

# THE HISTORY OF THE XYLOPHONE AND THE MARIMBA

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The sound of sticks clicking together must have been very fascinating to our first musicians; the shrill staccato tone of the hard wood sticks was very colorful and effective. When man's faculties became more developed and alert, and his sense of hearing became more acute and discriminating, he began experimenting with his sticks. Having discovered that all sticks did not sound alike in pitch, he began building a foundation for the notes of the musical scale and for melody by making sticks of higher or lower tones. He formed these into sets consisting of a few pieces of differently pitched wood, the beginnings of the instrument now called the xylophone.<sup>1</sup>

## The Xylophone

### Primitive Man

The xylophone first originated among primitive men who, first learning to cut out the inside of logs and stumps, made wooden bells of many sizes and shapes.<sup>2</sup> He soon developed a new kind of instrument from the natural growth in the forests, by using sticks of different lengths. Finding that the sticks of wood sounded better when free to vibrate, he made the first crude xylophone of two or three tones, which later developed into five tones.<sup>3</sup>

The simplest form of xylophone among primitive men was the leg xylophone. The player, usually a woman, sat on the ground and laid two or three rough slabs of wood across her legs. The slabs of wood were then struck with two clubs by the player.<sup>4</sup> There also developed more elaborate types; in Madagascar the bars were carefully tuned. One woman held several bars on her legs; on these bars she played the melody. A second woman sat at right angles to the first, playing an ostinato figure on two bars arranged apart from the others.<sup>5</sup>

Next in the evolution was the log xylophone, with the bars laid loosely on two parallel logs. Later the bars of the xylophone were made fast, either to a stand or to a table; this was called the table xylophone. Often the wooden keys were fastened to a frame which hung at the player's waist, suspended from his neck and held away from his body by a semicircular hoop, called the bail xylophone.<sup>6</sup>

## The Xylophone in the Middle Ages

The xylophone reached a high point of development in the trough xylophone in Southeast Asia.<sup>7</sup> The light supporting frame was eventually replaced by a rectangular wooden resonator in the form of a trough. The wooden slabs were very carefully laid cross-wise on the upper edges of the trough and secured by small pins which pierced the slabs at one end and came between them at the other end.

The sticks used at this time generally consisted of a pair held at a uniform angle in each hand. The player beat two slabs simultaneously.

## The Xylophone in the Renaissance and Baroque Eras

During the sixteenth century the xylophone was a immigrant into Europe, and achieved only moderate distribution in Eastern and Central Europe. There was little development on the instrument at this time, since there was no place for it in the serious music of the Renaissance period.<sup>8</sup>

The instrument which was used consisted of tuned wooden rods or bars, resting on rolls of straw or suspended from straw ropes. The bars were struck with hammers. It is said to be probably Holland, the land of the Carillon and the Glockenspiel, where the notion was first conceived of providing the xylophone with a keyboard. However, the weak and inexpressive tone of the instrument by no means justified the expense of this technical improvement, the innovation was never regarded as of practical importance.<sup>9</sup>

## The Xylophone in the Romantic Period

Until the nineteenth century the xylophone was used, in its rather primitive form, only by the wandering people as a folk instrument, chiefly in Eastern Europe and Southern Germany. However, the xylophone did achieve importance around 1830, when a Russian Jew, J. Gusikov, "played it with virtuosity and made it known in the musical centers of the Continent."<sup>10</sup> Later the xylophone appeared in garden concerts, variety shows, and symphony concerts.

The instrument at this time consisted of small tuned bars of wood that were arranged in two rows like the keys of a piano and played with mallets. "Thanks to its peculiar dry hollow timbre, the instrument . . . found its way into the symphonic and operatic orchestra."<sup>11</sup> Hans Christian Lumbye employed it in his *Traumbilder*, Camille Saint-Saens scored a part for the xylophone in *Danse Macabre* to describe the dry rattling of skeletons, and Mahler used it in his Sixth Symphony.

## The Xylophone Today

The present day xylophone consists of a series of wooden bars covering a range of three to four octaves. The tone of the upper notes are rather dry and chippy, whereas the lower notes are richer and more resonant. On some xylophones the bars are resonated by metal tubes fixed below them. The bars, usually made of British Honduras rosewood, rest on strips of felt or rubber. If a note is out of tune, the pitch of the bar is sharpened by reducing its length and flattened by lessening the depth of the wood.

## The Xylophone in Africa

The African xylophone is most often comprised of a series of tuned hardwood slats, suspended in a row by two leather thongs or strings. Beneath the slats is a rectangular wooden frame containing a series of tuned resonators usually made from the hollowed-out shells of hard fruits or calabashes, "which are fixed close to and below the particular note they resonate."<sup>12</sup> The keyboard contains from six to twenty notes, with a range of from less than one octave to more than three octaves. The xylophone is often used as a solo instrument, played by one player or as many as four players.

The xylophones of the Bantu Negroes generally have gourd resonators under each bar to increase and fill the sound. Each gourd is carefully and thoughtfully chosen and cut according to the size of the bar. A hole is cut in the gourd and is covered with a tough membrane taken from the protective covering of spider eggs.<sup>13</sup>

## The Marimba

### Early Marimbas

Striving to obtain more resonance than that yielded by the few crude pieces of wood placed across his legs or resting on wooden supports as he hit them with a club,

Primitive man discovered that the tone of his xylophone was increased in resonance and given a different timbre when the bars of wood were suspended by means of a supporting thong strung horizontally through holes drilled across their ends, and then placing hollow gourds beneath them. Thus was the marimba invented. <sup>14</sup>

The earliest known instrument related to the marimba was found in Southeast Asia. In historic times the Malayans for centuries played a type of xylophone which had a single trough resonator.<sup>15</sup> Many Indonesian instruments had keys of bronze or iron and box resonators. The body of the instrument was a long, narrow, hollow wooden box open at the top and over which the notes were placed. The box served as a general resonator for all the notes whatever their pitch.<sup>16</sup>

In Java and Bali the native orchestras contained bronze adaptations of two types of xylophones, the saron and the gender.<sup>17</sup> The saron, said to have existed as early as A.D. 900, had a wooden trough resonator often in the shape of a crouching dragon. The

gender dates from about 1157 and is a more complex metallophone with tuned bamboo resonators below the keys. It was important in the evolution of the marimba because "it seems to be the first struck xylophone known to have resonators corresponding to the vibrations of each key."<sup>18</sup>

### The African Marimba

The marimba is a very common instrument found among native Africans. The African Azandeh tribe was one of the first to use a kind of xylophone that the natives called a marimba.<sup>19</sup> The marimba is used in Africa as a sort of all-purpose instrument. In certain districts it is used only by the members of a particular caste. Among many tribes the marimba is used for state functions, festivals, funerals, and as an integral part of the dance.<sup>20</sup>

#### The Frame

On the African marimbas the frame might be curved so that when the instrument is suspended in front of a person he can reach out and play all of the keys. Some marimbas consist of a keyboard resting on two banana stalks. Two men, each with two sticks, sit opposite the other while playing the instrument.

#### Resonators

The resonators are usually made of gourds placed under each bar of the keyboard. Some resonators are made of shells bound together. The number of resonators varies greatly and there is usually no particular attempt at uniformity of range. Some tribes use six or seven wooden slabs and gourds, while some have marimbas with a range of two octaves.

#### Keyboard

The keys are made of hard wood because

It is hard enough to stand continual pounding from mallets that are often very hard; it has a great resonating quality; it holds pitch indefinitely and has only momentary variance with temperature changes; and it enjoys tonal quality.<sup>21</sup>

#### Mallets

The Africans generally experiment with different types of mallets, either hard rubber or hard wood. The most preferred mallet is that of hard rubber.

### The Marimba of the Chopi Tribe

The word "marimba" or "its variation **malimba** is a Bantu term referring to an idiophone with gourd resonators played by the Shangana-Ndau people who live on the coast of Mozambique near the Sabi River."<sup>22</sup> Two hundred miles to the south another group of Bantus, the Chopis, have the same instrument which they call the

**timbila.** This instrument has tuned gourd resonators beneath the keys, with the membrane of the vibration opening held in place by a ring of beeswax. An arc of wood holds the instrument away from the player's body when he plays standing or walking. The players use mallets with wrapped heads made of strands of crude rubber.

The Chopis are known to play in marimba ensembles, with the players sitting on the ground to play.<sup>23</sup> The repertoire, of a highly complex contrapuntal style, is learned aurally. The marimbas are used to play for accompaniment to dances and songs, songs of celebration, and public commentary on social injustices and current events, so that the "orchestra and singers by their public declamation serve the purpose of a court, newspaper, and pillory."<sup>24</sup>

### The Marimba of the Venda Tribe

There are two varieties of marimbas, belonging to the Venda and Tshopi tribes, that are both called **mbila** and are constructed on the same principles, but they are made of different materials and have their own manner of performance.

#### Description of Venda Marimba

The marimba of the Venda tribe was developed entirely without European influence.<sup>25</sup> It is a large instrument with a strong frame over which is stretched twenty-one or twenty-two slabs of wood, each slab a different size. Below each slab is a cucumber-shaped calabash, each of which has an opening cut at the stalk end. The calabashes are lashed to the frame, with the openings directly under the appropriate slab of wood. Near the closed end of each calabash there is a small opening covered with pieces of spider web; this opening adds a buzzing sound to the tone of the instrument.

#### Performance Practices

Generally the performers of the Venda marimbas are specialists; most of the players are men, but some girls are also taught. "Venda **mbila** players systematically teach their descendants to play."<sup>26</sup> The tunes they play now are traditional and quite lyrical; however, in former times the instruments were played before a war or a battle.

The marimbas are never carried and are usually played by two performers. In performance the marimba is laid on the ground, with the high-pitched slabs on the right and the low-pitched on the left. The two performers squat before it. The right hand man (**netzhiwane**) plays a fixed tune, either a one-line melody or a harmony part, while the left hand man (**makwetane**) plays a contrasting melody with his right beater and a bass part with his left beater.<sup>27</sup>

## The Marimba of the Tshopi Tribe

### Description of Marimba

The Tshopi marimba is a smaller instrument than that of the Venda, but it is constructed on the same principles. The slabs of hard wood are tuned by cutting, lashed onto the fibers of a tree, and secured to a frame. The frame is a long piece of wood pierced with as many holes as the instrument has notes. Secured below the holes are resonators made from the shells of the fruit of the **nsala** tree. Each resonator has a small hole bored in its side over which is secured by wax small fruits of the rubber tree. The frame is secured to two leg pieces. The players use beaters tipped with lumps of raw rubber.<sup>28</sup>

### Performance Practices

The marimbas are used for every important occasion of Tshopi social life, such as "the **msaho wa mkoma** or the great **mbila** dance, the **tinginya** or women's dance, and the **zgalazga** or boy's dances of winter time."<sup>29</sup> Often a team from one compound will visit another, giving alternate performances.

Usually one man is in charge of all the instruments in a compound; he must keep them in repair and in tune.

The Tshopi people organize marimba bands consisting of as many as thirty people. During performance, the instruments are placed in three rows. In front of the group of marimbas are two or three boys who, suitably dressed, impersonate women and play rattles. They are sometimes accompanied by a man who "beats upon a single-headed drum made from an iron canister of suitable size, covered with skin and struck by a couple of sticks."<sup>30</sup>

The director of the band gives the signal to start playing the tune by playing a portion of it alone softly, and "then sounding on his instrument a brief prearranged formula upon which all the players commence the tune together with astonishing rhythmic precision."<sup>31</sup> The director also indicates whether the music should be loud or soft.

### The Marimba of the Congo

Found among many tribes in the southern region of the Republic of the Congo is the arc marimba with calabash resonators, and from five to seventeen notes. The Congolese may have had antecedents, such as "one or two-key instruments or a single xylophone without resonators, or all three, which would have enabled them to adopt and imitate the multiple-key marimba immediately if it were not seen in other tribes."<sup>32</sup>

### Central American Marimbas

The Negro slaves from Africa brought the marimba to Central America more than four centuries ago.<sup>33</sup> Some claim "has been

made for Mexico as the place of origin, but known reports of the gourd marimba, which is the oldest type found in this hemisphere, give precedence in time to Guatemala."<sup>34</sup>

The natives love to dance to the supporting music of the marimba. The instrument is very common because construction materials for the marimba are readily obtainable and inexpensive. It is the type of instrument that can be self-sufficient since only one or two performers are needed to give a satisfactory rendition. The marimba is often used as a medium of folk expression, and it holds an important place in ceremonies and religious activities.

### Keyboard

A few of the Central American marimbas have circular keyboards; however, most prefer the straight keyboard style. Some of the marimbas have the high tones on the right side of the player, and others have the high tones on the opposite side. The best marimbas are made with a double row of wooden strips, with the back row slightly higher than the front row. The strips are made of rosewood or mahogany, with the longer wood producing a deep tone and the shorter ones the higher tones.<sup>35</sup>

### Resonators

The resonators are hung just below the strips of wood; most of the resonators are shaped like coffins. Each resonator is carefully and exactly measured for the proper pitch.

### Frame

There is much individuality in the construction of the marimba frame; in general the frame is "trapezoidal in the manner of a topless table."<sup>36</sup> The frame is supported by some type of wooden legs, or the single keyboard marimba is often suspended by four ropes fastened to tree trunks. However, this makes the instrument rather difficult to play on a day when there is enough wind to make the marimba sway.

### Mallets

The natives often use hammers with heads of soft rubber. The mallets vary (in length) from twelve to eighteen inches. The body of the mallet is made of a tough, flexible wood.

## Marimbas in the United States

John Deagan, who later formed his own company, "perfected the Glockenspiel, American orchestra bells, and designed and introduced the first marimba in the United States."<sup>37</sup> In 1910-1918 he produced the United States version of the Central American marimba, an instrument with tapered metal resonators. The straight keyboard is essentially the same as the Central American keyboard,

chromatic and arranged in a style like piano keys. The keys are made of highly selected rosewood from Honduras. The resonators, first made of brass, are more often made of aluminum or alloys because they are lighter in weight. The frame is usually heavy metal and mounted on wheels, with one strong cross piece from end to end and some type of bracing under the wood supports for the bars. The average range is three and one-half to four octaves. A great variety of mallets are used, the most popular being the soft rubber or the wound yarn varieties, with rattan or bamboo handles about fifteen inches long.

The reasons for the marimba's popularity among dance musicians and more recently in the concert field are that

It enjoys a wide range of four octaves or more; it has a tremendous capacity for speed and facility; it offers a wide choice of mallets that not only assist in varying the quality to a great extent; and it gives the auditor full opportunity to enjoy the emotional impact which it portrays to a marked degree. 38

### Footnotes

- 1Charles L. White, *Drums Through the Ages* (Los Angeles, Calif.: The Sterling Press, 1960), pp. 24-26.
- 2Satis N. Coleman, *The Marimba Book* (New York: The John Day Company, 1926), p. 1.
- 3White, p. 26.
- 4Curt Sachs, *The History of Musical Instruments* (New York: W. W. Norton & Company, Inc., 1940), p. 53.
- 5Ibid
- 6Ibid
- 7Ibid
- 8Karl Geiringer, *Musical Instruments* (London: George Allen & Unwin, Ltd., 1943), p. 145.
- 9Ibid
- 10Sachs,
- 11Geiringer, p. 311.
- 12A.M. Jones, *Africa and Indonesia: The Evidence of the Xylophone and Other Musical and Cultural Factors* (Leiden, Netherlands: E. J. Brill, 1964), p. 11.
- 13Sachs,
- 14White,
- 15Vida Chenoweth. *The Marimbas of Guatemala* (The University of Kentucky Press, 1964), p. 53.
- 16Jones,
- 17Sachs,
- 18Chenoweth, p. 53.
- 19Burton Lynn Jackson, "A History of the Marimba with an Emphasis on Structural Differences and Tuning Accuracy" (Master of Music thesis, The University of Michigan, 1955), p. 26.
- 20Ibid., p. 31.
- 21Ibid., p. 31.
- 22Chenoweth, p. 54.
- 23Ibid
- 24Ibid, p. 131
- 25Percival R. Kirby. *The Musical Instruments of the Native Races of South Africa* (Johannesburg: Witwatersrand University Press, 1953), p. 48.
- 26Ibid



- 27Ibid., p. 53.  
 28Ibid., p. 57.  
 29Ibid., p. 53.  
 30Ibid., p. 58.  
 31Ibid., p. 64.  
 32Chenoweth, p. 60.  
 33Jackson, p. 38.  
 34Chenoweth, p. 64.  
 35Jackson, p. 45.  
 36Ibid., p. 47.  
 37Ibid., p. 56.  
 38Ibid., p. 60.

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