Involving the Performers in Transcription and Analysis: A Collaborative Approach to Dhrupad

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Involving the Performers in Transcription and Analysis: A Collaborative Approach to *Dhrupad*

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U ntil technology replaces writing with some superior mode of commu-
nication, the essential professional function of any musicologist,
whether claiming the prefix "ethno-" or not, is likely to remain that of writing
about music; for it is through writing that his or her work becomes
permanently and widely available to others.[1] Written musical notation, in a
form that can be widely applied and widely understood, will therefore
presumably continue to be an essential tool by which to communicate ideas
about music that cannot be effectively or economically expressed in words
alone. At the same time, the act of reducing one's aural experience of music
to written form is itself a means of generating ideas and insights, of
illuminating structures and features that might otherwise have passed
unnoticed or remained incomprehensible. Transcription is thus a tool of
analysis as well as of communication.

The advantages and limitations of transcription as used in the analysis
of musical performance have been widely debated in ethnomusicological
literature (such as Nettl 1983:65–81), but there are no signs that the practice
is being abandoned, or even that transcription by ear and hand will be
replaced by mechanical techniques (Jairazbhoy 1977), important though
these are as a potential supplement to aural perception. It is generally
recognized, however, that transcription and analysis of a recorded perfor-
mance, without access to the original context, can produce misleading or
ambiguous results. As George List has observed, "To possess musical
significance a transcription must be made and analyzed in the context of the
culture of which the music it symbolizes is a part" (1963:193).

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One approach to this task might be to involve the performer or performers as closely as possible in the process of transcription and analysis. This approach would be particularly valuable in the case of music that is "improvised" to a significant degree. As Sloboda has suggested, "There is a need for detailed and controlled study of *in vivo* improvisations . . . By recording an improvisation and then playing it back to the performer, with as many pauses and backtracks as required, we could hope to obtain a detailed record of the conscious decisions involved in constructing the improvisation" (1985:149–50). The project described in this article attempted to pursue the twin objectives of involving the performer in transcription and analysis, and thereby eliciting insights into the processes of improvised performance. I shall discuss both the advantages and the limitations of the method, as well as some of the insights into performance and improvisation in Indian music that emerged.

Dr. Ritwik Sanyal was Visiting Artist at the School of Oriental and African Studies, University of London, for three months in 1987–88, during which time he and I began work on a collaborative study of the *dhrupad* style of North Indian classical vocal music.[2] Sanyal is a professional dhrupad singer, trained by Ustads Zia Mohiuddin Dagar and Zia Fariduddin Dagar, and performs widely in India, the United Kingdom and Europe; he is also a university lecturer in music (Department of Vocal Music, Banaras Hindu University) with degrees in philosophy (Bombay) and musicology (Banaras). At the beginning of his period of residence he recorded a performance of *dhrupad* accompanied on the *pakhāvaj* (horizontal double-conical drum) by Ashok Tagore. During the succeeding months this recording, lasting about forty minutes, was transcribed by the author in collaboration with Sanyal, and various issues arising from the transcription were discussed. This work continued at Sanyal's home in Banaras during March and April 1988, where also the *pakhāvaj* accompaniment was transcribed with the help of Tagore. The successive drafts of this paper that I wrote were read by Sanyal. In 1991 I was able to visit Banaras again and to hold further discussions with Sanyal. His comments at each stage are taken into account throughout this final version of the paper.

By involving the performers in this way I hoped, first, to clarify problems in transcription where the performer's intentions were not clear in the recording (Which note is emphasized here? What stroke is that?), and secondly, to elicit information about performance practice, and especially about improvisation, that would otherwise have been difficult or impossible to discuss in concrete terms. Even when Indian classical musicians are willing to discuss details of performance practice, it can be difficult to relate discussion in the abstract to the transient realities of performance. Transcription transforms the performance into a concrete object about which one can begin to speak a little more precisely.

Limitations

In any collaborative exercise of this kind it is obvious that the backgrounds of the researchers and their relationship will influence the outcome. Thus my training in Western musicology was reflected in the use of staff notation and in the assumption that the exercise of transcription is a valid one. Sanyal is somewhat unusual among Indian classical musicians, both in his academic training and profession, and in his familiarity with Western notation; the collaborative method would clearly be less appropriate where the performer is unsympathetic to the use of notation or to academic enquiry in general. It should be stressed that he and I were equal partners in the exercise in the sense that transcription and analysis proceeded by discussion and agreement, rather than by the interrogation or testing of an informant by an investigator—though it is of course true that one partner held most of the answers, and the other generated most of the questions. Collaboration with Tagore was restricted by circumstances to a few days in April 1988, but it was possible in this time both to complete the transcription of the *pakhāvaj* accompaniment[2] and to discuss aspects of the interaction between singer and player.[3] I hope to explore these further at a later date. In what follows, we shall be mainly concerned with the vocalist's contribution to the performance, but the relationship between vocalist and *pakhāvaj* becomes important in the penultimate section.

An inevitable limitation was that of time. Indian music takes time to perform (forty minutes makes a medium-length performance of *dhrupad*), and even more time to transcribe. There was an inevitable time lapse, extending to several months in the case of the later stages of the recording and the *pakhāvaj* accompaniment, between the performance itself and our analysis of the transcription. In the interim both the performers had become listeners—albeit listeners with unique insight—and could not be expected to remember exactly what was going through their minds at any given moment. There was therefore no possibility of reconstructing, even retrospectively, a "protocol"—a running commentary on his own creative thought-processes by the artist (Sloboda 1985:123–138; 149). The use of notation to attain greater precision necessarily entails a loss of immediacy.

I do not propose to discuss here the limitations of manual transcription and of staff notation, which will be familiar to many; suffice it to admit that in any transcription there is an inevitable level of imprecision and of subjective judgement which may be unacceptable to some. The involvement of the performers, however, acted as a check on both imprecision and the author's subjectivity; what is represented in the music examples in this paper accords with their perceptions, so far as these can be determined, and has their *imprimatur*. The performers had no objection to the use of staff notation. In the light of our collaboration, Sanyal expressed the view that

staff notation is better suited than any Indian notation system for the purposes for which we were using it. He pointed out that we had modified conventional staff notation in order to take account of the characteristics of Indian music (see below), rather than representing the performance wholly in Western terms.

Ālāp

The recording comprises the three stages of a typical *dhrupad* performance: *ālāp*, a structured improvisation on the chosen mode or *rāg*; a composed song (*bandiś*), set to the same rāg and to a cyclic rhythmic structure, the *tāl*; and finally *laykārī*, variations combining the text of the song with improvised cross-rhythms against the *tāl* (see, for example, van der Meer 1980:32–49; Widdess 1981; Sanyal 1990). The *pakhāvaj* plays a minimal role in the *ālāp*,[4] which has no cyclical rhythmic structure, but accompanies throughout the second and third stages. Here we shall discuss aspects of the first and third stages, in both of which improvisation is paramount.[5]

Figure 1 is a preliminary sketch of the opening of the *ālāp*. After making an initial transcription, I checked it with Sanyal, who paid minute attention to the detail of pitch-inflections—an important aspect of style—and clarified his intentions at a number of points. He stressed, for example, the importance of *Re/D♭* and *Dha/A♭* despite their infrequence and invariably short duration: their special treatment is one of the identifying characteristics of rāg Multānī. These pitches are explicitly notated, therefore, at a number of points where I had originally treated them as inflections of other pitches. The method of notation using a combination of conventional pitch-symbols, for discretely identifiable pitches, and neums denoting the smooth movement of the voice from pitch to pitch—a method devised by Kuckertz (1970) for notating South Indian music—here coincides with a traditional distinction (traditional at least within the Dagar *gharānā*) between *āghāt* and *anuranana*: *āghāt* is the onset of a pitch, whether by direct attack, or by indirect approach; *anuranana* is its "resonance"—its prolongation and/or inflection up or down (see Figure 2).

This concept is perhaps derived from the performance style of plucked stringed instruments, on which the pitch can be inflected after the string has been struck; the *rudrā vīnā* or *bīn*, of which Sanyal's teacher Zia Mohiuddin Dagar was a leading exponent, has been an historically important component of the *dhrupad* tradition.

In addition to confirming or modifying the pitch-notation, Sanyal identified various vocal techniques and structural features as they occurred. Some of these can be seen in Figure 1: they include the vocal techniques

Figure 1

Figure 2: *Āg̱ḫāt* **and** *anuraṇana*

āghāt   anuraṇana
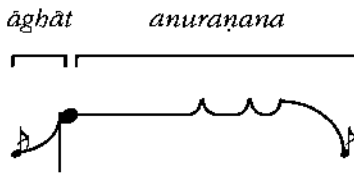
āndolit (phrase d), *lahak* (phrase g), *kampit* (phrase h), *mīnd* (phrase i) and *gamak* (phrase f). These and other terms are frequently cited as elements (*lakṣaṇa*) of the Dagar musical style (*Dāgar bānī*; see Sanyal 1986). The collaborative transcription begins to reveal not only *how* they are rendered in particular instances, but also *where* they are used in the context of a performance—information which might eventually lead to conclusions as to the musical functions of these techniques. In several cases, however, the definition of individual techniques turned out to be elusive. It was evident from the transcription that a single technique could be performed in numerous different ways; compare the *āndolits* in phrases d, g, and j, or the *kampits* in h and j. In discussion of this problem, my attempts to define a particular technique would typically be thwarted by his response, "But you could also sing it like this . . ."; it seemed that the fertile imagination of the performer could generate an exception to whatever definition was proposed. Each technique thus appeared to be not a narrowly-defined, unique musical procedure, but rather a loosely-defined category of procedures permitting apparently unlimited scope for combination and variation, and thus overlapping with other techniques. This suggests something about the nature of Indian musical tradition: what is presented as a fixed and distinctive attribute of a particular musical style can apparently be treated as a gateway to individuality and creativity.

In further discussion (in 1991) Sanyal explained that he does not consciously think in terms of *lakṣaṇas* while performing, but uses them as convenient conceptual categories when analyzing his own or other singers' performances. The relationship between categories and performance is thus more distant than at first appeared: performance is primary, the categories secondary. The importance of the *lakṣaṇas* as a musical terminology perhaps lies largely in the fact that they epitomize the Dagar style and thus identify the user as a member of that tradition. The ten vocal *lakṣaṇas* (including *ākār* and *ḍagar*, to be discussed below), together with a different set for the *vīṇā*, are listed by name—but not defined—in a dhrupad song-text, regarded as 'old,' that is handed down in the Dagar family.[6] The number of categories and their names are thus fixed by tradition, but the method of rendering them is not fixed in the same way, and is therefore perhaps more open to individual interpretation.

Without pursuing this line of investigation further here, it may be remarked that it would not be satisfactory, in a transcription, to represent each *āndolit*, for example, by a single conventional symbol (as are the ornaments of Western classical music); this might appear to be a valid emic approach, but it would fail to recognize that each instance of *āndolit* is unique, and intentionally so. The emic/etic dichotomy, so often cited by ethnomusicologists with reference to transcription, does not appear a valid distinction in this context.

Sanyal also identified certain elements of structural importance:

ākār (phrase a)—the opening intonation of the tonic, usually sung to the vowel *ā* (Sanyal was surprised to find that he had actually sung *nā*).

mukhṛā (phrase g)—a repeated cadential phrase emphasizing periodic returns to the tonic, by which the gradual development of the *rāg* is articulated into sections. It is sung with a discernible rhythmic pulse, unlike the improvised portions of the *ālāp* which appear to be rhythmically free (but see below).

ḍagar (phrases i-l)—a phrase or sequence of phrases particularly character-istic of the *rāg* in question (in other traditions known as *pakaḍ* or *calan*).[7] This sequence has been memorized, and is introduced at the outset so that the *rāg* may be identified: many Indian musicians lay stress on the importance of identifying which *rāg* is being sung at the very beginning of an *ālāp*.[8]

A familiar problem in transcribing *ālāp* is that of rhythm. The opening, slow-tempo (*vilambit*) *ālāp* is normally followed by further *ālāps* in medium (*madhya*) and fast (*drut*) speeds, where a regular, consistent, but unmetered pulse is apparent; in these later stages the transcription of rhythm is not problematic. In the slow *ālāp*, however, there is seldom any obvious pulse. In Figure 1, no attempt is made to determine the exact relative durations of pitches or to impose any hypothetical rhythmic organization on what at first appears to be completely free rhythm (apart from the *mukhṛā*). In response to this difficulty, however, Sanyal asserted that there is always a pulse in his mind throughout *ālāp*, and that this is regular and consistent apart from a gradual acceleration. In slow *ālāp* it may be concealed by the slow tempo and by the placing of pitches and melodic/rhythmic events off the pulse rather than on it, but it becomes explicit in the *mukhṛā*.[9] Each *mukhṛā*, therefore, can be taken as a guide to the speed of the pulse in the preceding, quasi-free-rhythm improvisation.

These statements were in marked contrast with previous assumptions about the rhythmic structure of slow *ālāp;* to my knowledge, no account of this style has indicated the presence of a consistent pulse other than in the

mukhṛā. An attempt was therefore made to verify these statements in relation to the present example. While listening to the recording, Sanyal indicated the pulse by beating time. Where his beats coincided with a notated melodic or rhythmic event, a note was made in the transcription; these points of coincidence are indicated in Figure 1 as "V." It was not possible, in the context of a real-time experiment, to be wholly accurate in this, especially since many of the pulse-beats that he indicated did not coincide with any notated event: ideally a video camera should have been employed to record the exact synchronization of gesture and music. It was immediately apparent, however, that the pulse indicated was the same as that of the *mukhṛā*, and continued into the *mukhṛā* without interruption.

In order to test further for the existence of a pulse, and to eliminate as far as possible the subjectivity of either investigator, I measured the length of each note and each group of notes in the extract. First results were obtained using a stop-watch and running the tape at full speed; these were later checked and refined, by running the tape at half-speed, and by using a computer program designed to measure the time-intervals between a series of specified points.[10] Numerous repeated measurements were compared and averaged. An element of subjectivity inevitably remains in this method, because the investigator must judge where each note or rhythmic event begins; this is not always clear, particularly where a syllable begins with the consonants *r* or *n*, or a note is approached by a glide from another pitch. These problems are exaggerated when the tape is run at half speed. By measuring longer note-groups as well as individual notes, however, a reasonably consistent set of timings was obtained, with an accuracy of about 0.15 seconds for the longer timings.

The results are summarized in Figure 3. Two sets of measurements are presented: timings for individual notes or short pitch-movements are shown below the staff, and timings for selected longer segments are shown above the staff (these were not the only such segments measured). The timings suggest that a consistent pulse, varying in length between about 1.59 and 1.67 seconds per beat, emerges half-way through the second system and continues thereafter without interruption. This pulse-beat is indicated above the staff as a series of quarter-notes; these are enlarged where the pulse coincides with a rhythmic event in the melody. These points of coincidence include almost all of those identified in the earlier experiment (indicated by *V*), which suggests that the pulse implied by the time-measurements is the same as that indicated by the performer. Furthermore, the timed pulse continues into the *mukhṛā*, as predicted, although here the apparently equal beats turn out to be by no means equal when measured, varying in length between 1.9 and 1.2 seconds. Although the sixth note of the *mukhṛā* may be heard as a syncopation, this degree of fluctuation does not destroy the

Figure 3: Illustration of pulse in the beginning of ālāp
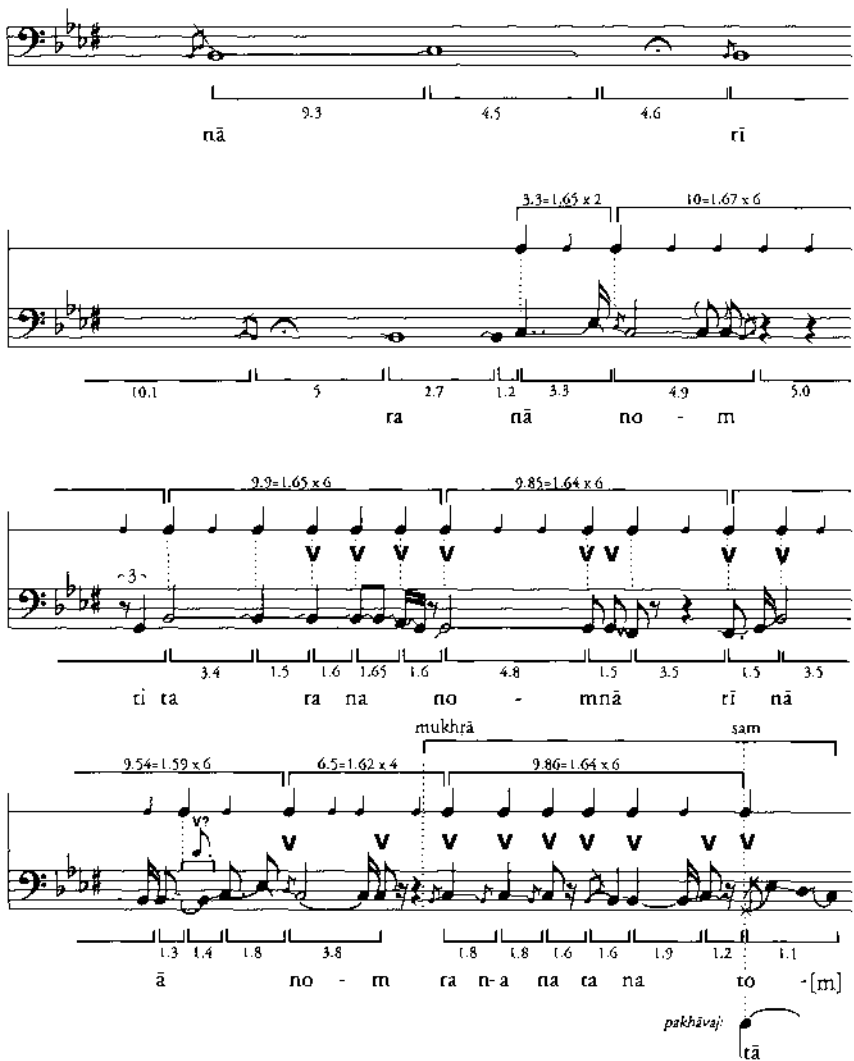
listener's impression of a steady pulse in the *mukhṛā;* nor does it deter the *pakhāvaj* player, who accurately times his single stroke to coincide with the final, emphasised beat of the *mukhṛā* (the *sam*).

Figure 3 appears to confirm beyond reasonable doubt the performer's statements regarding the rhythmic structure of his *ālāp.* Nevertheless it is clear that the degree of objective accuracy attainable by this method of time-

measurement—and perhaps by any method, given the problems in defining the starting point of a note—is limited. Furthermore, it is clear that the pulse is not invariable; though relatively constant, it nevertheless varies within certain limits. These factors suggest that it would be difficult to identify conclusively a pulse in *ālāp* merely by timing notes and note-groups, without the performer's explicit indications as to where the pulse is to be found. It is thus the *coincidence* of the performer's explicit indications and the time-measurements based on the transcription that establish the reality of the pulse in this *ālāp*. The involvement of the performer is essential.

The evidence thus suggests that, at least in the practice of one performer, slow *ālāp* is rhythmically structured with reference to a regular pulse. The question of how far this is true of other Indian musicians is beyond the scope of this article, but there are indications that many *dhrupad* singers share this practice.[11] Other writers have reported more generally that the rhythm of slow *ālāp* is not entirely free (such as van der Meer 1980:32), but it is normally assumed that a regular, consistent pulse is reserved for the *madhya* and later stages of *ālāp*. That this assumption is now open to question indicates the value of involving the performer in transcription and analysis. A problem in transcription elicited valuable information from the performer about the rhythmic nature of the *ālāp*, which in turn transformed the transcription and interpretation of the music, and raises fundamental questions regarding rhythmic practice in *ālāp* in Indian music generally.[12]

Laykārī

Although the collaborative approach illuminated many aspects of *ālāp* performance, it cannot be expected that this method will invariably elicit information in so direct a manner. Some performance processes may have become so instinctive to the performer that he is unable to verbalize them, particularly if he was taught them by example rather than by verbal instruction. In the present case, Sanyal was unable to explain in any detail the processes of improvisation employed in the final stage of the performance, the *laykārī*. Analysis of the transcription provided, however, a means of investigating such clues as he was able to offer. This led to a number of conclusions and hypotheses which were then referred back to him for evaluation. Thus the transcription again provided the first step in a process of analysis which in turn elicited further information. In what follows, the analysis is mine; Sanyal's responses to the analysis are inserted at the relevant points.

In *laykārī* the dhrupad singer uses words of the composed song, but sets them spontaneously to new rhythmic and melodic material; here he is constrained not only by a pulse but also by the regular time spans of the

twelve-beat metrical cycle *Cautāl*. These improvisations involve subdivision of the beat into two, three, four, six, or eight parts (depending on the basic tempo), and are accompanied by the *pakhāvaj* player. The latter, in the present example, bases his improvisation on the set pattern of strokes (*thekā*) associated with the *tāl*, but frequently embellishes or departs from this, and provides a continuous rhythmic counterpoint to the singer. The singer must time his improvisation so as to arrive together with the *pakhāvaj* player on the first beat of the metrical cycle (the *sam*), at which point he may sing again the first phrase (or merely the first note) of the composition. The singer need not end his improvisation at the first available *sam*, but may continue for two or more cycles, provided the eventual conclusion is contrived to fall on *sam*. The simultaneous arrival of singer and accompanist at this beat resolves the tension built up by the cross-rhythms of the preceding improvisation, and may be greeted with satisfaction by the listeners, who often keep time with hand gestures.[13] The whole process is repeated many times, often in a spirit of friendly competition between singer and accompanist.

Analysis of *laykārī* improvisation must begin with a consideration of the composed song (*bandiś*) on which it is based, for the various formal, metrical, word- and sense-divisions of the text, and the melodic, rhythmic and formal structures of the composition are to some extent reflected in the later improvisation. The first line of the text, corresponding to the first section (*sthāyī*) of the musical composition, is as follows:

> *tū-hi bidhātā   lo-/kapati namo namo /saṃsāra tārata /bhāra utāre /*
> *(or loka-/pati)*

> (To you, Creator, Lord of the Universe [Brahmā], salutation; you release [us] from re-birth, discharge the burden [of transmigration].)

In the musical composition, this line is set to four consecutive cycles of the *tāl*; the division into four tāl segments is indicated above by /. In performance, however, the first cycle constitutes a refrain (*mukhṛā*) and may be repeated, even though the corresponding text-segment does not correspond to a complete unit of sense and ends in the middle of a word. In Figure 4, which represents the beginning of Sanyal's rendition of the composition, the *mukhṛā* is repeated immediately, and again at the end of the *sthāyī*. The composition thus returns repeatedly to its starting-point, as do all *dhrupad* compositions (see Widdess 1981).

This cyclic pattern, inherent in the composition itself, is extended in *laykārī* improvisation. The singer continually returns to the beginning of the composition; the first word of the text (*tū-hi*) always returns on the *sam* at the end of each episode of improvisation, and may be followed by the rest of the *mukhṛā*. This first word is normally avoided during improvisation in

Figure 4: Beginning of the composition "Tū-hi bidhātā"

order to emphasise its use at the *sam* (Sanyal confirmed that this is a conscious technique).

Figure 5 represents two such episodes. The first, cycle 37 of the complete performance, comprises one cycle only, coming to *sam* on the first beat of cycle 38; the second extends over two cycles (cycles 38, 39) and concludes on the first beat of cycle 40.

The transcription reveals something of the spontaneous interplay between singer and accompanist that typifies *dhrupad laykārī*. In cycle 38, third beat, Tagore echoes the syncopated rhythm used by Sanyal at the end of the previous cycle, ♪♪ ♪, which is then taken up again by Sanyal at beat 6 and developed over the next one-and-a-half cycles as ♪♪ ♪♪ ♪♪ and so on.

Elsewhere, the transcription shows that Tagore can react to Sanyal's improvisation in as little as half a beat, and sometimes even anticipates: for example, in cycle 37, he correctly anticipates the entry of the singer at beat 5. How is such co-ordination possible? At a speed of approximately ♩ = 0.89 seconds, half a beat represents a response time of slightly less than the 0.5 seconds estimated by Pressing (1988:138) as the minimum time in which the

Figure 5: Laykārī excerpt

improvising musician can respond to unexpected events introduced by another musician. Such rapid response and correct anticipation indicate that the events in question are not, in fact, unexpected; Sanyal and Tagore frequently perform together, and are therefore each familiar with the other's performance habits. Visual and audible clues such as the taking of breath, whether consciously or not, must also assist co-ordination. In the present performance, Sanyal starts *laykārī* on beat 5 more frequently than on any other beat, and often with the rhythm ♪♪♪♪; in cycle 37, Tagore correctly guesses that he will do so again. Furthermore, this particular rhythmic pattern at beat 5 is a common *pakhāvaj thekā* variation (it occurs again in cycle 39): we perhaps have here a case of the singer being influenced by the *pakhāvaj.* The extent to which dhrupad *laykārī* in general is based on or influenced by *pakhāvaj* techniques is a question that requires further investigation.

In discussion, Sanyal agreed that all the factors suggested here—familiarity with performance habits, visible and audible movements, and influence of the *pakhāvaj* on the singer—can assist coordination between singer and accompanist, though he was uncertain whether any had done so in cycle 37. He also asserted, and demonstrated with a recorded example, that a good accompanist can anticipate correctly even when accompanying the singer for the first time.

I also asked how the singer succeeds in structuring his *laykārī* improvisation so that it comes to a satisfactory conclusion on beat 1, thus meeting the essential rhythmic constraint of improvisation in *tāl.* At the transcription stage, Sanyal was not able to explain this process in detail: *laykārī* performance was, he asserted, essentially unplanned, and he depended for its success on being "in the right mood." There is apparently no consciously formulated technique; indeed, set techniques used in dhrupad such as the simple diminution of the composition (singing it at double, treble, quadruple speed etc.) are avoided in the Dagar tradition precisely because they are pre-planned and lack spontaneity.

Analysis of the transcription suggests that, as he himself maintains, when Sanyal embarks on *laykārī*, he does not know in advance how it will end; instead, decisions will be taken during the improvisation as to how to fill out the remaining beats in the cycle and how to come to *sam.* The points at which such decisions are implemented can be seen in the transcription as changes in or modifications to rhythmic pattern, repetitions of segments of text, and prolongations or repetitions of syllables. A common device is to introduce a *tihāī,* a thrice-repeated rhythmic and melodic motif, ending on *sam* at the third repetition. An example can be seen in Figure 5, cycle 37. Sanyal begins his improvisation by singing the first two segments of the song-text (*[lokapati] tū-hi bidhātā lo-/kapati namo namo/*), delivering four syllables in

each beat (quarter-note) of the *tāl* (except the sixth, which has three). At the ninth beat, third ♪ (marked A in Figure 5), the first two segments of text have been completed, so Sanyal repeats them from *bidhātā*.[14] Eleven syllables of the current text segment therefore remain to be sung (*bidhātā lo-/kapati namo namo/*), but three-and-a-half beats of the *tāl*-cycle remain to be filled—enough for fourteen syllables at the current rate. Almost immediately, however, Sanyal changes the rhythm: the common syncopated rhythmic formula ♪♩ ♪ is introduced and repeated three times as a rhythmic *tihāī*. As a result the remaining text syllables exactly fill the remaining beats of the *tāl*-cycle.

In response to the above analysis, Sanyal qualified his original statement that *laykārī* improvisation is "unplanned." He explained that some rhythmic patterns, such as common *tihāīs*, are memorized for general use, or accumulate in the memory through experience; he confirmed that the example above is a *tihāī* of this type. What is entirely spontaneous, he maintained, is the decision to use a particular pattern at a given moment.

The transcription thus indicates that a conscious or unconscious decision to change the rhythm, perhaps in accordance with the number of syllables remaining to be sung, was taken at or shortly after A. It does not, however, reveal *how* the ratio of syllables to beats was calculated, only *the point at which* the necessary adjustment was implemented.

How then does the performer make successful decisions on the spur of the moment? A number of factors are presumably important here. One is the memory of similar passages sung earlier in the performance, or in previous performances. Figure 6 compares the end of cycle 37 (Figure 5) with two earlier passages: cycle 10, where the same melodic motif and the same words, but a different rhythmic configuration are used, and cycle 30, where a similar melodic and rhythmic configuration is used, but different words. Thus the melodic and rhythmic materials needed to bring cycle 37 to a successful conclusion were already to hand and fresh in the singer's memory. The melodic motif used in all three of these parallel passages is in fact derived from the composition itself: it is the end of the first cycle, the *mukhṛā* (see Figures 4 and 7). The use of this melodic motif in *laykārī* as a lead-in to *sam* thus reflects its similar function in the composition.

Sanyal agreed that the passages in question derive from the composition. He pointed out that many compositions do not begin on *sam* (as in the present case), but with an anacrusis of several beats leading to the *sam*. In rendering such a composition with *laykārī*, the singer will dovetail the end of his improvisation with this anacrusis: thus a return to the melody of the composition a few beats before the *sam* is normal practice.

Another important factor no doubt lies in the performer's ability to escape from any situation that threatens *not* to turn out as required: to quote Sloboda, "The improviser . . . knows that, wherever he lands up, there are
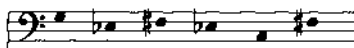
Figure 6: Similar passages in Laykārī

(musical notation)

Figure 7

(musical notation)

a dozen different ways of getting from there to the next place. This confidence in the availability of 'escape routes' is, surely, a hallmark of skill in any impromptu accomplishment" (1985:148).

The adjustment necessary to ensure the correct outcome may be quite trivial, and may pass unnoticed by the listener. In Figure 5, cycle 37, the exact match of syllables and notes in the tihāī may be fortuitous: in the parallel *tihāī* of cycle 30 (Figure 6), there are two syllables too few, and the first syllable of the final word (*utāre*) is therefore reiterated and prolonged to fill the gap.

For a similar but more complex example we may consider cycles 38 and 39 (Figure 5). Here the *laykārī* extends over two cycles, coming to *sam* finally at the end of the example. Here Sanyal stresses units of three-quarters of a beat (♩.), most units comprising ♪ ♪ or ♪ ♪ ₇. Had he continued strictly with this rhythmic pattern, the final note would not have fallen exactly on the *sam*, but one ♪ too soon. Sanyal therefore adjusts the rhythm by introducing a ♪ prolongation at Z, only two beats before the end of the cycle. This slight adjustment is virtually imperceptible to the listener.

Here we have a case of last-moment, fine course-correction, compensating for the fact that the improvisation was not worked out in advance. Again, the transcription enables us to see where a decision was implemented, but not how it was taken. We may speculate that the slight modifications of rhythm beginning at beat 8 of cycle 39, and leading up to

the point Z, represent the performer starting to think about his approach to the *sam*, although the underlying rhythmic unit ($\flat$.) remains unchanged until Z. Note furthermore that this example of improvisation is more complex than the previous one, both because it is longer—two cycles of the *tāl* instead of one—and because a longer segment of text is employed, namely the whole of the line. Even this is not enough to fill the two cycles of the *tāl*, and the words *saṃsāra tārata* have to be repeated to fill up the last six beats of cycle 39. A decision, therefore, must have been taken at or before X, to repeat six syllables of text (representing two complete words and one complete text segment). Despite this repetition, however, there are still not quite enough syllables, and the syllable *tā-* is therefore prolonged for two $\flat$. units plus an extra $\flat$. The fact that this word–initial syllable is prolonged, and not either of the two that follow it, indicates that the singer had already foreseen, by the time he reached Y, that the last two syllables, *-ra-ta*, could be sung to the rhythm $\flat$. $\flat$. in the final one-and-a-half beats of the cycle. This supposition is confirmed by the very similar prolongation of the first syllable of *utāre* in cycle 30 (Figure 8). In such cases where there are not enough syllables to fill the available rhythmic space, it would clearly be less effective to prolong the final syllable, since this would be a rather obvious adjustment immediately prior to the *sam*.

The second half of cycle 39, therefore, is entirely taken up with adjustments to text and musical rhythm; and this is not to mention the melody, where the descent towards the lower tonic is carefully judged so as not to arrive there too long before the end of the cycle. The melody here seems to be based on the fourth cycle of the composition (cycle 5 of Figure 4), where the text is *bhāra utāre*; the use of these words in the improvisation may therefore have suggested the course that the melody should take.

Although Sanyal did not comment in detail on this interpretation of cycles 38–9—he was unaware of the rhythmic adjustment at Z until his attention was drawn to it—he endorsed the concept of "fine course-correction" undertaken while improvising (and if necessary at almost the last moment). He demonstrated how a *tihāī* can be adjusted if necessary to make

Figure 8: Prolongation of syllables

it fit the time available, by lengthening or shortening one or more notes, and he pointed out further examples of such adjustment in the performance in question. He also observed that notes may be lengthened or shortened for rhythmic variety even in the singing of the composition, especially where successive notes are the same pitch (see Figure 4, where the basic rhythm of quarter- and half-note durations is modified by lengthening some notes and shortening others). Thus the kind of rhythmic adjustment posited in the analysis turns out to be a conscious element of the singer's technique.

The singer's spontaneous calculations and adjustments in *laykārī* are no doubt assisted by the style of *pakhāvaj* accompaniment, which in the present performance remains relatively close to the well-known, basic pattern or *thekā* (Figure 9), and thereby clearly indicates to the singer which beat of the 12-beat cycle has been reached. A particularly prominent feature of the *thekā* is the right-hand stroke *din*, which has a characteristic sonority,[15] and is played on beats 3, 7 and 11 or 12 (off-beat). This feature can be seen in Figure 5, especially cycles 38–9. In Figure 5, it is noticable that when the singer embarks on a difficult cross-rhythmic pattern, as in cycles 38–9, the *pakhāvaj* simplifies his own improvisation in order to indicate the *tāl* more clearly (compare the last three beats of cycles 38 and 39 with those of cycle 37). Indications of this kind would of course be unnecessary if the singer were merely reproducing worked-out and memorized gambits.[16]

Figure 9: Cautāl ṭhekā

(Dhi at beat 11 is the same as din at beats 3 and 7.)

Sanyal stressed that in dhrupad the accompanist pays less attention to the *thekā* than in other styles. He agreed however that most *pakhāvaj* players play *din* on beats 3, 7 and/or 11/12, and that this minimal reference to the *thekā* constitutes "a good clue" for the soloist while improvising.

Analysis of the transcription thus confirms Sanyal's statement that his *laykārī* is not planned in advance but is dependent on spontaneous decisions, reflecting a fundamental aesthetic preference in the particular tradition to which he belongs. It further indicates, as we have seen, (1) that the singer remembers and re-works rhythmic and melodic material from earlier in the performance, including melodic material from the composition; (2) that repetitions of text and changes in rhythmic pattern are made during

the course of an episode of improvisation, in order to fill out the remaining period of time before the end of the cycle (for example, a *tihāī* may be introduced); (3) that slight adjustments to text and/or rhythm, such as prolongation of a note and/or a syllable, may be made shortly before the end of a *tāl* cycle, in order to ensure a successful arrival at *sam*; and (4) that the *pakhāvaj* player, besides responding to and anticipating the singer's rhythmic gestures, helps to guide the improvisation by references to the standard stroke-pattern (*ṭhekā*).

As has been noted, Sanyal endorsed all of the above conclusions, with or without qualification or amplification. He also indicated a factor of further importance to the understanding of *laykārī*: namely, that a valuable model for the performer when practising *laykārī* is the style of medium and fast *ālāp*. In this style, as in *laykārī*, syllables are delivered at a speed of two or four to the pulse-beat, with longer notes, cross-accentuation and units of three or five for rhythmic variety. Since there is no metrical organization and no fixed text, improvisation in this style is less constrained than in *laykārī*, but many of the same rhythmic and melodic formulae can be used in both styles. This insight into the relationship of different styles deserves further investigation.

The above conclusions would have been difficult, if not impossible, to formulate without first making a written score, and equally difficult to demonstrate without the use of notated examples; the more so since the performers, as already mentioned, were not able after the event to recall the decisions taken at specific points of the performance, and could not at first describe the processes of *laykārī* improvisation in any detail. At the same time, Sanyal's original assertion of the importance of spontaneous decisions is a vital clue, because it indicates the kind of improvisatory processes we should look for in his music; and the exercise of transcription and especially analysis along the lines he had indicated stimulated him both to qualify and to amplify his original insight.

Conclusions

Transcription is thus a useful musicological tool, both for communicating ideas about music and for generating and formulating ideas in the first place. The present experiment suggests that it is especially useful when used as part of a collaborative, dialectical enquiry involving the musicians themselves. On the one hand the performers can solve problems of notation and interpretation, while on the other hand transcription can throw light on questions that the performers cannot directly answer. While dialogue and notation each have their limitations, in combination they can be more illuminating than either alone. In the present case, the collaborative use of

transcription has yielded a number of insights into the performance under consideration, and has raised fresh questions about aspects of performance practice in the dhrupad tradition and in Indian music generally. These include the nature of "ornamentation" and the relationship of traditional categories of ornamentation to performance, the rhythmic organisation of *ālāp*, and the techniques of rhythmic and melodic improvisation in *laykārī*. It may be hoped that a collaborative approach to transcription and analysis will prove helpful in investigating further these fundamental questions.

Notes

1. The research on which this paper is based was funded by the Charles Wallace (India) Trust, the British Academy, and the School of Oriental and African Studies, to all of whom grateful thanks are due. The author is also grateful to Dr. B. Bullard, Dr. M. R. Clayton, Dr. P. Cooke, Dr. J. R. Kippen and Dr. L. E. R. Picken for helpful comments at various stages of the research.

2. *Dhrupad* is regarded as the oldest genre of North Indian classical vocal music, in which a particularly disciplined approach to voice-culture, ornamentation, modal development (in *ālāp*) and rhythm (in *laykārī*) is cultivated. The same modes (*rāg*) are employed as in other genres, but a distinctive set of metrical cycles (*tāl*), a special drum (*pakhāvaj*) and a special repertory of compositions are employed; some of the latter may date from the Mughal period (sixteenth through eighteenth centuries), others from the nineteenth and twentieth centuries. There is now a strongly religious character, primarily but not exclusively Hindu, to the *dhrupad* genre. It is sung by relatively few performers apart from the celebrated Dagar family and their pupils, but there has been a revival of interest in *dhrupad* during the last two decades.

3. The traditional syllabic notation for drum strokes was used as Mr. Tagore is not familiar with staff notation. The syllables have been represented by a modified staff notation in Figure 5.

4. The *pakhāvaj* plays a single stroke or a short rhythmic pattern to accompany the *mukhṛā* or cadential phrase that occurs at the end of each section of *ālāp*.

5. The term "improvisation" is an unsatisfactory but unavoidable expedient. The extent to which Indian music can be said to be improvised has been questioned (see, for example, van der Meer 1980:142 ff.), but in the absence of a firm definition of improvisation the question cannot be answered. Rather, it seems likely that the term will be re-defined so as to include the processes of spontaneous or partly spontaneous composition that occur in Indian and other musics, when these are better understood. Meanwhile, Indian canonical music theory tends not to distinguish between "composed" and "improvised," or between "fixed" and "variable," but rather between "constrained" (*nibaddha*) and "unconstrained" (*anibaddha*), where *ālāp* belongs to the latter category and everything else to the former. Among the "constraints" from which *ālāp* is free are (meaningful) text and cyclical rhythmic organization (*tāla*) (Śārṅgadeva, *Saṅgītaratnākara* [thirteenth century], 4.4–19).

6. This song-text was given to Sanyal by Ustad Nasir Aminuddin Dagar, the present head of the Dagar *gharānā*; but the same lists were known to his teachers Zia Mohiuddin and Zia Fariddudin Dagar (see Sanyal 1986).

7. The term *dagar* ("path") may be preferred by this *gharānā* for its resemblance to the name of their musical style (*dāgar bānī*), from which they also take their family name.

8. This explains the rather early appearance here of the fifth degree (Pa/G), which one might not have expected until later in the *ālāp*. In some performances Sanyal follows the practice of prefacing his *ālāp* with a short invocation, with Sanskrit text, which similarly establishes the identity of the *rāg* and prefigures the full development in *ālāp* (see also Van der Meer 1980:51–52).

9. Sanyal explained that it is not his intention to conceal the pulse, merely a matter of style; he assumes, perhaps optimistically, that the "sensitive listener" will be aware of the pulse.

10. The program was devised by Martin Clayton using Hypercard on an Apple Macintosh computer.

11. A conference of dhrupad singers which Sanyal and I had the privilege of addressing, at Shri Chaitanya Prem Sansthan, Vrindaban, in March 1989, seemed largely in agreement that a pulse is present in slow ālāp, although there was some debate about what constitutes a pulse in this context. The only dissenter, who asserted the complete rhythmic freedom of the singer in slow ālāp, nevertheless later performed an ālāp throughout which I heard a clearly-perceptible pulse.

12. Indian and Western musicians and observers with whom I have discussed this question are divided in their response: to some the idea of a pulse in ālāp is uncontroversial, while to others it is surprising or even unacceptable. It is to be expected that further investigation will reveal a diversity of practices and perceptions.

13. In Figures 4–7 the pattern of hand-movements by which the internal division of the tāl may be indicated, by the singer and/or members of the audience, is represented by the following symbols: X = clap on the first beat (*sam*); 2, 3, 4=claps on subsidiary divisions; 0=silent wave. In Figures 5–7 the principal divisions are also indicated by dotted bar-lines.

14. There was evidently no intention to continue into the third and fourth segments of the text-line. These segments would in fact have supplied exactly the same number of syllables, so the choice was almost arbitrary.

15. The sound is undamped and therefore resonant, but has an untuned pitch about a semitone above that of the tonic, unlike the half-damped *tā* where the tonic pitch is heard.

16. Investigation of other performance styles is required to establish whether there is a general correlation between thekā-based accompaniment and spontaneity of improvisation by the soloist in laykārī. It is noticable, for example, that in the Darbhanga school of dhrupad, represented by the late Ramcatur Mallik and his younger relatives, where the singers use many extended, elaborate and (presumably) pre-planned tihāīs, the pakhāvaj tends to abandon the thekā to an even greater extent than is normal in the Dagar tradition, where fewer tihāīs are used. In the *khyāl* style, by contrast, in which the singer's spontaneous improvisation is of paramount importance (and tihāīs are less often used), the accompanying drum (*tablā*) normally stays closer to the thekā than in dhrupad accompaniment.

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