is that #11 is a lullaby sung by an *Ādivāsi* woman.

⁹ Audio recordings #03, #04, #05, and #06 are all such songs.

Pacific or American regions (Myers 1911). These points prove sufficient to reason that the music of the Sri Lankan indigenous community is, in fact, prehistoric music.

Studies into *Vedi Gee* are also important as they establish not only the musical identity of the *Ādivāsi* community of Sri Lanka, but also their linguistic identity. Surveys show that only 21.5% of the *Ādivāsi* population know how to sing their lullabies in modern days, and an alarming number of only 6.6% are able to sing *Yādinī* songs. This decline can also be attributed to the loss of their indigenous language in the modern day, as only 11% of the *Vedda* population is conversant in their language, while most of these are in the 50–70 years of age category (De Silva and Punchihewa 2011). Another reason for the loss of cultural aspects is due to the upheaval of their traditional lifestyle. Poverty has caused women who traditionally did not step out of their houses to go out in order to ensure that the family is financially supported. The hunting and foraging lifestyle, too, is now almost completely abandoned. This brings up the simple question as to whether they would engage in the simplest of cultural practices such as singing lullabies and songs about the forest when they do not engage in these activities themselves now. The conservation of both the *Ādivāsi* language and their music is an act of great importance to preserving the indigenous culture of Sri Lanka and in maintaining one of the oldest forms of prehistoric music in the world.

AN ANALYTICAL APPROACH TO STUDYING AND RECONSTRUCTING AUDIO FILES

The audio files that were considered for this analysis process were those that were recorded by Mr. C. De Silva Kulathilake in 1984 of the *Ādivāsi* songs. While audio files of the same songs were obtained during field visits at *Dambāna* in 2010, 2014, and 2021, these were not considered for the analysis pertaining to this paper. This is due to the observation and well-documented fact of the loss of identity to the songs of the indigenous tribes of Sri Lanka, with influences of modern and classical Hindustani music elements in contemporary times¹⁰ (Myers 1911).

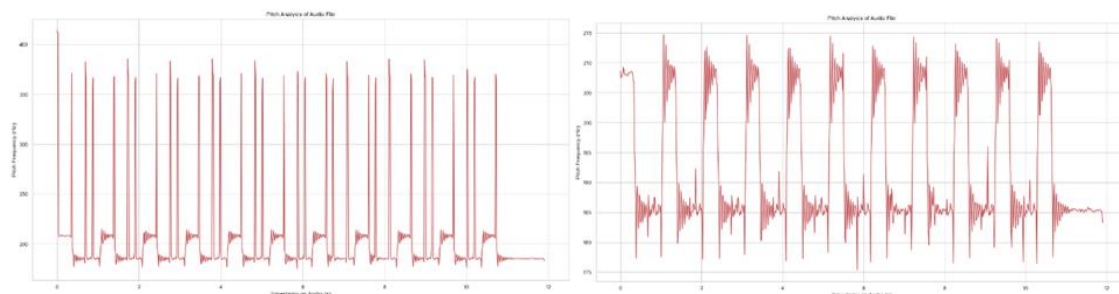


Figure 3: A Python plot showing the pitch analysis without proper filtering.

Figure 4: A sample whose pitch has been properly filtered is displayed in this Python plot.

The Python programming language–based Jupyter console was used in writing the program to perform the numerical segments of the analysis, while the graphical analysis segments were carried out using Origin 2021. Standard numerical computation libraries *numpy* and *pandas* were imported as well as the library *librosa* for audio analysis. *matplotlib* and *seaborn* libraries were also imported to view data graphically in the Jupyter console. First, the considered audio recording was imported into Adobe Audition 1.5 and was trimmed to around 10–12 s. This trimming was done after identifying a consistently repetitive wave form in the recording that is

¹⁰ These differences between older and contemporary recordings of *Ādivāsi* music, as well as comparisons between musical influences and *Ādivāsi* music are to be studied separately in an upcoming paper.

devoid of extended silences or sharp intakes of breathing that occur when ending one line of a song to move to the next. The trimmed audio was not manipulated in any other way and simply exported as a .wav (Wave Audio) file. This audio sample was then imported to the Jupyter console for analysis.

First, using the functions of the *librosa* library, the audio signal was loaded with no difference to its existing sample rate, and the pitch-time data were extracted using the library's in-built harmonic-percussive separation function. The obtained array for pitch values was filtered by removing all silences and observed graphically as shown in Figure 9. The sharper, singular peaks were compared to the audio file as seen in Adobe Audition and were noted to be inflections caused by taking breaths at the start or end of each word. Thus, these singular peaks were filtered out too, and the resulting was plotted as shown in Figure 10. The results obtained using the program are corroborated by those obtained using the Auto Pitch function of the audio analysis software SIL Speech Analyzer version 3.1.2.0¹¹. The pitch and time stamp arrays were then exported to an Excel sheet and imported into Origin.

First, the pitch frequency vs. time graph of the audio sample was plotted, and then two smoothing functions were approximated for it. The first was a loess filter and the second a fast Fourier transform (FFT) filter. These filters are applied to better aid in reconstructing the audio sample using classical notation. The resultant curves were plotted alongside the curve of the original audio sample. The average value for the peaks and troughs obtained by each curve was then computed and marked using horizontal lines as shown in Figure 11.

Using this graphical representation, conclusions on the number of semitones used in a song, the range of semitones used in a song, and comparisons between semitones described by the cents system can be drawn. These conclusions are important in studying the music of indigenous communities, especially those that show attributes of prehistoric music¹².

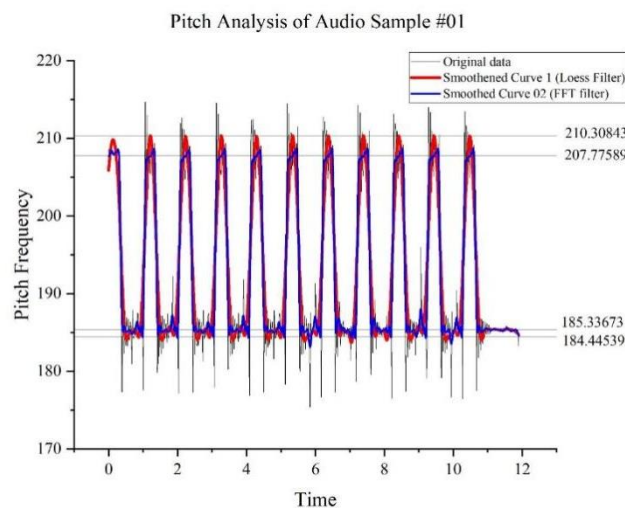


Figure 5: The graphical representation of the audio sample along with the smoothed curves. It can be seen here that the FFT filter provides a curve that is more in line with the cent system described by John Ellis (F#3 is given as 185 Hz and G#3 as 207.65 Hz). The loess filter, however, describes a tonality that does not adhere to the cent system.

¹¹ While this software suffices to produce graphical representations of the required parameters of audio analysis, an in-depth consideration of the data is not possible, hence the requirement to formulate a methodology that is more flexible for audio analysis and comparisons.

¹² It is expected to transcribe the analyzed audio recordings into classical music notation and compare them side by side with the original audio files. This is an important step to understand the relevance of the classical cent system in studying Sri Lankan indigenous music.

A QUANTITATIVE LOOK INTO THE MUSIC OF THE DAMBANA INDIGENOUS COMMUNITY

Following the process outlined in the previous segment, 12 audio recordings of a variety of VEDI Songs were analyzed. The lowest marked frequency is considered as a baseline to obtain the necessary ratios. According to previous analytical work on the music of the Veddas, the songs analyzed in this study fell into two groups: songs which predominantly had only two notes or two notes with one or more grace notes present (group A), and songs that contained three notes (group B) (Myers, 1911; Kulatillake, 1988; Kulatillake, 2009).

Upon noting down the relevant pitch approximations obtained by the two smoothed curves, respectively, the intervals were converted to quotients and cents as mentioned in the analysis by Myers in 1911. The results for each group with the selected smoothing filter are tabulated in Table 1. The deviation of the obtained results from those described by Myers too are noted side by side.

Recording #	Quotients	Cents
1 (L)	1.1304 (0.4%)	212 (3.5%)
10 (L)	1.0836 (0.8%)	139 (11.1%)
	(1.1456)	(235) 1 st Grace tone
	(1.2853)	(435) 2 nd Grace tone
	1.1538 (2.5%)	248 (20.8%)
12 (FFT)	(1.7446)	(963) 1 st Grace tone

Figure 6: Showing a table of the analysis of the Ādivāsi songs belonging to group A.

We can see that recordings #1 and #12 show an approximate whole tone interval between the two notes of the song, while the interval in recording #10 is closer to five-eighths of a whole tone. These results are in close agreement with those obtained by Myers in 1911. However, the same cannot be said when comparing some of the cent values of the intervals in group B songs (Table 2). But this is contrasted by an acceptable set of values for the interval quotients.

Recording #	Quotients	Cents
5 (L)	1.0868 (0.02%)	144 (0.07%)
	1.2275 (9.50%)	354 (80%)
	1.1021	168 1 st Grace tone
6 (FFT)	1.1185 (1.2%)	194 (2.5%)
	1.1854 (5.6%)	294 (34.4%)
7 (FFT)	1.0840 (0.3%)	140 (0.02%)
	1.2010 (0.8%)	316 (60.5%)
8 (L)	1.1467 (0.9%)	
	1.1546 (1.6%)	
9 (FFT)	1.0901 (0.29%)	149 (3.7%)
	1.2257 (1.30%)	352 (78.8%)

	1.7984		1016	1 st Grace tone
11 (FFT)	1.2437	(14.4%)		
	1.3213	(9.2%)		
	1.2146	1 st Grace tone		

Figure 7: Showing a table of the analysis of the *Ādivāsi* songs belonging to group B.

Recording #	Quotients		Cents
3 (FFT)	1.1256	(2.3%)	205
	1.1108	(4.8%)	182
	1.0958	(3.4%)	158
4 (FFT)	1.2118	(5.4%)	332
	1.0771	(1.2%)	128
	1.2536	(17.2%)	391

Figure 8: Showing a table of the analysis of the *Ādivāsi* songs belonging to group C.

A point of note here is that as the majority of songs are sung in a prose style, the song is interrupted from time to time for the singer to draw in breath. Following this, the pitch may shift upward or downward in the next set of lines of the song, and usually the tempo is quickened. But the difference in intervals is still maintained, no matter where the pitch starts from. This implies a rudimentary sense of tonality, as it is clear that the song segments stick to a limited range. Furthermore, the prominence of two- and three-note songs in *Vedi* music establishes the fact that Sri Lankan indigenous music is, in fact, prehistoric music.

Another striking point, as brought up by Kulatillake (1991), is that an obvious sense of rhythm and meter is present in *Ādivāsi* music. Even with the song being interrupted regularly to inhale, the meter never falters to continue from where it stopped. However, in no way have they been introduced to or are knowledgeable about meters. This speaks to a primal sense of timing and rhythm within the *Ādivāsi* community. Transcribing the audio recordings into classical music notation¹³ gives a clear picture of this remarkable sense of meter possessed by the *Ādivāsi* community (Myers, 1911).

¹³ This can be done considering the pitch of the notes to provide a full analysis, or disregarding the pitch and focusing on the rhythm and metre (Figure 10).

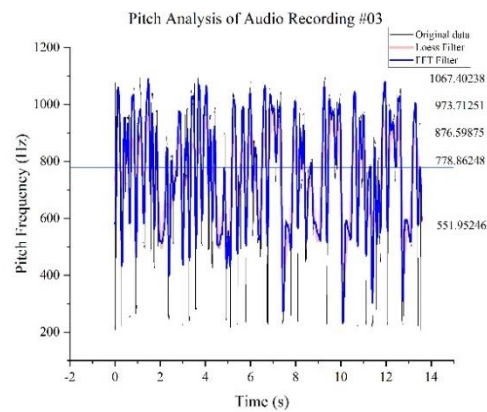
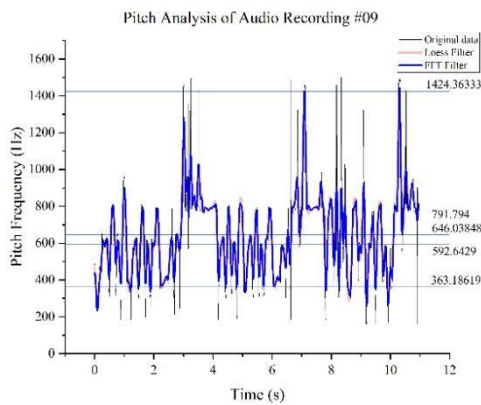
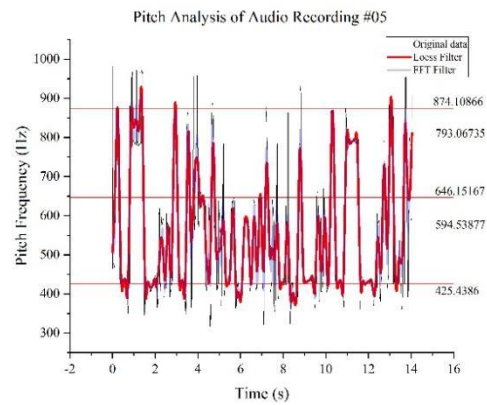
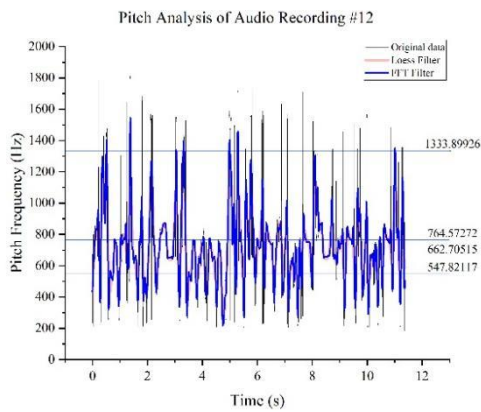


Figure 9a-d: Graphical analysis of a few audio recordings is shown in these figures. A point of note here is that merely observing the graphs are not enough to decide which song goes into which group, listening to the song itself while following the graph is important as it allows to identify which songs have extra tones in the form of grace tones and which use those tones within the song itself. A clear example is recording #09, where, upon listening one get a clear picture as to the presence of a high-pitched grace tone, while in comparison to recording #05 one can hear three tones and an added grace tone.



Figure 10: The try to transcribe a few bars of the rhythmic structure.

CONCLUSIONS

This study focuses on three main aims regarding the music of the *Dambāna Ādivāsi* community of Sri Lanka. The first is in identifying the sociocultural practices and the role music plays in these traditions. Within this study it was observed that the music of the *Ādivāsi* community can mainly be classified as that used in rituals (such as *Yādini*), lullabies, and other songs that feature the themes of the simplistic and environmentally connected lifestyles that they had. These songs were then examined from an ethnomusicological perspective, qualitatively first and then quantitatively through analysis methods. Within the course of this research, the development and introduction of a new way to analyze audio recordings of indigenous music was also approached. In both analysis methods, it was seen that the music of the *Veddās* is indeed a form of prehistoric music. Furthermore, descriptions of the intervals between the notes heard in a number of audio recordings of these songs were also included in this study.

This holds significance as the music of *Veddas* has rarely been discussed in a quantitative aspect, that gap being fulfilled in this research. Further analysis of audio recordings obtained in contemporary times would be of importance, as the degree to which the music of the *Ādivāsi* community has changed or been influenced by external sources can be measured. These can be considered as a conservation effort, and it is a rather striking time to conserve the tremendous culture of the *Ādivāsi* community of Sri Lanka.

REMARKS

All depictions are made by the authors, the use of their own software, or reprinted with permission.

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