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# Improvisation, Change, Works, and Ragas

Studying change in music poses considerable challenges. Especially with respect to music that is not, or only partly, written, and improvised music in which the line between 'fixed' and 'free' is extremely fine. Where does internal variability turn into a breach with the established tradition? This question not only concerns non-western music (my example is from India), but also many forms of western music. Even music that we know through scores may not be as static as many people think.

## Introduction

This paper looks at some methodological problems in the study of change in oral and improvisational music. Both these terms refer to conceptually problematic phenomena, as will become clear shortly. I shall attempt to elucidate the problem with the example of North Indian (Hindustani) art music, but many ideas are derived from studies of early European music, in particular those by Leo Treitler.

My study *Hindustani Music in the Twentieth Century* described a number of changes that had taken place up to the time of writing, the late 1970s.<sup>1</sup> I suggested that in order to study change, we first need a static description of the music. In other words, the diachronic study has to be a comparison of several 'frozen', synchronic states of the music. For obvious reasons, the ideas of synchronic and diachronic are reifications. Music has at least three levels of time: the acoustic level (waveforms, vibrations per second), the time-line of the piece being performed (the structure, movements, melody, rhythm) and the development or evolution of the music (stylistic change, innovation of genre). On all these levels, music is time dependent and time driven. This is particularly true of music as we generally know it: through performance as sound. However, even the music that people have in their minds, or the music they codify in some form of writing or graphical representation, must unfold in some temporal framework.

## Real Change and Variability, Works, and Performances

The study of change in western art music, usually referred to as 'the history of western music', apparently allows for looking at frozen states of music, the scores. However, in reality this portrayal of things is too simplistic. First, scores represent only a part of western art music and mainly of a particular period. Second, scores are far less 'frozen' than is often suggested.<sup>2</sup> Third, the diachronic comparison of scores is methodologically as meaningless as explaining evolution by comparing a dinosaur to a coconut. Two scores are rarely, if ever, diachronically different representations of the same object. What we can compare are different versions of the same score (some composers have been very prolific in this respect) and different performances of the same score on the basis of recordings. Perhaps, if a composer has written a series of highly similar pieces, they can be compared to each other. However, this should be regarded as variation within the limits of the system rather than as 'real' change. All of this applies equally to another form of 'frozen' music: the recording.<sup>3</sup>

1 Meer 1980, especially chapter XI, pp. 166-189.

2 See for instance Benson 2003 and Ruiter 2007.

3 The issue of change within the system and change of the system is discussed below in the context of Blacking's view on musical change.

The question of change is rarely addressed in musicology. Music history, as referred to above, mainly consists of the chronological ordering of data that relate to each other in abstract ways, usually clad in florid discourse. History is the description of stylistic change, but the methodology of working from the data (the works) to the description is abstruse. In 1955, Nettl wrote:

‘Historians of Western cultivated music have long been interested in problems of style change. Because of the written and datable records of their material, they have not had to attempt reconstruction of conditions or events, or of styles presumed to have once been present, as must some students of traditional music. Their explanations of change have usually been based on (1) the “great man” theory, crediting individuals with changing the course of history single-handedly; (2) attributing special monolithic characterizations to historical periods and showing how their musical styles reflect these; and (3) strictly musical principles, with the usual assumption that simpler style and materials precede more complex ones.’<sup>4</sup>

In other words, history is descriptive in nature – ‘narrative’ in Treitler’s words – and he explicitly states that ‘temporal order and the concept of change are not the essence in historical judgement.’<sup>5</sup> Treitler refutes the idea of studying history as a range of transformations of the (imperfect) past into the present or as the study of origins so as to know the essence of things. The distinction I am making here between history and change is that the study of change implies the understanding of the process and mechanisms of transformation. Evolutionary theory, Darwinian and neo-Darwinian, is undoubtedly the most powerful model of change. And, as Treitler remarked, there is no real clash between history and evolution.<sup>6</sup>

That said, the problem remains intact: if we accept that different versions of the same piece, or different performances of it, do not represent ‘real’ change, we probably have to conclude that music based on improvisation cannot change at all. For improvisations are almost by definition different renditions of the same object. Blacking, in his groundbreaking article on musical change (1977) says:

‘In order to identify musical change, it is necessary to distinguish between innovations within a music system and changes of the system. Such distinctions can only be properly made by relating variations in music processes and products to the perceptions and patterns of interaction of those who use the music. Musical change cannot take place in a social vacuum.’<sup>7</sup>

Blacking considers ‘real’ musical change to be changes *of* the system and uses the perception of the user of the music as a criterion for making the distinction. He thereby tries to contain the diffuse field of internal variation, so as to concentrate on bigger issues in the discussion about change. Nettl already indicated that two types of sources of change have been recognised by researchers – change that comes from within a music culture and change that is the result of influence from other cultures.<sup>8</sup> Large scale change, according to Nettl, is rarely an internal development, except when we speak about the evolution from simple

4 Nettl 1955, pp. 101-2.

5 Treitler 1984, p. 363.

6 Op.cit. p. 368.

7 Blacking 1977, p. 19, his italics. See also *ibid.* pp. 13-15.

8 Nettl 1955, pp. 102-4.

to complex structures. Otherwise, traditional music undergoes major changes through contact with the outside. In this context it is very interesting to note that Indian music changed far more in the nineteenth century than in the twentieth. I think most musicians and scholars would think the opposite; India went through an enormous upheaval during the twentieth century with the road to independence and the building of a new nation. Society and culture changed dramatically, but when we read the musicological texts from the beginning of the twentieth century there is nothing that strikes us as very odd. On the contrary, reading works from the beginning of the nineteenth century is often like looking at a different musical universe. I shall attempt to address this question as well.

### The Limits of Improvisation

Can improvisation break away from the rules or transgress limits? Regarding an eventful meeting of Ornette Coleman with Jacques Derrida the following observations were made:

'Coleman, in contrast, attempts everything Derrida says is impossible in relation to improvisation: "Breaking out of the prison bars of rigid meters and conventional harmonic or structural expectations" (...) Driving this discussion is a deep scepticism, fuelled by Derrida, as to whether jazz improvisation can actually transgress or ignore the "background" of which Coleman speaks. Can it (...) "properly" (...) escape jazz's law, the law of jazz, which "hums in the background"?'<sup>9</sup>

Generally, improvisation is thought to operate within the space of two concentric circles. The core, the inner circle, is the predefined material, the fixed set of formulae, the riff, the theme, the *bandish* (I will address this concept in the field of Hindustani music shortly). The outer circle, the frontier of the improvisational universe, is the set of rules within which the performer operates. In Indian music, these are supposedly very clearly defined; there is a tone material in which no alterations are allowed, there are definite patterns that have to be followed in note-order, there are rules about notes that can be sustained or used as end-notes in phrases. This portrayal of Hindustani music has been continuously stressed by Ravi Shankar: 'most of our music, as you know, is improvised (...) almost 90 percent (...) sometimes 95 percent'.<sup>10</sup> On many occasions, Ravi Shankar and other north Indian musicians have expressed how the gift of improvisation is a divine blessing. Elsewhere, I have contended that Ravi Shankar has played an important role in reversing the negative connotations that were once attached to improvisation in western classical music circles.<sup>11</sup> However, soon after the glorification of improvisation, the binary opposition of composition and improvisation has become subject to criticism. Some people speak of comp(r)ovisation or improposition.<sup>12</sup> Benson has made a strong case for the idea that the composed 'work' is not so rigidly opposed to the improvised piece.<sup>13</sup> Karl Popper, cited in Treitler, says about the musical composition (work):

"A musical composition has a very strange sort of existence, (...) say, a symphony." The symphony he happens to choose is Mozart's Jupiter, which "is neither the score [Mozart]

9 Ranshaw 2006, p. 1.

10 Lipicky 1985, p. 157, quoting Ravi Shankar at a concert in 1964.

11 Meer 2007, p. 98.

12 The term *comprovisation* is found here and there on the web. I think Marcel Cobussen was one of the first musicologists to use the term in a musicological context. Frans de Ruiter spontaneously reacted with "improposition" when I mentioned *comprovisation* in a lecture in January 2005. See also Ruiter 2007, p. 114.

13 Benson 2003.

wrote nor is it the sum total of the imagined acoustic experiences Mozart had while writing the symphony. Nor is it any of the performances. Nor is it all performances together, nor the class of all performances (...) [It is] a real ideal object which exists, but exists nowhere, and whose existence is somehow the potentiality of its being reinterpreted by human minds.”<sup>14</sup> (all markings by Treitler)

In a way, the readings by Benson, Popper and Treitler of the idea of musical work bear a striking resemblance to the Indian raga concept that is at once singular, multiple, essential and collective.

The blurring line between composition, interpretation and improvisation has already been implied by Nettl in his seminal paper in which he suggests they are different in degree, not in essence.<sup>15</sup> Treitler can also be cited in this context:

‘In the negative aura that surrounds the idea of “improvisation” there is a hint that it is something special, the exception to something normal, more grounded, something with all the attributes that improvisation lacks: preparation, guidance, planning ahead, proceeding apace. That something, of course, is “composition.” The very concept of “improvisation” as we have seen it anchored in language is a product of a culture that has valorized its opposite – composition – as a norm, whether or not as a higher form; for no culture is likely to thrive alone on caprice in the making of music (...) The dependence of the Romantic concept of improvisation on an opposite conception of composition is a clue to its inappropriateness for the description of unwritten medieval chant traditions, which do not answer to such a duality. That suggests either banishing the term in this connection – surely a hopeless and pointless project – or an effort to separate it from these negative connotations.’<sup>16</sup>

Still, the difference between composition and improvisation is often thought to be quintessential. A composer can tinker away at his ‘work’ without any time pressure (other than the deadline of his commission), whereas the improviser must work in real-time. The composer uses writing to commit and collect his musical thoughts or experiments into a unified whole. The improviser lets the inspiration that has somehow come to him roll out in a fluent stream. Each mode of music creation has its advantages, and the concept of writing is an important tool for making the distinction between them. Although there may be relevance in such distinctions, they may also lead to oversimplifications. For a start, the view of composition (*bandish, gat*) in Hindustani music as a kernel that covers less than 10 percent of a performance whilst the rest is improvisation within a set of rules, is highly questionable. In fact, the very idea of a fixed composition is dubious. During a performance, a musician will modify the *bandish* in dozens of ways. It may change from one concert to another. Apart from minor interpretational differences, every single musician gives his own distinctive twist to a composition. The melody can be changed, the tempo can be changed and the rhythmic cycle can be changed. However, at the same time, the artist *must* stick to the raga at all times. In Indian musicology, ragas have always been described in terms of *lakshana*-s, the characteristics or rules of the raga. This description is possibly as limited a view of ragas as Chomsky’s generative approach to language: we know now that speech is highly formulaic in character. People know enormous amounts of pre-composed patterns that can be thrown in at any moment.<sup>17</sup> In raga music, such formulae are phrases, and one way of defining a raga is by considering the total body of

14 Treitler 1993, p. 483. Popper and Eccles 1977, pp. 449-451.

15 Nettl 1974, p. 4-6.

16 Treitler 1992, p. 149.

17 MacKenzie 2000.

all such formulae used in past, present, and future by all musicians of all schools. When musicians teach ragas, this is how they work: phrase after phrase is taught in great detail. There are slow phrases of the free tempo introduction (*ālāp*) and fast phrases (*tān-s*) of the later stage of raga development. It is indeed very rare to hear something *new*, as the term improvised (literally: unforeseen) would have us to believe.<sup>18</sup> However, even the total set of formulae in a raga would not comprise the total body of the raga. Any way in which formulae are combined, recombined, modified, adapted, extended and transformed is part of the body of the raga. This is comparable to a language not being comprised of words and grammar, or of basic phrase patterns, but of all the possibilities of thought and expression within that language.<sup>19</sup>

In this respect, raga is an non-constructible set,<sup>20</sup> a seemingly infinite and undefinable collection within which musicians make selections and choices, in which the artist traces his own path and pursues his own goals. Of course, the immediate question that appears from this is: if the collection is infinite, how do we ever know whether an expression does or does not belong to the collection? And how can the collection ever change if all expressions are contained by it? Obviously, all members of the set must conform to the rules of the raga, but this only brings us back to where we started. Probably the best way of understanding a raga is to liken it to a species in biology,<sup>21</sup> in which every performance is comparable to an individual creature and every formula to a constituent part, a cell or an organ. The raga rules that we know are nothing but a description of the outer appearance, similar to the description of plants in a flora. The 'DNA structure' of a raga is something else altogether. What comes closest to defining this 'DNA structure' is the view commonly held by many musicians in India that a raga is a coherent musical entity, a supernatural power, a deity that one can meditate upon or surrender to. Elsewhere, I have described how Kishori Amonkar attempts to hand over the power to the raga, to let the raga control the flow of the music, in a state of trance in which the artist becomes possessed by the raga.<sup>22</sup> Whether mysticism or metaphor, she does make a strong case, as anyone who has heard her will avow. The easiest way of understanding this may be through the concept of intuition. We know that great chess players have a tremendous capacity to calculate moves ahead, and so do chess computer programmes. What distinguishes human beings from computers, however, are knowledge and intuition.<sup>23</sup> In the field of art, robots have made much less of a mark than in chess.

## Transmission

The relation of the formulaic nature of Indian music and change (or continuity) is the next problem we must try to tackle. In short, how is the variability in music transmitted? As indicated above, an important element is the teaching of phrases. However, much of this teaching occurs informally, in between other things. The word commonly used, and much cherished in India, is 'imbibing'. A search action for 'imbibing music' on the internet mainly produces references to Indian music. The process of absorption or assimilation, as a natural and automatic process or as the result of continuous exposure to the music, the subconscious penetration of musical memory by auditory stimuli, generates the kind

18 By the way it may be interesting to note that the total quantity of pre-composed formulae is even greater in drumming than in raga-music; some experts say perhaps as much as 10 times! (Suresh Talwalkar, lecture at the SRA conference, Mumbai, January 2007). Moreover, in drumming there is a higher level of formulaic construction, involving formulae of formulae (See for instance the discussion of *tihai* in Lipicky 1985).

19 Driem 2005.

20 Ibid.

21 Bor 1975.

22 Meer 2007, p. 100.

23 See for instance the IBM/deep blue website <http://www.research.ibm.com/deepblue/meet/html/d.2.shtml>

of intuitive knowledge that musicians have of ragas, much in the same way one learns the mother tongue.

Apart from this subconscious way of learning, there is the conscious knowledge of compositions (*bandish*). It is often thought that a vast knowledge of such compositions is the key to a deep understanding of ragas. Different compositions highlight different melodic ideas that a raga embodies.<sup>24</sup> In my *Hindustani Music in the Twentieth Century* I argued that compositions are much more important than is commonly thought, as raga is given prominence in most studies of the music. As feedback on this publication, I received information from several learned musicians who expressed their agreement with the view that composition is more important than raga, and that the knowledge we have of ragas is derived from our knowledge of compositions in that raga. In discussing this issue with many musicians and musicologists over the following years, it occurred to me that different schools and individual musicians have different opinions about the primacy of either composition or raga. It seems as if the great ragas, of which there may be around fifty, are more raga-oriented, while small or rare ragas are composition-oriented. In fact, great ragas are great because they have many compositions, while rare ragas are known through very few, sometimes one, composition. In other words, the value of compositions in a raga seems inversely related to their number – which makes sense as it is true for any commodity: rare is precious. Great ragas are great because they comprise a very large number of compositions, but that also diminishes the value and importance of the compositions themselves. There are so many of them that they tend to become repetitive. Moreover, musicians do not need to think about the compositions to understand the raga. In great ragas the characteristics of the raga have been taken to a higher level of abstraction, a meta-compositional level so to speak. Many musicians again use this level of abstraction for both improvising and the creation of new compositions. In minor and rare ragas musicians hardly have a fixed and well-formed idea about their characteristics, these can only be known through the compositions in that raga. And usually there are very few of such compositions. This explains why musicians (and audiences) greatly cherish such compositions; they are the key to those less-known ragas.

The flexibility of improvisational music and the lack of clarity about definition of the limits of a raga seem to make it virtually impossible to have objective means of assessing change. Ragas seem to be very diffuse nebulae. It is, moreover, strongly felt that ragas can only be transmitted orally. Although the syllabic notation system has been known in India for more than two millennia, it never came to play the role notation did in Europe. As Richard Widdess has pointed out:

‘Indian culture has been at best ambivalent, and often openly hostile, in its attitude to writing, especially where the transmission of particular sacred texts or valuable teachings is concerned. The Western belief that memory is short-term, limited in capacity, and treacherously fallible, whereas writing is comparatively long-term and reliable, is reversed in India: there, collective memory can transmit a complex tradition with astonishing accuracy over centuries, whereas writing is perishable and leads to corruption, forgetfulness, or misuse.’<sup>25</sup>

My teacher Dilip Chandra VEDI, like probably every teacher in India, always insisted that no form of notation could really render the music and that transmission from teacher to student through sound was the only way of learning the music, a process that takes place through a cycle of the teacher providing an example, the student repeating this and the

24 See Meer 1980, p. 26.

25 Widdess 1996, p. 391.

teacher correcting it. Treitler has rightly pointed out that when we speak of the role of memory in oral traditions, it would be a fallacy to think of memory as a static object onto which data can be engraved or from which they can be retrieved at will. Instead, memory is dynamic and information is reconstructed from it in a complex process. The brain, indeed, is alive. The issue is well summarised in the following passage:

‘from what we have seen so far, it seems that we cannot easily mark a sharp boundary between performance on the basis of an improvisatory system and performance from memory, and the less, the denser the improvisatory system. Suggestions that whole repertoires of melodies were stored in singers’ memories as though they were warehouses or computer hard disks should therefore be approached with caution, not so much because they may be historically incorrect, but because it is not clear what they mean. This corresponds to a prevailing view among psychologists and neuro-scientists about memory, that “Remembering is not the re-excitation of innumerable fixed, lifeless and fragmentary traces. It is an imaginative reconstruction, or construction, built out of the relation of our attitude towards a whole mass of organized past reactions or experience”.<sup>26</sup>

This also implies that data transmission in oral traditions can be imperfect and may easily lead to transformations. Although this conception of memory is plausible, it can be qualified in a number of important respects. First, as Widdess points out, we are in the realm of *collective* memory. Even if one person transforms the information, his adaptation will be balanced by many others who have retained the original information. Secondly, memory is differential. Some things are so deeply engraved that they are subject to transformation to a lesser degree than others. The multiplication tables we learn in primary school are an example. During our entire life, six times seven remains forty-two. Thirdly, some people do have better memories than others, and in particular professions this comes in very handy and plays a role in the selection of apprentices. The Dutch checkers player and former world champion Ton Sijbrands is known to remember all the moves of all the matches he has ever played (and many of other players). He also holds the record for playing blind simultaneous matches – against 22 players. Fourthly, and continuing from the previous point, memory can function better when it holds much information, since all new information is positioned in relation to existing information. Fifthly, training plays an enormous role; the tradition of memorising large portions of the Vedas is the result of such training methods among certain castes in India. As Widdess says ‘with astonishing accuracy over centuries’.<sup>27</sup>

Another issue in connection with the reliability of oral tradition is the link between different sectors of memory. In the case of music, there are two important pillars that support memorising the melody: text and rhythm. People know tunes by the first line of the text that the music is set to. The rhythmic context, the accents and tempo further help to remember both text and melody. As Winnie-the-Pooh says in the *Expedition to the North Pole* ‘if I sing it very quickly, I shall find myself singing the third and fourth lines before I have time to think of them’. The formulaic character of oral tradition is stressed here. Similarly, memorising the sheer endless formulae of drum-language is facilitated by turning them into melodies. And this is how we learn the multiplication tables: with melody and rhythm. According to Karl Kimmel:

‘A song is probably the best all-around mnemonic device for facilitating a student’s recall of facts, definitions, and concepts. It is most useful when students are faced with a lot of novel material to remember or within groups of students who have difficulty remembering. A song is a mnemonic because its melody, rhythm, rhyme, imagery and other poetic

26 Treitler 1992, pp. 145-46. See also Treitler 1974, pp. 344-347.

27 Widdess, Op.cit.

devices provide a structure for the acquisition of new knowledge, an organization of this knowledge in long-term memory, and cues for retrieval of this knowledge.<sup>28</sup>

The fact that musicians normally presuppose a one-to-one relation between note names or drum stroke names and their actual sounds is of enormous importance in Indian music. The ability to turn music into solfa (*sargam* in India) and vice versa is highly developed.

Many great Indian musicians from the past were known to have memorised thousands of compositions. Finally, as Mantle Hood pointed out, we must not forget that a written tradition is only as reliable as the oral tradition on which it is based.<sup>29</sup>

All of the above reasons explain why orally transmitted knowledge could be relatively stable. Could be, indeed, and at times there might be stability. If we compare Indian music textbooks from the first quarter of the twentieth century with current ones, there seems to have been considerable continuity. But if we go back one more century and look at the treatise of Augustus Willard (1834) or the *Sangit Sar* of Raja Pratap Singh Deo (ca. 1792) it seems as if we are very far removed from present practice. In Willard's treatise we cannot be too sure about interpreting his descriptions of the ragas, although they do not make much sense to us now. The *Sangit Sar* is apparently even more exotic – most ragas were entirely different at this time.

### A Drifting Meme Pool

In an extremely interesting article about innovation and the history of music, Leonard Meyer stresses the importance of choice and environmental influences in understanding musical change.

'what is commonly considered the most important facet of creativity, namely, [is] the invention of novelty. Without doubting the interest of this side of creativity, it seems clear that the mere invention of novelty is more important for an understanding of the composer's psychology than for an account of the history of music (...) of the plethora of alternatives thus invented, only a few are actually chosen for use in compositions. Most are discarded, playing no part in the history of music.'<sup>30</sup>

In several respects, I find his reasoning quite similar to the evolutionist model I proposed earlier.<sup>31</sup> Meyer says in his conclusion: 'Stated succinctly: in the invention and initial use of novelty, the individual proposes – and studying this is partly the province of psychology; in the replication of patterns and means, culture disposes – and studying this is largely the province of history.'<sup>32</sup> I suggest that evidence is becoming increasingly stronger that music can be considered as an organism that lives in symbiosis with its human host, in a similar way as language does. Driem has proposed such a model for language in his extraordinary study on Himalayan languages.<sup>33</sup> Driem's teacher went even further when he described language as a parasitic organism.<sup>34</sup> This evolutionist model can be particularly helpful in understanding processes of population drift, adaptations to the (human/cultural) environment, innovation

28 Kimmel n.d.

29 Hood 1959, p. 208.

30 Meyer 1983, p. 518.

31 Meer 1975, Meer 1980, also see Bor 1975.

32 Meyer 1983, p. 544. It is quite unlikely that Meyer was aware of my evolutionist model, as in those days western musicologists and ethnomusicologists rarely knew each other's work. For recent work in the field of music memetics see Steven Jan, 2007.

33 Driem 2001, pp. 37, 75. See also Driem 2005.

34 Kortlandt 1985, Kortlandt 2003.

and selection.<sup>35</sup> The very nature of raga as it is seen by musicians suits this model of the living organism. Both Blacking and Meyer emphasise that, rather than the socio-cultural environment, the choice made by individuals functions as the direct principle of selection.<sup>36</sup> This is an important point because it underlines the idea that the environment of music, its host, is the human brain, not some vague notion of culture. The concept of meme pool, analogous to the gene pool of populations, is central to understanding how variability can at once explain the apparent stability of a tradition and at the same time the considerable shifts that take place over time. This also helps us to tackle the original problem of this article, the question of whether and how changes in improvisational oral music traditions can be assessed. Blacking's model certainly cannot tackle this problem, since improvisation will always take place within the system and is therefore not perceived as change by the 'users of the music'. The type of change that occurs in raga music is slow, almost invisible, but it can accumulate over a longer period of time, producing very serious evolutionary shifts, which I suggested happened in the nineteenth century. In all fairness, Blacking did remark that small changes within the system can carry the germs of 'real' change.<sup>37</sup> I also suggest that Big Bang theories,<sup>38</sup> related to great men, their great inventions and the revolutions they provoked are mostly inaccurate accounts of what happened in history. Rather, they seem to be a continuation of the bardic tradition of glorifying the patron's ancestors. This is not to say big bangs never happened. The case of the dinosaurs is well-known and in music great changes in the socio-cultural environment can also lead to sudden metamorphoses, the disappearance of genres or musics no longer in demand, and the emergence of new ones.

One question that remains to be answered is how these changes happen, given the enormous emphasis put on continuity. In December 2005, I went to a concert by one of India's greatest musicians. I was accompanied by a highly respected musician of excellent pedigree. The raga performed was Yaman – possibly the most important among all ragas. Afterwards, my friend commented that 50 percent of what he heard was simply wrong in Yaman as he had learned it, but he had never heard a Yaman so wonderful, so magical, so Yaman.<sup>39</sup> A great artist, then, can transgress and modify the limits of a raga and yet give the audience the feeling that, more than ever, the raga is being portrayed in all its glory. Other musicians, like my friend, will be influenced by it consciously or unconsciously. Genetic drift has begun.

The final question is why the nineteenth century was musically so much more eventful than the twentieth. I think the obvious answer is the intensification of communication in the twentieth century. Mobility increased, printed music books became accessible to larger parts of the population, radio and recordings were introduced (although I am quite sure these played a minor role). Moreover, royal courts and courtesans' salons were replaced by concert halls and music conferences. Compared to this, the nineteenth century was the Galapagos of Indian music. A less obvious answer to this question concerns training, which has become far less intensive – whereas in the old days students would stay for decades with their *gurus*, in the twentieth century this is certainly no longer the case. Although shorter training is likely to result in lossy transmission, it seems to have produced a more concentrated and simplified transmission with a smaller degree of musical variability within the tradition.

35 It must be stressed that contemporary models of cultural evolution are completely independent from Lamarck's theory of inheritance of learned behaviour, the sociocultural evolutionism of Tylor and Morgan or social Darwinism.

36 Blacking 1977, p. 12; Meyer 1983, p. 544.

37 Blacking 1977, pp. 17-18.

38 For instance: Goodall 2001.

39 I am deliberately telling this story in the anonymous voice as such analyses can be delicate.

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