Reconsidering Music and Trance: Cross-cultural Differences and Cross-disciplinary Perspectives

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A small but significant body of recent research has successfully crossed the boundaries between ethnomusicology and psychology, and both disciplines are demonstrating a growing interest in charting interactions between music, context and individual consciousness. The phenomenon of trance is a clear example of the interaction of mind with specific cultural contexts, and cross-disciplinary approaches would appear highly relevant to future research. However, outside ethnomusicology and anthropology, despite the burgeoning field of music and consciousness studies, attitudes towards the constructs of trance and altered states of consciousness as reputable areas of scholarly enquiry are somewhat ambivalent. One reason for this is a continued lack of academic consensus over definitions of the terms 'trance' and 'altered states'. This paper re-assesses the different ways in which trance has been conceptualised in the literature. It argues that the continued ethnomusicological focus on high arousal models of trance has led to the neglect (or exclusion) of other types of trancing, particularly specific instances of European-American secular trancing, and associated literature. I draw on my own UK-based study of solitary musical involvement in daily life, which has been informed by both psychological and ethnomusicological perspectives.

Keywords: Trance; Music; Altered states; Phenomenology; Psychology; Ethnomusicology; Cross-cultural; Hypnosis

Introduction

In 2009, the journal *Empirical Musicology Review* (Vol. 4/2) carried a provocative introductory essay and target article by the ethnomusicologist Judith Becker, relating to the topic of trance. Becker's intentions were three-fold: to disseminate the details of an empirical study which employed measurements of galvanic skin response (GSR) and heart rate to compare the physiological and emotional reactions of what she termed 'religious ecstatics' and secular 'deep listeners' during trance; to use the research as a

case study to articulate challenges of bridging what might be seen as a humanist-scientist divide between the concerns of ethnomusicology and psychology; and to highlight the difficulties both of attracting funding for a cross-disciplinary project and of bringing material to publication in a scientific journal.

Particularly striking was Becker's assertion that altered states of consciousness are a 'taboo subject amongst psychologists and scientists in general', and that, for reviewers of her draft article, the topic of religious ecstasy 'was the elephant in the room' (2009a:47). There were two somewhat contrasting commentary responses to this key point, especially telling when the authors' primary fields of interest (psychology and ethnomusicology respectively) are noted. The first - by Eric Clarke - acknowledged the potential difficulties of studying trance in an experimentally rigorous way, but did not accept that the topic of altered states must necessarily be viewed with suspicion by the wider scientific community (2009:73); the second – by Martin Clayton - was more circumspect. Although stating that 'trancing is a widespread phenomenon', he went on:

> I expect Becker is right to identify unease on the part of her scientific reviewers with the whole idea of investigating trance states: the fear of association with pseudo-scientific mumbo-jumbo is doubtless enough of a motivation for many to wish the subject away. (2009a:76)

Further on in his commentary, Clayton called for ethnomusicological studies of altered states of consciousness (ASC) to 'link to a robust body of work on the psychological side of the fence dealing with trance experiences; if this could be established then one might hope to succeed in bridging a gap between two bodies of literature' (76).

The debate in *Empirical Musicology Review* touched on here highlights several perennial issues relating to trance. Most fundamentally, it indicates that despite the publication and wide circulation of two key texts examining underlying, organising ideas concerning music and trance (Rouget 1980 and Becker 2004), various overviews of the nature of spirit possession, shamanism and/or trance (for example Bourguignon 1973, 1976; Boddy 1994; Cardeña 1992; Lambek 1989; Lewis 2003a; Schmidt and Huskinson 2010; Winkelman 1986) – not to mention numerous ethnographies of specific ritual-based instances of altered consciousness (particularly in conjunction with spirit possession)[1] - understandings of trance-as-concept can be indistinct, and attitudes towards it as a legitimate, academically respectable area of study ambivalent.[2] The scholarly suspicion of trance is admittedly less evident within ethnomusicology and anthropology, which both embrace the study of trance, perhaps because rituals provide a contextual frame for it, giving it validity as an observable and 'real' phenomenon articulated by the belief systems of those taking part.

Part of the difficulty in thinking about trance is that, whilst researchers may share a tacit understanding that the English language word 'trance' has more than one meaning and manifestation because the phenomenon is found in very different socio-cultural contexts, terms such as 'trance' and 'ASC' seem all too often to be adopted as unquestioned, intellectually 'pre-packaged' givens, assumed to possess consensually agreed meanings, making them transparent and 'ready for use'. Exemplar statements

[1] I do not attempt to provide an exhaustive list of ethnographies of music and trance in this article, but studies by Friedson (1996), Racy (2003), Kapchan (2001) and Jankowsky (2010) relating respectively to musical healing as practised by the Tumbaka of Malawi, the Arab concept of *tarab*, Moroccan *g'nawa* trance, and Tunisian *stambeli*, immediately come to mind as examples of detailed and insightful explorations of manifestations of trance.

[2] An ancillary anthropological debate regarding the categorisation of altered states of consciousness has focused on whether trance and possession should be distinguished from one another (see, for example, Halperin 1996; Huskinson and Schmidt 2010; Lambek 1989).

such as the following, by ethnomusicologist Richard Jankowsky (referring to *stambeli* rituals in Tunisia), are the exception, not the rule:

> There is a great deal of slippage between the concepts of 'trance' and 'possession' in the literature, and no consensus on the definition of either term. For the purposes of this article, 'trance' refers to 'possession trance', which, following Lambek (1989), associates trance behaviour (ritualized dancing, gestures, speaking as others, etc.) 'with a cultural theory that attributes it to the possession of the self by an external agency' (37). (2007:204)

An inclusive re-assessment of trance appears to be one way of reducing the likelihood that scholars will want to 'wish the subject away'. In this article I suggest that if the term trance is to remain as a useful and meaningful way of labelling shifts of consciousness, then we need to assess afresh the ways in which trance – and altered states more broadly – are conceptualised within the literature. Different disciplines privilege different aspects of the phenomenon. Thus, ethnographic studies have focused on a variety of cultural contexts, beliefs and associated behaviours, primarily considering trance as situated; whereas the emphasis in hypnosis studies, for example, has been on isolating neurological correlates of the state itself, regardless of context, in order to offer a psychological explanation of trance. This reflects the - at first sight – apparently opposing preoccupations of ethnomusicology and psychology with the particular and the universal respectively.[3]

[3] In fact, 'universals' were once a prime focus of study within both psychology and ethnomusicology's predecessor, comparative musicology, which were closely associated in the late 19th and early 20th centuries, evident in the focus on psychoacoustics by early comparative musicologists (for example Carl Stumpf and Erich von Hornbostel), many of whom were based at the Psychological Institute in Berlin (Schneider 1991). Clayton (2009a:75) cites the 'rejection of evolutionism and with it, to a great extent, both comparativism and scientific method' as reasons explaining ethnomusicology's subsequent distancing from psychology. The topic of musical universals attracted the attention of ethnomusicologists from the 1960s onwards (see Nettl 1983; 2000), more recently complemented by a revival of interest in

I propose that universalist and relativistic perspectives need not be mutually exclusive, and that important concerns of ethnomusicology with the documentation of culturally contextualised instances of trance, whilst absolutely appropriate and necessary for the study of those contexts, may also limit cross-disciplinary understandings of trance and restrict full appreciation of the phenomenon itself as it manifests cross-culturally. I also advance the idea that it is time to question an exclusive focus on high arousal (sometimes termed 'strong', or 'ergotropic') models of trance. The emphasis to date on the latter is understandable, because it reflects the large numbers of ethnomusicological accounts of instances of possession trance. However, if one accepts the phenomenon of strong trance, it is reasonable to at least acknowledge the possibility that other forms of trance and ways of trancing may exist. Strikingly, ethnographic studies have so far ignored some forms of ASC - also often labelled as 'trance' by informants and in academic literature - that are closest to home: namely, instances of secular trancing in everyday life in the industrialised West and the use of trance in Euro-American clinical settings, both of which frequently incorporate music. Connected with these rarely researched forms of Western trancing is a relatively little known and growing body of work (including perspectives from the fields of psychology, hypnotherapy and music therapy), some of which begins to answer Martin Clayton's call for 'a robust body of work on the psychological side of the fence'.

I begin by considering the contribution of Gilbert Rouget and Judith Becker to understandings of music and trance. Whilst these studies do not, of course, constitute 'the literature' on trance, they are the most influential ethnomusicological works

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the evolutionary origins of music notably within the field of biomusicology, which combines evolutionary musicology with comparative musicology and neuromusicology (see Wallin et al. 2000).

devoted exclusively to it. Following Becker, I advocate the merits of considering trance as dynamic process, as opposed to state. I also highlight the utility of her application of Wittgenstein's (1953) 'family resemblances' method of categorisation to trance, which simultaneously accommodates specific behavioural and psychological trance characteristics, yet widens the territory of trance without turning it into a meaningless, all-encompassing concept. I then explore less researched models of trance - particularly instances of low arousal 'trophotropic' trance, focusing in particular on my own empirical study of solitary involvement with music in daily life. The aim is not to offer an exhaustive cross-cultural overview of music and trance, but to encourage a re-examination of the ways in which trance is conceptualised and operationalised in the literature and to advocate the utility of cross-disciplinary studies of trancing. In the appendix to this article I review a range of psychological literature relating to consciousness transformation, indicating how this body of work might inform ethnomusicological studies of trance.

Rouget's Legacy

There is no doubt that Gilbert Rouget's *La Musique et la Transe: Esquisse d'une Théorie Générale des Relations de la Musique et de la Possession* (1980) is a seminal work.[4] Variously described as 'magisterial' (Jankowsky 2007:188) and 'the most exhaustive treatment of the subject to date (Becker 2004:25), until the publication of *Deep Listeners: Music, Emotion, and Trancing* by Judith Becker (2004) the book was the only substantial ethnomusicological reference point for the study of music and trance. Becker (2004) and Jankowsky (2007) have observed that Rouget shaped

[4] The discussion of Rouget's work in this article is based on the 1985 English translation of his book.

thinking about the topic in various ways. First, Rouget argues that there are different types of trance, each using music to greater or lesser degrees and in different ways. He also notes that a variety of musics may facilitate trance and that the relationship between music and trance is therefore not causal: the efficacy of music does not depend on immanent formal 'trance properties' such as particular rhythms, timbres, and so on. Instead the trance response is primarily culturally conditioned, relying on acquired beliefs and expectations and the association with particular types of music with ritual contexts in which trance occurs. Rouget also observes that music is a way of creating an emotional climate that exteriorises, and thus socialises, trance.

However, as much as Rouget's work has enlightened subsequent study of trance, it has simultaneously cast a long (and at times perhaps unhelpful) shadow over it. There are ideas within Rouget's work that constrict contemporary ethnomusicological approaches to the topic, but which are now so insidiously established within thinking about trance that they have become naturalised and appear as 'just the way things are'. Rouget himself recognised that the vast cross-cultural scope of the book left it open to critique, but was confident that the organising ideas within it - 'the overall picture' - more than compensated for 'weaknesses of detail' (1985:xix). That is true to a degree; however, the enormous numbers of specific examples, together with the sheer length of the book inevitably lead even the most attentive reader to potentially lose sight of the important qualifying points Rouget makes concerning exceptions to his main arguments, together with omissions and inconsistencies within the overall text. Faced with an overload of case studies, the natural tendency is to cling on to main ideas. Granted, we are left with an 'overall picture', but it is a partial one and largely black and white. I

would argue that the main limitations of Rouget's text are three-fold: (1) Omissions: of whole cultures and their musics; of secular trancing in general[5]; (2) terminological difficulties originating in Rouget's definitions of 'ecstasy' and 'trance'; and (3) the privileging of a high arousal model of trance, and consequent neglect of solitary musical trancing. For the purposes of this article I will focus on the latter two, which are linked.

Terminological Difficulties and the Neglect of Solitary Musical Trancing

To some extent, Rouget's definitions of the terms 'ecstasy' and 'trance' are determined by the selectivity of his chosen trance terrain. In other words, it is only possible to concur with Rouget's understanding of these terms if one omits a considerable number of ways, and specific instances, of trancing. Rouget's definitions are well known, but I include them below for reference (see Figure 1).

Ecstasy	Trance
Immobility, silence, solitude, no crisis, sensory deprivation, recollection, hallucinations.	Movement, noise, in company, crisis, sensory over stimulation, amnesia, no hallucinations.

Figure 1 Rouget's definitions of ecstasy and trance (from Rouget 1985:11).

Rouget is aware that the use of these terms is inverted in the English language (1985:3), and that this 'poses a very real problem' (1985:4), but suggests no solution other than to

[5] An exception to Rouget's omission of secular trance is his discussion of the Arab phenomenon of *tarab*.

insist that the terms should be restricted to the specialised meanings he proposes. In the category of ecstasy he includes the experiences of Christian mystics such as Saint Teresa of Avila and Saint John of the Cross, the 'walled-up solitude' (Rouget 1985:7) of Tibetan monks, as well as various cross-cultural states of 'annihilation [of the self]' (Rouget 1985:8) such as the Sufi state of *fanā*, Hindu, Sikh and Buddhist instances of *samādhi* or the contemplative state 'achieved by Japanese mystics through *nembutsu*[6]' (Rouget 1985:8).

The key question is this: where are we to place solitary experiences involving music where consciousness is subjectively perceived to have altered in some way? There is no place within Rouget's schema for instances marked by the interaction of music and contemplative prayer or meditation: no available 'label' for changes of awareness which occur whilst listening to music in the car, or when aurally cocooned by an iPod when walking along and looking at surroundings, or for the experience of being intensely moved by listening to music privately at home. In short, there is no recognition of the phenomenon of solitary shifts of consciousness with music. And yet each one of these examples would commonly be characterised as 'trance' in Euro-American usage of the term (outside the fields of ethnomusicology and anthropology, that is). The only model of altered consciousness with music that Rouget presents us with is high arousal trance in communal contexts.

The exclusion of solitary involvement with music seems to have been something that Rouget was at pains to defend, but the two examples he puts forward to make his case are unconvincing (1985:12). The first is the example of Marie de l'Incarnation (a near contemporary of Teresa d'Avila) who, Rouget asserts, would begin to play the

[6] *Nembutsu* refers to a Japanese form of mystic prayer, involving contemplation of the Buddha.

harpsichord precisely in order to sever extreme ecstatic states. One could argue however, that she was simply making a transition into a different state of altered consciousness (individual involvement with music, as discussed above). In the second, Rouget criticises an (imagined) listener's use of the term ecstasy to describe the subjective experience of a concert performance of a Mozart quartet. However, when Rouget's requirements for silence and sensory deprivation are removed, his definition of ecstasy accords with the very same type of isolated, aesthetic, contemplative involvement demonstrated by listeners in the Western classical concert context.

Rouget's definitions continue to surface in writings about trance. The above table, slightly amended (and with 'ecstasy' termed 'meditation') makes a reappearance near the start of Judith Becker's comparative account of 'religious ecstatics' and 'deep listeners' (2009b) in the issue of *Empirical Musicology Review* referred to at the beginning of this article. Significantly though, despite broadly following Rouget, she chooses to add 'chanting' to the previously silent meditation/ecstasy category (2009b:50).[7] In fact, Rouget himself obviously found it somewhat awkward to work with the ecstasy/trance dichotomy. On the same page as his table of definitions he states that 'a given state may be a composite', immediately invoking the notion of a continuum:

> Ecstasy and trance must therefore be regarded as constituting the opposite poles of a continuum, which are linked by an uninterrupted series of possible intermediary states, so that it is sometimes difficult to determine which of the two is involved. (1985:11)

[7] Ethnomusicologist Ali Jihad Racy is rightly critical of Rouget's division between trance and ecstasy, observing that his definition of ecstasy 'essentially excludes the [Arab] tarab experience, which is musically based, but can also be quiet or contemplative' (2003:200).

Fresh Perspectives on Trance: Becker's 'Deep Listeners'

Judith Becker's book *Deep Listeners: Music, Emotion, and Trancing* (2004), published 24 years after Rouget's *La Musique et la Transe*, was a landmark text which sought to 'bring together fields of inquiry that normally do not interact with any frequency' (2004:10) - in other words, ethnomusicology, psychology and neuroscience - to develop a theory of the relationship between music and trancing that would not otherwise be apparent. From this, several hypotheses emerge. Drawing on music and emotion research centred on ANS (autonomic nervous system) arousal whilst listening to music, Becker suggests that both 'deep listeners' and trancers may be able to voluntarily control physiological changes that normally occur automatically. She also theorises that trance may be facilitated through the process of 'structural coupling', a term borrowed from biological phenomenology and which describes both the musical rhythmic entrainment of a group of individuals and the mental coupling through habitual exposure, of particular stimuli with a range of associations (explained by the notion of 'neuronal bundling', Edelman 1992). Becker uses neuroscientist Antonio Damasio's theory of consciousness (1999) as the basis for a hypothetical emotion-based model of trance consciousness, in which 'extended consciousness' (autobiographical awareness dependent on memory and experience) is suspended and temporarily replaced by a 'trance consciousness' (Becker 2004:11).

Trance as Process, not Discrete State

The emphasis on trance as process rather than discrete state (indicated by use of the gerund 'trancing'), is one of Becker's important contributions to the study of the topic. It is also supported by an established body of psychological and neuroscientific literature. The psychologist and philosopher William James, who displayed a keen interest in alterations of consciousness, was instrumental in developing the view of consciousness as process, rather than a sequence of 'freeze-framed' moments of experience, and it is James who introduced the term 'stream of consciousness' (1890:239). Although the structuralist (state) versus functionalist (process) dichotomy has persisted in consciousness literature, more recent neuroscientific research supports the view that the brain is in a constant state of flux and alteration. Vaitl et al. suggest the existence of a hierarchy of brain states, from brief states (termed 'micro-states') of under a second, to 'macro-states' ranging from seconds to minutes (2005:117). Few states then, are likely to be discrete, static entities, associated with unique physiological patterns (Blackmore 2005:100), a point which has ramifications for any neurophysiological 'measurement' of trance. The trancer's subjective definition of a point in consciousness as a specific, qualitatively altered state is more likely to occur if the gradient of psychophysiological change approaching it is high (Killeen and Nash 2003:201). A potentially rapidly altering continuum of consciousness is thus tempered by the mind's natural inclination to group and conceptualise disparate phenomena, which are then experienced as larger 'states'.

Categorising Trance: Wittgenstein's 'Family Resemblances' Model

That trance eludes simple definition ceases to be problematic if the search for a single unitary trance state is abandoned, and trance is considered as a generic term which may then yield typologies of experience. Becker has suggested viewing trance as a 'Wittgensteinian category, a set of similar events that bear "family" resemblances to one another' (2004:43). The advantage of the 'family resemblances' method of categorisation is that it does not rely on a singular essence or element from which the concept is constructed; family members are not identical, but they share common features.[8] This allows for different types of trance – albeit with some shared perceptual elements, for instance that all trances are processual, all involve a selective orientation to reality and different patterning of time sense. To adopt a 'family resemblances' view is to be simultaneously aware of shared and unique features across a number of specific instances of trance. As I will argue, such insights are more than 'etic' constructions and suggest that notions of the universal and the particular can be mutually informing.

Towards Other Models of Trance: Hints in the Literature

> The universality of trance indicates that it corresponds to a psychophysiological disposition innate in human nature, although, of course developed to varying degrees in different individuals. (Rouget 1985:4)
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> The potential for trancing may be genotypical of all humans, but if so, only a very small percentage ever actualize it. (Becker 2004:151)

Rouget and Becker both clearly acknowledge the universality of trance and suggest that it may constitute an innate trait or predisposition. How then can these assertions be

[8] See Ludwig Wittgenstein's *Philosophical Investigations* (1953:67).

reconciled with their observation that only a minority of humans experience trance? Explanations to do with Euro-American unfamiliarity with trance, the absence of 'reputable trance states' and the association of trance with pathology in the West (Becker 2004:13) may carry a partial truth, but I suggest that it is more fruitful to think in terms of different models of trancing. The 'limited universals' of trance that Becker identifies – for instance, emotional arousal, loss of sense of self, total amnesia, cessation of inner languaging (2004:29) - and the 'principal symptoms of the trance state'[9] that Rouget describes (1985:13), promote the notion of trance as only attaching to high arousal states of altered consciousness. In fact, Becker advances her list of universals with caution, later stating that 'I suspect there may be different kinds of consciousness coterminous with differing kinds of trancing' (2004:165). Elsewhere she notes the common use of the term trance to describe absorbed experiences, such as when listening to music in the car:

> Listening to music while being alone further allows one to fantasize another self, to envision an even more romantic, glamorous self with which to dance. This dreamy introspective experience is perhaps the most common vernacular definition of trance. (2004:38)

Rouget too found it awkward to accommodate all instances of trancing via the ergotropic model. Speaking of the *samā* of the Sufi Mevlevi he wrote:

> … the spectacle of the dance as a whole is always impregnated with great calm. Everything about it is extremely controlled, restrained, ordered … In this cosmic serenity, although the dancers may be in a trance, there are almost no outward signs of it. The trance is so interiorized that one is more inclined to speak of ecstasy than trance. (1985:270)

[9] Rouget's use of the word 'symptom' in this context is tellingly value-laden!

At one point in his book, Rouget moves interestingly close to the possibility of revising his definition of trance, and returning to his earlier suggestion of a continuum of involvement. He notes that 'one is in the habit of thinking in terms of it [trance] in all or nothing terms, unlike emotions which we customarily conceive as having varying degrees of intensity' (1985:308). Rather than treating this as a curious anomaly though, he accepts it as a given, a line of reasoning which leads him to the confession that he has 'no personal experience of trance'. And yet, if the phrase 'alteration of consciousness' were substituted for trance in the quotations heading this section, the notion that only a small percentage of the human world-wide population experiences such states would instantly seem untenable.

As Becker observes, words 'have contexts and histories' (2004:40). For some time a paradoxical situation has existed whereby the English language term 'trance' is taken out of its context and used to categorise instances of altered consciousness in a diverse range of cultures that may or may not recognise or possess equivalents of the concept in their own trance vocabularies. At the same time, rather different uses and meanings of the word trance within its original geographical context (Europe) are ignored, despite forming an unbroken trajectory of usage traceable to the first written appearance of the term at the time of Chaucer in c.1386.[10] Should these instances be rebranded as 'non-trance ASCs' despite persistent vernacular description of them as trance? Alternatively, should they be included in a cross-cultural view of music and trance, and are they a legitimate focus of study for ethnomusicology?

[10] Chaucer makes several references to trance in his late 14th-century text *The Canterbury Tales*, e.g: 'The lord sat stille, as he were in a traunce' from *The Summoner's Tale* (Benson 1988:135) and '[L]onge tyme he lay forth in a traunce' from *The Franklin's Prologue and Tale* (Benson 1988:182).

In the psychological literature there is in fact a confusion concerning the interchangeability of the terms ‘trance’ and ‘ASC’, evident in the statement sometimes made that trance constitutes an ASC. It is necessary to be absolutely clear here. Trance and ASC refer to the same diverse range of experience, and in that sense are interchangeable. In other words, trance does not constitute one type of altered state, but trance and ASC are generically equivalent labels meaning that all trances are ASCs and all ASCs are trances: all are processual and involve a selective attentional focus and a disruption of temporal synchronicity (that is, a sense of time passing slowly, quickly or being suspended). However, the way in which these terms construct understanding of experience differs: the term ‘altered state’ suggests a fixed form, refers to a ‘psychobiological level of observation’ whereas trance appears less prescriptive as a term and refers to ‘categories of cultural interpretation’ (Bourguignon 1973:13). I maintain that it is possible and profitable to use ‘trance’ as a cross-disciplinary, cross-culturally generic term which may yield typologies of experience, some characteristics of which may overlap. Becker’s notion of adopting a Wittgensteinian ‘family resemblances’ view of trance (2004:43) facilitates the documentation of both the universal and the particular, without compromising either.

Given a more inclusive conceptualisation of trance – one that accommodates both high arousal (ergotropic) and low arousal (trophotropic) models - it is possible to revise the notion that trancing is the preserve of the few, and also to accommodate less studied instances of trance in the industrialised West. The anthropologist Erika Bourguignon has noted that cross-culturally, alterations of consciousness may take the form of ‘private individual, unpatterned [secular] states and those that occur in culturally

patterned institutionalized [sacred] forms' (1973:8).[11] She includes highway hypnosis, 'panic states' and 'rage reactions' amongst other examples in the first category, and experimental sensory deprivation states, brainwashing states, religious conversion and spirit possession states in the second (1973:8). Thought of in musical terms, instances of solitary involvement with music – playing and listening, at home and on the move – accord with Bourguignon's first category, and attendance at live concerts, church services, nightclub events, and so on, with the second. In the following section, I will first briefly consider the place of music within the most widely known institutional model of Western trancing – hypnosis - before discussing more 'hidden' instances of music and trance in everyday life; within ethnomusicology, both are at present virtually uncharted areas.

European and North American contexts for Trance

In contrast to cultural practice globally, in the industrialised Western world the accepted, respectable institutionalised setting for trance is not within a communal sacred ritual context, but within a private secular clinical setting. Hypnosis (from *hypnos*, the Greek word for sleep) is a narrower, more recent construct than trance, and usually describes a context where 'one person (the subject) is guided by another (the hypnotist) to respond to suggestions for changes in subjective experience' (Green et al. 2005:262). Music (nearly always recorded) is not necessarily an integral part of the experience, and its use may be more or less targeted. It tends to be regarded as an

[11] Erika Bourguignon (b.1924) is a highly regarded figure within the field of the anthropology of consciousness. Her work, which has focused on religion, ASC, trance and possession, spans a period of over 50 years, and continues to influence current scholarship. Rich (1999) offers a useful overview of her contribution to transcultural understandings of consciousness transformation.

acoustic stimulus that can achieve precise effects, as a 'technology' for relaxation, rather than a rich repository for acquired cultural associations and beliefs. This type of usage is reflected in the large number of websites promoting CD compilations for use in therapy settings that claim to effect shifts of consciousness (particularly the simplistically termed 'alpha state') through acoustic attributes alone. The hypnotherapeutic trance most commonly takes the form of a low arousal alteration of awareness. Some of the commonly expected indications of trance are: pupil dilation, slowed pulse, altered respiration, comfort and relaxation, eye closure, body immobility, literalism, catalepsy, hypnotic phenomena such as amnesia, anesthesia, body illusions, time distortion and dissociation (Battino and South 2002:32). Although qualitatively different from high arousal trance, it can be seen that there is some phenomenological overlap or 'family resemblance'; for instance, both models feature a narrowed attention, reduction of the critical faculty, time distortion and dissociation.

To my knowledge, no ethnographic studies have been undertaken of music in clinical hypnosis settings. Ethical considerations aside, the impossibility of unobtrusively observing the interaction between therapist and client may be one reason for this. It would be possible, however - given the appropriate consent - to video such encounters and to use interviews as an additional data-gathering method. Another solution (as yet excluding the contribution of music) has been for hypnosis practitioners themselves to conduct research (enabling direct observation), as in Rene Daniels' (2008) study of the emotional experiences of children undergoing Ericksonian hypnosis. To date, however, the emphasis of inquiries has been on the efficacy of treatment, rather than situational/cultural context and qualities of individual experience, a situation

echoed in the fields of music therapy research and music and health promotion[12] In addition to documenting psychological phenomena experienced when undergoing clinical hypnosis in conjunction with music, it would be useful to assess the impact of beliefs regarding trance and the effect of music upon the subjective experience of client and therapist, and to explore the extent to which music is 'prescribed' by hypnotherapists to be used in a targeted way between therapy sessions.

Outside the therapy context, trancing occurs in a variety of everyday contexts, sometimes spontaneous, sometimes predetermined. These 'individual unpatterned' (Bourguignon 1973:8) instances of trancing draw on a broad, not necessarily concordant mixture of reference points to trance, acquired informally (and from an early age) through processes of enculturation. They are still primarily influenced by the model of hypnosis, however, often referencing received associations from film and literature of somnambulant states and loss of volitional control to large-eyed Svengali-like figures, whether these take the form of Kaa the snake,[13] Rasputin[14] or Derren Brown[15]. The vocabulary used by individuals to describe these (usually) subtle shifts of consciousness varies - they may speak of 'being in a trance', 'zoning out', 'chilling out', 'switching off', 'going blank' or 'being somewhere else' (Herbert, 2011b) - but generally accords with a low arousal alteration of awareness.

[12] For example, the emphasis on efficacy of treatment is clear in Batt-Rawden's (2010) account of the benefits of self-selected music on health and well-being.
[13] Kaa is a fictional snake from Rudyard Kipling's *The Jungle Book* stories (published in two volumes in 1894 and 1895), later made famous in the 1967 Disney film *The Jungle Book*. In the Disney animation Kaa traps his prey through a powerful 'hypnotic' stare.
[14] Infamous advisor to Tsar Nicholas II, Grigori Rasputin's healing and hypnotic powers continue to be the subject of controversy.
[15] Derren Brown (b.1971) is a British hypnotist, illusionist and mentalist who has gained a large following through his television and stage shows.

Such everyday transformations of consciousness were first formally documented by Ronald Shor, a psychologist and pioneer of hypnosis research. Shor compiled a 'personal experiences questionnaire' (PEQ) designed to examine the frequency and intensity of 'hypnotic-like experiences' occurring 'in the normal course of living' (Shor et al. 1962:55). Questionnaire items referenced scenarios such as total involvement in a film or daydream; staring off into space, thinking of nothing; complete immersion in nature or art; the shutting out of surroundings through intense concentration and automatic completion of a task. Shor's notion of everyday 'hypnotic-like' experiences accords with what the influential 20th-century psychologist Milton Erickson has described as the 'common everyday trance' (Rossi and Ryan, 1998) has inspired subsequent studies of absorption (Tellegen and Atkinson 1974) and imaginative involvement (Hilgard 1979) - both of which have been proposed as correlates of hypnotic suggestibility - as well as being the catalyst for the exploration of types of trance (sometimes termed 'spontaneous' or 'natural') that are not confined to Western hypnotherapeutic settings or institutionalised Western or non-Western rituals (Battino and South 2002; Deikman 1982; Green et al, 2005; Killeen and Nash 2003; Krippner 2005; Rainville and Price 2003; Spiegel 2005).

Although social psychologists of music acknowledge that the development of portable sound technologies such as MP3 players means that music is increasingly used to interweave with aspects of everyday life, and to mediate individual experience, study of consciousness transformation in conjunction with music in daily life has barely begun. To date, such studies have tended to chart the function of music in everyday life

– that is, the role of music as a utilitarian resource - rather than tap the subjective moment by moment 'feel' of individual experiences as they unfold.

A Neglected Territory: Solitary, Secular Musical Trancing

> … instead of moving deductively from society or culture to the individual, why not inductively, or, at least, experientially, from the individual to society … instead of conceptualizing the self as a replicate in miniature of society, we could begin by paying attention to the ways in which people reflect on themselves. (Cohen 1994:29)

Between 2005 and 2007 I carried out three empirical studies focussing on the everyday listening practices of a small sample of 20 listeners living in the UK. The study was located within the conceptual framework of music psychology, not ethnomusicology, and was consequently informed by a somewhat different, although in my view overlapping agenda. The aim of the first two studies was to document the psychological processes of real world, mainly solitary, mainly technologically-mediated experiences of listening to music: that is, the subjective 'feel' of music, together with the interaction between mind, music, context and culture (Herbert 2009). The third study compared instances of listening to music with qualities of experiential involvement (cognitive, perceptual, affective) across a broad range of other work and leisure activities to assess phenomenological similarities and differences. In a sense (although I did not frame it as such), I was assembling a series of subject-centred ethnographies (Rice 2003:157) of everyday life engagement (with a musical bias) through semi-structured interviews and free phenomenological reports of subjective experience.[16]

[16] 222 written self-reports of subjective experience were collected. In the first study participants completed semi-structured interviews regarding their use and retrospective recall of experiences of music.

The people who took part in my study lived in London and two towns in southern England, were for the most part not acquainted with one another, ranged in age from 15 to 85 years old and had diverse social backgrounds and musical tastes. What they shared was a high involvement in music (as listeners, and in some case players), evident in their use of music to negotiate various aspects of their daily lives. Detailed discussion of the findings of this research can be found elsewhere (Herbert 2011a, 2011b), but I present a brief overview here to give a flavour of the territory covered by the work, particularly the characteristics of low-arousal everyday trance.

Evidence from the studies indicated that in common with strong experiences of music, everyday experiences featured changes in attentional focus, arousal, sensory awareness, experience of time, thought processes and sense of self. In particular, participants often appeared to experience subtle, premeditated or spontaneous shifts of consciousness from a baseline state, which they often described as 'hypnotic' or 'trance-like'. Although such episodes were solitary, frequently evanescent, and unlikely to be discussed with others, they were clearly valued by individuals as an intrinsic part of daily life and appeared to constitute a means of psycho-physiological self-regulation through music that often seemed to operate at the level of unconscious perception. Experiences were marked by the prevalence of the processes of absorption (effortless involvement) and dissociation (detachment), both of which are regarded as central to the phenomenon of trance in hypnotherapeutic literature. The following first-hand accounts describe typical instances of absorption:

These were transcribed and subjected to Interpretative Phenomenological Analysis (IPA). In the second study individuals were instructed to log experiences of listening to music over a two week period in unstructured diaries. In the third study participants logged involving experiences with and without music for a two week period. All names have been changed to preserve anonymity.

> End of the week and I am sitting in our back room again. I have a small tropical fish tank which I can illuminate. I have the main light off and just the fish tank light on. I have my iPod on and am listening to some fairly quiet music [Steve Hillage] ... There is a transition process, but it's not lengthy - it takes between a few minutes to perhaps seven or eight depending on my mood. I am not thinking of anything – it's almost like my mind is blank. I would not go so far as to say the music is hypnotic, but it is almost that, and I am not sure how to describe how I feel. It's as if my whole body and mind has shut down for a while. (David, aged 51, finance manager)

> Today's train CD is Earl Hooker, playing blues guitar. Got to Charing Cross [station] feeling suitably laid back. Was vaguely aware of blandness of listening to a whole CD of blues-based music and couldn't remember specifically a single track, but am aware of walking along, playing a few tracks again with twelve bar rhythm in the brain, avoiding cracks in the pavement. I think avoiding the cracks was something to do with keeping the rhythm – sort of a regular, precise thing. Normally I don't bother about cracks – well not since I was a kid! ...the mind was chilled out and empty. (Max, aged 46, film recording mixer and professional musician)

Common to these two experiences is a reduction of thought, a selective external locus of attention (fish tank, pavement cracks, music), immersion in sensation and a sense of lowered arousal. The first is pre-planned, the trancing process appearing well rehearsed, whilst the second is un-premeditated, functioning to transform what might otherwise appear to be a 'routine period of empty time' (Bull 2003:370) occurring on the way to work. Both experiences are multisensory in that listening and looking are equally important.

Experiences that were primarily dissociative tended to take place when individuals felt tired, emotionally overloaded or subject to external discomfort or rumination. In these circumstances individuals were less likely to engage with activities requiring an effortful decoding of informationally-precise meaning (such as reading)

and more likely to turn to music, which afforded an alternative non-verbal mental 'space'. The prime concern (unconsciously or consciously) appeared to be either to escape from 'ordinary' consciousness through an activity which would numb or flood it, or to closely observe - yet simultaneously detach from - self and surroundings, leading to a position of third person dissociation from the experience rather than a fascination with particular elements of perceived stimuli:

> Driving car back from Bournemouth. An acoustic track comes on with moody, thoughtful feel. I now feel quite spaced out and low. No specific thoughts going through head, just feel body slumping into seat … start noticing the things you usually take for granted and don't really acknowledge like 'that car in front is slowing down, that person is waiting to cross road, that tree is swaying in the wind' – things you would not necessarily voice in your head – very strange. I feel quite detached. When I zone out I do tend to notice the smallest of things more. (Louise, aged 34, peripatetic music teacher)

> I'm off running ... To start with I am very aware of my surroundings. The whole point of the music is to provide a space into which I can disappear as soon as I have acclimatised to the pain … needs to be the right beat, the right tempo and quite aggressive, but also hypnotic – some visual motifs or vocal snatches to latch onto … as I start a hill climb the legs become leaden and I slow down … although the music no longer matches my progress literally, I am able to disappear further into the sounds. (Gary, aged 33, fundraiser)

In the first experience, music affords a reduction in activation levels, which divorces Louise from empathy with things around her ('body slumping/no specific thoughts/zone out'). Automatic processing is disrupted ('start noticing the things you usually take for granted') and her description implies that events are happening in slow motion.[17] In the second, Gary uses music to dissociate from the process of running. He

[17] The experience was recorded at a time when she was looking after both her parents, who were seriously ill.

is specific about what is needed ('right beat, the right tempo') to create his own 'disappearance' and expects music to afford hypnotic involvement. As he runs, attention gradually moves inwards, and whilst physical entrainment with the music is lost, his mental involvement allows the dissociation from the task to develop.

In comparison with other activities, music appears to afford a particularly wide variety of routes to inducing and maintaining everyday trancing: through a focus on acoustic attributes and/or source specifications (including associations and memories); through physical entrainment; or through the induction or representation of emotion. Most significant perhaps is music's capacity to bind together elements of internal and external perception, including a fusion of sensory modalities (mainly aural, visual, kinaesthetic), and phenomenological reports included more instances of everyday mild multimodal ASC than any other mode of trancing.

These findings prompted me to undertake a cross-disciplinary review of literature concerning alterations of consciousness. I was well aware of a substantial body of ethnomusicological literature on the topic of music and trance, but sought in vain for any study of solitary trancing with music, let alone ethnomusicological accounts of solitary, secular trance in Europe or America. Why are such instances of musical trancing overlooked? One possible reason is that such episodes take place in an institutional context and are therefore not overtly situated within a cultural framework that consistently labels them as trance. At a more basic level, high arousal, communal trance is eminently amenable to ethnomusicological study - which has traditionally sought to chart observable behaviours, social interaction and musical function within ritual contexts - in ways that solitary musical trancing is not. Andrew Killick has

previously pointed to this difficulty in relation to what he terms 'musical holicipation' (2006), the practice of solitary music-making for personal pleasure. Freed from the need to interact with an audience or other musicians, the holicipant may 'take the whole' experience (2006:274). At times, solitary music-making, just like solitary listening, may lead to ASC, as when Buddhist monks play the Japanese *shakuhachi* flute 'as a means of solitary meditation' (2006:276). Neither holicipation nor solitary musical trancing are observable from the outside, and the idea of an ethnography of either might at first sight seem a contradiction in terms. However, as Killick notes, solitary music-making (and he could equally have included solitary listening) is still social in that individual experience and action is shaped by the broader culture in which persons participate (2006:296). Thus, individual musical experience (in the sense of the subjective perception of music) is increasingly seen as a legitimate concern of ethnomusicology, albeit using diaries and interviews rather than traditional fieldwork methods such as participant observation.

Given this dissolve between the cultural and the personal, it would seem that there is an overlapping territory of interest between ethnomusicology and psychology. Any study of solitary trancing is inherently cross-disciplinary, concerned with both mind and cultural context. Psychology can provide a conceptual framework for thinking about processes of mind and methods with which to study musical experience. Additionally, the primarily universalist stance of psychology can counterbalance the predominantly relativist stance of ethnomusicology. It therefore makes good sense for ethnomusicologists working in this area to have some awareness of psychological and neuro-psychological literature relating to trance, and consciousness in general. In the

appendix to this article I outline the territory and concerns of this literature, together with its potential relevance for ethnomusicologists interested in engaging in cross-disciplinary work.

Trance: An Elephant in the Dark

If trance is, as Becker suggests, the 'elephant in the room' as far as psychologists and scientists are concerned, then it can equally be taken to be the 'elephant in the dark'[18] in terms of the multiple ways in which it is conceptualised across different disciplines, as well as the varied vocabularies that attach to specific socio-cultural understandings of altered states of consciousness. Notably, the default understanding of trance within psychology as a low arousal ASC contrasts with the emphasis in ethnomusicological and anthropological studies on high arousal instances of trance. Additionally, different methodological approaches are used - both within and outside ethnomusicology – to focus on different aspects of the phenomenon.

As Jankowsky has observed with reference to the study of spirit possession and music, research is 'characterized by a tension between rationalizing scientistic and universalizing tendencies, on the one hand, and more culturally contextualized, phenomenological approaches on the other' (2007:187). Whilst ethnomusicologists may be understandably wary of universals (in the sense of 'universal' musical traits), which can all too easily manifest as illusory ethnocentric constructions, it makes no sense to ignore cross-cultural psychophysiological commonalities relating to altered consciousness and arising from the fact that humans possess a shared biology (for

[18] I refer here to the Sufi fable in which an elephant is examined in the dark by people who have never previously seen such a creature: 'None could form the complete picture; and of the part which each felt, he could only refer to it in terms of things which he already knew' (Shah 1964:36).

example, see Nettl 2000:463-72).[19] A brief comparison with emotion research may be instructive. A substantial amount of evidence (particularly from the field of evolutionary psychology) points towards so-called basic emotions as phylogenetic adaptations, rather than social constructions (Ekman 1999; LeDoux 1999; Tooby and Cosmides 1990). Surface emotional behaviours may differ, certain emotions may be deemed more or less appropriate for social display cross-culturally, and the contents and raw 'feel' (sometimes termed qualia) of phenomenal consciousness (that is, subjective experience) may appear extremely varied, but transculturally, neuro-physiological processes remain the same (Pinker 2002). Shifts of consciousness, whether termed trance or ASC are inseparable from emotion, so it is reasonable to theorise that they can be viewed in a similar way. And in fact, a capacity for altered consciousness has also been considered to be universal (Brown 1991; Nettl 2000) and to have adaptive value (Dissanayake 1988; Lewis-Williams 2002). The use of music as a key component of ritual and a link with the supernatural is found in some form in all societies (Nettl 2000:468). Crucially, Nettl identifies as a universal 'the use of music to provide some kind of fundamental change in an individual's consciousness … music transforms experience' (2000:468). This accords with Bourguignon's oft-quoted statement (arising from a meta-study of 488 societies) that trancing constitutes a 'psycho-biological capacity available to all societies' (1973:11).

[19] The notion of universals may seem ethnographically more palatable if a dichotomous 'either-or' conceptualisation of universal and relative characteristics is abandoned. 'Absolute' universals are those identified from the ethnographic record as occurring across all cultures. We should not ignore three other possibilities however, that are easier to work with when considering music and trance: near universals allow for some exceptions (for instance, the keeping of dogs is a practice absent within some cultures); whilst conditional universals constitute an 'if-then' group (for instance, calluses may be common if certain activities feature within a culture). Lastly, statistical universals describe cross-cultural features that occur at a rate 'well above chance' (Brown 2004:48-9).

Universalist and relativist approaches are more profitably seen as complementary, rather than opposite poles of a spectrum. Indeed, universal and relative characteristics are increasingly considered simultaneously in the wider research community and beyond. The most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association 2000) [20] is a case in point. Long considered to be a bastion of universalism and nomothetic assessment, it now includes an appendix of 'culture-bound syndromes' and emphasises that trance or possession states only qualify for the label 'pathological' if 'they are not accepted as a normal part of a collective cultural or religious practice' (2000:785).

Conclusion

There is no reason why in-depth descriptions of particular instances of trance need necessarily be felt to be compromised by an informed awareness of the way consciousness is subjectively experienced cross-culturally and conceptualised and studied across different disciplines. The more inclusive view of trance I am advocating also enables study of instances of music and trance which have hitherto been obscured or simply excluded by the dominance of the high arousal or 'strong' model of trance. These include scenarios close to home, such as the interaction of music and trance in European or American institutional, clinical settings, in addition to culturally diverse ethnographies of solitary musical trancing (including both listening to and playing music) in everyday (secular) life and in ritual (sacred) contexts.[21]

[20] The DSM-IV-TR is a primary diagnostic resource used by clinicians.
[21] Solitary musical trancing could include Killick's notion of 'holication', discussed earlier.

When I undertook my own study of solitary musical involvement in the UK, it was the topic itself that interested me, rather than a concern to align my research with the conceptual framework of (in my case) psychology. To be sure, I was aware that the agendas of different subject areas shape the kinds of research questions one might pose, but I also determined that disciplinary remits should not constrict the scope of research. Put another way, I realised that any study of subjective experience of music in real world contexts should ideally cross disciplinary boundaries. Clarke et al. have suggested that 'thinking in terms of "subjects of study" rather than in terms of disciplines highlights the continuity between psychological and other approaches' (2010:12). Certainly, as I have emphasised in this article, research that centres on the 'ethnomusicology of the individual' seems to necessitate a meshing together of ethnomusicological and psychological insights. In fact, an even broader meshing together of perspectives informs a recently established field - the cognitive science of religion[22] (still little more than 20 years old) - a field which incorporates the study of a range of cultural phenomena and which may be of some interest to scholars undertaking contextually situated studies of transformations of consciousness. The cognitive science of religion integrates various disciplines, including psychology, sociology, evolutionary psychology, anthropology and philosophy, and adopts an ethos of 'methodological pluralism' that is the utilisation of 'whatever data collection or analysis methods ... appear appropriate to the task at hand' (Barrett 2007:2). One example of this type of research, relevant to the current paper, is Cohen and Barrett's

[22] The cognitive science of religion (CSR) identifies 'human thought or behavioural patterns that might count as "religious" and then tr[y]ies to explain why those patterns are cross-culturally recurrent' (Barrett 2007:1).

(2008) study of universal cognitive mechanisms apparent in cross-cultural instances of spirit possession, which employs both ethnographic and experimental methods.

The need for a fusion of disciplinary approaches is underlined in the recently published *Oxford Handbook of Music Psychology* (Hallam et al. 2009), which advocates a move away from laboratory-based research towards contextually situated, culturally diverse, multi-disciplinary studies, in which interactions between music, subjective experience (cognitive, perceptual and emotional) and environment can be clearly recorded.[23] What is being called for is in effect an exploration of the interface between biology and culture, between music, consciousness and context. Trance is an ideal topic of enquiry for a collaborative initiative of this nature; research arising would serve not only to advance understandings of musical trancing, but to reduce misunderstanding of the phenomenon by the broader research community.

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Appendix: Trance Literature

Research outside the ethnomusicology and anthropology on the subject of trance can be broadly divided into two areas of concern: neuropsychophysiological and

[23] This book includes a chapter by Martin Clayton entitled 'The Social and Personal Functions of Music in Cross-cultural Perspective', in which he advocates cross-cultural comparison of 'the role of music in inducing trance, possession healing and ecstatic listening' (2009b:37).

phenomenological (understood in a general psychological sense as the study of subjective experience).[24]

Neuropsychophysiological Perspectives

Whereas the concern of ethnomusicology is with trance as localised, situated behaviour (to date, most commonly ergotropic instances), the study of trance in European and American clinical settings has focused on (1) quantitative-based assessment of the efficacy of hypnosis as a treatment for phobias, addictions, pain management, and so on; and (2) establishing neurological correlates of trance-as-state (that is, hypnotic trance, generally trophotropic) that will be constant across populations. This is partly explicable by the contextual and behavioural factors associated with high and low arousal models of trance. The former is studied in a diverse variety of field contexts and one concern is to avoid any imposition (for instance, use of equipment) that might alter what is observed. Additionally, trancers are constantly on the move, making the investigation of neuro-physiological correlates of trance extremely awkward (see Oohashi et al. 2002, for the measurement of possession trance using a portable EEG machine). By contrast, the 'neutral' clinical setting in which low arousal, hypnotic trance occurs is far closer to a controlled laboratory context, and observable behaviours are often minimal or subtle. The interiorisation of trancing might be said to prescribe a research focus on processes of mind. Thus, fMRI, EEG and MEG techniques[25] have been used to study hypnosis. A widely accepted finding is that hypnosis involves

[24] For definitions of the term 'phenomenology' within psychology, see Ashworth (2004) and Colman (2009).

[25] Functional resonance imaging, electroencephalography and magnetoencephalography constitute ways of monitoring changes in different areas of the brain through the measurement of electrical activity or blood flow.

frontal lobe inhibition experiences as a 'letting go of deliberate attentional functions' (Heap at al 2004:17) which affects the capacity for conscious, willed action (Gruzilier 1998). A number of theories support the notion that self-consciousness is replaced by a primary consciousness which is emotional, holistic and unburdened by self (Brown and Oakley 2004; Fromm 1979; Norman and Shallice 1986; Woody and Bowers 1994). There are parallels here with Damasio's (1999) notion of extended and core consciousness, explored by Becker (2004) in her emotion-based theory of trance. Despite the fact that the experimental context approximates a clinical setting, laboratory-based studies of hypnotic trance possess low ecological validity, as they frequently employ inflexible pre-set inductions and scales (a substantial number of which date from the 1950s and 1960s when a belief in the merits of psychometric tests was at its peak), designed to measure 'hypnotisability' which are 'administered' to large groups (that is, they do not simulate the flexible interaction between therapist and client). This reflects a notion of trance as a stable personality trait, rather than a state-dependent phenomenon. Another limitation regarding extant hypnosis research is that quantitative cross-cultural comparison of hypnotisability has predominantly relied upon data from Western countries (as discussed by Barnier and McConkey 2004:44).

Leaving aside hypnotic trance, there have been numerous studies charting the neurological correlates of ASC arising from spiritual practices, particularly meditation, using EEG and neuro-imaging techniques (see Cahn and Polich 2006 for a review of neuro-electric and imaging studies of meditation). SPECT analysis - which, unlike fMRI occurs outside a scanner - is far less distracting to participants, and Newberg et al. have used the technique to compare the conscious awareness of a variety of

practitioners, from the contemplative, narrowed intense focus of Buddhists and Franciscan nuns to the ecstatic trance of Pentacostalists (2003, 2006). The first scenario is associated with a decrease in limbic function (perceived as lowered emotional arousal) and increase of frontal lobe activity (perceived as willed focus). The second is associated with an increase in limbic activity (perceived as emotional arousal) and a decrease of frontal lobe activity (perceived as loss of voluntary control) (ibid.). Newberg and d'Aquili have used research findings to give support to a continuum view of altered consciousness in which subtle and profound shifts of consciousness possess some shared territory in neurological terms (2001), a finding which resonates with the more inclusive model of trancing I have proposed in this paper.

There are very few neuro-scientific studies of the interaction between music and trance in Western or non-Western contexts (exceptions include Fachner and Rittner 2004; Oohashi et al. 2002; Park et al. 2002). Those that have been undertaken tend to employ the Electroencephalogram (EEG) as a measuring instrument, because of its capacity to plot changes of brainwave frequency across time. Fachner and Rittner's (2004) study of sound trance (a form of music therapy) is the only one to reference both ergotropic and trophotropic trance, and one of the few studies of European subjects to take account of the interaction between individuals, setting and context. Fachner and Rittner used a combination of questionnaire, diary report and EEG measurement to correlate levels of hypnotisability with specific 'trance reactions'. They found that 'high hypnotisable' and 'low hypnotisable' participants demonstrated trophotropic and ergotropic reactions respectively. Since the study focused on two participants only, experimental findings must remain inconclusive.

Overall, neuropsychophysiological studies of trance have tended to isolate consciousness transformation from context. Subject-based ethnographies of hypnotic trance, prayer and meditation, located in naturalistic settings and qualitative in emphasis, would usefully complement quantitative laboratory-based research.

Phenomenological Perspectives on Subjective Experience

Literature relevant to the study of music and trance can be grouped into three areas: theoretical conceptualisations of consciousness informed by empirical evidence or philosophical reasoning; categorisations and psychometric assessments of types of altered experience; and music-specific research concerning altered consciousness. Included in the first are theories that reference different kinds of consciousness; for example, Damasio's (1999) categories of 'core' (present-centred) and 'extended' (autobiographical) consciousness roughly equate with the types of consciousness defined by Edelman (1992) as 'primary' and 'higher', and by Block as phenomenal and self-consciousness (Block 1991; Young and Block 1996). In addition, Claxton (1997; 2005) has underlined the importance of unconscious perception to experience, and many theoretical models designed to explain the phenomenon of trance refer to the 'inhibition' or replacement of conscious processing by unconscious (automatic) forms of functioning that are non-verbal and non-sequential (Heap et al. 2004). The presence or absence of certain kinds of consciousness may typify forms of trancing (Becker 2004; Whitehouse 2004), or types of listening experience (Clarke and Clarke 2011).

A fascinating, but as yet unproven hypothesis is that trancing constitutes a psychobiological need (Dissanayake 1988; Duchniewska and Kokoszka 2003; Killeen and Nash 2003). For example, Kleitman (1963, 1982) has suggested that both sleep and

wakefulness follow what he terms a ‘Basic Rest-Activity Cycle’ (BRAC) and that in waking life, the REM phase of sleep (dreaming) is paralleled by inwardly directed alterations of consciousness (that is, resting, highly imaginative ‘trance’ phases). Kokoszka (2007) proposes that such ‘rest-phases’ are frequently suppressed in the target-driven culture of the industrialised West, finding indirect expression in so-called ‘take-a-break periodicity’ and aesthetic experience (2007:96). To date, the presence of a rest-activity pattern of consciousness has only been tracked, through diary and questionnaires, over two consecutive days (Duchniewska and Kokoszka 2003), but provides some evidence for the existence of a rest phase only applies to 'rest-activity' ‘recuperative’ form of trancing, occurring in conjunction with a variety of activities, including listening to and playing music.

The concern of the second area of literature is both with defining holistically what constitutes an altered state, and specifically what range of characteristics may be present. The term ‘altered state’ - for some time associated with the drug culture of the 1960s and 70s - is most often used to describe shifts of consciousness that feel ‘radically different’ from normal functioning (Ludwig 1966; Tart 1983:59), but the application of the concept has been broadened to include both ‘profoundly altered’ and ‘superficially altered’ states (Kokoszka 1999-2000:169).

Altered states have been classified according to (i) circumstantial origin – for instance, spontaneous (daydreams, hypnagogic states) or intentional psychological induction (sensory deprivation, relaxation, trance), disease or physiological stimulation (Vaitl et al. 2005); (ii) modes of induction – for instance, reduction or increase in exteroceptive stimulation (Ludwig 1966); and (iii) arousal levels (Fischer 1971).

Identified dimensions or characteristics of ASC vary from four to 26 (Pekala 1991; Tart 1983; Vaitl at al. 2005) and various psychometric scales and questionnaires have been devised to evaluate ASC, supplementing informal report and neuroscientific study (for a summary see Barnier and McConkey 2004). Pekala's (1991) 'Phenomenology of Consciousness Inventory' (PCI) is of particular interest, as it is a retrospective self-report questionnaire that can, and has been, used in situ in real-world contexts, immediately after experiences occur.

Finally, a third, music-specific area of literature concerns the capacity of music to facilitate shifts of consciousness, and studies the links between hypnotic susceptibility and musical involvement (Nagy and Szabo 2002, 2003, 2006; Rhodes et al. 1988; Snodgrass and Lynn 1989; Szabo 2006) using psychometric scales, notably the PCI (Pekala 1991), the Harvard Group Scale of Hypnotic susceptibility (Shor and Orne 1962) and the Tellegen Absorption Scale (Tellegen and Atkinson 1974). Although a potentially promising contributory approach to studying musical trancing, findings of inquiries to date must remain inconclusive, because they do not utilise self-chosen music, and take place in laboratory settings.

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