

Some reasons why songs are emotionally powerful

Music –which includes song, instrumental music and dance – is one of the most powerful and pervasive of human activities.

Powerful – because it can very quickly affect us; how we feel, how we react, how we move and how we behave.

Pervasive – because every human society in existence today, and every one in the past (according to evidence & records) has had music as a central feature. Pervasive also in that it would be a very unusual day if we were not to hear songs and music at all; it is there on telephones, radios, iPods, television, films, in cars, lifts, shops restaurants &c.

Why should this be the case?

No one has a complete answer. Humans are very complex creatures and music affects us in many, many ways. What follows are a few indicators of some of the ways that happens.

Three motor (movement) systems. (This may not seem relevant, but we need to know this before progressing to understanding primal sounds.)

Voluntary – e.g. the muscles in your arm. You can decide whether to reach for something or not. 2. **Involuntary** – e.g. the muscles of your heart. They make your heart beat whether you want it to or not. 3. **Emotional** – this system governs our emotional responses and stimulates whole patterns of activity e.g. heart rate, breathing, sweating, blushing, voice quality, facial expression. This system is largely involuntary, but we can (uniquely in humans) control it to a degree. We can pretend to be feeling certain emotions and act accordingly.

Primal Sounds.

Making or hearing primal sounds is one the things that activates our emotional motor system. These are sounds that are ‘hard wired’ into our brains – we did not have to learn them in the way we learnt speech sounds. Examples of primal sounds are crying, screaming, moaning, laughing, sighing, yawning. These sounds are primal/primitive in the sense that they are controlled and stimulated by the areas of the brain that developed early in our evolution. We also use the more recently developed ‘grey matter’ to produce language and speech. But there is no separation between the primitive part of the brain and the more recently developed cortex, and all areas come into play when we speak and sing. We all exhibit some primal sounds in our voices, especially when we are feeling emotional. If we sing with ‘emotional connectedness’ then we are more able to let the primal sounds show in our voices, and those who listen will be able to share the emotion of the song.

Human Evolution. There is lots of really interesting theory about the links between evolution, music & language.

Dr Robin Dunbar suggests that music is a type of ‘social glue’. Other primate groups still spend a long time grooming every member each day, to keep the group united. When human groups grew too large to make this possible, he suggests that they used song, music and dance to define the social group. This was before the development of complex language. Group singing does release endorphins (natural opiates) in the brain and these have an important function in social bonding.

Steven Mithen, in his highly recommended book, ‘The Singing Neanderthals’, suggests that the sequence of changes in human environment and anatomy prompted communication through song. In summary, about 2 million years ago the climate changed – it was hot, there were fewer trees, more predators, and a need to travel further. Groups of humans became larger and hunting needed to be coordinated and organised. So humans took to moving on two legs. This caused further changes, particularly in the neck,

larynx, jaw and respiratory systems. The pelvis got smaller, so babies had to be born when they were small enough to pass through it. This meant that human babies were helpless for much longer. Humans also became hairless. The babies of other primate mothers cling on to their body hair and so can move around with them, keeping safe. Human babies could not do this, but still needed to be comforted and protected from a distance, while the mothers were busy. He suggests that music, song and language arose from the vocalisations of the mothers, who could make reassuring noises, or alert them to danger. Human mothers still speak to their babies using 'infant directed speech' – that 'baby talk' which has wide pitch changes and long vowels – very like song! The mothers in all human societies use this type of speech to interact with and calm their babies.

Mirror neurones.

There is an interesting field of research which suggests that these mirror neurones in our brains are not only active when we perform a task, but also when we watch someone else doing the task or when we hear that task being performed. In a real sense we actually experience the same feelings as the other person. When a song is being sung and we give it our full attention, then we will be experiencing the emotions expressed in the song. This might be one of the reasons why songs can move us to tears or make us laugh.

More neurology

Many things happen in our brains when we sing and hear music. Here are a few examples.

Arousal. Music affects our level of arousal – to calm or energise. Arousal is an important component in increasing pleasure.

Oxytocin. Music raises levels of oxytocin, which is a complex chemical with significance for social bonding. It works by loosening previous memory links and establishing new ones. For example, at birth there is a big release of oxytocin in baby, mother and father. It is also released during pair bonding, during orgasm, trances and ecstatic states. It has also been shown to have a role in whether we trust people or not. That music can stimulate the release of this chemical makes it powerful indeed.

Cortisol. Music can affect the levels of cortisol, which is one of the stress hormones, and is associated with the immune response.

Testosterone. This is the hormone which prompts the voice changes at puberty. Music can affect levels of testosterone in the blood, which influences aggression.

Brain imaging techniques such as MRI and PET scans are able to show that the emotional centres in the brain 'light up' during music & singing.

A quotation from one of the researchers puts some of the effects of music into a nutshell.

"Music activates similar neural systems of reward and emotion as those stimulated by food, sex and drugs." R. Zatorre. Montreal Institute of Neurology.

So, here are a very few of the pointers as to why song has such a powerful effect on us, and why we love singing and hearing music.

But the magical influence of songs cannot be explained away yet, and probably never will be.

I hope that these ideas have served to underline how wonderful and complex singing is and convince you that singing is even more amazing and fascinating than you already thought it was. We can think about the possibilities we hold in our voices when we sing; we're able to make emotional connections with the song, with the song carriers and song makers, with people listening and joining in with us. Important too is the connection we make with ourselves, our memories, experiences and feelings.