

A closer look at the oldest

Eritrean traditional musical instrument

The Embilta

The oldest musical instrument on the verge of extinction



Source: (Flickr Yehdegos photo sharing)

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Purpose of study

With the passage of time there is a growing indication that the oldest and most important Eritrean traditional musical instrument is on the verge of extinction. I am told of a story that an organizer of a holyday feast in Asmara was not able to locate an embilta player anywhere in the vicinity of Asmara and finally he located a player near Senafe about 250 kilometers away. The person had to send a car and a driver to pick the player of the Embilta to Asmara. This story tells in clear terms that both the instrument and its players are on the verge of extinction. One of the reasons significantly contributing to its extinction is that the modern bands are using modern trumpets and have literally replaced the old good instrument. But it can be said that the few tones produced by the Embilta are not replicable by playing the trumpet. So one can say that the instrument is replaced but not the tones. Consequently one cannot feel comfortable to see the slow but total extinction of the instrument, the tone and the players all together.

It then came to my mind that by making a study on this old instrument it should be possible to construct the Embilta with alternative materials and make it possible for interested players of the instrument to construct it easily and train themselves at their homes or musical club centers and in this way save this old instrument from extinction. In short the purpose of the study is to preserve this precious venerable traditional musical instrument by laying out:-

- A specification of how to construct Embilta easily
- Identify the type and name of the tones produced by the Embilta
- And giving technical guidelines of how to play the instrument by new players

Description of the instrument known as Embilta

Embilta is a very long flute-like musical instrument traditionally made from the Argezana bamboo trunk. It is held by both hands in a horizontal position and played by blowing air into the tube. It is without finger holes and is today made either from bamboo tube or mostly from metallic tube. There are three types basically differing from each other by length. Embilta has its own unique sound and therefore several instruments are played in unison to achieve a somber music with unusual resonance. The Embilta is a more gregarious musical instrument where a seemingly, tentative melodic line is initiated by one Embilta then relays to the second and the second to the third and so on.

The Embilta is a set of 3 individual single-tubed pipes, each of a different length and name. The individual notes interlock and alternate, resulting in a composite rhythmical melody whose sum is greater than the individual parts. In many of the African traditional music the musical groups are constructed on this principal of communal sharing and interlocking of individual notes or a series of notes in order to make a melody.

History of the traditional instrument known as Embilta

Starting from the early ages of society, music, dance, musical instruments, and other traditions determine the cultural identity of a given society. Although music and musical instruments in today's world seem to be common to any society in any corner of the world, some traditional musical instruments are unique to particular societies. Here I will focus on one of the oldest Eritrean traditional musical instrument called Embilta. This instrument is known as a flute in many other parts of the world but Embilta has unique characteristics.

Embilta is a pipe like wind instrument which is believed to have been in use from the biblical times. This old instrument was used in religious rituals. Look at the following bible references:-

- Job 21:12
- 1Chronicles 15:28
- Psalms 150:4

And in secular matters it was used to make important proclamations of war, victory, birth, death etc. In the modern times the Embilta is usually associated with the round dance, (kuda) in which each player has a single pipe and plays it in turn within the musical framework of the dance. This ancient musical instrument is believed to date back to the 9th century B.C.



Picture scanned from an Eritrean postcard (source unknown)

When it comes to the Eritrean Embilta a researcher would not easily trace the information of its chronological transformation. Evidence of Embilta's existence and use can be found in old church scripts and paintings from the Byzantine era. Just like other flutes round the globe the material used to construct Embilta/flute is crucially transformed from animal horn/bones to bamboo tree tubes and in the last century to variety of metallic tubes.

The Embilta without finger holes is one of the oldest of the "flute family" in the category of air blown instruments. When we look at the history of the flute in Europe we read that throughout history the size of the tube along the flutes length has evolved in respect to its bore shape.

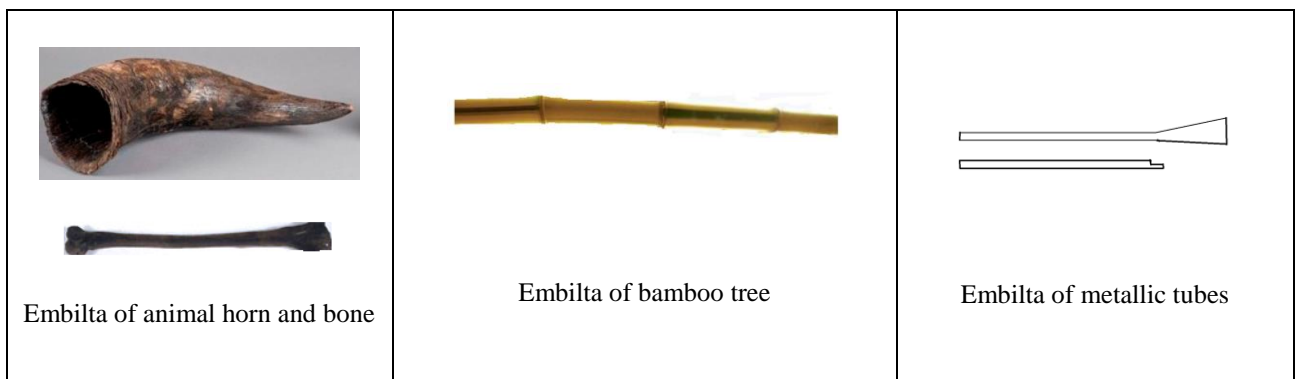
In the history of Eritrean traditional instruments of music, we see that transformation to using new materials and making modifications to optimize the chances of producing better sound were rather slow or at worst nonexistent. The reason is because there was a strong tradition of using any available tube as a musical instrument without making modifications. This is certainly the case with the drum. It was the type and diameter of the available tree stem or metal barrels that determined the shape of the drum to be constructed.

All indications show that the nineteenth century marked several modifications to the flute globally. In the Eritrean case the body of the Embilta was originally made of animal horns

and bones, but today the instrument is made of galvanized iron and sometimes silver or bronze or a combination of iron with one of the other two metals. In earlier times there are indications that a combination of horn and bamboo tubes were used and it is believed that the sound quality and volume was good.

Historic transformation of the Embilta

The development and transformation of the Embilta starts from using animal horns to bamboo trees and later to metallic tubes. This is more or less the same phenomenon for the flute globally though at different times. This aerophones musical instrument has gone through three major transformations in Eritrea as illustrated below.



Types of Embilta

Eritrean music is highly diverse and Embilta was played in several regions of Eritrea. In the highlands it is associated with the *kuda*, a round dance, in which 2 or 3 players have a single pipe and plays it in turn within the musical framework of the dance.

As explained above it is widely believed that the material used to make Embilta is transformed from animal horn/bones to bamboo tree and in the last century into galvanized iron tubes. "Embilta" is a long tube and is played with blowing air into it. There are three types of "Embilta" and basically differing from each other by length. The longest about 140 cm is named *Difin*, the second one with mid-sized length is about 110 cm and is called *Shanqet*, and the third and the shortest of them all is about 80 cm and is named *Debay*. They are all played by rhythmically blowing air on them. All three are played at the same time and music is created by mixing the sounds coming from the three "Embiltas". Embilta is played during all kinds of celebrations.



Illustration of Embilta instrument and players: (Source: musicedforall.com)

Embilta's broad sound category

As air blown musical instruments both the Meleket and the Embilta belong to the aerophones category of sound (others are Idiophones, Chordophones and Membranophones.) Two types of aerophones are predominant in Eritrea: Shambuko and Embilta. The Shambuko is a musical instrument very similar to a flute and is made either from an Argezana tree or a bamboo tree. But unlike the Embilta it has many finger holes along its length to determine the type of tune. The Embilta produces [sound](#) when a stream of air directed across a hole in the instrument creates a vibration of air at the hole. The Embilta is a set of individual one-tubed pipes, each of a different size and name (Difin, Shanqet and Debay, from longest to shortest). This end-blown tube is like the Arabic NAY, which has a mouthpiece that is simply an open end. The player must pucker his lips in such a way as to focus his air stream against the sharp edge of the mouthpiece rim. The air stream must be directed at the correct angle and velocity, or else the air in the Embilta will not vibrate. A precisely formed and placed wind way will compress and channel the air across the open window. It is a very difficult instrument to play. The tube creates an eternally sustained enigmatic sound whose effect is absolutely mesmerizing. It is used both in religious and secular activities.



Multiple Embilta players (source:Aynfelale.com)



3 Embilta players (source: Spaceketema)



Embilta player with the Debay (Source: [musicedforall.com](https://www.musicedforall.com))



Embilta player with the Difin (source:Aynfelale.com)

Tones and the technics to play the EMBILTA

A pentatonic scale is a musical scale or mode with 5 tones per octave in contrast to a diatonic (8 tones) scale. The Eritrean music, like many other African music, belong to the pentatonic scale. In short, the Eritrean music has 5 tones. When 3 players of Embilta are in action the two produce two tones each while the third player produce only one tone which sums up to 5 tones*.

All end blown flutes specially the once without finger holes are considerably more difficult for a beginner to produce a full sound. They require more air to play, which requires deeper breathing and makes circular breathing a considerably trickier proposition.

One is advised to practice on a bottle to learn how to blow into an Embilta. Glass or plastic works equally well. Blow across the opening to produce a sound. Make sure the opening is

not too big. An easy way to learn the Embilta embouchure is by making an *mmm* sound, and then a *p* sound while pursing your lips. However, when playing the Embilta, you should be making more of a "too" sound. You should also be blowing slightly downward in order to make a tone. The less liquid in the bottle the lower the pitch and the more liquid the higher the pitch. This blowing technique is the proper way to ease tones from an Embilta.

** Compliments to Solomon Ghebreweldi, Stuttgart Germany*



Placing the plate covering the right half of the mouth



Placing the plate covering the left half of the mouth



Aboy Yohannes searching the right angle



Aboy Yohannes blowing the tube after getting the right angle

Important instructions

Learn how to hold the Embilta. Hold the Embilta with your mouth covering only about half part of the tube end and the remainder of the instrument pointing to the left. Your left hand should be nearest the mouthpiece and should be facing towards you from the other side of the Embilta. Your right hand should hold the Embilta tube in about 40 cm distance from the mouthpiece.

Have proper posture while playing. Stand up straight, keep your feet flat on the floor, and hold the Embilta a little below parallel. All sound from air blown instruments becomes good when the air comes through. Your arms should feel relaxed as after extended playing may ache you. Tigrinja songs normally last between 6-8 minutes. Playing the Embilta in a sitting mode is not good. Crossing your legs will often affect your tone if you allow your posture to collapse as well. So keep your feet planted a little apart and flat on the ground. Make sure you keep your chest and head in an upright position to keep your lungs open. When playing the Embilta it should not sound like you're just blowing or whistling. It should be a full, steady tone. Warm up before playing.

Place the blowhole of the bamboo/metal Embilta just below the outside of your bottom lip. Roll the Embilta towards you so that the mouth hole is completely covered by your bottom lip. Practice this simple exercise over and over until the tone is quite strong. After a short while you should be able to produce a clear tone by just bringing the Embilta tube to your lips.

Like any other musical instrument, learning the aerophone instrument can seem like an intimidating task. But mastering the few basic steps is really simple. Learn to develop a good ear in first place. With plenty of practice and hard work, you will find playing Embilta not all that difficult. One of the important steps in learning how to play Embilta is to become well familiar with your new Embilta. After finding the right angle and lip position vis-à-vis the mouthpiece end you are ready to start playing Embilta.

Learning to play the Embilta is easy. Play when the instrument is kept in a horizontal line. It's good to look in a mirror while learning to play Embilta, as it will help you in keeping that position. Place your lower lip on the wide side of the embouchure.

Construction materials of the new Embilta

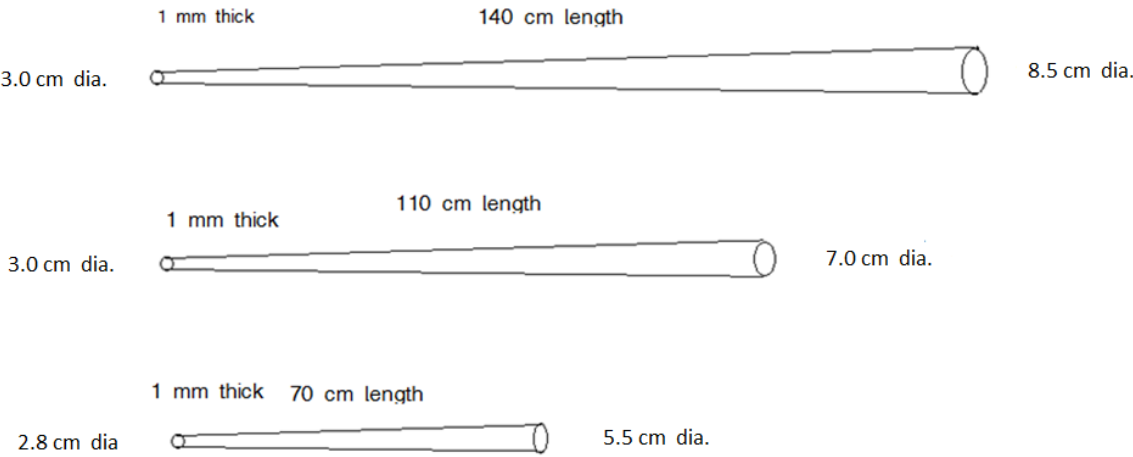
During my study I am able to note that players in the past were able to play Embilta using straight tubes with the same diameter on both ends. This applied both to the bamboo pipes and metal tubes. The most suitable diameter of the tubes on the mouthpiece end is about 3 cm. When metal tubes started to be used as musical instrument the makers were able to enlarge the diameter on the other end so that it produced higher sound. They did this by attaching a funnel at the end of the tube. Some used to cut a small part of the upper half at the other end of the tube. And this caused a slightly higher sound when air is blown to the tube. It is obvious that when the tube has a much wider diameter at the other end it produces a higher but not so significant sound. But in most traditional instruments the diameter widens abruptly only at the very end of the tube. If the diameter width gradually increase as in the case of the wooden tube below, the quality and volume of the sound becomes much better. The following specification can be actual for all types of materials for making the Embilta tube. A study in which professional players were blindfolded

could find no significant differences between instruments made from a variety of different metals. In two different sets of blind listening, no instrument was correctly identified in a first listening, and in a second, only the silver instrument was identified. The study concluded that there was "no evidence that the wall material has any appreciable effect on the sound color or dynamic range of the instrument". So to chose the material for construction (metal, wood, plastic) one needs only to entertain other considerations like availability, price, weight etc.

Drawings and measurements of the new Embilta

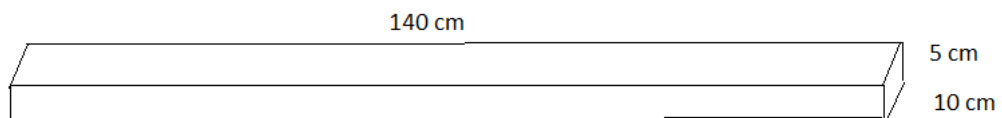
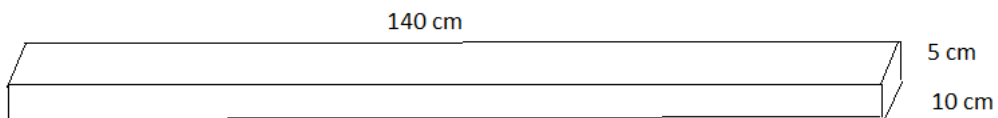
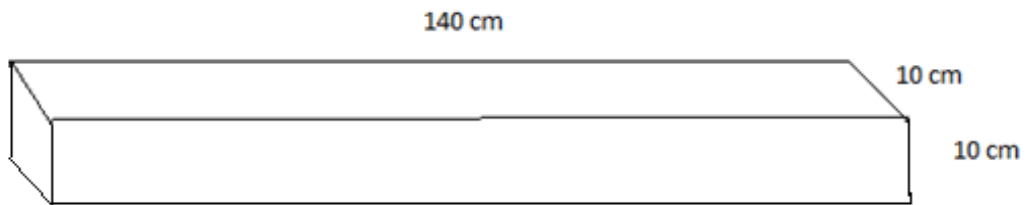
- In metal tube

If one prefers to use ready made metal tubes of the same diameter throughout the entire length of the tube it is easily available in mechanical workshops. And the cost can be very reasonable. But if one prefers to have the below specified metal tubes with different dimensions on both ends of the tube it could be very expensive. In many ways one would prefer to have the wooden tube rather than the metal tube simply because the later is costly when one makes an order at the machine workshops. According to my experience the workshops were either reluctant to make the metal tubes or demanded a high amount of money for the fabrication of the specified tubes.

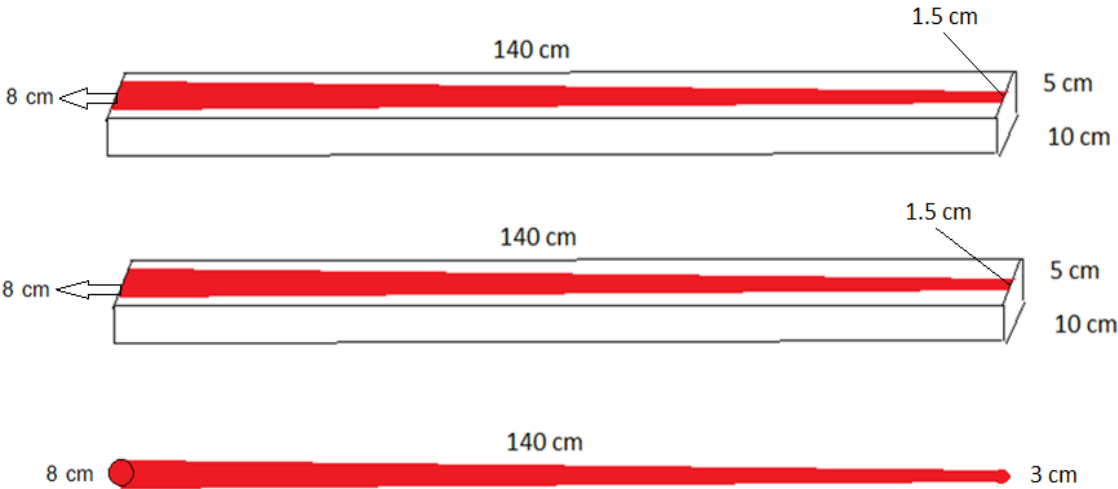


- In wooden tube

To construct the wooden Embilta one has to start by fetching from his local carpentry shop a piece of birch wood with the following dimensions. Then bisect the wood precisely in two, length wise and you will have 2 parts with the same length and breadth but the height reduced by half to 5 cm.



Carefully and precisely using measurements hollow out the red painted part on both half's so that when both halves are glued to each other the end result will be a formation of cavity that has the dimensions of the intended embilta on the making. The outer part of the glued wood is also to be stripped by leaving only ca. 1.5 mm thickness to the tube.



Measurements of the red part that is to be hollowed out is the inside volume of the Embilta that is on the making.

Follow the steps below from 1 – 12 to create a wooden Embilta.

1



ፖደራብ ዕጩይቲ

2



መግባቺ ፖልካይ

3



መግባቺ ከሕዝ ጸደግካ ፖላዙ

4



ተግባቹ ዝወደኡ ዕጩይቲ

5



ጸራቢጎ ዕጩይቲ

6



ተጸራቢ ዝተወደኡ ዕጩይቲ

7



ግጥሙ-ቲ ትጻርብን ትፍርፍፍን ተልምጽን

8



ግጥሙ-ቲ ትጻርብን ትፍርፍፍን ተልምጽን

9



ትጻርብን ትፍርፍፍን ተልምጽን

10



ምርግብ ካልገደ ከፋጻ

11



እቲ ቱባን ካልገደ ከፋጻን

12



እቲ ትቦ እምብልታ ከኸገውን ተፃልፍ እቲ

(Compliments to Magnar Stærbakken, the maker of neverlur in Røros, Norway)

The picture below shows the finished product of the traditional Norwegian wooden flute after it is polished, rubbed and taped to give it protection and a good look. Like its counterpart in Eritrea this instrument is without finger holes. The diameter of the end blown Embilta gradually increases allowing the volume of the pitch to be higher in a gradual manner. After the test of this traditional instrument was made I am fully convinced that it has the right specification for making the new Embilta. The lengths of the three types is defined as Difin 140 cm, Shanqet 110 cm and and Debay 80 cm. It is all approximate as few centimeters difference do not make changes.



Pictures from the study period



Some of the tubes used for testing



Testing the sound volume of the Difin with aboy Yohannes. Aboy Yohannes Woldemihret is the most senior Eritrean in the Stavanger area. He is a resourceful man and has solid memory of the old traditions in Eritrea. It did not take him long to be able to play the Embilta. The last time he played the instrument was more that half a century ago.



Searching the right angel on a 3 cm diameter bronze metal tube mouthpiece



Testing the sound volume of a 110 cm long metal tube by sticking a 1.5 liter plastic flask at the tube end



This picture shows the two of us trying to produce three tones out of two embiltas



Testing a 110 cm long and 2.5 cm diameter bronze tube with the upper end partly opened



Testing a 140 cm long and 2.5 cm diameter metal tube with the upper end partly opened



Testing two bronze embilta tubes of 2m long and 3 cm diameter



Testing an embilta tube with 1.8 m long and 3 cm diameter

My gratitude goes to Amanuel Berhane who located some of the test metal tubes in a workshop in Stavanger and indeed spent time searching for usable tubes.

Pictures of flutes around the world (many of them do not resemble the Embilta)

 <p>the Chinese DIZI flute</p>	 <p>Sodina flute of Madagascar</p>	 <p>Greece traditional flute</p>
 <p>Japanese traditional flute</p>	 <p>Saluang flute from Indonesia</p>	 <p>Cucurbit flute from China</p>
 <p>Paelez flute from Ecuador</p>	 <p>Indian Algoza fluets played simultaneously by a single player</p>	 <p>Native American Indian flute</p>
 <p>Jivaro Indian playing the traditional flute</p>	 <p>Kokopelli flute in Southern Sudan</p>	 <p>Dogon boy with wooden flute</p>



Native Australian flute



Hyang Piri flute from Korea



Sampona 13 tube flute from Cuba



Duduk wooden Turkish flute



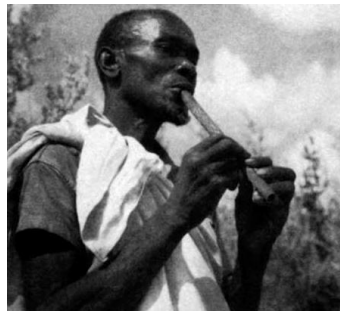
Putorino flute from New Zealand



Kaval flute from Bulgaria



Dinka flute from Sudan



Hutu vertical flute



Prasanna flute from India



Chinese vegetable flute



Side blown flute from Zimbabwe



Nose blown flute from Borneo

----- The End -----