The Case of the Most Ancient Music – Notes on Evolutionary Ethnomusicology

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Rousseau, Darwin and the great hunger for knowledge

Academic writing on the origins of music has a long tradition. We may find some earlier contributions[1] to the issue than the *Essai sur l'origine des langues* (1781)[2] by **Jean Jacques Rousseau** (1712–1778), yet the work of J. J. Rousseau had the most significant impact on later development within this field. For some peculiar reasons this subject of discussion – the origins of music – always emerges with greater urgency at the turn of the century. Just a little was published regarding the origins of music during first half of 19th century, but we can find dozens of texts related to the matter published around 1900.[3] And again, more texts on the origins of music were published at the beginning of 21st century than ever before.

Most scholars would probably explain this as a reaction to paradigmatic changes. Though it sounds rational, it does not have to be true. Work by **Charles Darwin** (1809–1882) surely brought paradigmatic change and has set up new development within the field of evolutionary studies. Surprisingly, opposite to linguistic studies, the majority of early writings on the origins of music make no mention of Charles Darwin's famous *On the Origins of Species* (published 1859) or *Descent of Man* (published 1871).[4] It may

1 e.g.: Étienne Bonnot de Condillac, *An essay on the origin of human knowledge* (J. Nourse, 1756).

2 "Essay on the Origin of Languages" published posthumously in 1781; compare with: Jean-Jacques Rousseau and John T. Scott, *Essay on the Origin of Languages and Writings Related to Music* (University Press of New England, 2009).

3 Most notably – Carl Engel: *The Music of the Most Ancient Nations* (Murray, 1884); Edmund Gurney: *The Power of Sound* (Smith, 1880); Herbert Spencer: *On the Origin of Music* (1890); Richard Wallaschek: *Primitive Music* (1893).

4 The story of banning all discussions concerning the origins of language in 1866 by the *Societe de Linguistique de Paris* for intolerable number of irrational linguistic studies written in reaction to Charles Darwin's theory, is well known and it gives us a perfect illustration of the situation at the end of 19th century.

look a bit shallow in the world of 21st century – world full of evolutionary theories and Darwinism, especially for those who are familiar with Charles Darwin's work and know that both mentioned books contain many notes regarding the origins of music. The origin of music, however, has been a central issue for many philosophers since the ancient world and Charles Darwin did not raise any innovative idea within the field of the origins of music which would require reflection in contemporary literature.[5] Freshly born musicology was focused on aesthetics and historiography which already had some of a two thousand year long tradition. Ideas on biological basis of music were already argued by **Herbert Spencer** (1820–1903) and **Heinrich Helmholtz** (1821–1894). No wonder that musicologist felt no need to pay any attention to such controversial matters of contemporary science as natural selection was. On the other hand, interest in the origins of music at the beginning of 21st century was surely boosted by an enormous rise in popularity of evolutionary studies in the wide public, and evolution certainly is a kind of paradigmatic magic formula of today.

So why is there such a great interest in the origins of music? Who are the people writing about this particular issue? And what audience do they have?

Music – that obscure object of desire

Music is common to all people. It is inseparable part of all known human societies. Music is able to express and transmit emotions; identifies personal and social status; is sexual attraction; balances neurological and physical activity of human body... the number of music functions is endless. No wonder many theories have evolved to comprehend the importance of music in life of recent people. Given its complexity, music can be used to study nearly any psychological or sociological phenomena.[6]

Analysing enormous lists of bibliography, we would easily find that most material on the origins of music is written by anthropologists, linguists and psycho-neurologists. This is probably because of the research on the origins of music does not actually tell us much about music itself (about harmony, melody or form – structures in which lies the interest of best part of musicologists) as it gives us information about early humans and their culture. Simply, understanding the origins of music would bring recognition of the origins of humanity, or perhaps comprehension of humanity itself. This specific motivation elucidates the question on who are the recipients of these ideas too. Knowledge of the essence of humanity is surely relevant to all human beings. How else one could be human without knowing what humanity is?

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[5] For example, Charles Darwin makes 42 notes on the origins of music in his *Descend of Man*. All are based upon citations of other authors (e.g., Herbert Spencer's essay *The Origin and Function of Music* from 1857) and all lead to a relation between music and language and behavioural elements of music.

[6] Music is widely used in art and group therapies for its lasting effects on brain processes. Music seems to be of great help to neural science in understanding brain functions.

Sciences of music – what can they say on the origins of music?

Ethnomusicology and musicology could be generally defined as "sciences of music". Though they both are highly interdisciplinary studies, similar in many aspects, they are different in methodology. It is a radical solution; nonetheless there is no other way but to simplify the definitions of these fields in order to express the very basic yet infinitesimal difference between the two. As it has been mentioned already, musicology investigates the music-immanent phenomenon in order to understand its characteristics. There are musicologists interested in aesthetics, psychology, sociology or philosophy of music, however, the musical structure is always the core of musicological research.[7] Musicology analyses formal bases of music in the context of musical culture. This is the exact opposite to ethnomusicology, which investigates the anthropological, sociological and behavioural aspects of musical cultures in order to understand the role and characteristics of a musical structure which is being performed inside the musical culture – so the performance is always the main object of ethnomusicological research.

As discussed previously, origins of music cannot tell us much about the music itself. There is undoubtedly truth in the premise that a recording or notation of the most early music production could never be found.[8] So the study of the origins of music can always provide only general information on musical culture – about humans producing music.[9] Influenced by these ideas, one can say that study of the origins of music qualifies well as a subfield of ethnomusicology. Once again the logic fails as the academic world seems to think in other ways.

Evolutionary ethnomusicology?

Most scholars consider the study of the origins of music as part of evolutionary musicology. Evolutionary musicology perhaps sounds as a proper name for the field, however, it is very confusing from the historical and methodological point of view. The term "evolutionary musicology" was most likely coined by **Nils Lennart Wallin** (1924–2002) around 1990 and further developed by **Björn Merker** (born 1943) and **Steven Brown** (born

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7 There of course is a great deal of historiography in musicology which often turns its attention to biography of historic figures, yet compositional practice and hence musical structure plays the dominant role within this particular field too.

8 The use of cuneiform script (one of the earliest known forms of written expression) as musical notation is still a controversial issue and its research is ongoing, yet all the known forms of written expression are much younger then the oldest musical instruments discovered in archaeological sites. Idea that sound of prehistoric musical performances could somehow affect natural materials from which could be restored is more than frivolous.

9 With one slight exception perhaps – the tonal systems (modes and scales) as some of these might be reconstructed from archaeological artifacts. Yet the question remains – How archetypal they might be regarding the origins of music?

1942) at the beginning of the 21st century.[10] **Alan Parkhurst Merriam**'s (1923–1980) unique insight into the history of ethnomusicology, however, tell us that the evolution of music was part of ethnomusicology much more earlier: *"Those who were interested in the study of evolution as a theory of culture also tended to place much emphasis on the ultimate origins of aspects of human culture, and this preoccupation has also characterised certain periods and approaches in ethnomusicology."*[11] Yet the ethnomusicology has not defined the subfield of evolutionary ethnomusicology. Nevertheless, many scholars have no problem to fit the evolutionary musicology into contemporary world of ethnomusicology.

A bizarre dichotomy and ambivalence of evolutionary musicology used as a term within ethnomusicology is most apparent in **Bruno Netll**'s (born 1930) recent book called *Netll's Elephant*.[12] Definition, methods and objectives seems to be of no interest to **Bruno Nettl** in the seventh chapter *On the Concepts of Evolution in the History of Ethnomusicology*. Nettl automatically transfers the term "evolutionary musicology" into the world of ethnomusicology and uses it mechanically ever since it appeared in the first paragraph of his text.

Such terminological issues may seem to be of a little relevance to ethnomusicological research; however, the obscurity of this term may lead into considerable problems in the future. Sometimes the term "evolutionary" in connection with derivations of the word "music" is used to represent completely different fields of musicology – for example the computational musicology.[13]

Yet there are far more serious concerns. Terminological uncertainty may have some impact on the character and quality of research outputs and education regarding the origins of music. As there is quite a significant difference between musicology and ethnomusicology, treating the evolutionary musicology as part of musicology may subvert the field as it clearly requires ethnomusicological approach. The whole problem is made even more complicated by the existence of a new field called *biomusicology*, which is for many scholars the parent study to the *evolutionary musicology*. Biomusicology fights for its independence among other academic studies, however, it is not well recognised in all cultural regions. In the Czech Republic for example the terms such as "evolutionary musicology", "computational musicology" or "biomusicology" are little known to most scholars and students of musicology. Another problem with biomusicolgy is that it is often confused with *zoomusicology* to which many scholars would raise strictly dismissive comments.

The core of the problem lies in the interdisciplinary character of evolutionary (ethno) musicology. Biomusicology would most probably not entre the academic sphere to the

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[10] Compare – Steve Brown, Björn Merker and Nils L. Wallin, "An Introduction to Evolutionary Musicology", *The origins of music* (MIT Press, 2001) p. 3–25.

[11] Alan Parkhurst Merriam, *The Anthropology of Music* (Northwestern University Press, 1964), p. 284.

[12] Bruno Netll, "On the concept of evolution in the history of ethnomusicology", *Nettl's elephant* (University of Illinois Press, 2010), pp. 108–118.

[13] Eduardo R. Mirand and Peter M. Todd and Al Biles, *Evolutionary Computer Music* (Springer, 2007).

extent to be recognized as independent academic study and the dichotomy of two studies involving scientific comprehension of musical phenomenon – musicology and ethnomusicology – will most likely continue for many decades. Investigating available literature, musicologists and ethnomusicologist does not seem to care much about the character and role of evolutionary studies penetrating their field, but they surely should.

Problem of "being the oldest"

Questioning the origins and evolution, one necessarily has to deal with determining the earliest appearance of the investigated phenomenon. In the world of musicology, this would be, traditionally, the role of historical musicology. Expectably, historical musicology fails completely when dealing with the origins of music. Following physical documents (sheet music, books on music and archival materials related to musical culture), music history does not bring suitable methods for investigating the origins of music as they must have originated in the prehistoric era. Moreover, depending on physical documents, music history does not bring many useful methods applicable within ethnomusicological research, especially when societies of less developed technology are involved.[14] From this point of view it is understandable that most musicologists and ethnomusicologists never write about prehistoric music at all (as majority of them were introduced to the field through the history of music). Fortunately enough, evolutionary musicology may avail of other methods and techniques as well.

Archaeology and iconography, introduced into the study of music history later, in modern development of musicology, showed that there surely was a fruitful musical life prior to the age of Antiquity. Still, after enormous progress within the archaeology of music, experimental archaeology and music iconography, it seems that physical documents on prehistoric music are rather very rare. So again, most authors on archaeology and iconography of music are not able to cover older cultures than those of the Ancient World.

Radical change came along with increasing interest in the neuropsychology of music and biomusicology in the 1990's suggesting new methods and techniques that may elucidate our view of the origins of music. Much attention was brought to comparative studies

[14] There is a longtime ongoing discussion on this matter, compare with:
Bruno Nettl, "Historical Aspects of Ethnomusicology", *American Anthropologist*, Vol. 60 (1958), p. 518–532;
Walter Wiora, "Ethnomusicology and the History of Music", *Studia Musicologica Academiae Scientiarum Hungaricae* (1965), p. 187–193;
Kay Kaufman Shelemay, "Historical Ethnomusicology", *Ethnomusicology*, Vol. 24 (May, 1980), No. 2, p. 233–258;
Ludwik Bielawski and Ludwik Wiewiorkowski, "History in Ethnomusicology", *Yearbook for Traditional Music*, Vol. 17 (1985), p. 8–15;
Helen Myers, *Ethnomusicology: historical and regional studies* (W. W. Norton, 1993);
Vesa Kurkela, "The Historical Approach and Applied Ethnomusicology", *Ethnomusicology*, Vol. 38 (1994), No. 3, p. 402–405.

of the evolution of auditory and vocal systems, comparative studies of music, language and sound production in animals or study of the evolution of the mind in general. Though these approaches have brought fresh air into the research in the origins of music, they are often criticised for the quality of information they provide. Rather than the essence of music, it is the physical background of music that is being examined by these studies. So biomusicology, for example, may prove that all biological and physical requirements for existence of music were present in early humans, yet it cannot exemplify its social/anthropological dimension, which is so essential for understanding what the music was like and when, with some degree of precision and probability, it could havr appeared.

Interest in the sociology and anthropology of music has been around for many decades, in its basic shapes even prior to **Alan P. Merriam**, who coined this term for what is now known as ethnomusicology. Until World War II, many scholars suggested that study of (non-European) technologically-less advanced cultures and their music is similar to studying prehistoric music itself. This, of course, was neglected during the second half of the 20th century by the majority of scholars for two reasons: 1. it is eurocentric and even almost racist; 2. there is no scientific evidence that cultures with less advanced technology did not experience radical cultural development altering their character.

Uncertainty, apprehension and scepticism are always present in the research in the origins of music. So modern science made great efforts to uncover the origins of music and has developed many multifarious approaches. None of them, however, proved to be a suitable tool for determining the earliest manifestation of music. Nevertheless, recent activity within the field of global genetic mapping and comparative linguistic studies brought distinct and inspiring stimulation within the research into the origins of music. Specific groups of African people are now considered to possess the most archaic genome. Their complex languages and high level of technological/cultural preservation suggest that these cultures may be a mirror to prehistoric human cultures. If proved to be true, modern science might be enhanced by an enormous body of evidence relevant to the research into the origins of music.

Hunting dinosaurs in 21st century

A number of successful projects focused on mapping the mitochondrial DNA and evolution of haplotypes at the beginning of 21st century.[15] All these projects introduced similar maps of human genetic evolution. Along with this general match on the progression of genetic evolution of humankind, other surprising information was brought to the public attention. There still are people on the Earth carrying the archetypal form of

[15] 2002 – *Mitomap* (http://www.mitomap.org) published first global map of mitochondrial DNA evolution and *HapMap* (http://hapmap.ncbi.nlm.nih.gov) project started describing evolution of haplotypes; 2003 – *Human Genome Project* (http://www.ornl.gov/sci/techresources/Human_Genome/home.shtml) concluded; 2005 – *The Genographic Project* launched (genographic.nationalgeographic.com).

genome which all modern humans are descend of. Even more surprisingly, these people occupy areas in Africa from which, most probably, people populated the Earth.

Since 19th century researchers has been strongly interested in biological background of music and music-related social phenomenon. However, the genetics seems to have had just a little impact on musicology and ethnomusicology up till very recently. Linguistics is the field which was first from all social sciences strongly influenced by genetics.[16] We can trace genetic linguistics as early as to the middle of 20th century. Notwithstanding the enthusiasm of pioneers of this field, genetics supported linguists with limited space for research only. Recent results of genetic mapping finally allowed linguists to broaden their ideas on evolution of language and related research.

One of the most interesting ideas involving genetics and linguistics is questioning the possibility of language surviving at the level of its most early stage of development. If there are people with the genetic profile very closely related to that of early modern humans, occupying the very same area where early modern people first appeared and preserving technology-less developed style of living, might there be a culture using language similar to that one spoken by early modern people? Many theories of origins of music claim that music has the same roots as language, therefore answering this question may be of enormous value for ethnomusicology.

But what is the oldest language? Based on written documentation, for the oldest still living languages may be considered Tamil or Georgian-Svanetian language possibly. These cultures, however, are just of a little importance for ethnomusicologists interested in finding the still living musical culture (hopefully) similar to culture of earliest modern humans. Tamils and Georgians passed through enormous cultural development and there is no doubt that musical culture of early modern people was completely different from music that is performed in Georgia or India at the beginning of 21st century. Despite the question of how well their culture may be preserved, it cannot be measured with still living unwritten languages estimated to be thousands years old.

Languages of so-called "Bushmen" are particularly interesting among all unwritten languages. Theoretical reflection of these languages is so complicated issue that even separate branch of linguistics has been established to study them. For a critical lack of space, we must overlook all details and linguistic problems at the moment and focused on importance of these languages in contemporary research. By comparing world genetic maps with the distribution of "Bushmen" languages, we would find that language of San and Hadza people may be the oldest in the world.[17] Both language families are located in South-Eastern Africa. To be more precise, San could be found in Great Rift Valley and South Africa and Hadza around the Lake Eyasi – areas rich in *Australopithecus*

[16] Genetic linguistics does not strictly mean "the linguistic research based on genetics", however, some modern linguists use results of genetic research in their work.

[17] Compare with work of Dr. Joanna L. Mountain from Department of Anthropological Sciences and Department of Genetics at Stanford University (http://www.stanford.edu/group/mountainlab/people/joanna_mountain.html).

aferensis, Chororapithecus abyssinicus and *Nakalipithecus nakayamai* fossils. There are about 40.000 San and 950 Hadza people at the moment, but only few subgroups still keep the traditional way of living.

Hadza and San are a great problem for ethnomusicology. Given that their language seems to be thousands of years old and they are living at the technological level of development equal to prehistory, may their music be similar to that of early modern people? If yes, how may we prove such a hypothesis? As these are Vanishing Cultures it is nearly impossible to find archetypal or even representative musical performances today.

One may think that African music is of the main interest to ethnomusicologist and there has to be many sources on Hadza and San people music. Certainly, a great number of relevant recordings and information on this issue exist, but unfortunately, most of it is hidden under shallow names of Bushmen Music, or Music of South and Central Africa, eventually Hunter Gathers' Music or similar. To find out what the San and Hadza music was, a wide research is needed. Recently available recordings must be compared with older archival materials and then (based on linguistic, cultural and regional criteria) all references to San and Hadza music must be extracted from the literature and analysed. Only then may we get a glimpse of the shadows of San and Hadza musical culture.

Phonogram archives and notes made by explorers, anthropologists and early song collectors would not definitely allow us to gain any specific information on San or Hadza people music prior to the 19th century. Most probably, the majority of material will be from the second half of the 20th century. So how can we find out whether the music produced by San or Hadza people may have some prehistoric features? Or better, how is their music more prehistoric than any other musical culture?

Genetics, Linguistics & Evolutionary Ethnomusicology

Music and language (manifested through speech, whistles or clicks) are intrinsically bound together.[18] Both are, basically, sound production in humans able to express and transmit emotions, having artificial and communicative character and are common to all known societies of modern humans. No wonder, ethnomusicology and linguistics had undertaken similar pathways in research.

Great effort was made to investigate the relationship between language and music. This kind of study, descending the **George Herzog**'s (1901–1983) work primarily, seems to reach its peak during 1950's.[19] According to **Steven Feld** the 1960's and 70's was

[18] In "our modern culture" and the way we think about language and music, yet one must ask – is it always like that? Is this idea common to all people? And is there a biological relation between the language and music?

[19] George Herzog, "Speech melody and primitive music", *Musical Quarterly*, Vol. 20 (1934), No. 4, p. 452–466; George Herzog, "Text and melody in primitive music", *Bulletin of the American Musicological Society*, Vol. 6 (1942), p. 10–11; R. H. Robins, Norma Mcleod, "Five Yurok songs: A musical and textual analysis", *Bulletin of the School of Oriental and African Studies*, Vol. 18

the era of *Linguistic Models in Ethnomusicology*. As he stated: *"There is another logical relationship of language and music quite distinct from that of their mutual overlap. Namely, language and music are the two principal ways by which humans pattern sound for social communication. For this reason it has been argued that language and music are both open to analyses of a general semiotic character, and, hence, that they may benefit from uniformities in analytic approach."*[20]

Relation between ethnomusicology and linguistics does not necessarily have to be limited by interest in semiotic or epistemology. As **Derek Bickerton** (1926) convincingly argued in his article *Can Biomusicology Learn from Language Evolution Studies?*[21], later used in his book *Adam's Tongue*,[22] evolutionary linguistics may be of great value for study of the origin of music.

Linguistic research is extremely valuable for ethnomusicology especially as its extensive material and methodology are suitable for comparison regional, ethnical and historical parameters of the investigated phenomenona. For example, it would be very difficult and most probably unverifiable for ethnomusicologists to say that Hadza or San people are old and coherent cultures, even to specify their musical culture itself. Based on genetics and linguistics, however, ethnomusicologists may comfortably claim that there are ethnically specific Hadza and San people preserving old languages and genome and raise the basic ethnomusicological question about the character of their music. Genetic linguistics may be of great inspiration to ethnomusicology in the way it deals with taxonomy of languages and methods used in the attempt to constitute the system of related and nonrelated cultures.

Modern people expressing prehistoric music?

This rather philosophical issue takes us back to the beginnings of comparative musicology as it was the first place where this question was raised. Comparative musicology was product of 19th century philosophy and has not been a vital field of study for many decades.[23] The problem of comparative musicology was its unequal treatment of European and non-European or western classical and non-classical music. Comparative

(1956), No. 3, p. 592–609; George Springer, "Language and music: parallels and divergences", in *For Roman Jakobson* (Mouton, 1956), pp. 504–513; Bruno Nettl, "Some linguistic approaches to musical analysis", *Journal of the International Folk Music Council*, Vol. 10 (1958), p. 37–41.

20 Steven Feld, "Linguistic Models in Ethnomusicology", *Ethnomusicology*, Vol. 18 (May, 1974), No. 2, pp. 197–217.

21 In N. L. Wallin (ed.), *The Origins of Music* (MIT Press, 2001).

22 Derek Bickerton, *Adam's Tongue: How Humans Made Language, How Language Made Humans* (Farrar, Straus and Giroux, 2010).

23 Compare – Bruno Nettl and Philip Vilas Bohlman, *Comparative musicology and anthropology of music* (University of Chicago Press, 1991).

musicologists marked non-European music as "primitive" and "ancient". It was illogical and misleading, nevertheless influential and important. But what does it actually mean if one is about to assign some primitive attributes to a recent musical culture? Does it mean that the music is somehow less musical than the other music is? This would imply that there are more than one music, which, of course, most scholars find very difficult to accept. Over the fact that most non-classical music is very complicated, in terms of musical structures and use of instruments (like Indian or Chinese music), musical cultures less-developed in music theory and use of musical instruments are incredibly complicated at the social and psychological levels. So we have to deny most of the comparative musicology. On the other hand, we should admit that some non-European cultures might have a longer tradition than others.

Anthropology and archaeology taught us that people have hardly changed in the last 40000 years. Society itself has changed in a very specific way only. Human emotions, social needs, abstract abilities and skills are literally the same. Given the corresponding education and social background, African hunter-gatherer from 40000 years ago would be capable of the same achievements as any other recent people.[24] Still, 40000 years ago is utmost prehistory for us.

Modern and prehistoric human cultures are diverse namely in scale of population, social structure, and use of technology. From this point of view, Hadza and San people preserved prehistoric culture. They live in small family-based social groups in the way hunter-gatherers lived some 40000 years ago.

The hypothesis is clear: Hadza and San have the same physical, sociological and linguistic characteristics that we associate with prehistoric African hunter-gatherers from many thousands years ago; hence their music is of the same prehistoric character.

As we have just a limited idea about music of prehistory, it would be far easier to think why Hadza and San peoples' music is not modern music. To do so, we must formulate basic characteristics of modern music and turn them into questions applicable on music of Hadza and San people:

- Modern music typically uses complex musical instruments. What musical instruments do the Hadza and San people use?
- There is a great deal of music theory, rules and schemes in modern music involving manipulation with structure and form. Is there music theory and compositional process in Hadza and San musical culture?
- Modern music is performed by musicians and received by audiences. Is there diversification of musicians and audience in performances by Hadza or San people?
- Gender and stylistic changes in modern music are based upon the knowledge of prior historical progress. Is there a conception of musical styles and historical reflection in Hadza or San people?

[24] Das-Naglieri Cognitive Assessment System test used to prove differences in learning abilities of different ethnic groups (and hence for some people possibly applicable to determine differences in genetically distant populations) is highly controversial.

Probably nobody is able to answer these questions objectively since sources on music of Hadza and San people are very limited. Intensive research must be done. We may only speculate at the moment, however, it seems that answers to all of these questions would be negative.

These characteristics would be common to more musical cultures than to the Hadza and San people. However, there are no other tribes with such a strong archaeological, linguistic and genetic evidence of their close relation to early modern humans. Or perhaps Andamanese[25] people are in the same situation; however, being marked as "uncontacted people", nobody can study their culture at the moment.

It is not possible to make a clear cut and proclaim music of San and Hadza people to be of prehistoric shape. None the less, it is a great starting point and inspiration for evolutionary ethnomusicologists to conduct a proper research and investigate this particular phenomenon. Such a research cannot be accomplished without the assistance of archaeological musicology, biomusicology and neuropsychology of music.

There is still far more to ask

If music of Hadza and San people is preserving old musical culture, how much and how quickly did their music change during the time when scholars are interested in it? Might it be possible that Hadza or San people had a completely different musical culture in the past, which changed just very recently? Or otherwise, might it be possible that the music did not change at all, that the music was extremely complicated right from its beginning? What is the relationship between the music of Hadza and San people and the musical cultures it is surrounded by? As the numbers of ethnomusicologists rise every year, we may know answers very soon.

The Chicken or the egg dilemma – language of early modern people?

As contemporary science seems not to be able to find out from where the music originates exactly, some serious questions must be raised regarding the importance and relevance of linguistics penetrating evolutionary (ethno)musicology. All sciences mentioned within this text deal with modern people and modern cultures. Technically, they are focussed on the world of *Homo sapiens*. But what if music originated prior to the emergence of *Homo sapiens* or even before the first manifestation of hominids?

Though our ability to answer this question is highly limited, we are free to turn it into several antagonistic hypotheses and discuss its potential.

[25] Compare with http://www.andaman.org/.

Thesis		Contra-thesis
Music is a specific sound production found in humans only.	×	Music is common to more than one species having complex neurological structures, living in social groups and possessing vocal and auditory systems.
There is one music only.	×	There are many mutually different and incomparable phenomenons which may be considered as music.
Music is a communication. (Music is language.)	×	Music is beyond comparison to any other mental and social activity.

It is a tricky question indeed to ask whether music is exclusive to humans only or whether it may be universal, including other animals. Much has been said and written upon this issue; however, one idea seems to remain not discussed. Modern humans are of the *Homo sapiens* species, they are genetically different from the predecessors of the same genus, such as *Homo heidelbergensis, Homo rhodesiensis, Gawis cranium* and *Homo neanderthalensis*. The Neanderthals were known as simple speechless animalistic creatures for a long time, yet now it was proved they had vocal tract able to produce speech and song, and culture producing art artefacts as well.[26] Discoveries like those about *Homo neanderthalensis* may raise the question if other early hominid species shared similar competences. Considering currently available information there is a chance that there was music (other conscious sound production than signals and speech) in Homo sapiens' predecessors.

This would imply that music is not genetically exclusive to *Homo sapiens*. Or if it is, there must be more than one music – at least one for modern humans and at least one for others. If music is not that genetically dependant as it was thought, it may be potentially found anywhere in animal world.[27]

Consider music in deaf people and music of mentally disabled persons.[28] Their way of comprehending music is completely different from that common in "normal" people. It is often so different that other people cannot understand it at all, because the function of music is different. For most people music is just entertainment, but for people with the Williams syndrome or for autistic people music is a completely different space. Even

[26] Professor Chris Henshilwood (African Heritage Research Institue) and doctor Francesco D'Errico (University of Bordeaux) for example are ones of many who successfully look for art objects in archaeological sites dated over seventy thousands years back. Steven J. Mithen summarizes research within this field and broadens it with his own hypothesis (compare with Steven J. Mithen, *The singing neanderthals: the origins of music, language, mind, and body* (Harvard University Press, 2006).

[27] It would require a whole book to discuss music in plants, but surprisingly there is a great possibility there is something like music in plants.

[28] Work by neuropsychologists Oliver Sacks and Daniel Levitin is surely well known among general public.

among “normal” people music has different tastes and shapes. Musically trained people receive music in different ways than musically untrained people. Music is common to all people, but is not just one phenomenon; it is a great abstraction depending on individual interpretation.

Differences in individual interpretations of music prove that music is not language. Language must be known to all participators. The relation between music and language is bizarre. Music may have some communicative aspects indeed. However, music is something quite different from language.[29]

Even though it is hard to prove, we have to accept the possibility that music may have originated much earlier than first humans emerged. Music may have had completely different character it first appeared, so by tracing the origins of music as we know music today we may lose the track soon and discover its real origins. As music is not language or communication only, it might had followed different path of evolution than language and so linguistically well preserved cultures may not reflect anything relevant to the origin of its musical culture. Provided the most optimistic scenario, however, genetic linguistics can help us to understand better the music of a last few thousand years, yet probably not to uncover the origins of music itself. Ethnomusicology has to face the radical progress within evolutionary linguistics and genetics. Now and again ethnomusicology under the pressure of related sciences continues to redefine and formulate its methodology, terminology and probably definition of the field itself. Together with the success of genetic mapping and evolutionary linguistics, ethnomusicology is given an excellent chance to investigate the evolution of music in new ways. Will there be generally recognized evolutionary ethnomusicology in near future? Will ethnomusicologists undertake the uneasy research of genetically and linguistically oldest modern human cultures?

Umstände der Forschung im Bereich der ältesten Musik – Anmerkungen zu einer evolutionären Ethnomusikologie

Zusammenfassung

Das Interesse von Akademikern an einer wissenschaftlichen Erkenntnis der Ursprünge der Musik hat seine Wurzeln schon am Anfang des 18. Jahrhunderts. Es ist allerdings zu erwähnen, dass das Werk von Charles Darwin die Entwicklung der Musikwissenschaft nur in einem überraschend geringen Maße beeinflusste. Man braucht sich demzufolge nicht zu wundern, dass die evolutionsorientierte Musikwissenschaft eher vom Interesse von Wissenschaftlern von anderen als musikwissenschaftlichen Bereichen ausging. Trotz-

[29] Most striking difference between music and language is rhythm – rhythm is essential base of music from ethnomusicological standpoint, yet rhythm has just a limited importance in language and even in speech (very interesting is comparison of music and whistle, drum or click languages).

dem ist es wichtig, die Notwendigkeit des ethnomusikologischen Ansatzes zur Forschung im Bereich der Ursprünge der Musik und deren Evolution zu bekräftigen. Die Musik hat ihre Quellen wahrscheinlich schon in einem Zeitraum vor dem Entstehen des modernen Menschen. Es scheint so zu sein, dass die Musik in der Zeit ihrer Ursprünge in ihrem Charakter ganz anders als heute wahrgenommenen wurde. In dem Bestreben, die Ursprünge der Musik, und zwar in der Auffassung, wie wir diese heute kennen, zu entdecken, kann man also in Bezug auf die Entwicklung ganz andere Erscheinungen feststellen, als diejenigen, die zum Entstehen der modernen Musik führten. Die Musik ist kein reines Kommunikationsmittel und nicht einmal eine Sprache, weswegen sie einen ganz anderen Entwicklungsweg als die Sprache genommen hat. Die aus der Sicht der Sprache uralten Kulturen müssen also nicht unbedingt auch in musikalischer Hinsicht uralt sein. Dessen ungeachtet könnte die evolutionsorientierte Linguistik behilflich sein für ein viel tieferes Verständnis der Musikentwicklung in den vergangenen Jahrtausenden. Die Ethnomusikologie ist dazu gezwungen, sich mit dem radikalen Fortschritt im Bereich der Genetik-Forschung sowie der evolutionären Linguistik auseinander zu setzen, grundlegende methodologische Parameter der Forschung neu zu definieren, eine Terminologie zu entwickeln und wahrscheinlich auch die Definition ihres eigenen Faches neu vorzunehmen. Die Erfolge im Bereich der genetischen Untersuchungen sowie der evolutionären Linguistik bieten den Ethno-Musikwissenschaftlern eine Chance, die Evolution der Musik auf ganz neuen Wegen zu untersuchen.

Okolnosti výzkumu nejstarší hudby – poznámky k evoluční etnomuzikologii

Shrnutí

Zájem akademiků o vědecké poznání původu hudby pramení již začátkem 18. století. Dílo Charlese Darwina však mělo překvapivě malý vliv na vývoj muzikologie. Není s podivem, že evoluční muzikologie leží spíše v zájmu vědců z jiných než muzikologických oborů, přesto je důležité zdůraznit nutnost etnomuzikologického přístupu k výzkumu původu a evoluce hudby. Hudba pravděpodobně pramení z dob před vznikem moderního člověka a zdá se, že v době svého vzniku mohla mít zcela odlišný charakter, než jak jí dnes vnímáme. Ve snaze odhalit původ hudby, tak jak ji známe dnes, můžeme tedy sledovat vývojově zcela jiné jevy než ty, které vedly ke vzniku moderní hudby. Hudba není pouhou komunikací nebo jazykem, mohla tak sledovat zcela odlišnou vývojovou cestu než jazyk. Jazykově prastaré kultury tedy nutně nemusí být prastaré také po hudební stránce. Přesto evoluční lingvistika může napomoci k daleko hlubšímu pochopení vývoje hudby v posledních tisíciletích. Etnomuzikologie je nucena čelit radikálnímu pokroku v oblasti výzkumu genetiky a evoluční lingvistiky, znovu definovat základní metodologické parametry výzkumu, rozvíjet terminologii a pravděpodobně také přehodnotit vlastní definici

oboru. Úspěchy genetického mapování a evoluční lingvistiky nabízejí etnomuzikologům šanci studovat evoluci hudby zcela novými způsoby.

Keywords

Evolution; ethnomusicology; evolutionary ethnomusicology; the origins of music; genetic linguistics; Hadza; San.

Schlüsselwörter

Evolution; Musikethnologie; evolutionäre Musikethnologie; Ursprünge der Musik; genetische Verwandtschaft; Hadza; San.