

Paper from the conference On the Move: ACSIS conference 11–13 June, Norrköping, Sweden 2013, organised by the Advanced Cultural Studies Institute of Sweden (AC SIS). Conference Proceedings published by Linköping University Electronic Press at http://www.ep.liu.se/ecp_home/index.en.aspx?issue=095. © The Author.

Moving Forward the Concept: Critical Reflections on Universality of Music Perception

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This theoretical paper is an attempt of trying to look at universal aspects of music, especially as outlined by Philip Tagg, and engaging into articulation on how music can universally be pleasurable for people who are total strangers to its origins and roots. Main argument of the paper, driving its conclusions from analysis of historical and recent studies concentrating on bio-emotional perception of psychophysical dimensions of musical cues within the different tonal systems, is that only the emotional part of the music, only the hidden emotions of joy and sorrow, unconsciously decoded by audience members listening to it, are responsible for this fascination and nothing else can be counted in when trying to understand the universality of music and musical codes. Paper focuses on critique of semantic interpretations of music and instead calls for moving the focus of scholar attention towards biological perception of music by human brain and nervous system. Paper ends with a call for a more cross-cultural research on emotional perception and interpretation of music, both Western and non-Western.

INTRODUCTION

Pain and suffering are always inevitable
for a large intelligence and a deep heart.

Dostoyevsky, 2005, p. 233.

My first experience with music having Swedish lyrics was rather unusual one. I always have been very familiar with music coming out of Sweden, like the world-famous bands and stars such as ABBA, Cardigans, Roxette, Ace of Base, Dr. Alban and Yngwie Malmsteen, just to name few. However, the first song in Swedish I listened to, *Svea Rike*, totally by accident found by me on the Internet, was performed by band named Ultima Thule. I momentarily was stroke by beauty of the music and the flow of melody and sounds, fascinated by emotions expressed in the voice of the leading vocal, his closeness and sincerity - so this song quickly turned into one of the permanent elements of my musical playlists. It was only years later that I discovered, for my total disappointment, that Ultima Thule was one of the most prominent nationalistic bands of Europe, and its music was frequently criticized for racist and Neo-Nazi oriented lyrics. So what was in this music that stole my heart and ears for quite long period of time? How the music of some totally unknown culture and country was able to capture me - the music which actually was calling for fight against people like me, people of so-called developing, poor and mainly Eastern countries?

In this sense this article is an attempt to try to answer this question from perspective of emotional perception of music, arguing that there do exist some universal aspects of music which allow for audience, originally stranger to culture, structure and tradition of this particular music to decode basic emotions encoded within it, and through the process of coming closer feel unconscious attachment to this music. However, to arrive at this point we firstly need to evaluate the role of music in modern society, to look at functions and purposes served by music and then try to elaborate on biological basis of human musical perception, which allows us to deconstruct basic emotions hidden within the music.

MUSIC, CULTURE AND EVERYDAY LIFE

Music has been in the existence of our lives since the early times of humanity, probably preceding meaningful language-based oral communication with thousands of years, as for example edited volume of Wallin, Merker & Brown, 2000 in-depth excellently explores from many perspectives. Just like its ancient siblings drawing and dance, and may be to some extent primitive theatre, it has been fascinating people with its inner abilities and hidden qualities to a such degree that

...The dreamlike nature of the state into which we thus are plunged through sympathetic hearing - and wherein there dawns on us that other world, that world from whence the musician speaks to us - we recognise at once from an experience at the door of every man: namely that our eyesight is paralysed to such a degree by the effect of music upon us, that with eyes wide open we no longer intensively see.... (Wagner, 1966, p. 74).

Music was, and still to a very high degree is, an important component of not only art, but human life and everyday existence in general. Especially nowadays it is everywhere, in the restaurants we eat, on the streets we walk, in public transports we travel, and of course on television, as a big and inseparable part of the televisual 'flow', if to use Raymond Williams' term (Williams, 1990). Our daily routine within modern society is unimaginable without

involvement of at least some musical element in it, and music is a part of our life to such degree that the "notion and position of music in the public conscious and unconscious constitute at any rate an epistemological mess affecting and infecting the relationship of humans as subjects to the social and physical environments in which they are also objects" (Tagg, 1990, p. 103).

A number of books connected with music and its role in everyday life and popular culture have been around for quite some time, and continuously grow in number and scope - however the focus of many is on Western music only. In this sense studies conducted on non-Western music are very scarce in number and are mainly on the level of encyclopedic entry - for example comparing Manuel, 1988 with Born & Hesmondhalgh, 2000 allows us to see the huge differences between approaches taken when studying non-Western music (for an excellent study on development of Western music within this vein, clearly showing its troubled history, check Grout, 1960; for some other interesting and teaching examples on the historical roots and connections of Western music check Harnoncourt, 1988; Mathiesen, 1999; Romanou, 2009; Baron, 2010). Even if sometimes in-depth research is conducted on specific countries and their musical traditions such research lacks comparative perspective and again is usually only on very basic level (compare for example study conducted on Brazilian music with more thorough, deeper, and wider perspectives taken when researching cultural significances of bebop genre, or relationship between changes in sound recording and musical technologies when looked at the formation of rock music: McGowan & Pessanha, 1998; DeVeaux, 1997; Jones, 1992; within the same vein will also be interesting to check Gadalla, 2002 to see curious example of a non-Westerner writing about his own ancient musical culture using 'orientalist' discourse and terms).

Disproportionate ratio of academic studies looking at Western music versus non-Western music is not limited with the music research only - it is related with majority of studies being focused on Western audiences only as well (for various in-depth inquiries taken from different perspectives on role, function and place of music, especially of popular music in our contemporary society, as well as on multiple cultural theories developed on and about music check Fornäs, 1990; Hamm, 1995; Longhurst, 1995; Negus, 1996; Shepherd & Wicke, 1997; Swiss, Sloop & Herman, 1998; Horner & Swiss, 1999; Bennett, 2000; also of interest will be to compare these more fundamental studies with different texts focusing on 'new' music, musical languages and changes brought to society by different musical traditions: Williams, 1997; Swain, 1997; Inglis, 2000). There is also growing number of literature on the role music plays in formation of social identities and roles, but yet again with much more intensive focus, if not solely on Western countries (for a set of enlightening articles on development of musical identities check MacDonald, Hargreaves & Miell, 2002; for very interesting study on role played by music in creation of transnational identities check Basegmez, 2005; for an interesting analysis of relations between self, music and society check Hesmondhalgh, 2008; also important within this discourse can be the role played by musical performance itself and for deeper inquiry into this field especially check Reinholdsson, 1998; Thomas, 1998). The same disinterest and totalizing logic can be seen in the case of how to 'read' film music as well. For example, approach offered by Claudia Gorbman, in author's most humblest opinion, is only suitable when dealing with movies produced within aesthetical, cultural and social norms of Western cinema tradition, and in this sense might be completely useless when tried to be applied to films coming from other countries, especially Iranian and Japanese films which hugely benefit from historicity of their cultures' vast musical and visual traditions (for an in-depth inquiry on usage of music and sound in moving images from differing perspectives check Gorbman, 1987; Marks, 1997; Lunde, 2004; Thompson & Bordwell, 1994; Berland, 1993; to see only one fraction of the long existing Persian musical tradition and vast history of writings on it check excellent doctoral thesis Fallahzadeh, 2005).

This sole focus on Western music greatly prevails not only within the scientific research community, since even if one wanted to increase their education in the musical field by majoring themselves to specifically deal with the alternative, world and non-Western music in a more professional way, education they will receive for this specific aim will be far away from being fulfilling and pointed to their purpose

Reporting on a recent survey of music courses at 58 universities in the United States in *The Chronicle of Higher Education*, Sammie Ann Wicks found that almost 98% of the current courses focused on the "elite Western tradition - that body of music originally written by Europeans for consumption by the upper classes from roughly the medieval era to the early 20th century". (Johnson 1997, as cited in Anderson, 2006, p. 291).

Compared with the vast history of music's general existence, studies concentrating on perception of music are still in early stages and so far were mainly oriented towards its interpretation as *text* - that is most of the time related with semantics of music. For many years, research that followed Barthes, 1977, one of the early and very successful pioneers of the field, was not so different and still primarily focused on musical metaphors or semantics of music. Again, all of these studies were conducted on Western music by mainly Western scholars, or scholars who have received Western education and in this sense perceive music from Western perspective. However, if we are to search for universal aspects of music which may be experienced by all people around the globe, and not only a fraction of population, we definitely need to look behind widely used artificial distinctions such as male and female tunes, or association of rural with women and men with outdoor, associations which are all metaphorical in their very nature of existence - one very interesting example of studying musical metaphors in children is research conducted by Antovic, 2009a, where nearly all children responses are predominantly within visual-spatial modality, thus implying naive association of music with movement and mobility - and thus represent semantic construction of musical interpretation, closely associated with specific culture and specific historical moment, as well as specific *Zeitgeist* (for a number of metaphorical and semantics articles from different time periods, closely reflecting the dominant discourses of their times check Tagg, 1982; Cross, 2001; Tagg, 2006; Antovic, 2009b). Yet, if we to remember what Arthur Schopenhauer have said about this specific topic years ago we will be reminded that music is not expressing something in itself at all, it is rather mirroring our own inner conceptions back (for an interesting study within this vein comparing Schopenhauer's metaphysics of music with Cioran check Bejenaru, 2006). Except for the very continuous existence of music in our lives on daily basis

[M]usic does not express this or that particular and definite pleasure, this or that affliction, pain, sorrow, horror, gaiety, merriment, or peace of mind, but joy, pain, sorrow, horror, gaiety, merriment, peace of mind *themselves*, to a certain extent in the abstract, their essential nature, without any accessories, and so also without the motives for them. Nevertheless, we understand them perfectly in this extracted quintessence. Hence it arises that our imagination is so easily stirred by music, and tries to shape that invisible, yet vividly aroused, spirit-world that speaks to us directly, to clothe it with flesh and bone, and thus to embody it in an analogous example. (Schopenhauer, 1958/1969, p. 261).

Various research conducted on human brain shows that music is probably the only stimulator which causes our brain to function in totality and thus show universal and homogeneous scaling, when compared with listening to text or performing spatial imagination on electroencephalogram (EEG) measuring (Bhattacharya & Petsche, 2001). Music creates in

our brains processes much more complex than the ones created by text, so it will be an error to try to understand music through semantics - that is purely the text. The real key to understand the true universality of music is to be found in the complex relationship our brain develops with sounds around it, the neurobiological cognition of music and our own cultural perceptions of it, our own mental and intellectual interpretation of this music, comparing it with all the previous tunes and tones we have ever heard - so next step then have to be looking on our brain and neural system's biological processes when perceiving music.

BIOLOGICAL ROOTS OF MUSIC PERCEPTION

Back in times, in his canonical *Remembrance of things past* Marcel Proust was wondering about the role music plays in social formations and imaginaries of modern societies by stating that

...I asked myself if music were not the unique example of what might have been - if there had not come the invention of language, the formation of words, the analysis of ideas - the means of communication between one spirit and another. (Proust, 2006, p. 657).

Proust was not alone in asking this. Many researchers, may be not guided by exactly the same question, were intrigued by the relationship of musical reception and brain activities and various texts on brain's musical cognition and neural interpretation of music has been written since the time music has been researched on with more scientific scrupulosity - as back as in 1570 John Dee was arguing that "Musicke is a mathematical science" and calling for more scientific investigation of music (Dee, 1570, as cited in Wollenberg, 2003, p. 1) - and more methodical approaches have been taken to fully understand formation of the sense of music in human brain, research which came in great variation and diversity. Yet, till mid-1980s research conducted on biological perception of music was mainly concentrated on more basic and peripheral aspects of brain functioning, where majority of researchers were involved in studying "processes involved in the perception of single tones" and more complex topics as "representation of large-scale musical structure, performance, and composition" were simply ignored (Sloboda, 1985, p. v) (for other interesting studies conducted by John Sloboda check Deliege & Sloboda, 1996, focusing on development of musical competence from conception through childhood to adulthood, and Juslin & Sloboda, 2010, which investigates many and complex ways music is related to human emotions). It was not until the end of 1980s that new ideas started to be developed in the field and for example researchers more interested in evaluating music itself as cognition started to be seen. Serafine, 1988 is only one of such novel studies, where author insists on distinction between style-specific and generic cognitive processes, where by style-specific cognitive processes she refers to different rules or organizational principles employed for the composing and hearing of different types and styles of music associated with various cultures or communities, whereas by generic ones she means "higher-level, pan-stylistic cognitive processes" (Serafine, 1988, p. 223).

Jack Orbach's study on the other hand, following more psychological trait, was oriented on reviewing the "functioning of the brain in the process of hearing, as well as feeling in the gut in the process of enjoying musical compositions" (Orbach, 1999, p. xviii) (the most recent and up-to-date research within the similar vein is Hodges & Sebald, 2011), when David Temperley's research focused on understanding of more fundamental question about musical cognition, that is how human brain extracts "basic kinds of musical information - meter, phrase structure, counterpoint, pitch spelling, harmony and key - from music as we hear it" by using computational computer models to generate these aspects (Temperley, 2001, p. ix) (there also exist a number of studies which simply look at biological reception of music as sound, that is how exactly we are able to hear music in the first place; for more information

check Beament, 2001 and Steinberg, 1995; also interesting is an alternative study on relationship of speech, music and sound: van Leeuwen, 1999). Techniques and methods involved in such research, as well as assumptions taken into consideration are numerous, as for example, information processing approach when making research on music cognition (Dowling & Harwood, 1986)¹; developmental psychology of music in children research focusing on relation between music psychology and music education (Hargreaves, 1986), - later on, due to "developments in other areas of psychology" and "technological changes which have occurred since Farnsworth first tried to delineate the field", Hargreaves moved more towards social psychology of music (Hargreaves & North, 1997, p. v) - or for example research focusing on cognition of surface structure in monophonic melodies (Ahlbäck, 2004), only to name few. Later on, more novel studies started to focus on aspects neglected before, like for example research exploring intrinsic musical nature of human interaction and showing how in mother and infant communication exists noticeable patterns of timing, pulse, voice timbre, and gesture, and especially interesting in the sense of demonstrating how speaking and moving in rhythmic musical ways is the essential foundation for all forms of communication (Malloch & Trevarthen, 2008) (this type of research actually has quite a history of its own: Malloch, 1999; Trevarthen, 1999). In the similar manner more and more studies focusing on emotional communication in music and emotional music perception - this trait is more closely connected with the *sociology of emotions* field, and for a good introductory text check Turner & Stets, 2005 - started to be seen, yet still mostly on theoretical level (for research examples conducted by Swedish scholars check Juslin, 1998 and Vickhoff, 2008).

However, most interesting research conducted in recent times, and closely associated with the topic of this article in relation to the universal aspects of music, is series of studies done with Western and non-Western musical listeners, where main focus is on how music of different cultures is perceived by audience emotionally and which emotions listeners concentrate on while identifying them. One of the pioneering studies, conducted by Laura-Lee Balkwill and William Forde Thompson in 1999 involved 30 Western listeners rating the degree of joy, sadness, anger, and peace in 12 Hindustani raga excerpts, where excerpts were intended to convey one of four moods in accordance with classical Indian raga-rasa system. Research found out that listeners were very sensitive to the intended emotions in ragas when they were joy, sadness, and anger, while peace was practically unidentifiable, suggesting that emotional judgments were closely related to psychophysical dimensions of perception and cues obtained from them and that listeners are indeed sensitive to musically expressed emotion in an unfamiliar tonal system. Researchers devised a model of the perception of emotion in music based on their analysis and stated that

Consciously or intuitively, composers and performers may draw upon basic perceptual cues (in the form of psychophysical dimensions of music) as well as culturally determined conventions, to express emotion in music. Listeners, in turn, may attend to either of these sources of emotional meaning. Because emotion is conveyed through both culture-specific and perceptual cues, there is often redundancy in how a piece reinforces a specific emotion. The more cues that are present in the music-both culture-specific and perceptual-the stronger the expression of emotion. Thus, listeners' understanding of the musically expressed emotion should be affected both by their familiarity with the conventions of the tonal system and also by their sensitivity to basic perceptual cues. (Balkwill & Thompson, 1999, p. 45).

¹ Modeling humans' emotion perception of music is a growing computer science concern as well, especially taking into consideration explosive growth of digital music and necessity for automatic recognition of the perceived emotions of music for better retrieval and organization of music for consumption (Yang & Chen, 2011).

Very similar study conducted a decade later by Kyriaki Zacharopoulou and Athanasia Kyriakidou with focus on the Greek traditional music, which authors interestingly argue is way different from Western music due to its basis in Byzantine music theory, was involving 14 Italians, 15 British, and 30 Greek adult listeners and results obtained showed that basic emotions were accurately recognized (except for the emotion of fear) by nearly all of the involved, thus supporting the "view that emotions in familiar and unfamiliar music are perceived in both a universal and a culture-specific way" (Zacharopoulou & Kyriakidou, 2009, p. 13). According to the authors, familiar and unfamiliar listeners seemed to rely on different structural parameters during the emotional decoding process, thus once more confirming that people perceive music in both a culture-specific and a universal manner via the decoding of various perceptual cues. They clarify better their point by arguing that cultural effects can be detected at various levels

The performance of the different cultural groups on the music test revealed the existence of cultural effects. At first, an *in-group advantage* was noticed, since Greek participants performed 'better' than the other cultural groups... It is also possible that recognition accuracy is higher when emotions are both expressed and perceived by members of the same cultural group... Another cultural effect was the different perception of intensity of emotions by the different cultural groups, a phenomenon which may be due to *personal differences*... Another explanation could be the different psychological dimensions related to culture, such as the degree of individual or group orientation of a given culture... Finally, listeners who were familiar with the musical excerpts and those who were unfamiliar with them seemed to rely more or less on different *musical structural features*. This result is in accordance with Balkwill and Thompson's (1999) 'cue redundancy model'. Listeners depend on both culture-specific and structural musical cues, when they decode emotions in music. (Zacharopoulou & Kyriakidou, 2009, p. 12, emphasis added).

Yet, both of the studies were involving Western listeners with probably some unconscious musical background generated due to saturated media environment of modern television, as well as radio, shopping malls and other factors of everyday life. So a real breakthrough came with the research done by Max Planck institute, where researchers studied perception of emotions by native African Mafa population, audience who for sure have never been exposed to a single example of Western music before, and cross-culturally compared it with responses of Western listeners respectively naive to Mafa culture (Fritz et al., 2009).² Results showed that the Mafas recognized happy, sad, (and surprisingly scared/fearful) Western music excerpts above chance, indicating that the expression of these basic emotions in Western music can be recognized universally. The most interesting part is that the mechanism underlying the universal recognition of emotional expressions conveyed by Western musical phrases appeared to be quite similar for both Western listeners and Mafas, since further analysis revealed that both Mafas and Westerners relied on temporal cues and on mode for their judgment of emotional expressions: both were more likely to classify pieces with higher tempo as happy and pieces with lower tempo as scared/fearful (for sad pieces no correlation with tempo was observed), and the majority of major pieces as happy, the majority of pieces with indefinite mode as sad, and most of the pieces in minor as scared/fearful - here it needs to be added that a year before the Mafa study another very interesting research explored the role of tempo entrainment in psychological as well as physiological differentiation of happy and sad music: Khalfa et al., 2008. Mafa experiment also revealed quite curious result that

² Results of the experiment immediately appeared in more popular media right after being published in academic research platforms: Cell Press, 2009, March 20.

[B]oth Mafa and Western listeners perceived original music as being more pleasant than spectrally manipulated versions of this music. Although this manipulation did not only increase the sensory dissonance of the stimuli, it is likely that the difference in consonance or dissonance contributed at least partly to the difference in perceived pleasantness between original and manipulated stimuli. Therefore, the present findings support the notion that consonance and permanent sensory dissonance universally modulate the perceived pleasantness of music, although the extent of this modulation appears to be influenced by cultural experience. (Fritz et al., 2009, p. 575).

CONCLUSION

It is our suffering that brings us together.

Le Guin, 2002, p. 247.

Each culture has its own distinctive musical genre specifically linked especially with mourning over losses and damages of life, music full with sorrow tunes and lyrics. Portuguese *fado* is one such example, quite popular in the world music due to successes of genre's brilliant performers such as Amália Rodrigues and Mariza. However to a Western ear more familiar with brass instruments, rhythm and basses this music, based most of the time only on a simple guitar and naked human voice, may seem too simple and too primitive. Such sense of uneasiness when confronted with previously unknown music was experienced by British scholar and traveler Professor Basil Hall Chamberlain visiting Japan in late 19th century who was claiming that:

Music, if that beautiful word must be allowed to fall so low as to denote the strummings and squealings of Orientals, is supposed to have existed in Japan since mythological times ... but (its) effect is not to soothe, but to exasperate beyond all endurance the European breast. (Lee, 2006, May 23).

We can't be for sure what type of music professor was exposed to, but one thing is for sure that the average Westerner, at most educated within the realm of chamber, church and classical music and later on constantly exposed to more popular music forms will not be fully open to such experience unless she tries to fully immerse herself into this novel universe. One of such genres which opens person for apotheosis from lower levels of consciousness and awareness to much higher ones is Azerbaijani *mugham*, musical genre with really unique qualities such as

A mugham is a symphonic-length suite, full of contrasting sections: unmetered and rhythmic, vocal and instrumental, lingering around a single sustained note or taking up a refrain that could be a dance tune. It is sparse music: usually just a single melodic line accompanied by a drone or a beat. (Pareles, 2010, March 15).

Obviously such musical genres do not comply with general interests and preferences of masses who are now more in favor of modern club or pop music, process which actually can be seen as return to more primitive and tribal musical modes, where worshipping the spectacle provided by performer or his aesthetical appearance was more important than the quality of music itself. One can do nothing else but agree with sincere wishes of Philip Tagg for better education of masses to "diminish the risks of musical manipulation", yet doing this only

through "greater knowledge of musical manipulation from the business side, with the democratic potential of new technologies, with a truly anthropological approach to our own culture..., with a reevaluation and defalsification of our own continent's music history, with new insights into matters audioneurological and bioacoustic" (Tagg, 2006, p. 182) will never be enough and new attempt needs to be taken which necessarily have to include knowledge and education of non-Western musical traditions, cultures and histories into curriculums - initial attempts for such purpose already started to be seen: check Schippers, 2010 for an excellent example - as well as their demystification to get rid of latent orientalism³ most of the time hidden within such studies. After all it is only very basic physical emotions that are truly universal, just as the most recent academic studies on musical perception and interpretation clearly show, and especially pain and sorrow are the ones which easily show itself within music as a part of our human existence which can't be disassociated from our biological and physical nature. So, when trying to conduct education or research on emotional reception of music it may be of great help to keep in mind Ellen Dissanayake's words that "music everywhere shapes or gives form to feeling, and has multimodal associations with bodily life and with the natural landscape that are beyond the resources of talk" (Dissanayake, 2006, p. 51). Such a statement is greatly in line and parallel to Charles Darwin's initial claim that "the suspicion does not appear improbable that the progenitors of man, either the males or females, or both sexes, before they had acquired the power of expressing their mutual love in articulate language, endeavoured to charm each other with musical notes and rhythm" (Darwin, 1871/1981, p. 337). As this topic is continued to be debated on various platforms and in different forms⁴ there is obviously a huge need to increase number of cross cultural perception studies which will greatly help us to understand whether the universal perception of music is possible and which factors are truly universal, when others are socially or culturally constructed.

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³ Mario Casella and Fulvio Mariani's 2007 documentary film *Grozny Dreaming* depicts the story of the Caucasian Chamber Orchestra, formed and directed by German chief conductor Uwe Berkemer, who has very sublime ideal: to create a multiethnic orchestra with artists from different parts of Caucasus, and to prove the possibility of "peaceful coexistence" by performing classical music in different countries of the war-plagued and tormented region. This documentary creates a constant feeling of absurdity when watching, especially when taking into consideration that such Don Quixotism is tried to be conducted in a region which once was part of the Soviet Union - country which showed maximum effort in spreading classical music in all of its parts. This feeling of absurdity grows even stronger in the historical presence of Uzeyir Hajibeyov and Aram Khachaturian, worldwide known and widely respected classical music composers from Caucasus.

⁴ In 2009, World Science Festival hosted a lively panel named *Notes & Neurons: In Search of the Common Chorus* where in the search for answer to whether reaction to rhythm and melody is universal or influenced by environment, scientists and artists, through live performances and cross-cultural demonstrations, thoroughly and widely discussed music's interaction with human brain and emotions. Panel was filmed and can be reached at the web address:
http://worldsciencefestival.com/videos/notes_neurons_in_search_of_the_common_chorus?

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