

Appropriation, exchange, understanding

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Background

I want to examine ways in which intercultural issues raised by non-western musical practice interact with some of the basic ideas of electroacoustic composition in the western tradition. In 1989 I was commissioned to write a work for the Anglo-Indian ensemble Shiva Nova, directed by Priti Paintal. *Pathways* (sitar, tablas, flute, cello, keyboard, electronics) sought to relate two idioms – north Indian classical and contemporary European - using timbral extension through electronics as a kind of mediation. I spent considerable time listening to other works the group had commissioned – I was by and large very critical of the performance constraints imposed by the notation of many of these works. More importantly I spent time with all the performers, focusing on what was possible in relating these two traditions, and how to indicate this in some appropriate way. This involved minimising notation for the Indian performers, yet coordinating through downbeat aural signals and other visual signals, often used to trigger traditional tonal or rhythmic motifs. The third movement was a (very short) version of *rag Hori Kafi* with the flute and cello cast in the role of drone (*tampura*) albeit using a harmonic field rather than single pitch¹.

Some years later I was commissioned to write a work for Inok Paek, a Korean performer resident in the UK. *Points of Return* (1998) was for kayagum and live electronics. Inok Paek was at the time completing her PhD in the Department of Anthropology at Queen's University, Belfast (which had a strong music research tradition originally centred around the pioneering ethnomusicological work of John Blacking). While fully versed in the *sanjo* tradition – which to an outsider has a family resemblance to the *rag* tradition of north India in its set formal structure and strong aural tradition learnt through long term expert/pupil study – she was also very much at home using western notation (which has in recent decades been controversially introduced into Korean music). I have also been privileged to have supervised PhD students working with far eastern cultural ideas within electroacoustic composition - Hiromi Ishii (Japan) (Ishii 2006) and Chih Hung Weng (China/Taiwan) (Weng 2007) whose work I shall cite below.

Modes of exchange

There are, of course, many different modes and means of exchange when practitioners of two musical traditions collide (voluntarily or not). Based on varying mixes of the three fundamental human senses, visual, aural and oral:

¹ This work is discussed in detail in Emmerson (1999) and Emmerson (2000).

music notation; written communication; live performance; video and sound recording; spoken communication

- all of which are influenced by place and space of exchange and concomitant social circumstances.

The particular mix of these may result in a range of outcomes: on the one extreme, appropriation with no exchange or understanding – for example, a composer 'plundering local colour for sampling' - through to true exchange with the possibility of real mutual understanding. We will examine this in more detail using the idea of *masking*.

Masking - the *etic* and *emic*

In this discussion it is helpful to bear in mind the ethnomusicologists' distinction between:

- *etic*, (from *phonetic*) that is a *measurable* difference; and
- *emic*, (from *phonemic*) that is a *significant* difference – which might change the meaning of an utterance - ideally defined from within the culture itself.

I wish to develop the idea of *masking*. This term is derived from acoustics: a situation where two sounds are played together and one *masks* the other (or a perceptual aspect of the other) such that it can no longer be perceived. We can generalise this from sound, to performance and even to aesthetic aspects of music. Throw two traditions of music making together and aspects of one may *mask* aspects of the other (sound subtlety, performance practice tradition and aesthetic intent). This may be inevitable in any intercultural work as there are bound to be incompatibilities. But we must ask - have we masked something 'significant' as seen from within the culture? This is important because if we continue this musical exchange, in time the masked element may disappear as it no longer functions within the music.

Notated and oral music

The relationship of notated and aural music becomes particularly difficult (as I alluded to above) in intercultural exchange. In the western world ethnomusicology originally developed a simple binary division, descriptive notation providing a mirror function to the prescriptive notation of traditional art music:

Prescriptive notation:

code + performer interpretation => performance

Descriptive notation (transcription):

listener interpretation of performance => code

Both rest on stronger or weaker conventions of notations for pitch, duration/rhythm, dynamic etc.. But this binary divide is becoming confused; transcriptions are now freely reinterpreted as prescriptive². This needs further examination.

Transcription and Recording

What happens when a western-style literate and technological musician hears a non-western art music and wants to transcribe it? Bela Bartok most famously extended western notation in an attempt to capture the nuances of pitch and rhythm. In looking at these extraordinary transcriptions (for example, Bartok 1976: 184), it is clear the system is stretched to breaking point. It is also frequently overlooked that recording played a major part in Bartok's ability to make his transcriptions more accurate. But recording fixes the work and its time domain - there will be many possible interpretations *not* recorded. In the western tradition the composer's recording of a live work tends to gain privileged status – it *must* be the best (that is, what the composer intended). But we must ask what it masks or excludes.

Recording as a form of notation where the medium of representation is sound itself also suggests a possible shift to concentrating more on sound timbre. It also opened up the field of machine analysis. Charles Seeger's evolving melograph (Moore 1974), leads straight to contemporary digital analysis techniques.

But this misses two key areas vital for exchange: sound (only) recordings lose visual and body language cues that are fundamental to performance. While the development of video technology has helped to address this, all such methods lose social contexts necessary for aesthetic appreciation. Transcription is necessarily a lossy process.

Western notation 'language'

Trevor Wishart has talked of the 'lattices'³ which western notation has imposed on the continuum of musical parameters, most specifically pitch and time (Wishart 1996: chapter 2). The two ways which notation faces are both affected. As western composition has become the manipulation of notation (prescriptive), the possibilities become more circumscribed. On the other hand when used for transcription, such a crude 'quantisation' cannot capture many of the nuances of performance (as with the Bartok example above). This also results in the masking of aspects of music which are not notatable. Timbral articulation and nuance are neglected. Of course they exist in interpretation but are not primary elements of composition – they cannot be, as they do not 'exist' in the notation.

This has profound consequences for intercultural music making. Western trained musicians may simply be unaware of what the use of western notation masks (sieves

² In effect the opposite case has always been taken for granted. The traditional western score (which prescribes the actions necessary to create the musical work) has also been taken to describe it in musicological study.

³ Xenakis called these 'sieves' (Xenakis 1992).

out) if applied without due care and attention to non-western forms. Issues of time in music produce particularly complex problems: whether additive (and flexible) or subdivisive (of a bar unit); whether measured from a relatively objective clock/beat or centred on the subjective sense of the performer – witness the *time lines* of African and *groove* of post-African musics.

Score types for electroacoustic music

A *realisation score* is prescriptive in function: ideally, should every copy of the recording be destroyed, a new version could be recreated. In practice this is impossible for analogue created works. One would have to recreate the original studio of the 1950s-1980s to get anything even vaguely resembling the original – any recreation is going to sound different⁴! It may, however, be possible for digital works as all programmes may be accurately preserved. Although treating a code listing as a score assumes a machine rather than human reader – and amplifies the paradox that, while all the information is inherent in the code, it has relatively little utility to the human reader unless interpreted.

A *performance score* is needed for two primary purposes, to allow co-ordination with any live performers, and for 'sound diffusion' purposes. Examples are Stockhausen's *Aufführungspartitur* for *Kontakte* (1966, 1968) which has a graphic transcription as 'time line' against which the piano and percussion parts are notated in 'space time', and Bernard Parmegiani's own diffusion scores for *De Natura Sonorum* (published in Mion et al. 1982).

Finally there is an *analysis score*⁵ which allows the simultaneous bringing to attention of sounds and structures separated by time in performance which could only otherwise be compared in the aural memory. The most striking example is Rainer Wehinger's transcription score of György Ligeti's electronic work *Artikulation* (Wehinger 1970). In practice any of the previous types of score can be used for this but we may add detail not needed for purely performance functions.

Transcription tools are now moving to a sophisticated automation through computer applications. The GRM's *Acousmographe* attempts to overcome the limitations of an fft representation (the fact that a perceptually compact sound object can occupy a substantial part of the frequency spectrum) through the sophisticated use of graphics to represent such sound objects. Although interestingly IRCAM's *Audiosculpt* – maintaining an fft-based representation – and other analysis/resynthesis programmes - cross the boundaries of score types being both descriptive and also used for further synthesis (prescriptive) work.

In addition there are emerging multi- and hypermedia solutions to problems of representation and communication. There is the possibility of an interactive 'score'

⁴ Attempts to recreate Stockhausen's *Studie II* using computer synthesis from the detailed score, show how fundamental to our perception was the (real room) reverberation of the original.

⁵ Known variously in German as a 'listening' or 'aural score' (*Hörpartitur*) or 'following score' (*Mitlese-Partitur*).

which adapts to performer input, especially with sensitivity to time aspects. The full range of audio-visual information can be used (some for learning processes of new techniques before performance). Traditional non-western notations can also be integrated.

Electroacoustic music: negative and positive qualities

There are aspects of electroacoustic music composition which do not appear in the first instance to be helpful (flexible and adaptable) in an intercultural context. Studio work often results in fixed time compositions, of course. Even within the developing western music arena this has created problems when combining with live instruments; many performers have complained of the straightjacket of such a tradition. At its most extreme when strict coordination is demanded the interpretative skills of the performer are almost eliminated in the time domain. This would be even more limiting (even absurd) applied to a tradition unconstrained by notation in the first place.

While much electroacoustic music exploits the full dynamic range available in the medium, there is always the fear that a dominant and aggressive soundworld is quite commonplace and that this will increase the possibilities of masking a finer, subtler sound aesthetic. Of course there is no intrinsic reason for this within the medium.

There are, however, qualities which are highly appropriate for intercultural creative engagement. Pierre Schaeffer's rejection of an abstract music based on the manipulation of notational symbols removed notation at a stroke as a central tool of composition. The replacement of notational argument with timbral argument and interpretative nuance may be seen as the greatest opportunity to reengage with similar aspects of non-western traditions.

In addition, most especially since the recent developments in real-time applications, flexible time scales have become possible. Care must be taken to ensure that the system can 'respond' to input in an appropriate way with respect to time. The tempo of the music may depend on local conditions of acoustics and audience conditions to a much greater degree than in the western score tradition.

Performance and venue masking

All instruments (both western and non-western) change with performance venue evolution; in the 19th century concert halls grew larger by demand in western Europe and the piano had to evolve to project greater sound volume. The sound quality was also bound to change with the move to an iron frame and multi-stringing. In the electronic era we have new means of amplification without a necessary change in instrument size⁶. But this changes perception from a different point of view:

⁶ The bass guitar is an interesting case: roughly the same size as an acoustic equivalent for performance reasons but with a greatly changed body with no amplification function.

perspective and frequency balances change which might be enhancing or masking of previously emic qualities in the sound.

In addition the development of new listening spaces has occasionally resulted in worse rather than better signal-to-noise ratio. This will inevitably mean a corruption of the listening process, or at best a severe limitation. What one might call the 'space of composition' may be masked in such poor listening spaces. Significant features may once again be lost.

DSP questions

In the time domain there is an easy tendency to take for granted the polyphony developed from delay lines, especially with transposition (which often changes timbral aspects of the sound). There is a consequent shift of focus from nuances within individual sounds to the *relationship* between them. Subtle timbre qualities may be masked by other voices. This is westernisation in the sense that melody, harmony and polyphony in the western classical tradition are functions of pitch *relation* and this tends inevitably to relegate to secondary status timbral nuance as a carrier of significance.

In the frequency domain the quality of DSP may not match subtle qualities of the original sound. Hiromi Ishii has remarked that she perceives an overriding 'metallic' quality of the products of much DSP software which is often at odds with the more delicate 'organic' sound from Japanese traditional instruments (Ishii 2006).

Four music examples

(1) Chi Hung Weng *Bardo V* (electroacoustic sound) (2005)

A purely electroacoustic work - an example of what the composer describes as a kind of 'writing in sound-space':

"Following completion of the chapter 'Phonetic structure and design in Chinese word: a view within electroacoustic contexts', I became interested in the shape of Chinese calligraphy and in the motions associated with its writing. From this point my ideas developed regarding the writing of Chinese characters as sound within audio spaces, enabling the audience to appreciate performances of moving lines corresponding to this calligraphy." (Chi Hung Weng: programme note to *Bardo V* (extract))

(2) Simon Emmerson - *Points of Return* (kayagum, electronics) (1997-8)

"I have concentrated on a small group of characteristic gestures and shapes, melodies and forms, which I have tried to weave into a continuously expanding set of variations [...]. The electronic part is completely live, nothing is prerecorded. It has two functions. Firstly the sound is processed to enhance and make the live performer somehow 'more present' (even to an 'unreal'

degree, as in a dream). But also the second performer ‘captures’ short fragments (even single sounds) at the mixing desk which are then extended electronically to create a landscape around the instrument.” (Simon Emmerson: programme note to *Points of Return* (extract))

See Figure 1 (score extract) (below). This shows the use of western notation, although free in tempo. The live electronics are not indicated.

(3) Hiromi Ishii - *Himorogi I* (satsuma biwa, live electronics) (2003)

“‘Slow’ or ‘fast’ are the terms we can use to describe music. We say ‘slow count’, ‘slow tempo’ or ‘fast music’. Instead of these words, the musicians who play traditional Japanese music use the terms ‘long’ or ‘short’. What is the subject for these adjectives? ‘Count’ or ‘tempo’ cannot be ‘long’ or ‘short’. We might say ‘long music’, but this refers to the ‘duration’ of a piece. The subject for them is ‘ma’, which is the most fundamental factor in traditional Japanese music. ‘Ma’ means ‘nothingness’ or ‘emptiness’. In their music, tones exist to create dense ‘ma’. The title *Himorogi* is an old Japanese word which means a space bound by sacred straw festoons where gods can come down. *Himorogi* space is removable at anytime. It exists only when it is bound and only when we recognise it.” (Hiromi Ishii: programme note to *Himorogi I* (extract))

See Figure 2 (score extract) (below). A mix of western score and Japanese performance annotations.

(4) Hiromi Ishii - *Himorogi II* (shakuhachi, live electronics) (2003)

“The piece is based on *Shin-no-kyorei*, a solo piece of the traditional shakuhachi repertoire called *Honkyoku*. The musical value which constitutes *Honkyoku* is applied to the structure. Historically, the shakuhachi was not regarded as an instrument, but a religious tool which only Buddhist monks called *Komu-soh* were allowed to play. Practising it was a mental training to attain enlightenment. They played the instrument instead of chanting. The monks used to wander alone in fields, mountains, from village to village practicing shakuhachi. When they stayed at temples, they played together at the same time. Through this, they exchanged information such as new pieces, or new techniques. When they happened to meet on a street, they played ‘greetings’ to each other (it might have sounded like an ensemble!). [...] it is said that some of them were spies known as ‘Ninja’. In fiction and legend, ‘Ninjas’ had super-human abilities. They trained themselves and could hide in water a long time without breathing, could hear subtle noises from a distance like mice, could move with agility like a cat, and could even project an illusion of their bodies multiplied! (If they were to multiply their bodies while playing what would happen to the shakuhachi sound?)” (Hiromi Ishii: programme note to *Himorogi II* (extract))

See Figure 3 (score extract) (below). The score is basically written in the traditional notation for shakuhachi music, *tatefu*, with appropriate additional annotations for the electronics. This notation defines pitch contour but not detail and ‘suggests’ ornamentation without defining it strictly; time interpretation is very free.

Conclusion

All cultural exchange will involve some loss. There is bound to be some masking of the original musical elements. This will be true for both acoustic and cultural-aesthetic qualities (which are strongly related). We may fail to notice - or may physically mask - some significant sound qualities; or we may fail to appreciate in what way what we *do* perceive is significant to the other cultural group.

We need to address in our education a sensitivity to different significant sound qualities and behaviours, as well as different aesthetic and cultural values, in a very practical sense, so that we are aware of what is lost in an intercultural transaction.

We will then be better aware of what is gained!

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Recordings

Simon Emmerson, *Points of Return* (kayagum, live electronics) performed by Inok Paek and the composer will be available on CD from Sargasso (UK) in 2008.

Hiromi Ishii, *Himorogi I* (satsuma biwa, live electronics) performed by Kazuyuki Shiotaka and the composer is available on WERGO (Artist series) ARTS 81122 (issued 2006) as well as forming part of Ishii (2006). *Himorogi II* (shakuhachi, live electronics) performed by Ernst Gunnar Linder and the composer forms part of Ishii (2006);

Chih Hung Weng, *Bardo V* forms part of Weng (2007).

For Inok Paek

POINTS OF RETURN
(kayagum, live electronics)

SIMON EMMERSON
(1997-98)

Fig.1 Simon Emmerson: *Points of Return* (kayagum, live electronics) (score extract)

A ————— $A+B \approx 1 \text{ min } 30 \text{ sec}$ ————— **B**

指示された奏法 (手) とおよその音高との自由な組み合わせによる演奏. 少ない音数で間を活かすこと
free combination of play patterns and notes at the approximate pitches suggested. Create 'ma' with few notes

間は次第に短くなり音数を増す
'ma' must be shorter and notes should become more frequent

play pattern group A 手グループA

play pattern group B 手グループB:

note group A 音グループA

note group B 音グループB

dynamics should be between *pp* and *mf*

dynamics should be between *mp* and *f*

強弱は *pp* から *mf* のあいだで

強弱は *mp* から *f* のあいだで

delay input
(delaytime 2'40")

*1 \uparrow . . .
バチ音が入る
鋭いアルペジオ
sharp arpeggio with
plectrum attack

*2 ㊄ . . . りん. 人指し指で押さえ薬指ではじく.
Rin. pluck with the left hand fourth finger
keeping the position with the left hand second finger

*3 ㊄ . . . ス. バチで腹板を軽く打つ.
Su. Tap the body of instrument with the tip of the plectrum

Fig.2 Hiromi Ishii: *Himorogi I* (satsuma biwa, live electronics) (score extract)

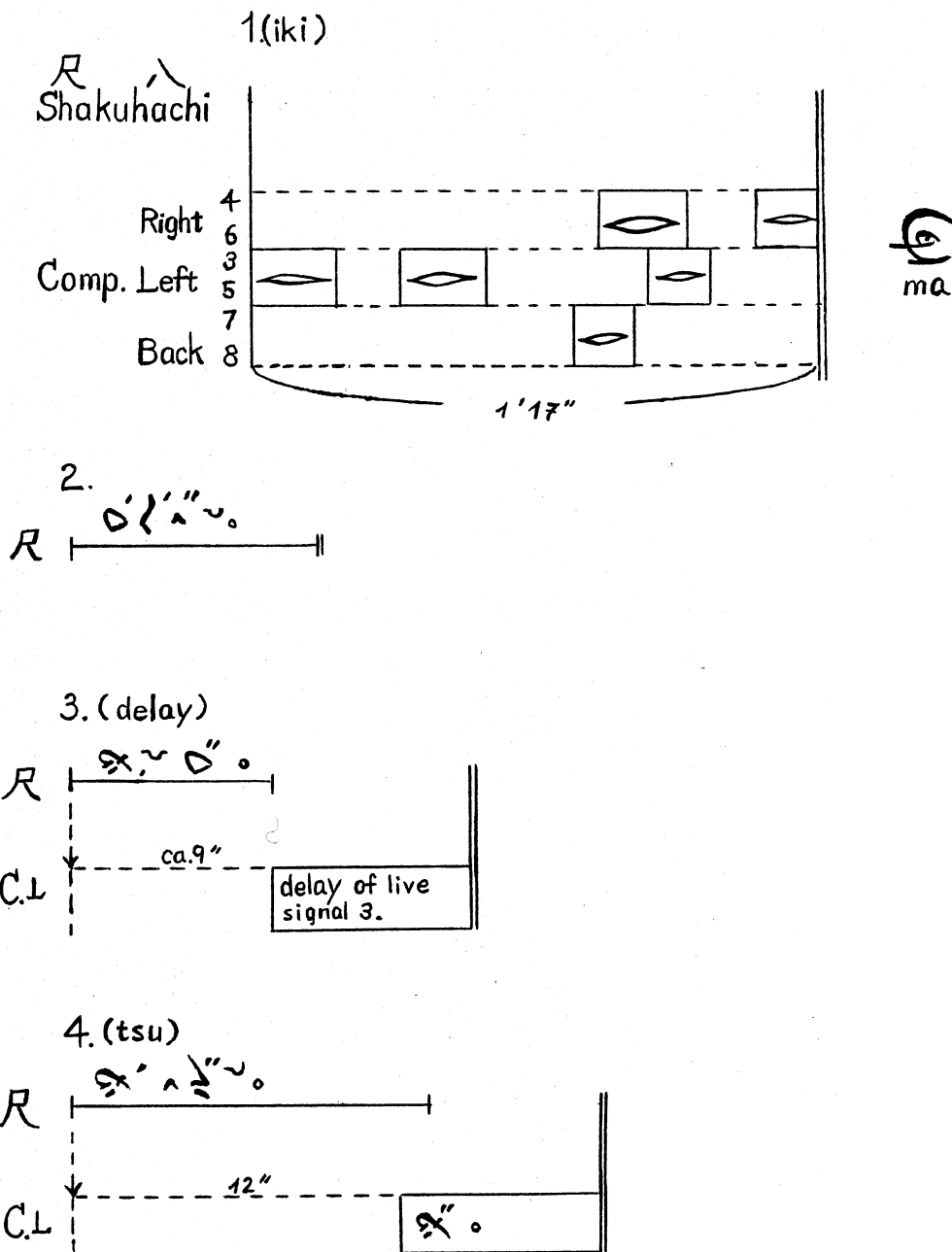


Fig.3 Hiromi Ishii: *Himorogi II* (shakuhachi, live electronics) (score extract)