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**MUSIC AND EMOTION:
HUMMING IN THE BEGINNINGS OF HUMAN HISTORY**

It must be natural that sometimes we fail to notice phenomena that are but too familiar in our everyday life. This may happen not only in everyday life, but in scholarly research as well. The reason for such neglect is that these phenomena are so familiar that we do not pay any attention to them. This was the case with one of the central cognitive abilities of the human brain – asking questions. When I became interested in the evolutionary origins of the human ability to ask questions, I found that there was no scholarly research done on this basic human ability, on its origins, and on its possible evolutionary importance for the development of human language and intelligence (Jordania, 2006).

Today I want to talk about another neglected phenomenon which is extremely widespread in all human cultures and societies. This is humming.

Some listeners might think that humming does not deserve any serious scholarly attention, but I would suggest to them not to jump to conclusions. In this paper I will introduce the idea that humming is one of the oldest, and one of the most practically important, elements of human communication. I will try to demonstrate that humming could have played a considerable role in early human (and even hominid) pre-history millions of years ago, and continues to play an important (although often not acknowledged) role in the life of 21st century humanity.

So let us start. I hope I do not need to explain what humming is. Apart from the sound volume, there are a few other characteristics that distinguish humming from singing: (1) humming is sometimes an unconscious activity, not acknowledged by the humming individual, (2) unlike singing, humming is possible with a closed mouth, (3) also unlike singing, humming is also possible during eating (although not during swallowing), (4) generally, many more people hum than sing, and (5) those who both sing and hum usually hum more often than sing, although this might remain unnoticed as we often do not realize we are humming.

As far as I remember, my late father, although he was a brilliant sight-reading singer, never sang songs. On the other hand, humming accompanied his almost every activity: reading the paper, walking, thinking, even eating. In this my father was not unique. After I became interested in the distribution and function of humming, I noticed that there are quite a few people who hum while doing some other activities (although, as I have already noted, this often remains unnoticed by them). Among such people are my friends, students, as well as ethnomusicologist col-

leagues. For example, the well-known American ethnomusicologist Tim Rice from the UCLA, according to his wife, Ann, constantly hums when he is at home. As one of my Australian students, Bernadette, told me, she is constantly singing or humming whatever she is doing. “The only time I am not humming”, she told me with regret, “is when I am at school, during my classes, as it would be embarrassing to hum there. So during classes I just sing in my head.”

Roughly the same I heard from my older colleague, noted American ethnomusicologist, Jeff Titon. In reply to my question if he ever hums, Jeff answered, that he does hum, although he only “sings in his head” (personal communication from 25th October 2007).

Obviously, Amiran was not alone among humans in singing in his head.¹

Before we move to the evolutionary role of humming, let us first discuss when and why humans hum. No serious scholarly study had been conducted on this topic, but according to informal research conducted at the London Zoo in March 2008, most people hum when they feel very well (Humming makes you happy, 2008). Singing with the radio while driving seems to be most widespread in the western world although more unusual facts also became apparent. For instance, some hum while eating, and some even during sex. It is interesting that in England until the 18th century audiences expressed their approval not with clapping, but with humming. This form of expressing agreement and positive feeling is widely used today as well, although we do not always recognize this fact. Let us recall how often we use the humming “ah-huh” and “Hmm” when we speak on the phone, and particularly when we want to express our agreement with what the other person is saying.

As we can see, people mostly hum to express their good inner predisposition or agreement. I’ve heard a very interesting story from Ann Rice, wife of American ethnomusicologist Tim Rice, mentioned earlier. “One day Tim came back from his work and I noticed right away he was not humming, which was very unusual. I asked him if everything was all right and he told me they had a very unpleasant meeting at the Department. In about one hour I heard Tim humming again and I thought with relief that he had already got over the unpleasant incident” (personal communication from February 14th, 2008).

This fact also tells us that humming is mostly connected to people feeling well. At the same time, sometimes humming can be used to elicit negative feelings in others, like one of my students, who confessed to me that she sometimes hums on purpose, to upset her older brother. One of the results of the London Zoo informal questionnaire that I have already mentioned was that some people get upset hearing another’s humming, particularly if the humming is out of tune. Despite these facts, it is obvious that humming is predominantly connected to positive feelings and attitudes.

Now it is time to put forward the central question of my presentation: is it possible that humming has, or ever had, any practical function? Now let us try to answer this question.

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Very much like chimpanzees, bonobos, and gorillas, humans belong (and obviously belonged) to a group of *social animals*. Social animals are those who spend most of their everyday life in groups (herds, troops). They search for food, hunt, defend themselves from predators, and generally spend most of their lives together.

It has been a while since scholars noticed that many social animals produce some kind of seemingly haphazard sounds while together in a group. We are talking here about sounds such as the clucking of chickens when they are searching for food. These sounds ostensibly do not have any special function and represent only a by-product of the activity that a group is involved in. These sounds were dubbed “contact calls” (Macedonia, 1986, Oda, 1996), and apparently they do serve two important functions:

(1) when group (herd) members hear these sounds, everyone knows they are among the members of their own group, and there are no predators around, so they can relax and go on with their business; and

(2) as soon as any member of a group notices any potentially dangerous signs (a shadow in the bushes, a strange sound), it immediately stops producing “contact calls” and stays motionless, intensely staring in the direction of possible danger. Those members of the group who are next to this member immediately feel there is something wrong, and they also stop producing contact calls, stay motionless and scan the environment. This triggers a chain reaction, so in a few seconds the whole herd is aware that there is a potential danger, so they all stop producing contact calls, stay motionless, and stare towards the possible danger. This intense silence continues until the group members decide there is no danger. After this they resume their activity (grazing, picking food), and the sounds of the contact calls fill the air again. So everyone can relax again.

Let us remember this important fact: for members of groups of social animals **silence is a sign of danger**. The feeling of safety comes to them not from silence, but from continuous “humming,” or the background known as “contact calls”.

Charles Darwin was the first, I think, who noticed that some social animals do not have a special call for predator danger: that they warn each other by means of silent behaviour. “The most common mutual service in the higher animals is to warn one another by means of the united senses of all. Every sportsman knows, as Dr Jaeger remarks, how difficult it is to approach animals in a herd or troop. Wild horses and cattle do not, I believe, make any danger signal; but the attitude of any one of them who first discovers an enemy warns the others” (Darwin, 2004: 123). The immediate instinctive reaction to the appearance of any signs of danger among wild horses and cattle is freezing and complete silence.

Here is another interesting fact that confirms that a message about danger among social animals can be communicated through silence. Some species of birds, when they forage on the ground, place a sentinel on a tree branch, whose function is to

watch that those on the ground are not under threat of attack by ground predators. Here I should note that the time that birds spend on the ground is usually the most dangerous time of the day for them, as they might come under attack by ground predators (for example, cats, foxes, dogs). Because of this, birds usually stop singing and making sounds when they sit on the ground. The bird sentinel communicates the situation to everyone with specific sounds. If the situation is safe, the sentinel produces a very specific sound about every five seconds. This sound is known as the “sentinel’s song”. Most importantly, if signs of danger suddenly appear, instead of producing a “danger call”, the sentinel simply stops the “sentinel’s song.” So the signal of danger is communicated through silence, not a specific “signal of danger” (Wickler, 1985). As we can see, in this case also, silence is a signal of danger.

You can hear sometimes from individuals who spent time in nature “I had such a relaxing time, there was such a silence there.” In fact it is not silence that relaxes us in nature, but the sounds, the sounds of nature (like birds chirping, gentle sounds of a breeze and leaves, etc). If there was truly a complete silence in nature, we would not be able to relax. It was found through experiments that when humans are placed in total silence, they start experiencing a feeling of discomfort and fear, and after several minutes they usually ask for the experiment to be stopped. Apparently, the same principle, that silence is a sign of danger for social animals, is at work among humans. Taking into account the intensely social nature of humans, this is hardly surprising.

As we can see, these ostensibly unimportant and haphazard “contact calls” have several important functions: (1) to maintain audio contact between group members, (2) to give group members a chance to relax and have a quality rest, and (3) to warn group members about the appearance of any threat from predators or any other potentially dangerous changes in the environment.

As a result of all the above-mentioned facts and considerations I suggest that humming is human “contact calling” and that it had a very important practical role in the normal functioning of human groups. The importance of such contact calls must have been particularly big for the millions of years that our hominid ancestors spent on the African savannah. Therefore, I propose that humming is not a late cultural invention. On the contrary, the origins of humming go back millions of years, and must be genetically hardwired into our brains.

British evolutionary biologist Robin Dunbar and evolutionary anthropologist Leslie Aiello proposed a theory of “vocal grooming”, according to which group singing had an important role in the development of human communication and language (Aiello, Dunbar, 1993; see also Dunbar, 2004). They suggested that group singing replaced the well-known ritual of grooming each other, widespread in primate troops. These grooming sessions help to establish important social networks among primates. According to Dunbar and Aiello, after the size of our human ancestors’ groups increased, they needed a new means to maintain social bonds between group members, which could allow the inclusion of a large number of group members in “groom-

ing,” and singing (a kind of “audio grooming”) became the new means that replaced the older one-on-one physical grooming. The role of humming in creating a relaxing atmosphere and establishing positive attitudes, discussed in this paper, has obvious and deep connections with the suggestions of Robin Dunbar and Leslie Aiello.

It is clear that soft group singing that creates among the group participants a feeling of cohesion and relaxation is an excellent model for the origins of vocal polyphony, but I am not going to discuss this interesting possibility in my paper.

Humans are profoundly social beings and they struggle to survive both physically and emotionally without a social environment. This is particularly true for traditional societies in the early stages of the development of their social life. We can recall here that in many early societies the highest form of punishment for behavioral transgressions for a member of society was banishment from the group (which effectively equaled a death penalty). Every human needs to be a member of a certain society, and needs to feel that s/he belongs to this society. This must be the reason why hearing human voices has such a calming effect on us.

We need to hear gentle, soothing voices from the moment we come into this world. This is the function that lullabies play in our life, which are performed with humming or soft singing. The lullaby is the universal phenomenon for human cultures and the idea of its genetic foundations has already been proposed (McDermott & Hauser, 2005; Justus & Hustler, 2005). In this connection I would like to propose that during the earliest evolutionary history of human groups, it is most likely that the relaxing humming background of the whole human group must have provided a relaxing effect for human babies. To fall asleep babies would hardly need anything more than to hear the low volume humming contact calls of their group. The appearance of the tradition of mothers singing to their babies must be a much later development, after human groups were divided into family units and particularly after starting to live in separate dwellings. A mother’s gentle individual lullaby must have replaced the primordial group soothing sound that accompanied their everyday life. According to this scenario, individual lullabies must be a later phenomenon, or in other words, the group soothing humming sound must be an ancestor of individual lullabies.

We often do not realize how humans love to have a noisy environment around. We all might know people who, against common sense, have the TV or radio switched on all the time, even when there is no one watching or listening. Why do they waste energy and create such an excessive noise unnecessarily? It seems to me that some people have a heightened need for social interaction, so for them a silent environment does not create a relaxing atmosphere, but on the contrary, causes anxiety and discomfort.

Comedy show producers know all too well that when an individual is watching a comedy show, s/he laughs more on hearing other people’s laughing. That’s why it has become a routine for comedy shows to be accompanied by the sounds of a pre-

recorded laugh track (or “canned laughter”). This pre-recorded laugh creates a feeling that an individual at the TV screen is watching the show with a big group of people. Positive feelings increase if we share them with others. People in many cultures have a saying about sharing feelings which I know as old Georgian traditional wisdom: “When shared, joy is doubled, and the sadness is halved.” Hearing sounds of other humans creates this feeling of sharing.

It is quite paradoxical, but on one side we all strive towards more independence, towards acquiring as many personal belongings as possible (house, TV, car, more personal space), and on the other hand, because of our intensely social evolutionary past, we still want to feel ourselves to be members of a human group, be part of a society, and want to hear human sounds around us, even though it might sometimes be irritating. I remember once hearing an interview with my favorite writer, Nodar Dumbadze, when he said that he loved working when the whole family, with children and grandchildren, were at home, and when both TV and radio were on. This might seem to some not to be good working conditions but more like bedlam, but I believe the great humanist writer knew too well the deep emotional importance of being among humans and hearing their voices around.

As time passes, music occupies more and more importance in everyday human life. Music is heard not only at concert performances and celebrations, but in shopping malls, lifts, exhibitions, cars, trains, planes, buses, sporting event, political rallies, etc. In this context music, played in the background, replaces the ancient humming “contact calls.” Some consider this a negative development, as they believe that music played at random in unsuitable places witnesses the degradation of the role of music in contemporary society. I do not think this kind of highbrow purist attitude towards musical art is justified. Let us not forget that music was most likely developed more out of practical needs of survival, than out of the desire to enjoy the refined sounds of high art in concert halls. So if softly sounding music in lifts and trains can make humans feel more comfortable, and helps them to overcome fear of small spaces, there is nothing wrong with it. Besides, listening to music at such “unsuitable” places for the sake of creating a comfortable feeling in humans seems to be a much earlier function of music than listening to music as pure entertainment in concert halls.

It has long become a routine in ethnomusicological accounts of the role of music in traditional societies to note that music accompanies every part of human life in traditional life, from birth rituals, the working process, feasts, religious rituals, military campaigns, marriages and burials. The contemporary development of civilization acts on one hand as a powerful destructive force on many facets of traditional life, including consigning to oblivion many traditional festivals and music-accompanied social events, but on the other hand the introduction of new technical means (TV, radio, mp3 players, ipods and iphones) substituted for the ancient and genetically wired need of human beings to hear a comforting background of human-made sounds.

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Now I want to discuss another very important function of humming. Apart from expressing our good moods and attitudes, humming (and singing) can also calm an anxious person and relax a troubled mind. Ethnomusicologists know only too well that music has been universally and routinely used to soothe individuals in physical and emotional pain in traditional societies for thousands of years. Songs like the Georgian healing songs “Batonebo” and “Iavnana”, often with a gentle instrumental accompaniment, are widely spread throughout cultures. Clinical research has confirmed that hearing music does improve the psychological state of the person in question, improves blood pressure, the rate of heartbeat, and makes the process of recovery much faster. Music therapy is one of the fastest growing spheres in western medicine. In the last few years at my home university, The University of Melbourne, new research was conducted showing that music can help the development of medically fragile newborn infants (Shoemark, 2006).

The crucial importance of hearing in human development is also corroborated by the fact that human babies start hearing their first sounds much earlier (still in the mother’s womb) than seeing their first images. Therefore, all of us start understanding the world around us first of all by audio (and tactile) impressions. Also, for some readers it might be a complete surprise to learn that to be born deaf is a much bigger problem for human intellectual development than to be born blind.

It is of particular interest that humans sometimes start singing when they find themselves in an extremely difficult life-threatening situation. Legendary Svan mountain climber Mikheil Khergiani (1932-1969) had a habit that was known to his close friends: when facing a life-threatening situation, he would start singing. I remember hearing a story that a Georgian mountain climber told in a TV program: during one of the most difficult climbs, Mikheil, who always went first in the most difficult sections of the climb, ordered his party members from above to untie the ropes. Knowing Khergiani’s unquestioned reputation, everyone untied the ropes. Very shortly after that they heard from above Mikheil starting to sing “Lile”. One of the close friends said that Khergiani must be in trouble, as he had a habit of singing Lile when facing a life-threatening situation. So the climbers retied the ropes and called to Khergiani that they all were tied together, and if he was going to fall, they would either stop his fall, or would fall to death together. Khergiani was certainly in a very critical situation, hanging on by nothing but two fingers of one hand, but he managed to overcome the problem and finished the climb successfully. I want to thank a brilliant Svan mountain climber, Givi Tserediadi, a close friend of Mikheil Khergiani, who not only confirmed this story, but even specified that this happened during the legendary ascent on Ushba’s North face, on August 8th, 1964².

Roy Palmer is a British sports trainer, former sportsman, and the author of books on sport psychology, providing professional advice to sportsmen on how to achieve better results. During our meeting in London on October 11th 2007, Roy told me about an interesting case from his practice. One of his female patients apparently

found an effective means to control the occurrence of cases of panic attack. With the first symptoms of the appearance of panic attack (sweating, accelerated heart rate, shaking, shortness of breath, chest pain, etc) she would start singing, and the panic attack symptoms would disappear.

In Guria (a region in Western Georgia, famous for complex contrapuntal polyphony), if someone had to go through the forests at night or some other dangerous places, he would be advised “Yodel on the way and this will help you to walk through”. Our ancestors knew from their experience that hearing a human voice, even your own voice, can encourage a person and alleviates fear.

Another virtually neglected human behavior, whistling, shows plenty of interesting similarities with humming. The history and possible evolutionary importance of whistling is almost as neglected in scholarly literature as humming, although Roger Wescott suggested in the 1970s that whistling (not singing) could have been the predecessor of human language (Wescott, 1973), a suggestion that has been long-since forgotten. I propose that whistling, very much like humming, had the function of “contact calls” (keeping contact between members of the group, creating a calm, safe atmosphere). But I do not want to discuss the phenomenon of whistling in a paper dedicated to the evolutionary importance of humming.

And finally we arrive at these conclusions:

(1) Humming (and particularly group humming, a possible evolutionary ancestor of vocal polyphony) and the positive emotions connected to it does not seem to be a late cultural development. Humming seems to be an ancient, pre-linguistic communication means of maintaining contact between group members, a phenomenon that is known among other social animals under the term “contact calls;”

(2) For humans, as for intensely social species, complete silence was (and still is) the sign of danger. Humans feel more secure when hearing the voices of other humans, and if no one is around, even hearing one’s own voice can create a soothing background to relaxation;

(3) In the light of the above-mentioned, it seems possible to propose that one of the best known universals of human musical cultures, the lullaby, which is mostly performed by a mother for an infant, was historically a substitution of the earlier practice of group humming that would relax and lull all the babies of a human group. In this scenario the origin of polyphonic lullabies takes on a new historical dimension;

(4) Humming and singing are powerful means to relax a person experiencing a physical or emotional pain, and can help to alleviate panic attacks;

(5) And finally, the reason for all these amazing powers of human humming is that humming, as an important element of human behavior, became hardwired into human psychology during the millions of years through its evolutionary role in maintaining the physical safety of the group against predator control, and in creating feelings of safety and psychological comfort between human group members.

Notes

¹ There is a humorous folk saying about Amiran, the Svan epic hero, which makes an interesting reference to the inclination of Georgians to sing in polyphony in all possible circumstances: “Amiran started singing in his head and asked his companions to support his singing with the bass part.”

² Ascending the north face of Ushba in August 1964 was a uniquely difficult because of its sheer physical difficulty. The hardest part included 800 metre negative (more than vertical) wall, the so-called “Ushba Mirror”, that required painstakingly slow climbing for a whole week, including sleeping in a hanging position (sometimes in severe wind and rain). The difficulty of the 1964 climb route was the reason that no other climber ever repeated the same route.

References

Aiello, Leslie, and Robin L. Dunbar. (1993). Neocortex size, group size, and the evolution of language. *Current Anthropology* 34:184-93.

Darwin, Charles. (2004) [1871]. *The descent of Man*. Princeton: Princeton University Press.

Dunbar, Robin L. (2004). *The Human Story*. London: Faber and Faber. Humming makes you happy. London Zoo electronic Newsletter from 14th March 2008. The address: <<http://www.zsl.org/zsl-london-zoo/news/humming-makes-you-happy,438,NS.html>> Accessed 6/7/2008.

Jordania, Joseph. (2006). *Who Asked the First Question? The Origins of Human Choral Singing, Intelligence, Language and Speech*. Tbilisi State University, Logos.

Justus, Timothy, and Jeffrey J. Hustler. (2005). Fundamental issues in the evolutionary psychology of music: Assessing innateness and domain specificity. *Music perception* 23:1-27.

McDermott, Josh and Marc Hauser. (2005). The Origins of Music: Innateness, Uniqueness, and Evolution. *Music Perception* 23 (1):29-59.

Macedonia, Joseph M. (1986). “Individuality in the contact call of the ring-tailed lemur (*Lemur catta*).” *American Journal of Primatology* 11, 163-179.

Oda, Ryo. (1996). Effects of Contextual and Social Variables on Contact Call Production in Free-Ranging Ring-tailed Lemurs (*Lemur Catta*), *International Journal of Primatology* 17, 191-205.

Shoemark, Helen. (2006). Infant-directed singing as a vehicle for regulation rehearsal in the medically fragile full-term infant. *Australian Journal of Music Therapy* 17, 54-63.

Wescott, Roger. (1973). Comments on the article of F. Livingstone “Did the australopithecines sing?” *Current Anthropology* 14, No 1-2, February-April 1973: 27-28.

Wickler, Wolfgang. (1985). Coordination of vigilance in bird groups. The “watchman’s song” hypothesis. *Z. Tierpsychol.* 69:250-253.