

Cumbia Music

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Plato once stated, “Music is a moral law. It gives soul to the universe, wings to the mind, flight to the imagination, and charm and gaiety to life and to everything.” One can see the truth behind this statement and how it connects to the components that make up music. Music is not just music, it also includes math, science, and humanities. Music is like a bridge, it helps bond people together where there has not been a connection before. Many people connect through music when it comes to culture. Music by way of math, science, and humanities helps individuals to find passion within cultures. It is evident when it comes to the instruments used to create Cumbia music, that there are many ways that music can be influenced in order to impact specific cultures. With a focus on Colombian heritage, Cumbia music has influenced passion in Columbia, Europe, and Africa through drums, wind instruments, and it’s melodic structure.

Drums, a member of the percussion group of musical instruments which is sounded by being struck with sticks or the hands. Drums are typically cylindrical but can also be barrel-shaped or even bowl-shaped. The drum is completed with a membrane stretched over one or both ends of the drum. Drums are what keep the music flowing and on track thanks to its ability to produce strong beats and rhythm. Today, drums are the base to almost all music genres throughout the world including Cumbia (D’Amico, 2013). Not only are drums such a pivotal tool in the creation of most music genres worldwide, but drums also are a key example of how mathematics is applied to music creation (Glydon, n.d.). When it comes to music, as well as music theory, the beat within the music is the basic unit of time. Sometimes the beat may also be known as the rhythm. This is what makes the listeners tap their toes and swing around the dance floor. As well as the listeners of the music, composers and musicians use the rhythm and beats to

count the numbers. Pulse, tempo, meter, rhythms, and grooves are popular alternative names used within popular music. In order to create rhythm, repeating sequences of stressed and unstressed beats are organized and divided into bars and tempo. When a metric level is faster, it is called division levels and when the metric level is slower, they are multiple levels. Beat has always been an important part of music. When it comes to Cumbia, the average beats per minute (bpm) are 90 to 110 which shows that the metric levels of Cumbia are on the higher side, (Musci4Dance, n.d., n.p.). Patterns happen to be the closest tie between math and music. Similar to patterns, musical pieces often include repeating choruses or bars. Searching for patterns to help explain the unknown are popular within mathematics. Music also happens to use similar strategies to those of mathematics. Musicians look for recognizable notes that are rare (high or low) and notes that are less familiar. Notes relate to each other in this way. “Relationships are fundamental to mathematics and create an interesting link between music and math” (Glydon n.d., n.p.). Not only do drums have a strong link with mathematics, but drums also play a huge role in Cumbia. Out of the three major components which make up the instrumental behind Cumbia; drums, wind instruments and melodic structure, the drums come from and are influenced by African culture. African influence is, therefore, to be found in Cumbia’s complex foundation, involving pervasive off-beat phrasing, overlapping of call and response patterns, and the employment of both disjunct and irregular cycles in the realization of the underlying time-span. These traits displayed in the performances of percussion, relate Cumbia music to sub-Saharan African music (D’Amico, 2013). Drums have such an important role within Cumbia music as well as music throughout the globe, but drums are not the only component that brings Cumbia together as a whole. Along with the major role of drums, the flauta de millo as well as

the gaita: the wind instruments behind Cumbia, have a very soulful and impactful history and origin behind this cultural genre.

Wind instruments are musical instruments in which sound is produced by the vibration of air. The air is typically produced by the player blowing into the instrument. The wind instruments included in Cumbia music are the flauta de millo and the gaita. The flauta de millo is specifically indigenous to Cumbia music while the gaita is most common in the Latin music genre. Both instruments are not very common within other genres other than Cumbia. These vibrations of air that these instruments transmit can be put into two categories; these categories are known as transverse waves and longitudinal waves, both longitudinal and transverse waves are mechanical waves. Transverse waves and longitudinal waves cause different physical disturbances. Transverse waves cause a disturbance in an elastic medium such as any gas, solid or liquid, while longitudinal are compression waves that vibrate individual particles. The individual particles in longitudinal waves are also parallel to the directions of wave propagation. Longitudinal waves are known as compression waves due to the fact that they have condensations and rarefactions. Condensations and rarefactions occur when the density of the wave reaches its maximum and minimum points. Slinkies are a great visual example of how compression waves work. By stretching the slinky out on the floor and shaking one end, you then can see how the ripple of the movement travels through the slinky. As sound waves travel through the air, energy of the sound wave is passed on from one molecule to the next. The rate at which that energy is being transferred through an elastic medium is called the intensity of the wave. When the amplitude or intensity of the sound is higher, it means that there is a greater amount of energy being carried throughout. On the other hand, frequency is how high or low

someone perceives the vibration or pitch of the sound created. In order to hear the music, sound waves pass through the outer ear and are then amplified by the middle ear, later being transferred and received as information by the brain. While some physical disturbances are not soothing to the human ear, Cumbia's music and instruments turn soundwaves into melodic masterpieces. Gaitas are made of two long flutes, a male, which has only one hole and the female which has five holes. The male gives rhythmic and harmonic support to the female which carries the melody. They are supposed to be played always together, in fact, they are made at the same time in such a way that for any given male or female Gaita there is only one partner it sounds really well with (Munoz-Jaramillo, n.d.). "The gaita is from Caribbean coastal Colombia all the way through the northern extension of the Andes, with a primary diaspora in the cities of Cartagena, Barranquilla, and Bogota" (Hutchinson, n.d., n.p.). The flauta de millo, like the female Gaita, is also used to carry the melody (Munoz-Jaramillo, n.d.). The flauta de millo is a version of woodwind instrument typically made from carrizo cane or other hollow stalks such bamboo or palm giving this instrument a very particular sound. The origin of the flauta de millo is Columbia and was specifically made for Columbia related music and Cumbia. The vibration produced by the popular wind instruments used in Cumbia travel through the air, to us in order for the interpretation of the music by our brains to then feel emotions such as happiness, sadness, ect. through the song.

Melodic structure, a melodic pattern followed throughout a composition. While the melody is a combination of pitch and rhythm often considered the foreground to the background of the music. Within Cumbia, the melodic structure is important in order for the music to sound peaceful to the ears. Claudio Monteverdi quoted, "The point of good music is to affect the soul."

Toes tapping on the dance floor, the passion intertwining between two dance partners, music flowing from the speaker and twirling around the pretty girls in their long colorful skirts eventually reaching your ear all because of sensation and perception. Sensation is the pickup of information by our sensory receptors, for example the eye, ear, skin, nostrils, and tongue. Perception is the interpretation of what is being sensed (Plessis, 2017). While listening to music, sensation is occurring as waves of pulsating air are collected into the outer ear and directed by the ear canal to the eardrum. Then, the sound travels into the middle ear where sound is amplified and sent to the inner ear which contain small sensory receptors. From here, ripples of vibrations from the music cause the the hair cells in the inner ear to bend. The bending of the hair cells stimulate the auditory nerve which in turn, transmits neural messages to the auditory cortex where the brain then interprets what the ears are hearing giving the listener the perception of what is being sensed. Four different lobes in the brain are used to help with the process of interpretation. In order to perceive hearing as well some taste and smell, the temporal lobe is used. The parietal lobe mainly focuses on touch and taste while the occipital lobe interprets vision such as light and color. Last is the frontal lobe, where emotions, body movement, judgement, and self awareness are focused on. The connection of the brain and the spinal cord by way brain stem transfers what the brain is receiving to the nervous system, which in turn completes the process of perception. Sensation and perception is important to those who listen to Cumbia music. Due to the perception that Cumbia has, Latin American countries have adopted its forms and rhythms. Like most of the music in Colombia, cumbia originated from the Caribbean coast and was a fusion of native music and African found in the northeast of Panama and the coastal town of San Basilio in Colombia during the Spanish colonial times. From

Columbia other countries and cultures then took these rhythms and blended it with their traditional genres in order to create their own special variations: cumbia Argentin, cumbia Peruanan, cumbia Mexicana, cumbia Chilena, technocumbia, and many others. Cumbia influenced vallenato, another Caribbean coastal genre, which has a similar beat as well as vocals, a drum, an accordion, and a guacharaca. Centuries later cumbia influenced musica tropical, which began with the dance band arrangement of African-Colombian music in the 1940s (Everything You Need To Know About Cumbia., 2015). “Cumbia is the heartbeat of Latin America, and one of the region’s most popular music genres” (L., 2015, n.p.).

Thanks to Columbia, the world has been able to experience the creation of what the world now know as Cumbia, not just by itself but also with help from math, science, and humanities as well as **african** culture and **european** culture. Drums (calling, merry and bass drums), come from the African people and give rhythmic support to the Cumbia; wind instruments (Gaitas and flautas de Millo), were original from the native Colombians and carry the melody and counter melody, and the harmonic and melodic structure come from European music and dances. True Cumbia music was originally composed of exclusively instruments. This did not stop the women of Columbia from dancing in their long, colorful skirts, flowered headdresses, earrings, and lots of makeup, and the men in their white shirts and pants, don red bandannas and sombreros. Cumbia music has since evolved and currently involves lyrics about love and family. Traditional instruments are also no longer as common within the music and have since been replaced by electronic replicas for easier production. Just like everything in life, there is a time when something starts and something ends. Cumbia started in the 17th century in Columbia thanks to the help of others. It has been continually changing and influencing other genres of music within

cultures. During the 1960s and 1970s, “the golden age of cumbia,” the music became popular around the world. As Cumbia continues to travel throughout the world and the history of Columbia, there is no stopping in its future. Cumbia music will continue to influences others to feel passion within cultures by way of drums, wind instruments, melodic structure as well as the math, science, and humanities that make music, music.

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