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**Crossing the divide: the ‘reinvention method’
for creative collaborative learning in pairs
between advanced classical and jazz students**

Jonathan James

*Submitted to the University of Bristol in accordance with the
requirements of a degree of PhD in the Faculty of Arts*

November 9th 2018

81,921 words

DECLARATION

I declare that the work in this dissertation was carried out in accordance with the requirements of the University's Regulations and Code of Practice for Research Degree Programmes and that it has not been submitted for any other academic award. Except where indicated by specific reference in the text, the work is the candidate's own work. Work done in collaboration with, or with the assistance of, others, is indicated as such. Any views expressed in the dissertation are those of the author.

SIGNED: DATE:.....

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Abstract

Collaborative learning is commonly advocated in places of advanced musical training, yet classical and jazz students tend to remain in separate 'tribes' from a curricular perspective. When they do collaborate across styles in a creative exercise, the learning is not always reciprocal, with the jazz musician typically more adept at improvisatory tasks. This research addresses how 'collaborative musical creativity' may be understood before proposing a 'reinvention method' for paired improvisation across styles, with the aim of encouraging a more profound and equal sharing of knowledge and skills.

'Collaborative musical creativity' is a very fluid concept that resists empirical assessment, particularly when observing how it is expressed by advanced musicians in an open-ended task. The methodology and case study design bring definition through framing the concept from four perspectives: creative cognition, socio-cultural learning theory, musicological analysis and theories around collaborative creativity.

Comparative case studies were conducted over eighteen months with six advanced instrumentalists (average age 17, post grade 8) with either classical or jazz as their primary study. Drawing on models for creative cognition proposed by Finke (1996, 1992) and Webster (2002, 1990), as well as tactics typically used by an orchestral workshop leader, a series of cross-stylistic 'reinvention exercises' were devised that incorporate a cycle of convergent and divergent creative thinking, carried out individually and in pairs. In the main phase, paired participants are asked to deconstruct three pieces (two specially composed by the author, one by Stravinsky) that each carry a different style bias, and then 'reinvent' them together through improvising in their own musical language. Data was collected through semi-structured interviews, self-assessment questionnaires and both video and audio recordings, thematically coded to highlight cognitive, collaborative and pedagogical processes. Post-Vygotskian socio-cultural theories around paired learning (mainly relating to Participation theory, Rogoff 2008) are examined in practice.

The research validates the reinvention method as a means of facilitating cross-stylistic improvisation and reciprocal learning in pairs, and advocates for its wider application in a variety of music educational contexts.

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Chapter One

Introduction

1. Research question and motivation

As a student classical pianist, I was envious of my jazz counterparts improvising in the next practice room and wondered how it was possible for them to fly free from the printed notes while I remained grounded. They were the poets while I grappled with prose, it seemed. Having caught up on some of the jazz technique that had previously eluded me, I have often wondered how to combine the two worlds in my own creative practice and in a variety of teaching contexts. A place of natural convergence has been the group creative work I undertake as a workshop leader for UK symphony orchestras.

A typical workshop task is to devise a piece in a short space of time with a classroom of young musicians. This will normally be a creative response to a piece the orchestra will shortly be performing and will require taking some of the core features of the work and recreating them in a way that gives everyone in the class a role, whether on keyboard, electric guitar or conga drums. It necessitates a truly 'trans-stylistic' language, to use Sarath's phrase (2010), with a 'non-idiomatic' vocabulary (Bailey 1980). Although a musical 'style' might broadly be defined by Meyer (1989) as a 'matter of habits properly acquired (internalised) and appropriately brought into play' (p10), in this thesis I will use the term to denote musical genres typically studied on a higher education course, such as classical, jazz, popular or world music.

The basic method used for this form of orchestral workshop – deconstructing source material then reconstructing it in a new language – has been adapted and refined in this research to form what I have called the *reinvention method*. Its central objective is to permit advanced classical and jazz students to share their creative thinking in a more reciprocal way than is normally the case at their level of playing and training. 'Advanced', for the purposes of this study, signifies being beyond ABRSM grade 8 on

a principal instrument, with the student either currently on a higher education course in music or seriously contemplating one.

This research is about observing in detail how students at this level express their musical creativity and collaborate, using the reinvention method as a vehicle for a series of comparative case studies into paired work in particular, resulting in the following principal research question:

How might advanced classical and jazz instrumentalists learn together on equal terms through cross-stylistic improvisation, and what is the perceived impact on their musical creativity when they do?

1.2 Research problems: the quest for collaboration

My student experience was not atypical. Classical and jazz musicians tend not to learn together or to share their creative practice, particularly once they reach an advanced, post-grade 8 level (Burt-Perkins & Mills 2009, Burt-Perkins 2009). One recent music graduate¹ spoke of 'jazzers' and 'straighties' (classical students) being in different 'tribes' while at college, citing a curricular dividing line that exists, more or less explicitly, at this level of training. This separation is historic (Beale 2001) and is still perpetuated despite initiatives to bridge the divide.

As an informal means of testing this view, I conducted an exploratory survey of fifteen students, graduates and teachers on higher education music courses to investigate the perception of the stylistic divide and the impact it has on pedagogical practice and individual learning. It confirmed the picture that, when classical and jazz students did learn together, it tended to be informally rather than as part of the curriculum.

Why, though, should advanced students learn together if their main aim at this stage of their study is to specialise and to deepen their understanding of their own field and practice? One compelling reason presents itself in the pursuit of musical

¹ Gardiner-Bateman J., Royal Academy Jazz Graduate. Personal interview with author, 10.10.13

creativity, which is now increasingly regarded as imperative to a well-rounded specialist music education (see its prevalence in literature surveys by Burnard 2012a, Gaunt & Westerlund 2013 and Odena 2012). As will be discussed later (see 2.6.1), creative projects represent the main place of intersection and organic collaboration between all styles.

A common finding in literature on musical creativity is that the more collaborative the learning – in the broad sense of increased shared interactions with peers – the more potential there is for creativity (Gruenhagen 2017, Varvarigou 2017, Sarath 2010, Sawyer 2003, MacDonald, Miell & Mitchell 2002). The consensus from these studies is that the students' creative potential (both in thinking and output) can also grow through the provocations of learning across different styles and artistic disciplines.

And yet, a common experience in cross-stylistic collaboration is that it also risks becoming a 'warm-up to nothing' (Gregory 2010), an exercise that dilutes the constituent parts into a diffuse sound-scape that only allows for a relatively shallow interaction. I have observed such sessions, which typically incorporate modal improvisation over a simple harmonic progression. They have their place in introducing a novice improviser (usually the classical student) to collaborative, cross-stylistic work, but they fall short of the potential to deepen understanding of each other's primary study style and thereby to develop an individual creative voice.

The scope of the research in the field of collaborative, cross-stylistic musical creativity is wide, but there are gaps that can be usefully addressed. Lucy Green (2014, 2002) has consistently argued for a rationale of 'informal learning' within the music classroom where, among other activities, students are encouraged to improvise collaboratively across styles, but this activity is focused on beginner to intermediate students and mainly takes place in large groups. Morgan (1998) and Webster (2002) join Green in researching the earlier stages of study, situating their case studies in the school classroom.

Hsieh (2012) updates work by Sudnow (1978) by looking at how more advanced classical and jazz students at music college respond to joint improvisation, but the pairings are unequally experienced in the task, with the novice (classical student) having to be led by the expert (jazz student). Sarath (2010) seeks to redress that balance and has consistently called for a 'trans-stylistic' approach to improvisation, noting how collaboration is problematised '...when style-specific constraints are imposed at the outset' (p13). However, his methodology draws extensively on jazz techniques as a means of encouraging the non-jazz students to abandon their reliance on notation.

Many of the cross-stylistic initiatives reported share this bias, where jazz thinking leads the process. Within UK conservatoires, Grigson (1985) pioneered an influential, jazz-led approach in the eighties as one of the first jazz professors at the Guildhall School of Music. He classified the primary orientation of his jazz and classical students as either 'creative' or 'recreative', respectively. This is another way of expressing the notion that, whereas jazz musicians actively create new material as a constitutive stylistic practice, classical musicians tend to be more passive, interpreting and merely 'recreating' the scores in front of them (1985, p188). Grigson's response, a precursor to Sarath's, was to teach 'chord-scale' jazz theory to primary study classical musicians, giving them an improvisatory framework drawn from chord progressions and their associated scales and modes.

Despite a considerable expansion of research in the field of musical collaboration, Odena concludes in his overview (2012) that further investigation is required into 'what may be learned from studying musical creativity across genres' (p209). Conley (2017) concurs, emphasising the need for more research into 'non-jazz related improvisation in higher education' (p10).

1.3 Benefits of the research

My research question addresses this gap in the literature by asking how cross-stylistic creativity might effectively be taught within the domain of advanced study in a way that does not favour one style or musical language over the other, such that learners from both classical and jazz styles can learn in comparable depth from the collaborative experience. In so doing, I propose a model for *paired* learning, which in itself is a relatively unexplored mode of collaborative learning in this field. The learning unit under observation in most cross-stylistic studies has to date either been a small group or class-sized ensemble. Paired learning offers the chance to observe a genuine reciprocity – or lack of it – in the learning task, requiring increased accountability from the participants and a more equitable task ownership overall (Topping 2005).

The hypothesis was that learning across styles for the classical musician would nurture a side to their musicianship that is still being neglected in the majority of higher education music courses, namely their ability to improvise and be creative in the moment. This is a concern shared by many in the field (Hickey 2015, Hallam & Gaunt 2012, Campbell 2009, Levin 2009), who are united in the potential positive impact on aural ability and musical cognition that improvisation studies can have. Further consideration is also given to how improvisation in pairs might affect other modes of creativity more typical to their primary study, whether interpretation of a score or written composition.

For the jazz musician, the aim was to extend their improvisational vocabulary beyond their current repository of phrases, 'licks' and gestures, and to provoke new thinking around standard creative strategies. A wider issue here is the potential for creative stagnation in jazz studies that has been consistently identified in the literature as emanating from an over-insistence on chord-scale theory. The contention is that this can homogenise the creative output and sound of a jazz student cohort, compromising their individual expression and making it harder to transition from conservatoire study to real-world practice, where a unique voice is

required (Williams 2012, Prouty 2008, 2004, Monson 2002, Berliner 1994, Bailey 1969).

The exercises involved in the reinvention method and essayed in the case studies are designed to disrupt habitual chord-scale thinking through suggesting broader parameters for improvisation. They also aim to enhance analytical skills that traditionally get short shrift on jazz courses, such as the critical appraisal of a variety of non-jazz scores, the deconstruction of motivic language and harmonic ideas, and issues around instrumentation and tonal colour.

For students of both styles, working cross-stylistically would also improve confidence and competence in skills that are of direct use in a range of musical professions, whether as a teacher, session player, workshop leader or orchestral performer. Finally, as Conway (2017) points out, exploring collaborative creativity in this way makes for 'sheer fun'. Working together in a creative environment promotes cohesion across the tribes of musical styles (Sawyer 2003), and offers an enjoyable departure to their standard programme of study, with the benefits incurred from interrogating what it means to be a creative musician and reasserting creativity as an absolute foundation to their musicianship, not a luxury extra.

1.4 Overview of thesis structure and ancillary research questions

Musical creativity has been posited in the literature as a notoriously fluid domain that resists easy definition (Deliège 2006,1987). In order to gain a deeper understanding of its elusive nature and to view it in a collaborative habitat, I approach questions of cross-stylistic improvisation as encapsulated in the reinvention method from four complimentary perspectives:

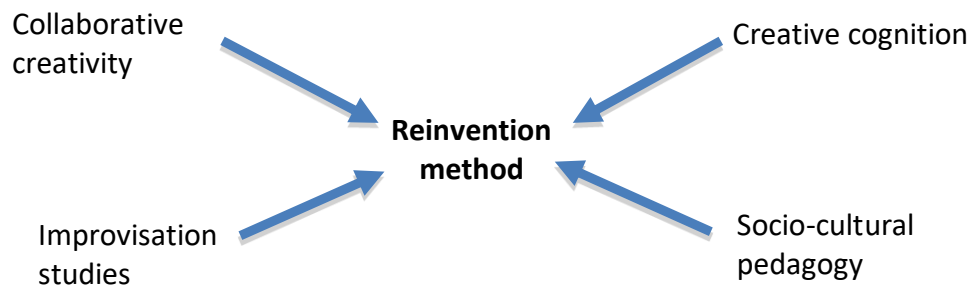


Fig 1.1 Theoretical perspectives on the reinvention method

The literature review in chapter two identifies points of intersection between these four areas in order to give a more robust observation platform for the exercise and provide assessment guidelines for the case studies. This includes categories that may be used as thematic codes (Charmaz 2006) for the fine-grained analysis of transcribed interviews with the participants. An important outcome here is to consider aural equivalents of what have previously been represented as visual cognitive operations in the ‘Geneplore Model’ (Finke et al 1996, 1992), offering a way of deconstructing and re-assessing aspects of creative cognition specifically in the musical domain.

Another outcome from this chapter is the attempt for a more nuanced definition of musical creativity, or rather musical *creativities*, after the pluralised concept advocated by Burnard (2014, 2012, 2000). This is mainly achieved through expanding on a basic definition offered by Webster (2002) and situating it in the wider context of studies into improvisation and collaborative creativity.

Chapter three outlines socio-cultural theories that will underpin the pedagogical purpose for this study, drawing in particular on post-Vygotskian developments such as *Guided Participation* (Rogoff 2008) and *Cognitive Apprenticeship* (Brown & Duguid 2000, 1991). Participation theory, which is the rallying point for both these approaches, provides a useful lens for peer-led activities where knowledge can be

informally 'stolen' (Bjerstedt 2016) as much as formally constructed, with the role of the teacher mainly as a 'guide on the side' (Webster 2002).

The practical aim of the literature review is to support a new methodology for facilitating and assessing cross-stylistic musical collaboration, as detailed in chapter four. The reinvention exercise may be the chief method under analysis for this research, but other expressions of the methodology are explored as well. The guiding ancillary research questions at this stage are:

- Which musical language and syntax best facilitates equal sharing across musical styles?
- What are the barriers to learning through cross-stylistic improvisation, and are they predicated by stylistic concerns?
- Are there trends within the creative thinking according to style?
- How does learning across styles compare to same-style pairings?
- Does the requirement of working in pairs disrupt habitual thinking enough to promote original creative thought in improvisation?
- How effective is the assessment framework for appreciating different aspects of musical creativity?
- What is the student feedback on the usefulness and relevance of the cross-stylistic exercises to their other musical studies?

This chapter opens with the rationale for adopting a predominantly qualitative approach, and for using four comparative case studies with non-randomised student samples (Yin 2009, Glaser 1992). A 'participatory paradigm' that has its roots in Action Research (Cain 2012, Ward 2009) is chosen to reflect the active role of the researcher and the constantly evolving impact of the students on the study design.

Chapter five details the pilot study that was used to ascertain sufficient construct validity for the main phase of case studies, which comprise chapters six to eight. In this main phase, students from the Bristol Pre-Conservatoire² are organised into classical and jazz pairings and tasked with 're-inventing' pieces that demonstrate different style biases: one that mixes classical and jazz influences (*Appalachian Study*, chapter six), an original jazz ballade (*Kinsale Shore*, chapter seven) and

² An evening school for talented young classical and jazz musicians, typically grade 8 or above

Stravinsky's *Octet* (chapter eight). The first two study pieces were especially written for the participants by the author in order to test certain pedagogical techniques and achieve a suitable blend of styles. This also ensured that the source material remained fresh and novel to the participants and no advantage existed through familiarity with the score.

In line with comparative study design, each case develops research themes from its predecessor, following a consistent set of parameters and test protocol (Cresswell & Miller 2000). Findings from each study therefore needed to be commented on in turn to signpost the evolution of the cycle of studies and to highlight comparative issues as they emerged. Chapter nine summarises the recurring themes from these findings, before discussing limitations of the methodology and concluding with both directions for future study and potential applications of the reinvention method within the current educational context.

This research offers a novel prism of theoretical analysis on the musical creative process while remaining firmly grounded in real-world practice. An important objective has been to devise teaching and learning techniques that are adaptable to a typical teaching scenario and are eminently practical. Informally, I have been able to trial various permutations of the reinvention method in a range of situations and have first-hand experience of their efficacy in opening new lines of communication and collaboration between learners from all musical styles. My hope is that this thesis will give grounds for the method's uptake more broadly, but particularly within the domain of advanced musical training.

Chapter two

Literature Review

This review addresses the context for the four angles of analysis chosen for this research – musical creativity, creative cognition, improvisation studies and collaborative learning – before narrowing the scope to find inter-related definitions that will serve as the conceptual framework for the reinvention method and eventual case study design. The governing question is how best to understand and analyse the interactions of paired learners in a task designed to test their musical creativity across classical and jazz styles. I start with the subject that has the most diffuse signification of them all: creativity.

2.1 Setting the context for research into musical creativity

Musical creativity is an important expression of human creativity in many of its facets and forms a sub-category in its own right within the literature on creativity research. Certain themes from the wider corpus of creative research shape how musical creativity has been approached and conceptualised, and so it makes sense to begin with the broader concepts and principles around human creativity and to trace their application to the specific domain of music.

Human creativity was mythologised by the Ancients and has since been an enduring source of fascination and speculation throughout history. A turning-point in its academic study arrived in the work of the Poincaré (1913), a polymath, who among other contributions, assessed the interplay of the subconscious and conscious, demystifying the workings of the creative mind and rendering them accessible to more systematic analysis. Wallas (1926) built on this by providing a four-stage model of the creative process that has left its mark more or less explicitly on the majority of cognitive models. He follows the ‘preparation’ of a seed idea through its ‘incubation’ to the point of ‘illumination’ as vital connections are made, and then to its ‘verification’ as a valid concept. Although crude, it has proved an enduring model

for how a small fragment of an idea eventually and organically attracts more weight and significance before being validated by a wider community.

The next important benchmark identified in most historical surveys of the literature is Guilford's address to the American Psychological Association in 1950, which provided an important rallying call for more empirically thorough research into creativity, in particular how it is evidenced in divergent thinking, and advocating for it to be a scientific study area worthy of independent pursuit. Accordingly, there was an exponential growth in the literature on the subject since that point. In his *Handbook of Creativity* (1999), Sternberg gives an overview of the subsequent delta of lines of enquiry, organising them into subsets.

Sternberg starts with the *mystical* approach to which the Ancients held dear, where 'the creative person was seen as an empty vessel that a divine being would fill with inspiration' (p5). This is countered by the *pragmatic* approach, exemplified in popular psychological fiction such as De Bono's 'thinking hats' (1992), where the emphasis is on debunking myths around creativity and parceling it into exercises that can be used to develop individual and corporate problem-solving in practical contexts. The *psychodynamic* approach is defined as being where the focus is on the tension between subconscious drives and their conscious realization and the *psychometric* where divergent, associative thinking is measured according to different scales. The *social-personality* approach looks at the influence of intrinsic and extrinsic factors both within the individual and their environment, and the *cognitive* approach is exemplified by Finke, Ward and Smith (1996, 1992), who conceptualise mental representations and processes involved in creative cognition. It is the latter that will have the most relevance to the reinvention method and that will be examined in more detail shortly.

Sternberg also recognises the *confluence* approach, a more recent development where 'multiple components must converge for creativity to occur' (1999, p10), and where studies typically seek theoretical convergence rather than isolation of any one angle. Amabile's 'componential model of creativity' (1996, 1983) is built on such

confluence, where individual creativity is posited as contingent on intrinsic motivation, domain-relevant knowledge and creativity-relevant skills. Csikszentmihalyi's equally influential 'systems approach' (1996, 1990) also demonstrates confluence in its emphasis on interaction between the individual, their domain of creative study and the wider field of influence. The case studies in my research correspondingly allow for theoretical confluence, assembling paradigms of creativity from cognitive science, social-cultural theory and musicology.

2.1.1 Definitions of creativity: common themes

The contributors to Sternberg's handbook typically start their chapter with a definition of creativity that endorses *novelty* and the *effectiveness* or *value* of the creative idea or product. Boden's definition is the most widely cited in this respect. For her, creativity is 'the ability to come up with ideas or artefacts that are *new, surprising and valuable*' (2004, p1). These three have remained axiomatic in more recent creativity literature, as Oztop's survey (2017) found.

The question is then 'new, surprising and valuable to *whom*?' Boden distinguishes between creative acts that appear novel to the individual in their immediate environment ('psychological creativity' or 'P-creativity'), and those that are demonstrably novel on a societal level, with the potential for a paradigm shift across a whole domain (representing 'H-Creativity', as in 'historical'). This moves away from the notion of creativity as the product of genius and acknowledges that it can be manifested in everyday thinking processes such as 'conceptual thinking, perception, memory and reflective self-criticism' (2004, p1), as long as the result is new to the individual.

Boden's pairing has been commonly referred to as 'little-c' for everyday tasks, and 'Big-C' creativity for eminent contributions to knowledge (Craft 2001, Gardner 1993), with the proviso that the latter has to be verified by an independent panel of experts in the relevant field (Amabile 1996). Beghetto and Kaufman (2009) found this

dichotomy too restrictive and added two extra categorisations at either end of the scale, 'mini-c' and 'pro-C', for a subtler gradation of levels of creative achievement.

Another common theme is the need to break away from habit and *idées reçues*, and to challenge both conventional thought and personal default patterns of thinking. This constitutes the 'surprise' element to Boden's definition above. Cropley (2001) describes it as 'making unusual associations or seeing unexpected solutions' (p23), underlining an 'openness to the spark of inspiration' as a facilitating factor (p65). By extension, this could be expressed as a willingness to take risks (Sternberg 1988), however small. This can happen from an early age. Weisberg (1999) notes how Amabile, in her research on raising creative children, observed a pattern of 'breaking out of old patterns of thinking' and of 'perceiving freshly, that is, changing one's ways' (p228). Boden grades the level of disruption and surprise according to how disassociated the innovation is to the normative frame of reference for the subject – its 'conceptual space' (p4) - and to the individual's typical 'thinking style'.

Inherent to this disruption is the notion of rules and constraints, or any elements that conspire to limit the train of thought. At worst, these constraints are so embedded that they form a rut, a habituated mode of processing ideas that trammels their creative possibilities. Conversely, constraints may be used as a conscious means of breaking into a new conceptual space. As Boden puts it, 'we seek the imposed constraints and try to overcome them by changing the rules'. The constraints incite change by offering a conceptual model that can be confronted, reappraised and re-imagined.

The 'value' of a creative idea or product, as per Boden's description, is defined by its pertinence to the creative task and, in the case of 'H-creativity', to the broader research field. This is to distinguish between random, ephemeral and unformed thoughts and those that have the potential to transform a conceptual space, whether on an individual or collective level. A cognate here is 'appropriateness' (Amabile 1996), where an idea is as creative only inasmuch as it builds on previous

understanding and relates to the task at hand. The implication is that creativity requires a degree of focus and purpose, at least when judging it from its outcome.

2.1.2 Patterns of creative thinking

Convergent and divergent modes

Ever since Guildford's 1950 lecture, a magnifying glass has been brought to the inner workings of the creative process, highlighting those mental computations and configurations that primarily evidence either 'convergent' or 'divergent' thinking. These feature across the whole range of literature, from the systems model in Csikszentmihalyi's analysis of creative genius (1996) to Elliott's manifesto (1995) on practical musicianship. Convergent thinking is exemplified by problem-solving activities that typically have a singular outcome in mind, whereas divergent thinking is called on when exploring a wide set of possible outcomes through association.

Within the musical domain, Webster (2002) and Swanwick & Franca (1999) have grouped certain tasks according to how they demonstrate either convergent or divergent creative modes. Tasks that are predominantly convergent include the act of producing an accurate rendition of a notated classical score, where a wide set of constraints surrounding practice and idiom are brought to bear on the single moment of performance. Divergent thinking is best evidenced in improvisation and composition, where 'ideational fluency' is required to generate a range of ideas (Barrett 2012, p56), either in the moment or over time. Even though both processes could be perceived as potentially creative in their ability to conduce thinking that is new and surprising to the creator, the divergent modes are the more outwardly distinguishable.

Webster (2002) deconstructs divergent thinking to show how 'kernels of musical thought', or 'primitive gesturals' such as melodic fragments or single chords can be extended into more complex patterns (p38). By contrast, he sees convergent thinking as principally an analytical mode, where a musical product is ultimately fine-tuned into a convincing performance. Many have found this apparent dichotomy of

convergence and divergence too limiting. In an effort to expand the terminology, Vaughan (1977) uses 'associative' and 'metaphorical' to typify divergent styles of thinking, and 'synthetic' or 'integrative' for convergent (p72). Cropley (2006) discusses how the relationship between both modes of thinking is not binary but symbiotic. Any creative task requires moving constantly between both convergent and divergent modes. Improvisation, for example, may appear a primarily divergent activity in its initial generation of idea, but convergent thinking features in the synthesis of those ideas into syntax and musically satisfying phrases.

The Geneplore model of creative cognition

Underpinning the more generalist creativity literature has been the scientific enquiry into creative cognition, itself a discipline of experimental cognitive psychology. Examining the nature of cognition and meta-cognition in more detail, it includes the analysis of the functions of working memory and the fundamental principles behind ideation and the retrieval and manipulation of mental models (Ward et al 1995). Finke, Ward and Smith (1996, 1992) work from the premise that creative cognition is evidenced at what might be called a 'mini-C' level upwards, from 'the generative capacity to move beyond discrete stored experiences' (1992, p189) up to insights that are new, surprising and valuable. They propose a heuristic model to illustrate the basic processes involved, which are defined as predominantly either generative or exploratory processes – hence its name, 'Geneplore'.

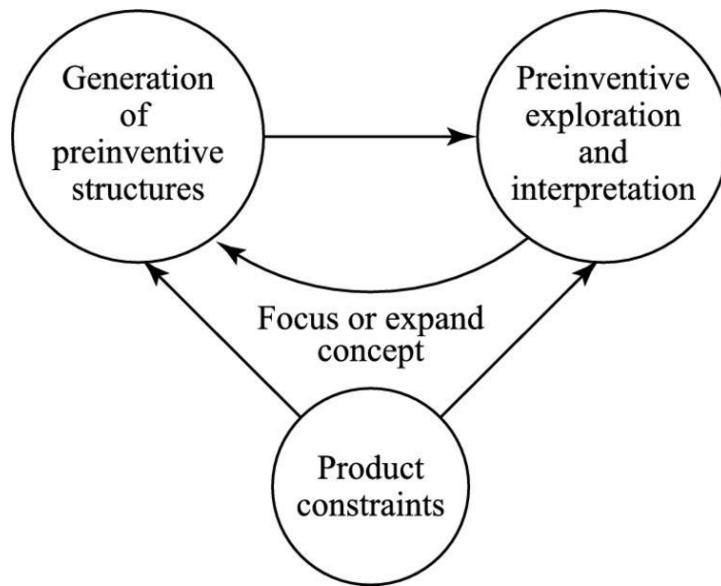


Fig 2.1: The Geneplore model, taken from Finke, Ward & Smith (1996, 1992)

The Geneplore model follows the promising germ of an idea – the ‘preinventive structure’ – through to its exploration and actualisation. The two phases, generative and explorative respectively, are constantly iterative, shuttling between the preinventive structure and its fruition as the creative product takes shape. The mental activity might be prompted, helped or even hindered by constraints imposed at any point in the cycle. Typical constraints include objectives concerning the end-product’s functionality or relevance to its domain.

The initial generative phase encompasses exemplar retrieval and mental synthesis that lead to images and concepts that are ripe for interpretation and exploration. Importantly, not every mental structure can be seen as preinventive. In line with the definitions of creativity so far, Finke stresses the need for some promise of originality (to the creator) and task-appropriateness. Raw, unshaped concepts may need some qualification before they can be put to a preinventive purpose, and Finke notes that a degree of incongruity at this stage helps as a marker of creative potential. Webster’s terminology (2002) could be applied here, where the unshaped seed idea is merely a ‘primitive gestural’.

The exploration phase is then characterised by operations that either distill or deconstruct, such as ‘categorical reduction’, or by those that extend through associative processes such as ‘functional interference’ and ‘contextual shifting’ (Finke 1996 p386). The example given is of a chair being reconfigured, or mentally stripped back, to its constituent parts, in order to be re-imagined and repurposed in a new form.

The Geneplore model is compelling in its simplicity. The examination is demonstrated through visual metaphor – the manipulation of basic shapes according to a brief – as illustrated in the diagrams below. The following shapes represent ‘primitive gesturals’:

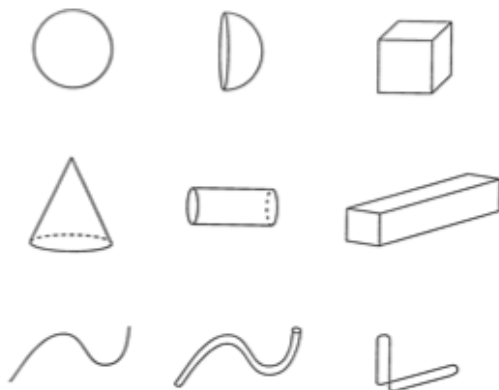


Fig.2.2 ‘Primitive gesturals’ in visual form (Finke 1992)

Preinventive structures have a functional malleability that moves them beyond the abstract into a more concrete form (fig. 4). They are typified through combining concepts into shapes that suggest structure and function:

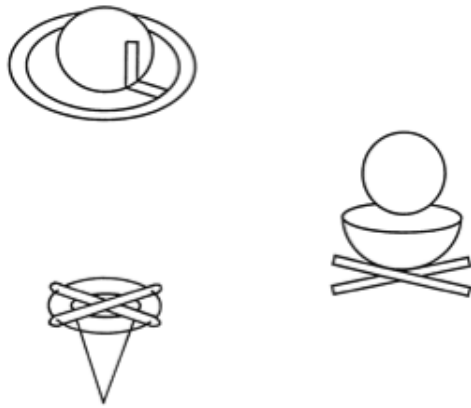


Fig.2.3 Preinventive forms from combining gesturals above (Finke 1992)

Is there a musical equivalent to the Geneplore model?

At the time of writing, no application of the above cognitive processes has been found for the world of pure sound and musical creativity, although Finke (1990) acknowledges this as a theoretical possibility. One of the objectives of this thesis is therefore to consider how Geneplore operations are evidenced when composing, improvising and performing, and to develop a terminology that describes the mental dynamics of musical creativity and considers Finke's model in a novel domain.

Before iterating the implications of this, more definition is first needed around what musical creativity is and how it is expressed in its multiple forms.

2.2 Understanding musical creativity

Pinning down exactly what is meant by 'musical creativity' is extremely challenging due to the complex interplay of expressive, physical and cognitive activities implicated. Webster (2002) sets the tone:

The study of creativity in music involves a complex combination of cognitive and affective variables, often executed at the highest levels of human thinking and feeling. There is such a complicated set of either long-term engagements (composition, repeated music listening, or decisions about previously composed music) or 'in the moment' engagements (improvisation and one-time listening), that only those professionals in the creative field with deep understanding of music have any hope of untangling the complexity.

(p22)

Burnard (2014) concurs, acknowledging that ‘research is still patchy as to what counts as musical creativity, the development of the conception of musical creativity and what is made of it in educational systems’ (p11). Irène Deliège, who has been grappling with the amorphous topic since the 1970s, has persistently highlighted the reductive nature of focussing on measurable cognitive processes within the individual. In her essay, *The Spectrum of Musical Creativity* (2006), she writes: ‘It may be that psychology has put too much energy into exploring blind alleys’ (p2), arguing that there is a particular loading of cognition and creative intelligence in the affective domain for a musician that falls beyond the reach of most empirical analyses – corroborating Webster’s observation above.

The implication is that the standard psychometric approaches that test problem-solving or associative thinking fail to recognise, let alone measure, the emotional intelligence inherent in thinking and creating musically. Seddon (2012) addresses this in his exploration of ‘empathetic creativity’, where ‘empathetic intelligence’ is defined as:

the fluid and dynamic engagement between individuals who observe, feel, intuit, think, introspect...while being aware that their attitude influences their subjective objectivity. (pp133-134)

This is particularly relevant to ensemble work, where the creative ‘group flow’ (Cziksentmihayi 1990) is affected by such nuanced affective processes as ‘attunement’ and ‘mirroring’ as players synchronise or imitate each other’s creative thinking. If a group is not communicating well in this way, whether verbally or non-verbally, Sawyer (1999) found the ‘emergent’, or group creative product, is compromised. In the main, not having this form of empathetic connection or attunement results in individuals staying within their comfort zones. When group flow is maximal, Sawyer notes that performers can ‘take creative risks which can result in spontaneous musical utterances’ (p136), and are more likely, therefore, to co-create music that is novel and surprising to the group.

Aside from this important empathetic component, Deliège (2006) reminds us of the plurality of connate creative functions that are engendered in any performance:

Music is in most cases a three-fold event. Someone, the performer, has to play the piece of music to convey it from the composer to the audience...Music needs an audience and an audience needs interpreters. (2006, p4)

The listener therefore becomes complicit in the creative continuum that starts in the mind of the composer (in this example, at least) and culminates in the physical expression of their intentions on stage. The act of live performance – or even of a recorded one, in its way – implies a three-way compact in how the music is experienced and, therefore, how the creative components in that experience are signified. The locus of creativity within this interactive dynamic shifts according to the perspective of the participant, whether composer, performer or listener. This is equally true in non-notated, improvised performance, where ‘an important part of creativity is believed to be the interaction with fellow musicians, the audience and environment’ (Hsieh 2012, p150). Burnard describes this creative interaction as ‘socially distributed’, based on ‘mutuality, interaction and exchange’ (2014, p15).

Such is the multiplicity of roles above that Burnard (2012) argues that the ‘singular defined concept of *musical creativity* is outmoded’ (p6), and should be pluralised accordingly to ‘*musical creativities*’ (my italics). This is particularly apposite in contemporary creative practice where collaboration between different agents is key to the musical product, from composer to curator, producer to artist. Here there is a much more fluid conceptualisation of who the ‘creator’ is of any given musical activity and, as such, it represents a marked departure from the ‘sacralisation of the Great Composer’ (Sloboda 1985) of previous centuries. The traditional hierarchy between composer and subservient interpreter has been superseded by a more even creative distribution in many cases.

2.2.1 Substantiating Webster’s definition

Given the complexities of the empathetic and collaborative dimensions briefly surveyed above, it is perhaps useful to return to the incontestable components to musical creativity viewed from a purely individual perspective. Out of the various

definitions in the literature, Webster (2002) offers a succinct yet multi-faceted version that acts as a good starting point:

Musical creativity is...the engagement of the mind in the active, *structured process of thinking in sound* for the purpose of producing some product that *is new for the creator.*' (p26, my italics)

There are four useful elements to this definition. First, the notion that musical creativity is a 'structured process' and not the apparently mystical meanderings of genius, as romanticised in the nineteenth century. The Genevieve model may offer a novel way of viewing this 'structured process', as will be proposed shortly. Secondly, Webster talks of 'thinking in sound', which is such an important feature when differentiating musical creativity from other non-aural forms of creativity. Berliner (1994) captures this distinction well in two quotes, the first from a New Orleans trumpeter: 'When I'm improvising, I'm singing in my mind. I sing what I feel and then try to reproduce it on the horn (p190).' Then from the pianist and pedagogue, Fred Hersch: 'Any jazz player should be able to scat sing his solo' (p181). The ability to 'hear' then vocalise or actualise a musical idea is identified by Berliner and Monson (1996) as lying at the core of jazz training. Gordon (1997) calls this 'audiation': the ability to imagine the sound such that it can be recreated physically if required.

Thirdly, Webster gives the qualification that the creative product must be 'new for the creator', obviating the need for it to be 'historical' or an example of 'Big-C' creativity. This newness can be evidenced in any field of sound construction, from the timbral quality of a single note, its articulation and dynamic, through to broader issues of how a texture is organised, a rhythm built or a melody phrased. It allows for a perception of originality that ranges from a simple groove in the practice room to the final stroke on a symphony. The product need not be recorded in any form for it to be a valid expression of 'little-c' creativity.

Finally, Webster also stipulates that the first two elements in his definition – structuring ideas and thinking in sound – require the *active engagement* of the mind. 'Thinking in sound' is thus differentiated from passive listening, as Baroni (2006) is

also keen to highlight, asserting that hearing the sound ‘should not be considered a creative act if simply motivated by the pleasure of listening’ (2006, p91). Baroni then cites Wiggins (2002) in stipulating how listening can only be considered active and ‘creative’ when listeners ‘recreate the music in their own minds as they listen’ (Baroni 2006, p91). This builds on similar distinctions made by Green (2002), who categorises listening on a sliding scale from ‘purposive’ and ‘attentive’ to ‘distracted’. ‘Purposive’ listening occurs when the student has the specific aim of recreating the material in some way afterwards, usually through transcribing or copying.

2.2.2 ‘Structured thinking in sound’ – a creative cycle based on the Geneplore model and a new definition

Webster’s open-ended stipulation around the ‘structured process of thinking of sound’ invites disquisition on what this might entail. The Geneplore model is valid in describing any individual process in where a seed idea is nurtured into a preinventive structure that is suggestive of some kind of creative function. The following diagram presents how these functions can be combined with aspects of theory surrounding emergence and group cognition to form a creative cycle that offers a means of representing how an individual structures their thoughts in sound before exploring those sonic images on their instrument, whether alone or in collaboration with another:

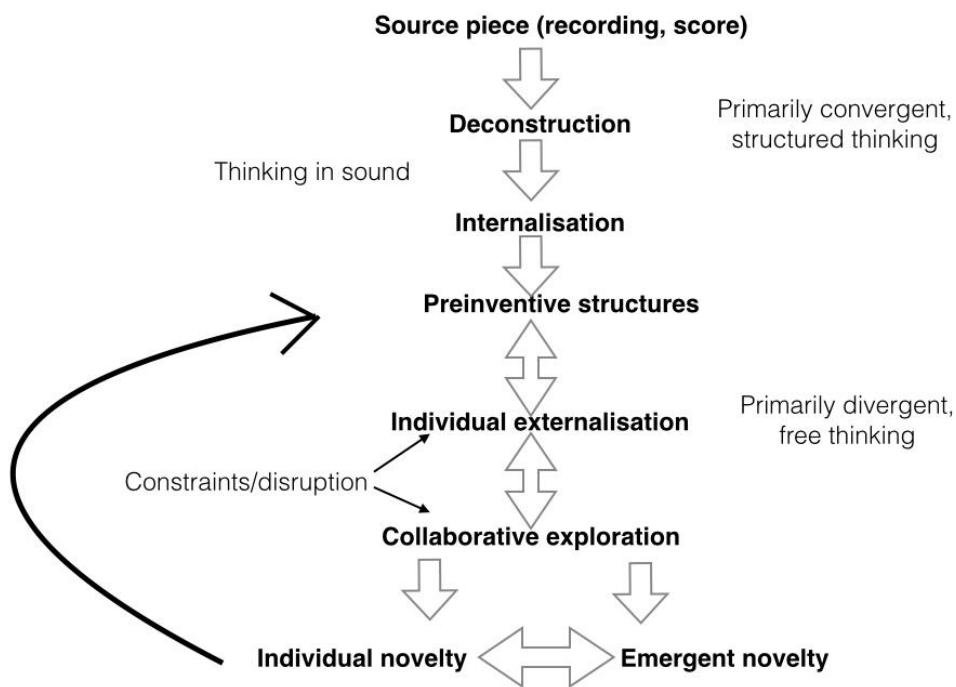


Fig.2.4 Combining theories into a creative cycle for collaborative learning

This creative cycle represents a platform from which to observe and analyse the different phases manifested at each stage of individual – and potentially group – cognition, and also gives a theoretical framework for the reinvention method. The process starts with a ‘source piece’, in recognition that there is no such thing as a ‘creatio ex nihilo’, as Campbell (2009) has pointed out. Whether consciously or not, a musical creator selects from a repository of material constituted from previous listening experiences. In the reinvention method, a different source piece launches the exercise each time, but the creative process need not be so contrived in its broader application.

There then may be a sequential quality, or apparent logic, in moving from the deconstruction of a source idea to a novel creative product, but the double-headed arrows are there to remind us that the generative and explorative phases, as per Finke’s model, are bi-directional and that the process is enriched by continual reiteration. The gestation of preinventive structures requires the testing of creative

potential and rejecting those ideas that do not progress the task, necessitating a return to the deconstruction stage. Equally, it can be that only once the product has emerged in some concrete, finished form that the creator is able to appreciate and examine their initial preinventive structures in a new light, perhaps to the extent of fundamentally reappraising them and searching for fresh generative variants from which a new exploratory process may emanate. Cyclical thinking and reiteration are presented here as an explicit and essential part to the creative process, whether as an individual or as a group. Convergent thinking operates in tandem with divergent, the one feeding the other: without deconstruction there can be no reconstruction.

The deconstruction phase constitutes an act of attentive listening, the mental manipulation of sound to the extent of 'recreating it' (Baroni 2006) such that it assumes significance to the individual listener. At this stage, the deconstructed sound might be a brief fragment, or a 'primitive gestural', to return to Webster's terminology. Moran & John-Steiner (2003) adapt the learning paradigms of Vygotsky (1972) to illustrate the two-stage creative process that follows: 'internalisation', where the creator latches on to a primitive gestural through their attentive listening, then 'externalisation', as the gestural is assimilated through being expressed vocally or on their instrument. Internalisation is a prerequisite for the generative phase in Finke's Geneplore model, and externalisation launches the explorative phase. Barrett (2012) notes how the dialectical tension between these two 'provides fertile ground for new ideas and creative products' (p63), again underlining the need for constant reiteration to keep that tension in play.

With Boden's criteria in mind, for the exploration process to be deemed as 'creative', it then needs to yield a product that is new and surprising to the creator, and that is appropriate to the task. The process is accelerated and refined through introducing constraints that give a creative scope to the task, and by challenges that deliberately disrupt habituated thought. This might be on the level of broad considerations of aesthetic and style, through to small technical 'escapes', for example breaking free from mechanistic scalar licks and riffs. In the case of group experimentation, the novel product may be referred to as the 'emergent' (Sawyer 2003), as noted before.

The stipulation that it be 'new for the creator' signifies that indications of 'little-c' or even 'mini-c' creativity are being sought - a noticeable departure in some way from an individual's previous habitual thinking, as far as this is observable or can be gleaned from their feedback afterwards.

The components of the creative cycle as detailed above could be encapsulated in a new definition of musical creativity that builds on the Webster definition given earlier:

Musical creativity begins with the audiation then generation of a seed idea that assumes preinventive potential as it is explored both audibly and intrapsychologically, taking shape through mental operations that move reiteratively between deconstruction, internalisation and externalisation, until the process culminates in a product, however brief or incomplete, that contains elements of novelty and surprise for the creator.

This and the creative cycle offer a portal on what is a very complex process, and at no point should it be inferred that creativity can be reduced to a neat formula. In practice, any attempt at systematisation will butt up against individual idiosyncrasies. Cropley (2001) rightly warns against taking a reductive stance which ignores the full 'ecological system of creativity', including as it does the 'psychological properties of the individual...effects of the situation, characteristics of the task itself and nature of the desired product' (p50). However, the model allows us to categorise observations and eventual participant feedback according to different phases, as will be the case in the reinvention method.

2.2.3 The cycle in more detail: application to the reinvention method

What are primitive gesturals?

The cycle starts with deconstruction into features, or primitive gesturals, that carry the potential of being internalised. From Finke's model, the implication is that a gestural needs to avoid complexity and length in order to be retained as a mental representation that can be manipulated effectively into something new. This could therefore be a recurring interval, a short rhythmic or melodic gesture (Webster 1992), a particular voicing of a chord or a predominant colour in the

instrumentation. It has to be an idea that invites a response, rather than being self-sufficient or in any way 'complete', for example a balanced melodic phrase.

This distinction is critical when the goal of the creative task is to operate within a language that is non-idiomatic, as is the case in the reinvention method. The gesturals are universal units, capable of being understood across styles and common to the syntax of any improviser's basic language.

What are preinventive structures and how might they be explored?

Once identified, these gesturals may be expanded using the musician's home language, whether from the classical or jazz style or another. The first step of this expansion is to generate preinventive structures that are more elaborate than the gesturals, yet still not fully actualised musical ideas. A starting point is to question the 'why' and 'how' of the gestural and to consider its potentiality in a variety of functions. A quartal voicing might therefore represent a gestural, a simple building block, and the preinventive structure then takes shape as the musician questions how that voicing affects issues of colour and density, or what it does to loosen the harmony and suggest new, non-triadic possibilities. Such questioning requires moving beyond the raw material and into their embodiment under the fingers, reaching for how they might be appropriated in a way that is new to the creator.

In terms of how these preinventive structures are then explored, we might return to those three creative cognitive operations (see p16) identified by Finke that, from the perspective of this research, have potential analogues in the domain of musical improvisation: *categorical reduction*, *functional interference* and *contextual shifting*. *Categorical reduction* is typified in Finke's model as a purposive deconstruction of an object, such as reimagining a jumble of shapes with a view to creating a new design for a boat. The task objective is given as a constraint, in this case, to lead the eye in the redesign. A musical analogue might be the analysis of a score or recording, with the task of creating a new piece within certain parameters. In the reinvention method, the instruction is to develop a piece that has demonstrable links to features of the original. Within the context of the reinvention, this version of categorical

reduction helps the musician confront the resistance they feel when viewing a notated work as a set, impenetrable work that cannot be repurposed, instead revealing it as a resource of devices and tools for exploration, either individually or in pairs.

Functional interference is achieved through reassigning an object to suit a new purpose. In musical terms, this could be approached via transposition or reharmonisation, or either extrapolating or contracting a phrase such that the preinventive structure can be heard through multiple filters, each one suggesting a new creative departure. *Contextual shifting* requires a disruption at a more macro level, encouraging the musician to reimagine the piece with a provocatively different instrumentation or style. An example would be to 're-hear' a Beethoven piano sonata played by a tango band, for example. The shift in context can unlock pathways previously shut off by stylistic boundaries and concerns.

The reinvention method takes into account these principal exploration strategies and assigns them methodically into both convergent and divergent exercises. The musician is thus led through a series of operations that have been tried and tested as promoting creative cognition, albeit not in a sonic domain. The discussion of the reinvention method can also shed light on whether the Geneplore model is both fit for purpose and promises wider applications within research on musical creativity.

2.2.4 Implications for the teacher-facilitator

Without pre-empting the discussion of socio-cultural pedagogy in the subsequent chapter, it is worth taking a brief step back at this stage to outline what the creative cycle and affiliated Geneplore operations imply for the teacher. We can already conclude that a task devised to facilitate musical creativity fundamentally needs to lead the learner through a 'structured process of thinking in sound'. This process should deliberately include space for both convergent and divergent thinking, and the challenge is to impose enough constraints to give direction towards a final creative product, yet allowing enough latitude for the learners to own the outcome.

This implies the setting of clear objectives, some control over timing of different phases (Odena 2012), and a degree of scaffolding to the learning, according to individual ability (Donato 1994), in line with findings on leading creative practice in more general educational contexts.

The teacher needs to facilitate the learners not only in passing through each phase of the cycle in a structured way, but also in a way that allows for moving freely forward and backward between generation and exploration. This may require extending the timing or prompting re-examination of ideas through open-ended questioning. The learning scenario benefits from encouraging both independent thought and, in the case of pairs as in the reinvention method, the co-construction of the creative product such that ideational fluency is aspired to at all stages, as this is the keystone to improvisation.

2.2.5 Torrance-Webster indicators as a self-assessment tool for participants

The creative cycle as modelled in fig.5 provides a means of deconstructing and categorising the processes involved in this study, from the first 'structured thought' through to the joint creative product. It is a framework for observation rather than assessment, in keeping with the emphasis of this research. It avoids static or summative measurement that would be anathema to the amorphous nature of the subject.

It is a conceptual model that is designed, however, for the external observer rather than the participants, and this raises the question of how the students might best self-assess in the studies. They need an assessment framework that uses terminology that is readily understandable and that allows them to compare their performances meaningfully across the cycle of studies.

Various methods for observing and categorising creative thinking in music have been proposed by Webster (2002, 1990, 1987) that elaborate on the basic four-fold process introduced by Wallas (1926), discussed earlier (p20): preparation,

incubation, illumination and verification. Webster renames some of these stages, for example calling incubation 'time away' from the active thinking process, as well as underlining that the break-through 'illumination' is less a one-off flash of inspiration and more a 'qualitative event that occurs many times in the creative process' (2002, p30). So far, this validates the emphases given in the creative cycle proposed on p22. The four Wallas stages, however, refer to internal cognitive processes that are both hard to discern by the individual creator and not easily observable from the outside.

In order to lay down concrete criteria with which such observations might be made, Webster turned to indicators devised by Torrance, a creativity theorist whose tests of creative thinking (1966) have acted as a starting point and, in some cases, a prototype for general assessments of creative intelligence since the sixties (Amabile 1996). Torrance, in turn, based the parameters for these tests, which measure both figural and verbal creativity in individual and collaborative contexts, on Guilford's (1959) 'Structure of the Intellect' model. Aside from categorising up to one hundred and twenty intellectual operations, this model ramified earlier precepts that divergent thinking might be measured according to four principal factors: fluency, flexibility, elaboration, and originality. Kim (2006) summarises Torrance's scoring of them as follows (p5):

- Fluency: the number of relevant ideas
- Elaboration: the number of added ideas
- Originality: the number of statistically infrequent ideas

By the time he had renormed his tests in 1990, Torrance had dropped the category of flexibility, viewing it as too similar to fluency, and had added two further sub-scales that assessed the abstract (as opposed to concrete) quality of thinking and the degree of open-mindedness involved. Hargreaves (2009), Kim (2006) and Amabile (1996) have given overviews of how the Torrance tests have been validated and verified in creativity research since the 1970s, with the common insight that they are

most helpful when applied to identifying gifted creative thinkers, widening the scope of standard IQ scores as a measure of intelligence to incorporate the multidimensionality of creative thinking. This corroborates Guilford's original intentions for highlighting divergent thinking as a valid indicator of intellect.

Webster (1987) utilised the Torrance indicators in the development of his Measure of Creative Thinking in Music (MCTM), adding a further criterion of 'syntax', which scores the structure and coherence of the product. Webster's assessment, used mainly to observe creative thinking in young musicians aged five to ten, incorporates some of the scoring mechanisms from Torrance's standardised tests, while also allowing for an external assessor for the questions of originality and syntax, following the 'consensual assessment technique' proposed by Amabile (1996,1983) that is especially apposite for those areas of creative thinking that confound an empirical approach.

For the purposes of my research, the three Guilford factors of divergent thinking as adopted by Torrance and Webster make a good basis for comparative self-analysis for the students. They are universal concepts that can be understood beyond a purely theoretical context and can be applied in a brief summative assessment of creative performance. For the self-assessment questionnaire in my case studies, I adopt the various headings – which will now be referred to as the 'Torrance-Webster indicators' – as well as adding an opportunity to reflect on the *performance* quality of the improvisation, which admits issues of tone, intonation and phrasing. I also added a simple test scale to prompt comparative thinking for the student, although the scoring would only feature as a loose indicator in the eventual analysis. The self-assessment questionnaire for all the studies, both individual and paired, was tabulated as follows:

Category	Score 1-5 (with 5 being top)	Comments
Fluency How many new ideas? How long is the piece?		
Elaboration How complex are the ideas? How well do they build on the original material?		
Originality How individual or surprising are the ideas?		
Syntax How coherent is the structure? Is there a clear form? Do the ideas cross-relate clearly?		
Performance quality How flowing and confident? How sensitively shaped? How varied?		

Fig. 2.5 Table for self-assessing creative thinking in the reinvention

2.3 Understanding 'collaborative creativity'

This section finishes by acknowledging an important development in the literature on creativity that is of particular pertinence to this study. The focus so far has been on creative processes evidenced within the individual. Over the past two decades there has been a shift within the research to expand the unit of analysis from the individual to the group (Dillenbourg et al 1999, 1996). Glaveneau (2010, 2011) has described this as moving from an impersonal 'He-paradigm' (the Ancients) through an 'I-paradigm' (nineteenth century Romantics) to the current 'We-paradigm'. To use Glaveneau's terms, *sociocognitive* and *sociocultural* approaches are now the most popular when the emphasis is on group dynamics and the analysis of a given cultural environment.

Sociocognitive approaches tend to analyse these wider influences on the processes and products of creativity from the perspective of the individual and their thinking, whereas a sociocultural approach sees knowledge and creative thought as co-constructed from the outset. The theory applies whether the creative phenomenon under study pertains to a Zeitgeist, a collective shift in thinking that concerns the whole of society, or a break-through on a more personal level – such as the group composition of a new song in a practice studio.

Engeström (1996) reframes sociocultural analysis as an expression of an ‘activity system’, giving equal accord to spoken and textual communication in his overall evaluation. The resultant theory became known as ‘cultural-historical activity theory’ (CHAT) and is now the most current iteration of sociocultural analysis in studies into creativity where the interest is in collective thinking and group interaction (see Johanson (2017, 2016), Burnard & Younker (2004), Miell & MacDonald (2000) for examples within the musical field, from conservatoire training through to primary education). Although CHAT research has illuminated many interactive tendencies between groups, this study presses into a more specifically music-bound interaction, unpicking the syntax of the music as the main medium of discourse rather than analysing other verbal and other non-verbal cues.

Within the musical domain, the complex set of dynamics by which a group creation takes shape is commonly referred to as a process of ‘emergence’ (see page 19-20). Sawyer (2011, 2008, 2003), Monson (1996), and Silverstein (1993) have all studied emergence within the field of group jazz improvisation, where the unpredictability of the ‘emergent’, or final group piece, is the central fascination, as well as the fine-grain analysis of ‘moment-by-moment combinatorics’ involved (Sawyer 2003, p9).

The overarching goal of analyses of this kind is to locate those moments where a ‘group flow’ is achieved, to use Csikszentmihalyi’s term (1996, p111), capturing that state where the whole is more than the sum of the parts and the emergent appears an unforced by-product of the explicit and implicit collaborative processes in the room. Sawyer (2003) suggests that this ‘group emergent’ occurs most reliably when

multiple subjective viewpoints are superseded by a collective vision for the piece, as musicians respond to what they have just heard in each other's playing. The reinvention method provides a lens for how this might apply to when the group concerned is just a pair, a straight-forward combination of two artistic visions rather than a more elaborate concoction.

Group flow is not, however, wholly contingent on harmonious collaboration. Sawyer cites Matusov (1996) in explaining that the process of group emergence is not about 'how performers come to share identical representations, but rather how a coherent interaction can proceed *even when they do not*' (Sawyer 2003, p6, my italics). The tension between the performers' independent intentions and creative egos can result in an emergence of a completely unexpected kind and be instrumental in sparking inspiration at both an individual and collective level.

This brief overview justifies, if not necessitates, regarding the analytical unit in the reinvention method as a pair, as well as tracing more individual paths through process. It acknowledges the headline applications and derivatives of sociocultural theory within creative research mainly as a means of introducing broad themes that will be paralleled in sociocultural pedagogical theory. These will be discussed in detail in chapter three.

2.4 Definitions of improvisation

Improvisation constitutes an activity where styles can intersect and where cross-stylistic learning can most easily occur (Benedek 2015, Sarath 2010, Benson 2003). The central research question of how to share creative learning equally between classical and jazz styles requires an understanding of how improvisation may be defined, how it is taught and practised in each style, and how its signification differs between the two according to theory, practice and valuation.

David Bailey, in his seminal work, *Improvisation* (1980) writes that 'improvisation enjoys the curious distinction of being both the most widely practised of all musical activities and the least acknowledged and understood' (p9). Most dictionary definitions (e.g. the Grove 1954, the New Grove 1980 and the New Harvard 1986) refer to improvised music being composed in the moment as opposed to music which is pre-composed. Gabriel Solis (2009) follows suit:

Improvisation [is], in the broadest sense, the practice of making compositional decisions in the moment of performance... (Nettl & Solis, p1)

The main contention in the literature then arises around how to distinguish the spontaneously-composed from the pre-composed. Most agree that improvisation and composition belong on a continuum, where the two are in dialectical tension (Berliner 1994). Nettl (1998) comments on the difficulty of knowing where one stops and the other begins, calling them 'two faces of the same process' (p16).

Within improvisation, there is always fluidity between material that is 'fixed' or 'unfixed' (Nettl 1998). Turino (2002) suggests a distinction in practice, for example, between spontaneous improvisation and 'formulaic playing' (p103), contrasting the states of 'flow' each activity permit by using the theoretical models proposed by Csikszentmihalyi (1988). It is an important distinction to make, as it helps free the improvisation-composition argument from the limitations of binary opposition and of 'notated versus non-notated' musical thinking.

Instead, improvisation is signified here by a free response to internal impulses as opposed to 'formulaic variations' or series of 'paradigmatic substitutions' found in repetitive folk music whose content is not necessarily written down in any way. Turino talks of moments in performance that constitute surprises and 'flights away from the habitual formulas', noting though that 'yesterday's improvisations and accidents become today's formulas' (p105). The truly spontaneous material can only retain its originality for so long before it too, 'through the gradual processes of habit formation' becomes captured – aurally or kinetically – as a formula.

Bailey (1980) insists improvisation *is* composition, using the term 'pre-composition' to address how music is committed to a score. This sets up a false dichotomy, though, in that it implies the act of improvisation does not itself rely on pre-formed ideas. Campbell (2002, 1991) contends that improvisation '...requires conscious as well as unconscious selection from a reservoir of musical sound expressions that have been acquired over time' (p121). She reasons that the word 'improvisation' may derive from the Latin *improvisus*, meaning 'unforeseen', but in reality the process is always about tapping into previously 'seen' material, whether unconscious sound memories in the case of a child playing with a nursery rhyme, or patterns that have been learnt during musical training. This does not connote that the process is predictable, however.

Ellis Benson in his discussion on the phenomenology of music (2003), picks up on all these threads and introduces the extra dimension of performance, concluding that '...both composition and performance are improvisatory in nature, albeit in different ways and to differing degrees' (p25). For Benson, the act of improvisation is either implicit or explicit in all areas of music-making, from concept through to execution. The tricky issue of having to discern between the pre-composed and the composed-in-the-moment is thus sidestepped, as *any* creative act or gesture no matter how 'fixed' or 'unfixed', is viewed as essentially improvisatory.

2.5 The educational importance of improvisation studies

Regardless of where it is positioned on the creative continuum, there is a consensus in educational scholarship that improvisation belongs to a fully-rounded musical training, whatever the style. Hallam & Gaunt (2012) argue for improvisation to be included as early as possible in musical education, noting that it enhances aural and technical skills that can be applied to *non-improvised* settings as well, by providing a 'clearer comprehension of music performed with notation and improving rhythmic accuracy in sight-reading' (p100). Equally, Campbell (2009) sees improvisation as key to unlocking the process of exploration and musical learning in a broader sense, as well as being 'central to making an *expressive* musician' (p140, my italics).

Whereas improvisation is the 'heart and soul' of jazz (Schuller 1968, p58), it is often relegated to the status of an optional module in classical studies, where other, non-improvisatory skills are prioritised. This divergence of approach is doubtless deepened by the different mindsets – cognitive pathways and patterns – that a musician adopts when developing competence in one or other style (as discussed on page 14). Eric Clarke (2002) has spoken of the need to balance the 'arid academicism' of current training with creative studies, and Campbell (2009) makes an impassioned call for improvisation studies to be an integral part of the conservatoire experience, ensuring that '...music students learn music to the fullest' (p134). She also asserts the need for such studies to start as soon as possible, commenting on how improvisation is a 'vague and distant notion' for K-12 teachers (p137).

More recently, there has been a growth of research into the teaching techniques and methodologies involved, both individually and in a group (Vavariagou 2017, Hsieh 2012). Hickey (2015) acknowledges the initial shift in conservatoire culture that needs to take place before such methodologies can be experimented with, including challenging the more autocratic approach of classical one-to-one tutoring and embracing the principles of 'expansive learning' (Johnston 2013) based on the principles of free jazz. When analysing the 'complex amalgamation of agencies and

structures' that shape learning at this level of higher education, Burt-Perkins (2009, p251) agrees with the standard impression that *re-creative* practice is still valued over the creative (Grigson 1985), and that notation-based and analytical skills take precedence over improvisatory ones (Creech et al 2008).

All these studies conclude that, despite the reported benefits of improvisation, there is a long way to go before improvisation is brought back into the mainstay of classical conservatoire studies. Després et al (2017) agree that improvisation is 'still rarely part of the Western classical curriculum' (p2). It remains a specialist area, with many teachers feeling ill-equipped to teach the subject adequately (Ward-Steinman 2007), particularly when faced with the formidable demands of recreating a style-appropriate improvisation, such as a baroque fantasia or a classical cadenza.

Formal improvisation studies in UK conservatoires for classical students mainly take the form of either specialist elective units or short extra-curricular courses. The culture is slowly evolving at tertiary level, however (see 2.6.1 for more detail), with a policy change called for academic forums over the last decade. As a barometer, the 'Reflective Conservatoire' conference 2015 (led by the Guildhall School of Music) made the centrality of improvisation its headline theme. Such initiatives are bolstered by encouraging signs of change in the classical industry as well, with pianists Robert Levin and Gabriela Montero demonstrating the relevance and drama of improvisation on stage.

The call for more research has been echoed in Europe regularly over the past few decades. In 2011-13 the European Commission funded an 'Improv Intensive' programme that joined twelve conservatoires across Europe to run seminars around the issues of teaching improvisation in classical music, focussing on contemporary forms. The EC report³ on these seminars found that improvisation could 'liberate musicians from the written text' in a way which 'improves their instrumental skills,

³ Report of the ERASMUS Intensive Programme Improvisation in European Higher Music Education (2013): *Improving Artistic Development and Professional Integration* [online]. Retrieved from <http://www.koncon.nl>, accessed 20/05/2014

musical understanding and freedom of expression' (p5). One of the principal purposes of instructing classical musicians in improvisation, aside from their artistic development, was to aid 'professional integration, as classical students will increasingly need to engage with other artistic contexts as part of the professional practice in their future' (p5).

More specifically, participants noted that it was 'very helpful to deconstruct the piece by making free improvisations on the basis of a written composition and then put it together again', bringing 'much more fluidity in the final interpretation' (p15); and how 'very refreshing' it was to view 'classical music with the spirit of a jazz musician' (p14). From the classical musician's perspective, this captures the essence of the reinvention method.

2.5.1 Improvisation in jazz – pedagogical challenges

Improvisation is a constitutive practice of jazz and the question of how to teach it continues to fuel much debate. As the language of jazz proliferated beyond its roots in the Blues scale into the modes and altered scales of Bebop and beyond, so different means were found for explaining its new syntax and vocabulary. A lineage of harmony tutor books can be traced from George Russell's seminal *Lydian Chromatic Concept of Tonal Organisation* (written in 1953, published 1959), through widely disseminated primers by John Mehegan (1959), David Baker (1969) and Mark Levine (1995). These approaches all advocated different systems for fitting scales, modes and extended chord shapes over certain chords and their progressions, summarily referred to as *chord-scale theory*.

Students from the sixties onwards have been encouraged to practise applying this chord-scale approach by patterning their chord-derived material into licks, often progressing sequentially at intervals of a semi-tone, tone or third. Ake (2009) notes that these licks are learned and applied in a way specific to the improviser's community of practice – i.e. 'traditional' jazz players may learn arpeggiated licks that

work over their diet of dominant seventh and diminished chords, while Bebop players will find patterns that work over extended harmonies.

On the one hand, chord-scale theory provides a logical grammar with which the student can build their own language (Monson 2009). It also allows for students to be assessed more objectively, giving the context of 'right and wrong' notes, in a way that becomes problematic with freer jazz styles (Ake 2002a).

What in the hands of one teacher may be a whole new wardrobe may become a straitjacket in another's. Ake (2002b) and Prouty (2008, 2004) have both commented on this potential, criticising the stultifying effects of teaching improvisation by rote. Prouty (2004) notes that 'jazz students seem to feel pressured to choose between the paths of individualism and creativity on the one hand, and technique and theoretical abstraction on the other' (p14). The divide that develops here is between what might be called a liberal, informal approach and what Simon Purcell, formerly Head of Jazz at Trinity Laban Conservatoire, calls a 'technicist' pedagogy (2002, p25).

What Purcell is referring to here – with the caveat of not lapsing into what he recognizes as the 'woolly thinking'⁴ of stereotyping – is how chord-scale theory has become dogma. Gabriel Solis (2009) joins Purcell, Prouty and Ake in viewing the past forty years of jazz education as 'countless variations on chord-scale theory', where students are taught how to 'manipulate licks or melodic patterns, slowly discovering more and more complicated relationships between chord types and scales in which the licks fit' (p5).

Murphy (2009) puts criticisms of chord-scale theory into context by reminding us that 'improvisation class is a form of practice, not performance' (p176), and arguing that the creative stagnation that is so often cited could be more to do with the student's inability to transform theory into practice rather than the approach *per se*,

⁴ Purcell, S. (2013). Personal interview with author. 10.11.13

and that successful jazz training relies on a healthy exposure to extra-curricular experience and influences at all times. Ake (2002b) also argues for jazz instruction to give more consideration to tone, rhythm and feel, as well as focussing on the dynamics of the group. A holistic approach, where theory and real-life applications are intertwined, is commonly advocated.

2.5.2 Classical improvisation and pedagogy

The loss of improvisation as a core practice within classical music has attracted much criticism, and its reinstatement on stage or in education has been a *cri de coeur* from many an artist and educator from the turn of last century onwards. Crawford's remonstrations in 1928 about the absence of an improvised piece in recitals set a strong precedent, demonstrating how, even at that point, extemporisations were still an expected and much anticipated part of a classical performance.

Research into the benefits of improvisation within classical studies – and any musical style, for that matter – is united on the widespread benefits to musical and academic learning, from primary through to higher education. In her exploration of the subject, Conley (2017) cites how Azzara (1993) found the ability to improvise 'appears to lead to better understanding of tonal, rhythmic and expressive elements of music, even when performing from a piece of notated music' (2017, p7). In their tutor book for young musicians, Hallam and Gaunt (2012) hold that improvisation is crucial in 'enhancing aural and technical skills, providing musicians with clearer comprehension of music performed with notation, and improving rhythmic accuracy in sight-reading' (p100).

A recent study cited by Franz in her doctoral thesis (2017) on the benefits of aural learning and improvisation compared the abilities of university students to replicate a melody either by singing and playing it back on their instruments. Classical students fared badly, needing over twice the amount of attempts to complete the task compared to contemporary students in popular styles. Franz goes on to highlight how classical musicians are missing out on the 'creative satisfaction' and

'immeasurable amounts of fun' (p8) derived from improvisatory practice, reinforcing the notion of classical musicians as creatively sterile and trapped to notation.

2.5.3 Improvisation in classical music history

Despite these widely cited benefits, there is still what might be called an 'improvophobia' among classical students. Before looking at strategies currently employed to overcome such barriers, it is instructive to be reminded quite how central improvisation was in classical music until the 1900s. It suggests that if it were possible and widely practised in the past, there is nothing that should impede its uptake now. The ability to improvise should be within the reach of every classical musician.

From its beginnings in chant and folk traditions, classical 'musicking' (from Christopher Small's book of the same name, 1998) has been rooted in improvisation. Small observes that music is primarily defined and experienced through the act of performance, and that its existence in written form, as an object of study, is secondary. Medieval musicking in the church tradition revolved around an extemporisation on a monodic chant, or *cantus firmus*, usually over a pedal point and evolving according to the principles of organum and the natural ambit of the vocal registers.

As the amount of melodic lines proliferated in the Renaissance and their contrapuntal organisation became more elaborate, so the first texts were produced that codified how those lines could be best managed and manipulated, introducing more parameters to the improvisation possible. The Baroque period saw further restrictions placed on the nature of ornamentation, where composers such as Tartini and Couperin specified the exact embellishments they required and wrote treatises on the matter, but this was counterbalanced by the freedom of whole sections that were expected to be improvised, such as preludes, fantasias and cadenzas. The schematic structure of a figured bass allowed freedom for the basso continuo, the

harmony instrument and the soloist to choose passing-notes, harmonic voicings and melodic embellishment, respectively.

Baroque scholar Charlotte Moersch (2009) alludes to the creative freedom and drama of realising such scores by quoting Saint Lambert's description of a recitative accompaniment:

...when doubling parts, one may re-strike all the notes one after another in continual repetition – thereby drawing from the Harpsichord a crackling a bit like a volley of musket fire (from Saint Lambert's treatise of 1707, quoted in Moersch 2002, p166).

Free-style ornamentation, in this respect, was seen as enhancing the overall 'Affect' (after the contemporaneous 'Doctrine of Affect' or *Affektenlehre*) of the piece, and thus intimately bound to the style and expressive rationale of the music (Moersch 2009, Levin 2009). Bach, Scarlatti and Handel were renowned for their improvising abilities, able to take a fugal subject and delight audiences with a fully worked out contrapuntal response.

The practice of embellishing melody (particularly upon repetition), for creating virtuosic cadenzas in the moment and for 'preluding' (often as a means of linking pieces with related key centres) was continued in the classical period. Mozart, Clementi and Beethoven, all pianist-composers, excelled in all these areas, by contemporary accounts. Beethoven scholar William Kinderman writes that 'Beethoven was disinclined to play his published works and preferred to extemporise' (2009, p297), recounting the horror of Ignaz Seyfried when he came to page-turn for the Master during the performance of his C minor Piano Concerto in 1803:

I saw almost nothing but empty leaves; at the most...a few Egyptian hieroglyphs wholly unintelligible to me scribbled down to serve as clues for him; for he played nearly all of the solo part from memory! (quoted in Kinderman 2009, p309)

Recreating the style of their improvisations is a formidable task and only undertaken by a handful of experts. Robert Levin, one such expert, explains that such extemporisation '...requires an intensive character study of the entire work, because

a spontaneous elaboration of the written text cannot be pasted on to the musical surface' (2009, p144). Stylistic improvisation goes beyond the extension of a scale here or a harmonic flourish there, and into the heart of adopting the composer's persona and mindset. As with the expression of Baroque music, respecting this creative approach is essential to the spirit and substance of the music. Levin sums this up in terms of risk-taking, with one important caveat:

There is nothing more risky than improvisation, but there is nothing more devastating to music's dramatic and emotional message than avoidance of risk. This is not to say, however, that any kind of improvisation is better than none. (2009, p147)

There was still an amount of interpretative freedom in the Romantic era, as Rink (2001) and Hatten (2009) have discussed in their critiques of the performance practice of Schubert, Chopin, Schumann and Liszt. Anna Piotrowska (2012), in her study of Gypsy influences on improvisatory practice of the time, speaks of a 'Romantic flourishing of the discourse of improvisation', driven in part by the cult of virtuoso soloists in the 1800s and the dissemination of tutor books on 'fanstasieren' (a particular form of piano improvisation) by Czerny and Kalkbrenner.

In the early 20th century, at the height of the lionisation of the 'Great Composer' and the deference to their score (the apex of *Werktreue*, in other words) improvisation began to lose its central function and value in Western art music. It was not until the avant-garde movement that figures such as John Cage began to re-explore the role of aleatoric music and the improvisation debate was re-opened. Cage, however, drew a distinction between what he saw as the discipline of his 'chance music' and improvisation, and was wary of his ideas being compared to jazz:

The form of jazz suggests too frequently that people are talking – that is, in succession – like in a panel discussion or a group of individual simply imposing their remarks without responding to one another. If I am going to listen to a speech then I would like to hear some words. (Quoted in Feisst 2009, p41)

2.6 Cross-stylistic improvisation and non-idiomatic language

When comparing the improvisational practices of both classical and jazz traditions, it is pertinent to remember how jazz, the more recent art form, has re-appropriated improvisatory techniques from its classical counterpart. While jazz teachers may use methods of extrapolating short motifs (e.g. riffs and licks), or tracing chordal structures and ‘encircling’ certain target-notes, this has been part of the classical improvisational tradition since the troubadours. Jazz can lay no exclusive claim to the foundational thinking behind these techniques aside from that it is much more integral to their current practice than it is to classical music. Fundamentally, though, musical sentences are built in a similar way, just with a different stylistic inflection, performance context and musical purpose. Bailey (1980) refers to the base improvisatory language and those core techniques that are shared across styles as ‘non-idiomatic’, opening the possibility for a form of ‘free improvisation’ that is less bound by the rules or syntax of one style or another.

The keyboard works of J.S. Bach illustrate how certain elements in the musical thinking are shared across styles. They reflect how the master would have improvised at the keys in order to develop his ideas, a fixed version of what would have been a fluid process. Here is an example of ‘encircling’ the chord tones of a diminished chord, taken from the cadence to his C minor fugue from book 2 of the *48 Preludes and Fugues*:



Ex. 2.1 ‘Encircling’ notes in Bach’s Prelude in Cm, bars 27-28

As Owens (1974) documented in his influential thesis on the structure and logic of Charlie Parker’s solos, this encircling is foundational to any bebop musician’s improvisational grammar, and is used to embellish and give a jazzy complexion to

triads and their extensions. This example is taken from Jamie Aebersold's transcription of a Parker solo in the tune, *Anthropology* (1978, p11):



Ex.2.2 Encircling in a Charlie Parker solo, from Aebersold's transcription of 'Anthropology', bars 51-52

Bach also delighted in syncopation and often created rhythmic interest in the line by displacing the target note, as in this excerpt from his keyboard *Invention no.13* in A minor:



Ex.2.3 Rhythmic displacement in *Invention no. 13* in Am, bars 4-6

This displacement takes on an argumentative character when right and left hands are placed at close quarters in the *Italian Concerto*, movement 1:



Ex.2.4 Displacement and dialogue in the 'Italian Concerto', mvt 1, bars 44-47

Syncopation of this kind is, of course, a core feature of any jazz solo, from ragtime onwards. Here is an example of 'pushed beats' in a transcription of Charlie Parker's solo from *Mohawk no. 1* (Aebersold 1978, p38):



Ex.2.5 Syncopation in Parker's solo from 'Mohawk no. 1', bars 9-11

Whether in the choices of melodic contour, rhythmic structure or textural devices, these are examples, in microcosm, of the parallel thinking across classical and jazz

styles. Such parallelism is the foundation for the 'trans-stylistic' improvisatory language favoured by Benedek (2015) and Sarath (2010) in their respective methods for bridging classical and jazz styles in their student cohorts, whether at university or conservatoire.

2.6.1 Collaborative, cross-stylistic learning in UK HE Music

The cross-over in improvising strategies and the learning potential inherent in sharing ideas in a non-idiomatic language has been explored to differing degrees within places of advanced musical study in recent decades. In UK higher music education, 'collaborative learning' often connotes 'cross-stylistic' or 'interdisciplinary' activity, almost to the point of synonymy (Gaunt & Westerlund 2013).

The move towards more collaborative work of this kind - and the curricular renovation it implies - has been advocated in the UK since the 1980s. Peter Renshaw (2004, 2002, 1986), formerly Principal of the Yehudi Menuhin School, has been at the forefront of this movement, writing of the 'clear need' within the conservatoire sector for 'all professional artists to be trained within a framework that acknowledges and understands the importance of cross-discipline, cross-arts, cross-cultural and cross-sector work' (2004, p99).

The scope and nature of collaboration described here is significant. Interdisciplinary collaboration (e.g. with theatre, dance or creative writing) seems to be sought more readily than cross-stylistic (e.g. between classical and jazz). As an illustration, Renshaw's report on *Creative and Collaborative learning at the Guildhall School of Music and Drama* (2011) outlines fifteen collaborative projects that demonstrate how the school is working with its partners in the creative sector. None of these describe a purposive integration of classical and jazz styles.

An examination of the curricula currently advertised for BMus degrees in UK conservatoires reveals that three out the nine conservatoires - The Royal Scottish Academy of Music and Drama, Leeds College of Music and The Guildhall School of

Music and Drama - allow for joint pathways, where students are able to take modules in both classical and jazz styles. For the Royal Scottish and Guildhall, this is in the form of optional modules and elective studies, whereas with the Leeds College, a joint BMus degree is advertised, allowing students to choose either classical or jazz as their primary or secondary study, with the allocation of taught hours weighted accordingly. Although these joint pathways exist, they do not necessarily convene the students from the combined primary studies in the same space nor do they pursue *cross-stylistic* collaborative or reciprocal learning as an objective, meaning that the 'classical-jazz divide' as identified earlier is still intact from a curricular perspective.

What is noteworthy, however, is that even in the course of writing this thesis, the pursuit of 'creative musicianship' – which assumes a certain quota of cross-stylistic, collaborative projects, although this is not always specified - has been elevated within the marketing profile of UK conservatoires, as well as being incorporated into several post-graduate programmes. 'Collaborative creativity', or variants thereupon, has become a by-word for good institutional practice, a badge of cultural relevancy and an orthopraxy in its own right.

Trinity Laban Conservatoire has recently branded itself as London's 'Creative Conservatoire', for example, while the Guildhall School of Music and Drama states that 'Collaboration is a major part to our teaching and learning'.⁵ As an expression of its cross-institutional creativity, Trinity Laban holds an annual collaborative project for a large part of its student population that runs across two weeks. 'CoLab', as it is called, 'provides a space to be creative, take risks and experiment within a rich and supportive environment'⁶, with cross-disciplinary projects that brings together the music and dance student communities. The Royal Scottish Conservatoire has its own version of this, the 'Bridge' week that happens each June and challenges students from across the disciplines to co-devise a project that can feature in its summer

⁵ Available at https://www.gsmd.ac.uk/music/performance_and_collaboration [accessed 18.10.2018]

⁶ Available at <https://www.trinitylaban.ac.uk/creative-innovation/colab> [accessed 18.10.2018]

festival. The degree of cross-stylistic collaboration within this initiative will vary according to the project.

The landscape changes with post-graduate study, and over the past four years, programmes that promote 'creative musicianship' have proliferated, mainly in response to the growing need to add workshop-leading and community music-making skills to the graduate's self-employment portfolio. The Guildhall School of Music and Drama arguably led the way with their post-graduate 'Leadership Programme', which is currently on hold and not accepting applications for 2019 entry. Its *raison d'être* is advertised online as developing 'fundamental skills that are essential for working as an artistic leader in a variety of cultural, community and education settings.'⁷ Trinity Laban offers a Master of Fine Arts degree in Creative Practice that encompasses contemporary popular music practices and is 'specifically constructed to appeal to performer/composers able to produce innovative practice-based outputs'.⁸ The Royal Academy of Music, traditionally conservative in its curricular offer, has recently also launched a Continuing Professional Development course in Creative Music Leadership, specifically aimed at community musicians with portfolio careers.⁹

Whether under the guise of pursuing creativity, creative musicianship or collaboration, this relatively recent expansion in the conservatoire curriculum demonstrates an increased openness to teaching and learning across styles and an acknowledgement of the educational shortcomings inherent in the 'silo thinking' (Renshaw 2002) of courses that insist on a singular stylistic focus for their duration – the equivalent of preparing a diplomat for international arbitration entirely in English, without recourse to the languages the work intrinsically demands.

⁷ Available at https://www.gsmd.ac.uk/music/principal_study/leadership [accessed 18.10.2018]

⁸ Available at <https://www.trinitylaban.ac.uk/study/music/mfa-creative-practice> [accessed 18.10.2018]

⁹ Available at <https://www.ram.ac.uk/study/studying-at-the-academy/programmes-of-study/postgraduate-programmes/cpd-dip> [accessed 18.10.2018]

2.6.2 Schuller's 'Third Stream' experiments in cross-stylism

Although this study is primarily concerned with collaborative practice within the UK, a significant precedent for current thinking exists in the 'Third Stream' experiments of American educationalist and composer, Gunther Schuller at the New England Conservatory Conservatory (NEC) in Boston in the sixties and seventies. While President of NEC, Schuller set up a department in 1973 that deliberately explored the confluence of classical and jazz music, mainly through collaborative composition projects. He was fascinated by the potential alchemy between the two genres, recording as a French horn player with Miles Davis and other Free Jazz luminaries in the late fifties and sixties.

When Schuller first presented the 'Third Stream' concept in a lecture at Brandeis University in 1957, it was greeted with scepticism and in some cases, outright antipathy. In Goodwin's report (2014), Schuller recalls the reaction of the musical community as follows:

I was vilified on both sides. Classical musicians looked down upon jazz, mostly, and quite a few jazz musicians were against it too, because they thought — and perhaps there was some reason for them to worry about this — that having classical music go into jazz would stultify jazz.¹⁰

Schuller's 'Third Stream' music took the gestures, rhythmic impetus and improvisation of jazz and combined it with the instrumentation, extended structures and forms of classical music (e.g. a symphonic first movement, fugue, or concerto). The subsequent Third Stream compositions proved controversial. In his article analysing these and other classical-jazz syntheses, David Joyner (2000) gives a blunt appraisal: 'Third Stream music did not work; nobody would let it', adding that audiences '...saw it as a mutt — a dangerous half-breed that threatened the pedigree of each musical tradition' (p73).

¹⁰ Goodwin, J.(2014) *Third stream headwaters explores early fusions, jazz and classical* [online]. Available at <https://www.bostonglobe.com/arts/music/2014/02/08/third-stream-headwaters-explores-early-fusions-jazz-and-classical> [accessed 29.05.17]

Undeterred, Schuller tasked pianist and composer Ran Blake with leading the new Third Stream department through its first steps at NEC. Blake put great emphasis on training the ear through deconstructing music from both traditions before encouraging the student to find their own improvisatory voice. As such, it represented a departure from norms within both classical and jazz higher education pedagogies. Williams (2012) comments that Blake's focus on 'aural internalisation' represented a welcome return to 'learning through experience' in the jazz curriculum, allowing the student to explore theory without recourse to the usual formulas (p254).

The Third Stream course lives on at NEC as the 'Contemporary Improvisation Department' (renamed as such in 1991). It has now broadened into 'multiple tributaries' (Schuller, again quoted in Goodwin 2014) that comprise languages from all world music styles, and the ethos of looking for natural points of synthesis is very much still at its core. The whole project is motivated by the desire to expand modes of musical creativity, as is typical of collaborative, cross-stylistic projects of this kind.

2.7 Conclusion

Schuller's enthusiasm and the resulting ethos of the Contemporary Improvisation Department demonstrate how much is possible within the constraints of a formal higher education curriculum. The question has to be whether elements of his approach may be organically drafted onto existing curricula in the UK and made into a regular platform for exploring improvisational practice across styles. There are signs of this happening, as discussed above, and of more elasticity in curricular design such that cross-stylistic projects could become less peripheral and more central to the student experience. For the purposes of this study, this question is refined to what might be usefully observed when cross-stylistic work of this kind is pursued in pairs, and when those stylistic 'multiple tributaries' are reduced back to Schuller's original crossover between classical and jazz musicians.

Chapter three

Collaborative learning: pedagogical theory

Having discussed the practical expressions of cross-stylistic collaboration through improvisation and the sharing of a non-idiomatic language, this chapter addresses how best to situate such collaboration in a pedagogical context. The objective is to assemble those theories that best support collaborative learning both in general and in musical contexts in particular, as well as considering their relevance to paired learning.

3.1 Defining and contextualising 'Collaborative Learning'

Collaborative learning has gained traction as a pedagogical principle and practice across the music education sector in the UK over recent years (Hallam 2005, Renshaw 2002). In his summary of music education in the 21st century, Hargreaves (2003) considered peer-led learning methods were becoming the 'prevailing orthodoxy' in the sector (p149). More recently within the UK conservatoire community, there has been a growing call for cross-stylistic and cross-disciplinary work to be an essential element and catalyst in this collaborative practice (Luce 2016, Gaunt & Westerlund 2013).

Broadly, 'collaborative learning' occurs when students are required to 'work collectively towards a common academic goal' (Kotsopolous 2010, p 129). This fosters a learning environment where knowledge is constructed together rather than individually, through dialogue, negotiation and joint problem-solving (Luce 2016, Dillenbourg 1999). In this broad sense, 'collaborative learning' has become an umbrella term for a range of associated teaching and learning techniques, such as 'collective learning, peer learning, reciprocal learning or team learning' (Hunter 2006, p76).

Bruffee (1999) identifies consistent features in all of the iterations above, including the construction of knowledge by a 'community of knowledgeable peers' (p xiii),

where the authority of knowledge is shared among the community. This assumes a flat distribution of expertise and knowledge acquisition, which is not the case in a setting where a teacher sets a specific task and acts as a facilitator. The hierarchy of authority here upsets the democratic learning ecology. Whipple (1987) differentiates the definition accordingly, classifying a teacher-led task as 'cooperative' rather than as 'collaborative' learning. This differentiation is not broadly observed in the literature, however. In most cases, tasks where the teacher is repositioned primarily as a facilitator rather than an authority figure are denoted as collaborative. Hunter (2006) reinforces this point by stating that collaborative learning is 'not just about interaction between students but also between students and staff' (p77).

Dillenbourg et al (1999, 1996) offer a disquisition on the signification of both 'collaborative' and 'learning', noting how the definitions have to be adapted according to each academic field. Examples are given of the differences in the scale of collaboration involved, from a pair of learners to thousands engaged in an online learning environment, or in how learning takes place (e.g. when considering group cognition as opposed to individual) and, critically, the level of 'symmetry' involved in the collaborative act (1999, p7). Here, the importance is underlined of matching the level of expertise between the learners involved and the range of actions in the collaborative task – a key concern for exercises where reciprocity is sought, such as in the reinvention method.

Within this vast range, Topping (2005) cites 'peer tutoring' as being the 'longest established and most intensively researched form of peer learning' (p632), where the students teach each other according to objectives set by the teacher. He notes the predominant mode is to have groups of no more than six heterogeneous learners, where successful learning is predicated on the specificity of the task and the symmetry of cognitive ability within the group, to avoid the 'blind leading the blind'. Peer tutoring implies a more structured set of teaching tactics to just small group work, which has been in vogue since the 1980s in UK secondary education. Too often, as Topping notes, schools group learners together and 'hope for the best'

(p631), elevating participative learning for its own sake (or Ofsted's) rather than attending to the individual depth of understanding.

Paired, or dyadic learning – the two are used interchangeably in the literature - is a further subset of peer learning, and the literature is unanimous on its potential for a more in-depth sharing of knowledge than a small group. The accountability in a dyad ensures that there is 'less opportunity to drift into token participation' (Topping, p633). The trend in peer learning research is, however, to study small groups, presumably because paired or dyadic work is not as practical within a large class setting, and therefore has less obvious application. The value of dyads has been documented more rigorously in other fields, notably developmental psychology and constructivist theories, and it is by reference to research in those areas and their impact on educational theory that we might best infer the benefits of paired learning for the purposes of this study.

3.2 Benefits of collaborative learning and its impact on creativity

'To teach is to learn twice', as the adage goes. Goodrich (2018) notes in his review of the peer mentoring in K-12 (equivalent to UK Years 12-13) music courses that, where a student was required to teach a specific concept to their peers, it 'helped reinforce the understanding of that particular concept' (p16). This form of peer learning, in general, encouraged the student in the teaching role to be more critically reflective of their own knowledge (p13).

Aside from improving the depth of learning, Allsup (2003) cites Slavin's findings (1990) that cooperative learning techniques can have a broader positive impact for the learning ecology, including improving 'self-esteem, interpersonal relations, attitudes toward school, self-control and even feelings of goodwill' (Allsup, p28). In a learning situation where the objectives centre on fostering creativity, levels of connection and trust among the participants are paramount. A democratic, non-hierarchical environment would seem to provide the ideal context for this. Leslie Claire's observations from her investigation of peer social processes (1994)

corroborate the benefits of a non-hierarchical scenario for improving creative attainment, writing that 'mutual work processes tend to have greater congruence with the process of being creative and fostering peer interactions which facilitate creative work' (as quoted by Allsup 2003, p28).

Furthermore, students can be more adventurous with their learning when in pairs or small groups, and this increased openness to taking risks is critical in enabling creative thinking. Vera John-Steiner, in her observation of creative collaboration across artistic disciplines (2000) finds this to be a common theme:

In partnerships we see ourselves through the eyes of others, and through their support we dare to explore new parts of ourselves. By joining others we accept their gift of confidence... (p204)

Risk-taking also implies higher degrees of both leadership and initiative (Goodrich 2018, Wells 1999), both of which are conducive to finding new paradigms of thought and action. Disrupting habit in this way creates a space where, through inherent competitiveness or through simple encouragement, creativity can flourish.

Before concluding that a learner-led collaborative setting represents the ideal for creative learning, there is one important caveat. A general theme in the studies is that the teacher is represented as a controlling, scrutinising presence and an impedance to the otherwise democratic sharing of information in the classroom. This need not be the case, particularly in a post-16 environment. A teacher can get alongside the learning process and structure in such a way that collaborative blind-spots are preempted and avoided, for example.

One such blind-spot occurs when learners, perhaps due to immaturity, do not 'socialise' in a constructive manner, particularly when more able learners treat the less able with sarcastic humour (Goodrich 2018, p18). Topping (2005) and Slavin (1990) highlight the affective component at play here, commenting on how a lack of enthusiasm, explicit reinforcement (e.g. positive feedback) and competence on behalf of the student mentor might impede the overall learning and self-confidence

of the mentee(s). Where this is the case, Tudge (1992) suggests the lack of a clear joint goal could arise, whether implicated as part of the cause or effect.

The issue mentioned here of asymmetrical competence (novice and expert pairing) is a recurring theme in literature on the matter, most often when addressing the question of how to avoid the blind leading the blind. Roberts (2016), Slavin (1990), Green (2008, 2002) and Goodrich (2018) are unanimous in underlining the benefits for the groups when relationships are genuinely reciprocal, i.e. when everybody has a chance to take leadership or be in the quasi-teacher role, whether in an informal setting or in the classroom. Their studies suggest that more fixed roles can inhibit group learning and, by extension, the flow of creativity. Roberts (2016) advocates against the trend to segregate learners into ability within the classroom, arguing that both the more capable peer and their less able partner can benefit from an asymmetrical pairing.

This finding presumes, however, that the peer learning is being well managed and that, in particular, the more able peer is being challenged at the right level and is being given adequate support on how to exercise the teacher role, if necessary. This is hard to achieve in the complicated practical setting of a music lesson, where there is a diverse set of demands. The findings in the musical domain are inconclusive when compared to 'core' subjects such as English or mathematics. Johnson (2013) writes of a 'dearth of research regarding the impact of PAL (peer-assisted learning) on student learning in secondary music contexts' (p165). His own PAL study found that learner attainment in the domains of sight-reading and music theory was broadly similar across both asymmetrical and symmetrical pairings. He puts this 'somewhat puzzling' fact down to the swapping of roles in the tasks, such that each learner was stretched according to their competence threshold (p173). Again, the reciprocal nature of the task appears to be the equilibrating factor here, ensuring sufficient differentiation for individual engagement.

There are other forces at play within a typical practical music session that resist empirical analysis, or at least make generalisation problematic. Achieving a

symmetry of competence is complicated, for example, by the diversity of skills recruited to any one task. A sight-reading test, as in Johnson's study (2013), is a measure not just of note-reading (cognitive) ability and speed of recall, but also of motor skills, listening habits and self-confidence. Then there are the conditions and constraints, whether explicit or not, of playing a particular instrument. Can sight-reading be compared with reliability, for example, between a single-line reader and an organist, who is typically reading three lines simultaneously? The permutations are myriad, even when the pairing is based on the same instrument, grade level and age.

Regardless of such issues, the desired outcomes for peer learning remain similar across its various modes, namely to '...move to a new understanding that everyone involved agrees is superior to their own previous understanding' (John-Steiner 2000, p112). This notion of consensus around the end result is important, as it is a test of whether the process has indeed been differentiated enough for in-depth learning to have occurred from a student perspective.

Secondly, within a creative context, there needs to be an element of the unforeseen for everybody concerned, such that 'the group collectively constructs an outcome that no single member envisaged at the outset of the collaboration' (Wells 1999, p333). As previously discussed, a creative thought or action is in part defined by its newness, as perceived by those engaged in the task. If the more able peers – to assume a typical scenario – report a predictability to the outcome, then their creativity will doubtless have been compromised at some level.

3.3 Theories on social learning: Vygotsky and post-Vygotskian developments

In order to understand how these correlative issues of asymmetrical competence, consensus and collaborative creativity might usefully be examined and which data from field research might yield the most insight, it is necessary to take a deeper look at the learning processes involved from a theoretical perspective. The following analysis sets out how educational theory on social learning has been complemented

by post-Vygotskian developments in cognitive science and how the two areas, since the 1990s in particular, have worked in symbiosis to advance theory on aspects of collaborative learning. It is this parallelism that has provided the foundation for more recent theoretical advances in the research of collaborative learning within music.

3.3.1 From Dewey to Piaget and Vygotsky

The benefits of collaborative learning have been extolled since John Dewey's conceptualisation of 'experiential learning' and 'productive enquiry' in 1938, which in turn gave rise to constructivist thinking in educational reform and curricular design (Gardner 1999, Kafai & Resnick 1996). The consistent goal of constructivism is to move away from a 'transmissive' teaching method (to use Rogoff's term, 1990) towards the learner constructing their own knowledge, most often through self-directed or peer learning modes.

Concurrently, there was significant focus in cognitive science on the sociocultural nature of learning, spearheaded by Piaget (1976, 1955, 1929) and Vygotsky (1972, 1968). Educational theorists in experiential learning (Savery & Duffy 1996, Houston & Pugach 1990, Schön 1987, Kolb 1984) have tended to derive their studies from Vygotskian and post-Vygotskian schools of thought, collectively referred to as the *sociocultural* approach. Although Piaget and Vygotsky concur on the interpersonal nature of acquiring knowledge – where the learning occurs through observing and engaging with others and artefacts in the learning environment - Piaget's research was more bounded by questions of ontogeny, where learning is categorised according to age-related developmental phases, early childhood to pre-teen. Vygotsky's approach did not disregard such parameters but focused more on the 'causal relationship between social interaction and individual cognitive change' (Dillenbourg et al 1996, p5).

Thus, whereas for Piaget children under the age of four could not generally be 'decentred' from their own perspective in order to learn from others, Vygotskian

theory allowed for a knowledge to be socially constructed even at this early stage, even though he acknowledged the lack of empathy and other affective issues might inhibit the process (Tomasello et al 1993). To use Moll's summary (1992), Vygotsky insisted that 'maturing mental functions must be assessed through collaborative, not independent nor isolated activities' (p3).

3.3.2 Vygotskian theory applied to learning and creativity

Vygotsky concurred with Piaget on the constructivist view where knowledge is perceived as being built, facet by facet, after recognition of the gap, or 'asymmetry' (Piaget 1955) between the known and unknown. New facets are grafted onto previously learned 'schemata' to create an organically expanding framework of knowledge. There is no room in this paradigm for an utterly original 'bolt in the dark', nor the notion of a *tabula rasa*. There is always some of construct of understanding, however loose or scant, that provides the context for new learning.

This learning happens through the individual observing and interacting with their learning environment, as mediated by language, symbol systems and artefacts, all of which impact the eventual acquisition of the knowledge (Kozulin 2003). Vygostkyian enquiry refers to a 'mediational triangle' (Vygotsky 1968) of dialogue, actions and social setting. For Vygostsky, dialogue could happen on several planes. He postulated that 'social speech' happened on an 'interpsychological' level, and then the knowledge acquired could then be processed through 'inner speech' on an individual, 'intrapsychological' level (1972). This operation is referred to as 'internalisation', when the individual reframes a facet of new understanding such that it fits their own experience, assimilating it into their future dialogue and action. Moll (1990) sees internalisation as operative in the functions of the logical memory, the formation of concepts and even the development of volition.

These processes constitute Vygostky's conceptualisation of how the individual, through interaction with their society and culture, could not only learn but also be creative, as Hultberg (2002) points out:

The idea of creativity as a way of living is central to Vygotsky's theory of cultural history, according to which individuals learn how to use and master cultural tools and gestures through re-creation of experiences of the real world. (p186)

Creativity is posited as an essentially *collective* psychological process, the result of the individual's engagement with their peers and wider community, as much as with the traditions and practices that shape their immediate cultural environment. From this psychocultural perspective, the journey by which knowledge is internalised is also that which explains the fundamentals of creative thinking.

3.3.3 Music notation as a mediational tool?

When analysing both creativity and learning, Vygostkian studies tend to focus on verbal language as the primary semiotic tool in these mediational activities as knowledge passes from one plane to another. Even so, Vygotsky acknowledged that the psychological 'tools' for mediation can encompass many other semiotic systems, including: 'counting, mnemonic techniques, algebraic symbol systems, works of art, writing, schemes, diagrams, maps and mechanical drawings, and all sorts of conventional signs' (Vygotsky 1968, pp136-7).

Music notation is one such system, as has been explored by Hultberg (2002) and others. Since 2000, there has also been an expansion of literature on the broader implications of sociocultural thinking in music education, the central tenets of which are surveyed in Barrett's 'Cultural psychology of music education' (2011). Although the 'shaping influences and forces of cultural settings' (p6) are examined from diverse angles, one area that still remains to be explored is how the specific cognitive functions outlined in Vygostky's approach pertain to the domain of music learning and creativity.

This line of enquiry would question how, for example, 'social speech' and 'inner speech', could be represented or even sublimated by both notated ideas and abstracted sound. A musician's ability to audiate, manipulate and work in non-verbal

sounds offers a new complexity to the rich interplay of verbal and notated communication already in employ. This then begs the question of how internalisation might be conceptualised and how the assimilation of musical understanding can be evidenced through playing or singing alone. The abstract nature of musical sound and the subjective way meaning is attributed to it could well complicate the analysis of cognitive pathways in this instance. However, it could also shortcut them as well. The musical product and the direct manner with which it conveys affective content could testify to in-depth learning and internalisation far more eloquently than words.

Such questions impact on the basis of observation for the reinvention method in this research, while acknowledging that any detailed discussion lies more in the specialist realm of cognitive science. They also suggest that Vygostky's legacy invites further investigation from a musical perspective. However interesting the hermeneutics are of such psychological tools and signs, the main relevance of Vygostkian theory for education – and for this particular study – remains the broader issue of how knowledge and creativity is determined by society and culture, and how the latter may be construed for musical collaborative practice. Before addressing this, one popular element of Vygostkian theory remains to be discussed, and this is how the impact of learning collaboratively may be assessed through the 'Zone of Proximal Development'.

3.3.4 The Zone of Proximal Development and its applications

Vygostky's 'Zone of Proximal Development', or ZPD, has been elevated into the mainstream vocabulary of pedagogical training. Wells (1999) describes it as 'Vygostky's most important legacy to education', but possibly also its most misconstrued. In Vygostky's own words (1978), the ZPD is:

...the distance between the actual development level as determined through independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. (p86)

There are several important pedagogical implications when applying this model, all of which impact on the design of collaborative learning tasks.

First, the learning is emphasised as being shared, or *distributed*, to use Bruner's term (1966). Interdependence is valued over independence. This legitimises the role of the teacher as a 'guide on the side' (Webster 2002) to support and assess learning, moving away from a purely didactic approach. It allows for a more differentiated understanding of goals, with individual self-actualisation as the ideal, rather than a standardised, externally-imposed learning outcome. Implicit in this is a focus on process rather than product, the travel towards a goal and how it is best facilitated.

This means, secondly, that a dynamic, formative assessment is favoured, measuring the distance between unassisted prior knowledge and the understanding after guided participation has taken place (Kozulin 2003). The emphasis moves from assessing achievement to assessing potential, from seeing IQ as a fixed descriptor to a more emergent understanding of intelligence, which in turn can provide useful cues for further individualised guidance (Magnusson, Templin & Boyle 1997).

Thirdly, the ZPD paradigm can only be effective if both a robust assessment of the learner's prior learning is in place, combined with 'a sensitive index for the potential for improvement over current performance levels' (Brown & Ferrara 1999, p274). All three have implications for the design of case studies where experiential peer learning is central. Vygotskian thinking stipulates that learners need to be facilitated towards their own independent goals with the focus on formative assessment and with a clear statement of prior learning.

3.3.5 Post-Vygotskian developments: Situated Cognition and Communities of Practice

Vygotsky's theories have created a ripple effect within educational research and have been extrapolated to suit many different learning contexts. A map of this

impact would have to include, in particular, those areas where constructivism coincides with sociocultural theory, the one pertaining to the cognitive operations and the other more to their context. As has been established, from a constructivist perspective the individual is seen as negotiating their own meaning through recognising lacuna in their knowledge and finding a means to fill in the information through observing and interacting with those around them. Sociocultural theories since Vygotsky have focused on how those lacunae are addressed in various different learning cultures and social contexts.

This orientation towards situating learning in a practice-based context or 'ecology' (Barron 2006) has been summarily referred to as *Situated Cognition* (Walkerdine 1997, Lemke 1997, Lave & Wenger 1991). When considering formal learning from this perspective, there is a need for educational institutions to attend to providing a space where learners can acquire knowledge both in *and outside* the classroom, through observation, imitation and *legitimate peripheral participation* (Brown & Duguid 1996). Land and Hannafin (2000) reflect on how this leads to students setting their own goals and being encouraged towards personal rather than canonical perspectives.

Lave and Wenger (1993, 1991) explore legitimate peripheral participation from an anthropological viewpoint, referring to the *community of practice* in which the learning takes place and an analysis of the learning culture of the community and the combined practice of the individuals it comprises – an important consideration when looking at the 'classical-jazz divide' in an institutionalised context. The implication for this research is that, when designing the protocol for the reinvention method, emphasis needs to be put on how the learners constitute a new community of practice – a cross-stylistic learning community in microcosm – and how the culture of the community needs to be consistently nurtured such that collaboration is maximised.

3.3.6 Participation theory and scaffolding

A parallel development to research into Situated Cognition is the development of *Participation Theory*, where learning is, again, viewed as inherently social, and knowledge built through interaction with a community of learners rather than independently. In their studies, Rogoff et al (1990) insist that, however formal or informal the context for such learning is, the process benefits through being guided by an expert. This builds on the constructivist principle articulated, among others, by Wood, Bruner & Ross (1976) where learning is 'scaffolded' by an experienced learner who models problem-solving to a less experienced learner – although Bruner later discarded this term. As Donato (1994) explains, the aim is to gradually dismantle the scaffold as the less experienced learner finds and internalises their own heuristic methods, such that by the end of a particular learning phase they have moved into the new, unsupported area of learning as defined in the ZPD. Wertsch (1991) emphasises the dialogic nature of this process and the interpsychological mechanisms at play, advocating that the scaffold should never be an inert construct but a constant stimulus for collaborative enquiry.

The study by Rogoff et al (1990) compares who provides the scaffolding in the guided participation: an expert, a slightly more advanced peer, or a set of peers. Interestingly, the finding was that it was possible to train a child to execute the leading role well enough for peer learning to be as effective as in an adult-child pairing. In so doing, the asymmetrical power dynamic inherent in an adult-child pairing is avoided, as is the bias where a younger learner conforms with the older partner's (perceived) expectations of a task.

Rogoff also notes the importance of ensuring children are suitably intellectually matched if the peer approach is to be productive. The instructions given need to be reliable, and the partner needs to be able to question them if not. The studies of Sinclair (2005) corroborate this by finding how peer learning can be impeded by

issues such as ‘incorrect information sharing, limited peer support, exclusion and peer oppression’ (cited in Kotsopoulos 2010, p130).

3.4 Collaborative learning methodologies for music education

The implications of Vygostkian and post-Vygostkian theories on collaborative practice in music education have been surveyed, among others, by Odena (2009), Wenger (1998, 1991) and Sawyer (1983). In his overview of the most prevalent methodologies, Bjerstedt (2016) highlights the importance of ‘apprentice-like training’ (p298) both formally within the classroom but also in informal learning outside of the classroom. Here he joins a long tradition of advocacy for providing ‘real-life’ learning situations for popular musicians (Green 2014, 2008, 2002, Sloboda 1987, Elliot 1990, Deliège 2006) and for jazz students (Ake 2010, Prouty 2008, Berliner 1994).

Imitating real-life scenarios and encouraging learning ‘on the job’ has its theoretical basis in *cognitive apprenticeship* as defined by Collins, Brown & Newman (1989), where learners are ‘enculturated into authentic practices through activity and social interaction in a way similar to craft apprenticeship’ (p37). In a practical setting, the learner copies those around them rather than learning by rote, and by default slowly immerses themselves in the community and culture in which they find themselves. They are free to ‘generate their own solution paths’ (p38), empowering them to continue independently afterwards. The teacher or expert in this context prioritises showing over telling, making ‘explicit their tacit knowledge’ (p39) by modelling their practical strategies within an authentic context.

This is a typical initiation path for a newcomer to a jazz band, as Berliner (1994) describes. If the newcomer will typically learn through listening and observing the more able soloists, absorbing their craft through ‘legitimate peripheral participation’ and slowly moving to a point where they feel confident enough to take a solo themselves. Within the jazz industry this remains an expected form of learning and

professional development (Williams 2012, Beale 2001), even though more explicit instructive methods are available to support individual understanding alongside.

It is a method that has much complementarity to that of 'reciprocal learning', articulated by Palinscar & Brown in 1984. When at the right phase of their study, the learner is encouraged to swap roles with the teacher in a technique that has analogues in the world of cognitive behavioural therapy and counselling. One approach could be to alternate between both methods, such that the expert models a specific technique in one session (cognitive apprenticeship) and the students 'coaches' the expert on the same technique in the following one (reciprocal learning).

3.5 Implications for study design

Returning to the concerns of this thesis, the literature on peer learning and on its theoretical foundations offers some clear direction on the design of practical studies in paired musical learning:

- The learning environment for paired work needs to allow for a shared authority of knowledge, avoiding an obvious hierarchy between learners, but allowing the teacher to be a 'guide-on-the-side'
- Time needs to be allowed for learners to build trust with each other, so that more creative risk-taking can occur
- The teacher's role is to scaffold the learning and to allow for tasks to be questioned and fully understood by the participants before slowly dismantling the scaffolding as learner competence and task orientation improves
- Symmetrical competence on the instrument enables the pair to share learning more equally
- There can be asymmetry within the task – where one learner may emerge as more expert than the other in a specific area - as long as the roles or mentor

and mentee are interchangeable and there is reciprocal exchange of knowledge and skill

- The success of a creative task can, in part, be assessed through feedback on the unforeseeability of the outcome and through consensus that both participants have learned new material or skills, or at least have disrupted their creative habits
- Once introduced to the task, learners should be allowed to set their own goals and, ideally, find their own solutions to overcoming barriers to those goals
- Observation of the learning process could usefully include attending to the Vygostkian mediational triangle of dialogue, actions and reactions to the 'cultural' setting (e.g. according to music style and background) involved in the paired activity
- Observations might also be made on to what extent learners have 'internalised' new skills and knowledge, and how this is best evidenced in their subsequent dialogue and actions
- In order to assess the individual's movement within their Zone of Proximal Development, a meaningful assessment of prior learning must be carried out and a benchmark set for what they can achieve alone, without the guidance of a 'more capable peer'
- The assessment needs to be formative not summative in nature, detailing change in creative habit rather than comparing the creative product to externally imposed criteria
- The task needs to be mainly practical and drawn from real-world situation to improve the chances of cognitive apprenticeship

3.6 Conclusion

The literature review in chapter two and this chapter's account of educational theory have convened aspects of research into creativity, creative cognition, improvisation and collaborative learning to highlight those areas where the four naturally coincide

and, through their intersection, offer a means of understanding the creative process in new detail. It is both complemented and complicated by the fact that cross-stylistic collaboration, specifically between classical and jazz students, is still apparently rare within advanced training, and that this is endemic of a lack of this particular crossover within UK music education more generally. When cross-over has occurred between the two styles, jazz pedagogy tends to dominate the process, resulting in the classical player being left behind. A methodology allowing a more equal, reciprocal exchange seems yet to be defined.

Finally, as we approach the subsequent case studies, the emphasis will be ultimately on learning. In everything that follows, the question is not whether students are being musically creative (according to the definitions proposed in 2.2.2), but whether over time they can learn to be more so.

Chapter four

Methodology and case study design

4.1 Research questions and aims

The principal question of this study was given as:

How might advanced classical and jazz instrumentalists learn together on equal terms through cross-stylistic improvisation, and what is the perceived impact on their musical creativity when they do?

Interrogating this in the field leads to more specific questions, including:

- Which musical language and syntax best facilitates equal sharing across musical styles?
- What are the barriers to learning through cross-stylistic improvisation, and are they predicated by stylistic concerns?
- Are there trends within the creative thinking according to style?
- How do the creative thinking processes identified correspond to the Geneplore model?
- How does learning across styles compare to same-style pairings?
- Does the requirement of working in pairs disrupt habitual thinking enough to promote original creative thought in improvisation?
- How effective is the assessment framework for appreciating different aspects of musical creativity?
- What is the student feedback on the usefulness and relevance of the cross-stylistic exercises for their other musical studies?

The aims of the research are to pilot and test the validity and reliability of exercises that might be used as part of an instructional model (the reinvention method) for building a profound collaboration and sharing of musical intelligence between advanced musicians of classical and jazz styles. Specifically, insight is sought on which teaching and learning techniques facilitate cross-stylistic collaboration of this kind and on how paired learning can best be structured in this context, taking into account the creative cognitive processes involved. From the student participants' perspective, the objective is to work through a series of 'provocations' that enables them to explore their own creative voice and reflect on their relationship to improvisation, regardless of their primary study and style background, and to

consider a model for creative practice that they might refer to in a variety of practical contexts.

4.2 Rationale for study design

The research questions are addressed by a series of comparative case studies (Yin 2009, Strauss 1987): an exploratory study to test construct validity with individual students, and a main study comprising three cycles over sixth months with Pre-Conservatoire students in pairs. Baxter & Jack (2008) note Yin's advocacy of this design when the focus of the study is to answer 'how' and 'why' questions and where behaviour of those under study is observed rather than closely controlled (p545).

The focus of this thesis is on collaborative practice and on creativity. It makes sense, therefore, to adopt a model that nurtures interaction between the participants as an integral part of the study, and that recognises the fluid and elusive nature of creativity. This is an area where a positivistic approach flounders, as does any claim of absolute objectivity. Instead, it is helpful to embrace 'the notion of knowledge as socially constructed' and that such research can be 'embedded within a system of values' (Brydon-Miller et al 2003, p11). The fieldwork therefore follows a 'participatory paradigm' of research (Cain 2012, Ward 2009), where participants are treated as collaborators rather than objects of study. Both students and researcher are engaged in a cycle of reflection and redesign (Schön 1987) in a way that allows for 'constant comparison' between the studies (Glaser 1969).

Glaser stipulates that although this method implies a continuous evolution, 'previous stages should remain in operation throughout until the analysis is terminated' (p220). The studies therefore maintain a consistency of test design and seek to replicate findings in order to improve predictability, reliability of protocol and construct validity. These findings are related at the end of each study rather than saved for one large summative statement, again in order to foreground how the studies evolved in a consistent manner.

Implied within this participatory methodology is a democratisation of the 'location of power' (Cornwall & Jewkes 1995, p1668), such that participants are given more control over the case design than in other methodologies. The researcher moves between being an observer and a facilitator, with different degrees of proaction according to the task and the level of neutrality required. Cornwall & Jewkes (1995) note that the role definition for both participant and researcher remains in constant flux, with the level of interaction ranging from 'shallow' to 'deep' (p1669). This is reflected in pedagogical terms through gauging the amount of scaffolding required – shallow or deep, in this sense - to prop the individual's independent progress into their Zone of Proximal Development.

Participants in the following studies were therefore encouraged to input on the basic elements of the reinvention test (the timings, the order of pairings, the stylistic bias) without defining the content or overall learning objectives, as each study relies on providing a fresh improvisational challenge that triggers a new and surprising product for the creator. Students contributed to the typical cycle of classroom research (planning-doing-monitoring-evaluation), working with the teacher-researcher to fix problems and plan the next phase as a team. Ward (2009) notes how this participatory model also improves communication between the participants themselves, invigorating their collaboration.

Rusinek (2007) warns of the bias of teacher as observer, given the level of influence they can exert either directly or subliminally over the student subjects. Where possible this 'researcher effect' has been acknowledged and minimised, through stepping back from the process as appropriate and using open questions within the interviews concerning the evolution of the study. This is held in tension with the need also to know the students well enough to assess when they are genuinely moving beyond their current understanding and into the new territory of their ZPD. All the students were known to me either through being students of the Bristol Pre-Conservatoire or through other teaching contexts.

Regular interviews with the participants, or 'member checks' (Cresswell & Miller 2000), were carried out to improve external validity, reach consensus on the next phase of study, and to act as 'plausibility probes' (Baxter & Jack 2008) on the content of the exercises.

Schön (1983) describes qualitative research of this kind as 'a swampy lowland where situations are confusing messes incapable of technical solution' (cited in Cain 2012, p410). Reassuringly, he also adds that '...in the swamp are the problems of greatest human concern'. Assessment tools such as the Torrance-Webster indicators offer loose parameters for analysis, and it is only through patient reiteration of the tests that, slowly and in elusive form, a picture of collaborative, cross-stylistic musical creativity emerges.

4.3 Sample size and saturation

In qualitative research of this kind, the sample size is determined by the 'theoretical saturation' of categories rather than the need for demographic representativeness (Flick 2009, p428). The sample sizes in the following studies are correspondingly small, necessitating fine-grained analysis of observations, recordings and transcripts, 'openly coded' (Charmaz 2006) into thematic headings for analysis and discussion. These codes took their root in Geneplore operations initially and then evolved as the conversations progressed to encompass other areas of creativity as discussed in the literature review (see page 16) and as they recurred within the student feedback.

They include:

Generative, exploratory, preinventive, internalisation, collaborative creativity, challenge and constraint, disruption, timing (with respect to test protocols), ZPD, style-based finding, reciprocity, novelty, surprise

The assessment rationale for these studies has been holistic, with an emphasis on observing and describing processes with the breadth afforded by the four theoretical perspectives discussed. Observing a small cohort of participants over a long cycle of learning allows for greater depth of analysis and enables a more penetrative study of

the individual cognitive processes involved in both musical creativity and collaborative work. The feasibility of the reinvention method as a potential instructional model was tested, with the aim of being able to propose its implementation and application in both an HE setting and beyond.

The question of data saturation, held increasingly as a 'gold standard of qualitative research' is problematised by the term's 'multiple meanings and limited transparency' (O'Reilly & Parker 2012, p192). Most commentaries on this subject (Mason 2010, Baxter & Jack 2008, Guest et al 2006) conclude that the overarching aim of qualitative inquiry is to have sufficient data to support the hypothesis surrounding the phenomenon under analysis. Mason (2010) found that action research generally required a smaller sample and, in some cases, this could comprise as little as a single, long-term case study – although this represented an exception to the norm. Rather than focus on the sheer quantity of data, the consensus in the literature is to shift attention to the appropriateness and adequacy of that data.

The allied issue of 'theoretical saturation', so important to the grounded theory approach (Flick 2009, Charmaz 2006), is about establishing enough congruence in the various theoretical strands in contention to sustain the paradigm(s) eventually proposed. This research is underpinned by data triangulation in several guises. First, self-assessment is cross-checked against external observation and peer assessment. Secondly, theories around paired learning, collaborative creativity and cognitive modeling are held in tension with each other, observing new cross-relations and congruence that in turn lead to new theoretical considerations. Data collection was pursued until there were no discernibly new patterns and the hypotheses around cross-stylistic learning had been satisfied, at least enough to suggest credible future directions for study.

Throughout, findings are held in contention with the fact the creative thinking and behaviour in students of an advanced level are shaped by multiple considerations, including personality, communication skills, levels of exposure to improvisation, technical competencies and attitudes towards creativity cultivated in their training

and learning environments. While the ability to generalise data may be frustrated by the complexities of individual circumstance, the sample chosen for these studies still allow for a systematic observation of the method under analysis, and for indications to be gleaned on how that method might translate into practice under non-experimental conditions.

4.4 Selection criteria and design constraints

In order to improve construct validity, and flowing from the discussion on peer learning in the previous chapter, the following factors were considered in the design of the exercises and the selection of participants:

Parity of technical skill

This is a critical factor in paired work where the goal is for one party to lead the other into their ZPD, mainly by disrupting habitual thinking though demonstrating ideas on the instrument. It is true that an imbalance of technical skills could provide a constructive constraint, for example if one student can only repeat a groove or manipulate a mode in scalar patterns, then the other, more able player, is forced to pare back their gestures or harmonic invention and this in turn can engender new directions (Hsieh 2009). However, as discussed on page 55, the majority of literature on paired learning has found that the work will generally be drawn towards the lower common denominator, meaning that the more able student is constricted, and the learning of the pair inhibited.

I drew on students whose technical abilities I knew well from coaching in chamber groups or as a composing mentor, as has been previously mentioned. I established they could move with ease around their instrument using scales and arpeggios and designed the tests in the exploration phase accordingly, in the knowledge they were achievable or, at least, that the objectives lay within each individual's ZPD technically.

Matching competence in harmonic analysis and aural ability

A common vocabulary needs to be shared for accessing and discussing the musical theory in both the generative and exploratory phases of the tests. Specifically, students were expected to be able to recognise, in notated form, chord extensions up to thirteenth in various voicings, both simple and compound intervals, modes of the major scale, rhythmic motifs and melodic devices (sequencing, contraction, fragmentation and extension).

In terms of aural skills, participants needed to be able to recognise then sing intervals up to a ninth, extrapolate simple melodic gestures on their instruments by ear, and trace the inner parts or bass line of a given texture, repeating elements of it back either by singing or playing their instrument. These are skills that are commensurate with a grade 8 aural test or a typical 'A' level listening specification.

Equal openness to improvisation

The participants in both these studies had varying degrees of exposure to improvisation in their instrumental studies and differing experiences in the field. However, all of them had been regularly required to improvise in a learning context before (whether at the Bristol Pre-Conservatoire or, in one case, Manchester University) and had an underlying *openness* to exploring music in this way. It is acknowledged that this is not generally the case with the average intake of classically-oriented musicians in the first year of a higher education music course, whether at conservatoire or university. These studies, however, were predicated on an enthusiasm to improvise even if relatively inexperienced in the area, because time and other contingencies of the test design did not allow for a period of coaching novices through initial phobias, misgivings or other typical barriers to improvisation. That would have called for a different study design with a lower set of expectations over creative objectives and output, and different ancillary research questions.

Improvising in the 'home language'

This principle is core to the research question. The tests needed to allow for a trans-stylistic response, even if the source material showed a style bias. Although some

tactics were borrowed from jazz pedagogy in the development and elaboration of preinventive structures, it is important that this did not prejudice against primary study classical musicians or compromise their ability to improvise on a level playing field with their jazz counterparts. The tests are deliberately style-neutral in this respect, not asking, for example, for the rhythm to be swung or the line to be chromatically embellished in a typically be-bop style. Priority is given to the building blocks – a chain of thirds, a recurring chord – rather than their idiomatic deployment, through a deconstruction of the musical language into its constituent parts (gesturals and preinventive structures) common to all styles. In this way, when participants come to re-invent their musical response using these constituent elements, they are doing so without having a playing style imposed on them that is alien to them.

Unfamiliar, versatile source material

Another important consideration in reducing bias was to ensure that the source material was unknown to the participants. This allowed for the initial analysis and process of discovery to be untainted by inherited mental representations of the music, either aural or notated. The opening phase of paired exploration needed to be co-led, with an even balance of initiative. To that end, the source material chosen was either unpublished (the Lasky study), written by me especially for the task (*Appalachian* and *Kinsale Shore* studies), or unknown to the student cohort despite being a well-established work (the Stravinsky *Octet*). In the case of the *Appalachian* and *Kinsale Shore* studies, I wrote the material for trio not duet so that the line instruments could be actively involved in the group deconstruction phase, having been given a better chance of internalising the ideas.

Having a range of stylistic conventions and composing rationales in these source works was important to observe which parameters would most affect the creative process, and to establish whether the methodology could genuinely work across the classical-jazz divide. To that end, the Lasky study represented a hybrid of both classical and jazz thinking, being fully notated as well as using chord symbols; the *Appalachian Study* incorporated some improvisation over chord symbols and some

folk idioms; *Kinsale Shore* was a jazz ballad with a lead sheet and several extended or altered chords, and the Stravinsky Octet was an example of both neo-baroque counterpoint and early neo-classical style.

Choice of instruments and instrumental roles

For the paired studies, it was important to find or create material that would give equal emphasis and opportunity for expression to each player, without setting up any undue barriers. Parts for the saxophone were duly transposed, and idiomatic techniques were used for all three instruments. Each participant was expected to show understanding of the harmonic and melodic processes involved during the initial exploration, regardless of their role in the eventual pairing. The conventional pairing of line instrument with accompanying piano was chosen to allow for exploration of harmony and texture in the improvisation. Although the studies could potentially work for a pair of line instruments – or two pianos, for that matter – the difficulties of implying harmony or inventing textures using two monodic lines would have presented a distracting challenge at this stage.

The particular issues a singer faces in the audiation process – hearing a sound and manipulating it mentally before reproducing it – problematise the creative process when compared to an instrumentalist. The differences have been well documented (Varvarigou 2017, Davidson & Coulam 2006, Pressing 1998), and a recurring finding is how an instrumentalist can use a motor pattern such as a pre-learned riff or lick to ‘fill a gap’ within an improvisation, whereas a singer has to rely more on their inner ear and has fewer crutches to support their generative process. The proprioceptive and tactile elements of playing an instrument also contribute to instrumentalists being able to ‘generate creative ideas faster than vocalists’ (Varvarigou 2017, p295).

Adhering to educational theoretical principles throughout

The design of each study was governed by the theoretical principles of collaborative learning as set out in the previous chapter. An assessment of prior learning and continual assessment dictated the Zone of Proximal Development for each participant, with the right balance of achievability and challenge sought in each task

for both individual and collaborative attainment. The learning was scaffolded in line with practice suggested by participation theory, until the point that participants could become independent. Where a stylistic bias was evident in the source piece, the student with the appropriate skillset (classical or jazz) would be encouraged to lead the paired learning, modelling cognitive apprenticeship.

4.5 Learning together ‘on equal terms’

The concept of equality and reciprocity in paired learning needs further examination, pertaining as it does to complex issues of mutuality, symmetrical competence and codependence within the learning dyad. From the previous chapter, two findings on paired learning may usefully be reiterated here:

- Symmetrical competence on the instrument enables the pair to share learning more equally
- There can be asymmetry within the task – where one learner may emerge as more expert than the other in a specific area – as long as the roles of mentor and mentee are interchangeable and there is reciprocal exchange of knowledge and skill

In the following studies it is important to note that, although one source piece may have been more easily accessible for one player than another due to their particular expertise, this imbalance is rectified through the deconstruction phase of the reinvention process. Once the source piece, whether a jazz ballad or a Stravinsky octet, had been sufficiently deconstructed, every player has the opportunity and ability to lead the learning process at different points within the study and for there to be ‘reciprocal exchange of knowledge and skill’. They are able to start with a non-idiomatic language, equally shared in the pair, before finding their own voice post-internalisation and improvising in their own language.

The level of reciprocity in the learning was evidenced and assessed through the exchange of idea in both playing and dialogue during the tests, through observation,

and in the verbal accounts given by each participant in the interviews afterwards. The environment for this sharing had to be attended to throughout the process, ensuring participants felt genuinely comfortable offering critiques both on each other and on the process. As a facilitator, the aim was to be alert to situations where one player could dominate the task to the extent of depriving the other of co-leadership and intervene accordingly.

Reciprocal learning has been a defining objective throughout the research, in both its motivation and design. As the literature review revealed, there have been several studies that observe non-reciprocal, novice-expert relationships, either in a pair or larger ensemble. The following studies insist that learning is observably reciprocated across styles, and that the depth of that learning is evident in both the individual and the dyad as a learning unit. In this way, the studies can offer a genuine contribution to knowledge in the area of paired learning within advanced music studies.

Chapter five

Pilot study

A pilot study was devised to test the construct validity of the reinvention method as an instructional model for the next, paired phase. The main objective was to assess whether the core elements of the method worked on an individual level before observing for bias within the paired process. Specifically, this included appraising:

- the impact of prior improvisational learning on the individual process
- the clarity of instructions and the degree of scaffolding required
- the level of technical and theoretical challenge in the source material
- the malleability of the source material - its suitability for reinvention and any style-specific barriers
- the sequence of the exercises
- the timing of the session and its impact on the learning and cycle of creative cognition
- the validity of observation criteria, considering the application of the Geneptore model
- the feedback from participants on their creative process and learning, including suggestions for amendment and improvement

5.1 Participants

The participants in this initial study were known to the researcher as students of the Bristol Pre-Conservatoire, where improvisation is encouraged on a weekly basis. This ensured a basic suitability for the exercises, based on an openness to improvise together with a solid harmonic understanding and an equal level of technical competence. All three were pianists, to allow focus on the construct design alone. They were picked to represent a range of stylistic weighting in their training, from predominantly jazz through to predominantly classical.

Each participant was asked to fill out a brief questionnaire to assess their prior learning, style preference and exposure to improvisation. The questions were as follows, with the participants' responses (Appendix A) summarised below.

- Age and current level of academic study ('A' level/BMus etc.
- Principal study instrument and latest qualification on that instrument:
- Any secondary study instrument(s)/vocal training? Which grades?
- How many years learning principal study?
- Do you study at a specialist music institute (e.g. junior conservatoire, conservatoire)? If so, please name:
- Currently, would you define yourself mainly as a classical or jazz musician? Or a mixture?
- Please rate your familiarity with each style from 1-7, where:
- *1= not at all familiar, 2-3=small amount of exposure, 4=some confidence in the style, 5-6=confident in that style, 7=primary focus and main area of competence*
- In a few sentences, can you describe your training so far in jazz and classical styles, including whether you are self-taught, peer taught or have had formal lessons from a teacher. Do mention any tutor books or online resources you may have used too.
- On a scale of 1-7, how confident do you feel improvising in your chosen style, where 1 is not at all confident and 7 is very confident?
- How would you define 'musical creativity'? What does it mean to you?
- How do you normally express your musical creativity?

Harriet – age 19

Harriet was in the first year of her BMus at Manchester University at the time of the initial study, having taken part in an intergenerational composing project at the Bristol Pre-Conservatoire a year before, where she had demonstrated strong aural skills and an ability to improvise in her own language with confidence. She had been learning piano for 15 years and had achieved her ABRSM Grade 8, and self-identified as a songwriter with a leaning towards jazz, but with confidence in both classical and jazz styles (scoring herself 4 and 5 out of 7 respectively). Influences from modern musical theatre (such as Jason Rebello, Adam Guettel) were recognizable in her improvising style. She had private tuition on jazz piano and in weekly workshops, as well self-teaching with the Charles Beale tutor book (*Jazz Piano from Scratch*, 1998, ABRSM).

On a scale from 1-7, she gave herself a 7 for confidence in improvisation and described her normal modes of creativity as songwriting and 'jamming' in groups.

Owen – age 17

Owen had been learning piano for 8 years and holds an ABRSM Grade 8, being part of both Bristol Pre-Conservatoire and the South West Music School (another specialist centre for talented musicians, where the researcher acted as his mentor). He gave himself a strong weighting towards jazz in terms of style familiarity, being mainly self-taught for the past 6 years, with some 'sporadic' lessons to support. He scored himself a 6 out of 7 for confidence in improvising and expressed his musical creativity through improvising and composing.

Charles – age 16

Charles had also spent 8 years learning the piano and had taken his grade 8, self-identifying strongly as a classical musician. His was the clearest bias in this respect, with the highest score (7) given to familiarity with classical style as opposed to 3 in jazz. He had regular formal lessons on the instrument and ensemble training at the Bristol Pre-Conservatoire, where he has also been exposed to principles of jazz theory. Again, he chose the highest mark (7) for confidence in improvisation, although cited his main outlets for creativity as 'interpretation, composition and leadership', the latter probably referring to his leading of the Pre-Conservatoire quartet and interest in conducting.

Ethics statement

A full ethics review was carried out for this and subsequent studies and participants consented to their data being used both in written and recorded form. The decision was taken to preserve full anonymity through changing their first names.

5.2 Study protocol: tasks and timing

The study comprised two 'reinvention tests' responding to *Please turn up the quiet* (2014) by Simon Lasky, the first unguided and the second following a series of exercises to support individual exploration. The aim of the first test was to see how the participants could perform 'blind' in such a task, without any prompting or intervention apart from to answer basic questions on expectations. This served as a control test, allowing for an observation of deconstruction and reconstruction components in the participants' thinking that would act as a baseline against which to measure the impact of the reinvention method afterwards.

To ensure consistency, the same wording was used for each participant to launch the test. It avoided specific prompts but gave enough material to frame the task, with a clear indication of timing both of the process and product:

Here is a piece by Simon Lasky for piano, with some guitar accompaniment. Using both the score and the mp3 recording as you wish, please reinterpret and 'reinvent' the piece in your own style and musical language.

Use Simon's work as a starting point for your own creation, referring to the piece to help give you structure and motivic ideas. Your reinvention will then be recorded and we can discuss your process afterwards.

Please focus on the first section up until the guitar solo, although you could be inspired by later material too. Your interpretation should last between 1-3 minutes, and you may notate ideas if you wish to support your performance.

You have twenty minutes.

After this control test and a brief discussion about the creative process so far, participants were led through a worksheet with exercises designed to help their exploration of the piece. This took between forty minutes and an hour, depending on the participant. They were then asked to reinvent Lasky's piece again after twenty minutes of individual, unguided exploration. This was framed by more discussion, recorded for later coding and analysis (appendix B).

5.3 Assessment of the reinvention test

The reinventions were audio-recorded for later comparison by both participant and researcher. Participants were asked to self-assess via a brief questionnaire (appendix C) based on the Torrance-Webster indicators (see 2.2.5) and through semi-structured interviews using the protocol suggested by Brinkmann & Kvale (2015). These were recorded and transcribed verbatim for analysis through open coding (Cresswell 2007). Observation notes were taken during the creative process by the researcher, which together with the student feedback, informed the design of the next phase of field research, following the participatory model for study design.

5.4 Applying the reinvention test to Simon Lasky's *Please turn up the quiet*

Lasky is a classically trained composer who has since branched out into film and jazz genres. *Please turn up the quiet* is taken from his first jazz album, *Story Inside* (2014), which combines an easy listening style with classical touches in harmony and form, and some World influences in the percussion. As such, it represented a hybrid of influences with enough familiar elements for both classical and jazz students. The classical students, for example, were reassured by the fact it was fully notated and sight-readable, and the jazz students found the chord symbols helpful for their own harmonic exploration.

Participants were given the score overleaf, together with an audio recording for reference:

PIANO
ACOUSTIC GTR,
BASS
ETT WITH DRUMS

PLEASE TURN UP THE QUIET

Simon Lasley (2014)

INTRO.

TEMPO RUBATO, RADIANTLY

(A) TEMPO MOLTO RUBATO ♩=66

mp ESPRESSO
 Fmaj7/Bb Fmaj7/A Abmaj9(#11omr3) Eb/G Gbmaj9(#11omr3) F#m11 Emaj7(#11) Emaj7(#11)/Eb

pp UNBEARABLY QUIET & INVERTED
 Cmaj7(#11)/E Am13 Bm7 E11(omr3) F13(#11)/Eb F7(#11) F7(#11)/E

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The musical score is divided into five systems, each with specific performance instructions and chord markings:

- System 1 (Measures 20-23):** Starts with a piano (p) dynamic. Chords include Bbmaj7(#11)(omr3), F/A, Abmaj9(#11)(omr3), Gm9, C#m(A009), F#m9, Bm7, and C#m(A009). A guitar instruction "(GTR. DOUBLES MELODY)" is present.
- System 2 (Measures 24-28):** Marked "IN TEMPO". Chords include Am6, Bm7, F9(#11)(#5), Cmaj7(#11), Dm(sus4), Ebmaj7(#5), Em9, Fmaj7/Bb, and Dm7. A "(WHOLE TONE FILL)" instruction is included.
- System 3 (Measures 29-33):** Marked "(PNO. ARPEGGIOS)". Chords include E11(omr3), Am9, Abmaj7(#5), Fmaj7(omr3), Em7, Ebmaj7, Gm9, and Abmaj9(omr3).
- System 4 (Measures 34-37):** Marked "(GTR. STRUMS SPANISH STYLE/PHRYGIAN ON 1ST BEAT OF BAR)". Chords include G/F#, Gbmaj7/F#, Gm/F#, Cmaj7/F#, Bbmaj7/F#, and Gbmaj7/F#.
- System 5 (Measures 38-41):** Chords include Bm9, Em11, F#m(A009), Gbmaj7(#11), C#m7(0-5), A/B, and F13(#11). A guitar instruction "(GTR. OFF-BEAT HARMONICS)" is present.

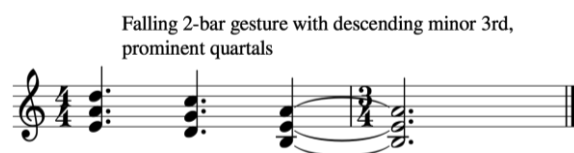
Ex.5.1 Excerpt from 'Please turn up the quiet' (copyright 2014), reprinted with permission from the composer, Simon Lasky

Several features immediately made this a suitable choice for reinvention. Its slow tempo and reflective mood invite participants to give similar space in their response, relieving any pressure on technique and allowing time to adapt and develop content. Simon uses clear motivic language within a polytonal context where the harmonic pace is high but the key centres are well signposted. Several recurring devices and features are easily identifiable both aurally and in the score. These ideas represent the 'primitive gesturals' that can be transformed into preinventive structures once internalised, following the Geneplore processes and their implementation in the creative cycle given in 2.1.2.

5.5 Identification of primitive gesturals

The following is my analysis of those recurring gesturals that carry preinventive potential in Lasky's piece. These in turn informed the content of the worksheet given to the students ahead of their second test.

The opening two-bar phrases in the introduction make a strong imprint through their simple arch, each time coming to rest on a paused chord, along with a recurring descending minor third as quoted below from the first two bars:



Ex.5.2 Descending gestural

The repeated off-beat rhythm in itself could be used in later exploration:



Ex.5.3 Rhythmic gestural

- as can the whole tone chord in bar 10, which is reiterated in bars 19 and 25, making it an important thematic colour.



Ex.5.4 Whole tone chord as a gestural

In section A (bars 12-25), ideas could be derived from the shape of the opening melodic gesture or the chromatic descending bass line, which falls from Bb to Eb.

The repeated-note rhythm with its underlying shifting chromatic harmonies in bars 18-19 also stands out:



Ex.5.5 Chromatic harmonies with rhythmic gestural

Where consecutive fourths were a recurring harmonic interval in the introduction, these are replaced by consecutive sixths, first introduced in bar 20 and continued throughout the melodic line in the 'B' section (bars 26-33). In this 'B' section a useful pattern is set up by the tread of crotchets in the left hand against a simple triplet cross-rhythm in the right (e.g. bars 26-7):



Ex.5.6 Consecutive sixths gestural

5.6 Exercises to aid internalisation and the exploration of preinventive structures

After their initial, unguided attempt, the following worksheet was given to the participants as they were led through exercises at the keyboard with the researcher in a process that took between forty minutes and an hour, depending on the participant. Given that this was the very first time they had been exposed to the exercises and this mode of working, the level of scaffolding was correspondingly high.

The rationale for the worksheet was to model generative (convergent) and exploratory (divergent) processes common to both classical and jazz thinking in a way that releases original pathways for each individual, rather than dictating their response. Taking the student out of their normal creative milieu was, in itself, an important disruption to their creative practice, helping them to think afresh about their own process and setting up a different expectation of where their impulses could lead without recourse to their habitual stylistic props. In that sense, it was a process of alienation, of resisting the natural enculturation that occurs in their usual creative environments, and an important means to objectivise the analysis of the score and finding a style-neutral way of responding to it.

The notion of vocalising creative ideas was gently introduced to improve audiation and underline it as a core skill in improvising, and the emphasis was on practical demonstrations of how to manipulate gesturals they might find, whether harmonic, melodic, rhythmic or timbral.

The worksheet moved the participant through an initial identification of those gesturals into a state where they can be internalised, that is, assimilated within the participant's own creative response in a way personal and unique to them. Each question in some way incorporated the cognitive triggers and response pathways outlined in the Geneplore model.

5.7 Reinvention worksheet

The following questions were worked through at the piano with the researcher as both facilitator and observer:

1. What are the key recurring features and devices in this piece? Consider:

- Intervals
- Chord shapes
- Chord progressions
- Melodic shapes and motifs
- Rhythmic motifs

2. Try shifting this stack of fourths around to create harmonic colour:



3. Sing this pattern of fourths as you play:



4. Play a melody that uses 4ths over these 2 chords:



5. What are the features of this chord? Which scale would fit over the top?



6. Describe the harmonic movement in bars 12-15. Try it out with another starting chord.

7. Take this melodic motif and transpose it up and down:



8. Given the C major tonality, which note sticks out and why?

9. In bars 16-17, identify the chord sequence using Roman numerals.

10. Try that same chord progression in F, G, and Bb major.

11. Try it again, this time **singing your melodic idea** over the chords in the left hand.

12. Extrapolate any melodic ideas you like, or parts of them, using semitonal shifts, e.g.:



- or thinking a fourth apart:



- or how about combining motifs in new ways?



13. Spot this rhythmic motif in the score. What happens harmonically around it? Try your own version, using the repeated-note rhythm over different chords.



14. Identify these chords and experiment using the same voicings in different keys:



15. Using broken 6ths in your right hand, improvise a line that works over the following left-hand chords:



16. Pick any two bars from the piece. Sing the melody as you play it. Now play the same excerpt in four different ways, using the same notes. Experiment with:

- timbre
- timing

17. Take the following idea and treat it as a two-part canon, or try it in free counterpoint:



18. Can you imagine arranging this piece for string quartet? Or funk band? Or which instrumentation would you pick and why?

5.8 Genevieve processes explored in the worksheet

The following examples are representative of the interventions I gave as facilitator in the process, drawing out ideas from the worksheet. They illustrate both what happened in the exploration period with the students and also the teaching techniques in principle. The falling quartal chords identified earlier make a good starting point:



Ex.5.7 Falling quartals as a gestural and starting point

These can be transformed into preinventive structure through arpeggiating the chords and transposing them downward a semitone at a time, creating an interesting melodic shape. This is an example of *functional interference* (see 2.2.3), where a vertical gestural is repurposed into a melodic category:



Ex.5.8 Quartals transformed into preinventive structure

Another promising idea was the combination of sixths over a chromatic bassline:



Ex.5.9 Consecutive sixths as a gestural

Question 16 from the worksheet begins the exploratory process on this by again freeing the right hand and mimicking a similar motion in the left. The participant is asked to introduce sixths into their response. Here I needed to model the thinking at the keyboard:



Ex.5.9 Turning the sixths and triplets into a preinventive structure

The above also incorporates other gesturals - the quartals and triplet crotchet rhythm - in a way that illustrates their synthetic potential. As before, the functional interference involves disrupting the verticality of the sixths and giving them a more linear role, interpolated with other new elements. The same process of interference applies to reharmonising the repeated note rhythm:



Ex.5.10 Repeated note rhythm

In the original this has several harmonic treatments, inviting a similarly fluid response when approaching its reinvention. Lasky's first iteration sees the B natural as a #11 in F major, moving through extensions of F7 in bar 18 into the more expansive whole tone chord of bar 19:



Ex.5.11 Quotation from bars 18-19

Through functional interference, this could be reimagined as a ii-V-I in C, moving to a resolution rather than the open-ended statement above:



Ex.5.12 Functional interference applied to harmony

Or the quartal movement could be redeployed, by reference to the introduction, allowing some chromatic ambiguity:



Ex.5.13 Quartal harmonisation

The final two questions on the worksheet use *contextual shifting* (see 2.2.3). In question 17, participants are asked to re-imagine the melodic idea quoted using baroque devices of canon and counterpoint. This sets the music free from its immediate style identifiers and opens up a new palette for the improviser, where they can access different textures and period-specific devices –embellishment, close imitation, clear voice-leading, perhaps – as a means of shaping their own eventual response.

Question 18 addresses instrumentation and encourages the participant to audiate the music with alternative instrumental colours and through a filter of a different genre (string quartet, funk band), in the hope that this too might spark a fresh cognitive pathway. Both offer alternative ways for reconceptualising the music and its purpose, inferring new ‘mental models’ and ‘conceptual combinations’ (Finke 1996, p386).

5.9 Initial impressions from the blind test

The first area for observation was the deconstruction phase, as participants acquainted themselves with the Lasky score in the blind test. Despite not being

given any explicit direction, all three candidates started by playing the recording of the piece, following the score. Charles (primary study classical) and Harriet (equal bias jazz-classical) listened to the track in its entirety, whereas Owen (primary study jazz) broke off after one minute in order to play around with fragments for ideas. Charles took a further five minutes just to study and annotate the score, sight-reading the whole piece as he went. Owen and Harriet omitted the sight-reading phase and started to reharmonise and reshape the introductory chords.

Certain tendencies presented themselves within the generative phase. Owen picked up on some chord sequences in the 'A' section and innovated new sequences, departing quickly from the written score and adding jazz-inspired extended chords of his own. Charles stuck closer to the original material, preferring to reharmonise the existing harmonies, keeping the melody basically intact but building modulations and new cadential points. Where Charles extemporized over melodic ideas in a 'fantasia' style, Owen was more driven by left-hand riffs and grooves. Harriet 'restyled' the piece almost immediately, imagining it as a pop ballad, or the genre of song in which she normally composes.

Once launched into the generative phase, no participant returned to the recording, nor did they notate any of their ideas, despite being provided with manuscript and pencils. Ideas were generated at the keyboard, with no evidence of vocalising, and one short phrase would be repeated before being expanded upon.

5.10 Analysing the recordings of the first, unguided reinvention¹¹

Owen's reinvention lasts for 1'55" and imitates the slow, reflective pace of the original. He begins by filling out the introductory quartal chords into more dense jazz harmonies (mainly extended triads), with the freedom of timing typical of a jazz ballad introduction. He uses a rising fourth – derived from the opening chords – in falling sequence, dropping through non-functional extended chords, apparently led by colour rather than harmonic logic. He quotes the two-bar melodic motif at letter

¹¹ Recordings of this and all the tests are available as mp3s that can be uploaded from the USB drive provided.

'A' in its entirety before extemporising briefly on it, then echoes the repeated-note rhythmic motif of bars 18-19. He comes to rest using the falling gesture of the opening two bars, suggesting a cyclical structure, arpeggiating upwards on the final chord, again in the style of a jazz ballad ending.

In my written assessment of the recording of this piece, I note that it felt as if Owen were deliberately sticking close to the language of the Lasky original, rather than seeing it as a platform for his own composing language, and that this restricted his potential for originality. He does not allow himself much time to elaborate on the ideas he chose, and sticks to three motifs drawn from the first page only, referring to the score as he plays. Although there was some attempt at an overall form by reiterating the opening chords at the end, the improvisation proceeds as a short expansion of three successive ideas, with little interrelation. He manipulates syntax – fragments of melodic, rhythmic and harmonic ideas – briefly but convincingly, but keeps to one expressive mode, with little variation in dynamics or articulation.

Charles's first reinvention is a similar length, just over two minutes. It is slowly paced, mainly as a means of allowing time to think rather than as a deliberate creative choice. He starts with the repeated-note rhythm, immediately evidencing a more classical ear in his harmonies, shaping his ideas around clearly formed cadences with augmented sixth chords and dominant sevenths. He sequences the two-bar motif from letter 'A' using a cycle of fifths, turning the falling gesture at the end of the phrase into a neat suspended fourth that can be resolved, in a way that recalls Schumann. A hesitant free passage follows, building chromatic harmonies and diminished sevenths over a pedal point. The 'A' motif returns, initially in the major, before returning to the minor for the final cadence.

The impression is that Charles is leading his improvisation from the perspective of functional harmony and patterns he has learned through classical training at the piano and naturally adopts in his compositional pastiches for school. He re-imagines the ballad in a different, though associated, style of an early Romantic 'Fantasiestück', retaining a rhapsodic quality even though the improvisation

proceeds rather haltingly. His approach seems to be led by reharmonisation rather than modification of melodic line or by rhythmic concerns.

Harriet's first attempt is half the length of the others', lasting just under one minute. She again is drawn to the 'A' motif, sequencing it over a chromatic bass line as in the original, but with triadic harmonies. It flows confidently, with sensitive two-bar phrasing that suggests a singable, vocal treatment, and stays within the tonic minor, using just the one melodic motif as inspiration. Harriet reported later that she was drawn to this motif because of its song-like quality, both in terms of its shape and style:

I suppose I usually play pieces with a cantabile melody, so I found that the most familiar shape, I suppose. I found that easier to hear over a different harmony because I'm more used to it.¹²

5.11 Analysis of second recording, post-intervention

Owen's second approach lasts a similar length as his first (1'51") but is immediately in a more distinctive, individual style, less beholden to the original. It is groove-based, using a repeated-note pedal couplet in the bass line, over which he uses the quartals from the introduction, grouped in falling gestures of threes. He then arpeggiates the fourths, building melodic ideas as encouraged by question 3 in the worksheet. It is notable that he keeps solely to these ideas in Lasky's introduction, extrapolating his preinventive forms purely from the prominent interval of the fourth. His rendition falters and stops prematurely, but when encouraged to continue, there is no suggestion that he was going to use any material from the rest of the piece, rather just embellish the ideas from before in different registers and with more colouration.

The repeated-note groove was one that recalled a keyboard solo from the jazz fusion band Snarky Puppy's song *Lingus* (from their album, *We like it here*), which was confirmed in interview with Owen afterwards:

¹² See Appendix B for transcript of interviews, 21.08.15

I heard drumming stops that would sound cool with chords. Thought it would sound like 'Owen Jones influenced a bit by Snarky Puppy.

Despite imitating that model, Owen writes in his self-assessment of using 'surprising ideas that deviate significantly from the original material without discarding it'.

Charles' second attempt is also markedly different to his first, embracing a more contemporary classical sound with non-functional harmony, discords and a much freer interpretation of the prompts in the score, although there are still a few cadences which hint at an inner desire to 'resolve'. His expressive range is far greater, from feathery right-hand ascents to sudden block chords. It sounds as if the exercises have given him permission to use a more expressive language, and in his self-assessment he writes that he was able to more confident, original and 'adventurous' across all parameters. His choice of preinventive gestures expanded also, incorporating both motifs from 'A' and 'B', and finishing with a nod to the whole tone scale. The level of exploration of each motif is more extensive.

Unlike the others, Harriet took the opportunity of the second attempt to continue her thinking from the first reinvention, 'rather than starting from scratch', improving her initial composition and 'trying to make it better'. When asked what that improvement entailed, she pointed to using more motifs (in particular the triplet sixths introduced at letter 'B') and developing the form of the piece, so it felt more polished and 'complicated'. She acknowledged that she was not looking to experiment with the parameters of her reinvention, which resulted in a piece that was 'broadly similar' in tone and style to the first, even if some syntactical areas were more developed.

However, Harriet was keen to do a third take, as if the process had given her the shape of a completed 'song' she wanted to express. Given the relatively informal nature of this pilot study this was allowed, as I was keen to see what her new thinking would yield. The result was significant. The opening uses the fourths harmonically in an oriental style reminiscent of Debussy, with plenty of freedom and

colour, and is a departure from the 'songwriter' style she had used until that point. After some open-voiced chords that borrow from Lasky's language, she quotes the 'A' motif before moving into the 'B' section, adding motivic ideas from the 'A' section that complement and extend the triplet motif into a pleasing new melodic idea. The opening chords return, bringing the piece to end on a question mark. The form suggests an introduction, verse, chorus and outro. This was the most 'complete' reinvention out of all those recorded at this stage, in respect of form and cohesion, reflecting in part Harriet's self-identification as a songwriter.

5.12 Emerging themes from interview transcripts

The participants were interviewed at several stages during the two tests, to check their individual understanding, test the validity of the exercises involved and examine their personal creative responses. These interviews were semi-structured and the transcriptions are attached in Appendix B. The questions were aimed at identifying any barriers to the creative process, from logistical through to technical, and encouraging commentary on the cognitive operations involved. Participants were also asked to reflect on the construct of the task and on how the next, paired exercises might usefully take shape.

ZPD and levels of challenge

The issue of setting the right level of challenge in the tasks emerged as an important initial theme from the coding of interview transcripts. One of the central educational objectives of the tests was to draw the candidates into their Zone of Proximal Development which, by definition, lies beyond their current 'comfort zone' of knowledge and practice and can only be reached through guidance from an adult or more experienced peer.

The participants' initial reaction to the test suggested they found the reinvention brief very challenging. Both Charles and Owen use the word 'daunting', while Harriet talks of being 'quite overwhelmed at first'. The reasons behind this perceived level of challenge are varied. Charles explains as a 'classically orientated person' he wanted

to 'resolve' the harmony and 'tie together loose ends', putting them into a 'functional harmony context' because he feels 'more comfortable creating' that way. Harriet's concerns were also regarding the harmonic vocabulary. Due to all the 'twists and turns' in the piece, her reaction was to 'simplify the task', because she was 'not used to that amount of harmonic information to improvise over'.

Owen explains the reasons for this challenge in more detail:

The prospect of changing it [the Lasky original] was quite daunting, but not in a negative way, just the fact that it's quite in-depth and the person clearly has an idea of what they want, what it's about.

This is an example of the perceived unassailability of a notated and recorded piece, but it also perhaps reflects Owen's own lack of exposure to deconstruction and analysis. He goes further:

I didn't want to adhere too much to the exact score. I was just...panicking a bit. But didn't know whether to stick to this or reinterpret in my own.

The latter implies that expectations of the brief and how they were communicated were not clear enough for Owen, not least in the level of stylistic imitation required. He 'found it frustrating to keep to the piece', seeing it as an inhibition rather than a productive constraint in the process. Owen also found the time allotted to the first reinvention task too short, saying twenty minutes was not a long enough time to develop the ideas. 'It was a bit stifled, I couldn't relax into it', he explains, commenting how he normally lets ideas incubate first.

These concerns reveal a lot about the individual's habitual creative approach. Charles and Harriet would normally have operated within simpler harmonic parameters, and Owen would have defaulted to his own composing voice, using more time to pre-compose. The fact that the tasks, nevertheless, were successfully completed prove that the areas of challenge they mention were not insurmountable and may have helped constrain and structure their creativity in a positive way. Each participant moved into their ZPD after guidance and displayed a significant improvement in their creative response.

Preinventive structures and habitual limitations

A common trend was the narrow scope of preinventive structures chosen in the generative phase across the two tests, although this did increase post-intervention. The motivation behind the selection, at least where this has been explicitly discussed, is revealing. Harriet selected the 'A' motif below because of its lyrical potential and melodic promise. It appeared her harmonic choices were principally governed by transposing this motif:



Ex.5.14 The motif at letter 'A', used preinventively by all candidates

She also was drawn to the motif at 'B' for similar reasons, not least because it fitted the 'poppy' style of her reinvention, to use her term. The sixths again lent a lyrical, almost saccharine quality and the triplet crotchets seemed to suggest word-setting, a mode that Harriet was used to working in.



Ex.5.15 The motif at letter 'B', used by Harriet and Charles

All three were drawn to the three-chord gesture of the introduction, either using the featured interval of a fourth harmonically (Charles and Harriet) or as a melodic embellishment (Owen). Both Charles and Harriet used the meditative mood of the Lasky original as a preinventive prompt, keeping their response within that emotional setting. Owen broke free into a more rhythmically driven reinvention in his second attempt. This was the only instance of a reinvention that gave prominence to rhythm as a generative device. Harriet kept within a strict quadruple meter in her 'verse and chorus', and Charles adopted free time in both tests. This

again related to his choice of overall mood, as he says: 'What attracted to me was the freedom of it, the mood of it...I could use silence and not just continuous music'.

Only Charles featured the whole-tone colour and scale in his second reinvention, as a fleeting final gesture. There were some moments in all three where the three repeated-note gesture and its potential for reharmonisation was loosely referenced, mainly through shifting harmonies around an anchor note rather than as a reiteration of the motivic rhythm.

Internalisation of the preinventive structures

Out of the three participants, both Owen and Harriet stated they wanted more time to absorb the source piece and to internalise its ideas before starting to craft their response. Harriet talked about having the material internalised to the extent of memorising it:

Because every parameter was unpredictable, that made it difficult to memorise in my head. I find it easy to improvise when I know the piece half well. If I'd have known the piece beforehand that would have been easier.

Owen agreed, saying:

I need to have time to let it sit in my head for a bit...Often when I'm composing I just sit down for hours. This is a compressed version.

Even though both Owen and Harriet are comfortable improvising, this suggests they saw the task more as a composition exercise at the keyboard, an invitation to 'fix' the music into a set structure in a way that perhaps in-the-moment improvisation would not allow. It recalls the discussion around the symbiotic nature of pre-composition and spontaneity in definitions of improvisation by Nettle (1998) and others (see 2.4), and the priority given to either element depending on the individual and the context of the task.

The internalisation process for all three participants relied heavily on consulting the score throughout. The recording was made use of only once, right at the start of the exercise, as a means of giving an aural snapshot, a brief mental representation of the piece. Both Owen and Charles comment on how it would be 'more abstract' without

the score, resulting in potentially a less complex response that would have been 'more emotional' (Owen), in the sense of relying less on specific preinventive structures gleaned from the original. Conversely, Owen recognises the danger of getting 'tunnel vision' with an over-reliance on the score.

When discussing their decision not to use manuscript, Owen explained that it was about efficiency:

If I'm in a creative mindset I normally record myself because I find notation slows me down. And this is so short, anyway...

Charles agrees, with some counterbalance:

Yes exactly. To write down everything would be impractical. But then, writing just a framework would also be a bit too vague. It almost limits things.

And Harriet appears not to rely on notation of any kind and admits 'I don't use manuscript, really, in my musical activities'.

In one sense, this shows a healthy reliance on the inner ear and musical memory, both of which can only enrich the eventual improvisation. Yet the process of internalisation is one of concretisation, of taking ownership, in this context, of an abstract image in sound to the extent that it can be re-appropriated and set to a new purpose in a fresh context. A balance needs to be sought here that encourages the participant to capture their ideas efficiently while not hampering the flow of their improvisation by tying them to preconceptions that do not work in the moment.

Exploration strategies

Notating ideas could be used in both convergent and divergent modes, for setting down a newly generated preinventive structure, deciding and converging on it in that sense, and consequently allowing it to take on symbiOwenc potential, suggesting divergent pathways. Another means of achieving this symbiosis of thinking patterns is to vocalise the structure, enabling it to assume weight and form through experimenting with the voice before exploring it on the instrument. Certain questions in the worksheet were intended to promote vocalisation but were glossed

over by the participants, and the exercises were not utilised in the second reinvention. This was noted in the observations but not raised in the interviews, and an assumption was made at this stage that it was to do with an unfamiliarity in their training with vocalisation techniques and that this could be addressed in future studies.

What was made explicit in both observation and ensuing discussions, however, were predominant strategies in the explorative phase. Owen felt most comfortable finding a groove that released his right hand to decorate earlier ideas, extrapolating chordal shapes and thinking pianistically when creating colour and extending registers. Both he and Harriet tried first inversions of given chords, or altering their root notes, to see if that released new melodic possibilities. In her first reinvention, Harriet explains:

I liked that first bass line going down, the chromatic B to E. I did it in first inversion, but then I took that melody and put the pitches around root position to change the shape.

Owen adopted a similar strategy:

The first chords I found interesting – changing the root notes gave a different context for the melody and I enjoyed doing that.

Harriet drew on song structure and melodic phrases, adding more pianistic effects in her final reinvention, whereas Charles experimented mainly through reharmonisation and applying colouristic touches.

5.13 Conclusions and implications for test design in main paired studies

On review, the participants' performance in these tests affirmed that the reinvention exercise, although challenging, lay within their individual improvising abilities. This is a critical finding in setting the right foundation for paired work where the exploration can be equally shared across styles, rather than led disproportionately by one musician or the other.

Initially, the participant defaulted to their 'home' style in their response, with implications in particular for harmonic choices and the focal point for their generative activity, as discussed above. This suggested that the jazz-biased harmonies of the source material did not impact the ability of the classical-orientated musicians to respond in their own language.

The worksheet with its exercises appeared to 'neutralise' the style of source material effectively, by disassembling its language and taking it out of its idiomatic context. This in turn released each participant to experiment beyond the constraints of their home style in their second reinvention, resulting in their expressing new, surprising ideas (to each creator), expanding their ability to 'think in sound' and structuring those thoughts in a musically coherent way – all central tenets of musical creativity as proposed in the Webster definition (see 2.2.1).

Charles described this intervention as liberating, helping him be more adventurous in his second reinvention:

They [the exercises] gave me liberty. Now that I knew what the building blocks were, I didn't have to worry about focusing on playing it so safe, or not playing the whole entire phrase.

He also found the thoroughness of the deconstruction and analysis helpful in identifying preinventive structures he would not have otherwise accessed, saying 'the step-by-step exercise was really helpful. It's not something I try often on my own.'

Owen also appreciated the structure and rigour of the process:

It wasn't too restrictive. It gave you a structure and put you in a frame of mind which allowed you to use ideas more comfortably.
It was almost like a crash course in getting the nice, key bits, identifying what you like and what you want to use, and that was really helpful.

This brief exploratory study – or 'crash course' to use Owen's phrase - allowed for an observation of creative habit and process that holds up to fine-grained analysis and that appears to correlate well to the Genevieve model of creative cognition, as

adapted to a musical context. The short time-frame was considered in the study design as a useful constraint, sustaining the balance and flow of convergent and divergent modes of thinking, and ensuring the individual passed through the different phases of creative cognition in the Geneplore model in bi-directional and cyclical ways as intended.

Aside from timing, the observations and participant feedback raised useful practical considerations for designing the ensuing main phase of paired tests, namely:

- whether to insist on notating creative ideas in some form
- whether to allow for more preparation and familiarity with the source material prior to the test
- whether to encourage more vocalisation of ideas
- how much scaffolding to give to the exploration process, in order to give space for peer learning and paired processes
- how to assess and set a ZPD for the dyad in paired learning

These issues were attended to by introducing them gradually over the subsequent three studies and allowing due focus on their impact in turn, rather than attempting their implementation all at once. The two final questions around scaffolding and ZPD, however, remained in the foreground of the design and assessment for each study.

Chapter 6

Paired study one: *Appalachian Study*

Having established the construct validity of the reinvention method and its reliability as a potential pedagogical model to support cross-stylistic improvisation, the main phase of studies could now take place. The research design for this phase followed the same basic concept introduced in the pilot, with refinements to the content as suggested by the participant feedback and findings listed at the end of the preceding chapter.

This main phase comprised three case studies over a period of six months, each comprising a preparatory phase followed by a four-hour test period and group assessment. The test cycle evolved according to the precepts of comparative study design (Yin 2009), with the primary objective of testing performance in pairs, both across styles (classical-jazz) and within them. In addition to these, each cycle brought slightly different focal points on pedagogical techniques and participant engagement. These will be covered in the respective introductions to each work.

6.1 Participants

The two pianists from the exploratory study, Charles and Owen, continued their participation into this main phase. They were paired interchangeably with two new line instrumentalists, Anna (violin) and Sid (alto saxophone), both of whom also belonged to the Bristol Pre-Conservatoire and so were known to the other musicians and the researcher. Following a full ethics review of the studies, all participants consented to their data being used both in written and recorded formats, although their first names have been changed to ensure anonymity. As before, the following material was gathered from their self-assessment questionnaire (appendix A):

Sid – Age 17

Sid had taken his ABRSM Grade 8 Jazz on the saxophone after five years of study on the instrument and was developing his enthusiasm for jazz through one-to-one

tuition, the Pre-Conservatoire jazz ensemble and from attending two residential courses with the National Youth Jazz Collective. He also mentions some degree of self-tuition in jazz. He had previously gone through initial classical grades on the piano (up to grade 5) and lists other secondary instruments as flute, clarinet and voice (without any grades attained).

Sid strongly defined himself as a jazz musician, giving the top score of 7 to assert jazz as his main area of competence, as well as for his level of confidence in improvising in a jazz style. His main expressions of musical creativity were through improvisation and writing music. Both he and Charles were preparing for entrance to Cambridge University to read Music at the time of this study (and subsequently succeeded in gaining a place). Their academic engagement with the subject was apparent from the start, as well as their technical competence on their instrument, which made for an interesting, potentially reciprocal pairing.

Anna – age 16

By the time of this study, Anna had already taken her DipABRSM on the violin and was considering conservatoire auditions. Although her training over six and a half years had been predominantly classical, she had just taken up some lessons in jazz violin in the months prior to this study. Her teacher was a jazz pianist, but she was able to absorb some theoretical principles to apply to her violin. With plenty of exposure to classical ensemble training through the National Youth Orchestra and assorted ensembles, she had also started playing violin in the school jazz band.

This combined interest is reflected in how she describes herself as a ‘mostly classical’ musician, while wanting ‘to do more jazz’, and reflected in a more even scoring, 4 (classical) to 4 (jazz) of her familiarity with either style. Her violin study had been supported by piano as a secondary instrument, where she was on the verge of taking her grade 8, as well learning some jazz.

Notably, Anna was the only one to define her musical creativity as a collaborative, not solitary pursuit. She expresses her creativity through ‘interacting with other

people' and notes it is 'hard to be creative alone'. She mentions 'jamming sessions' as one of the ways she collaborates with others.

6.2 Study protocol

The session began with an explanation of the overall aims of the research and an invitation to be active participants in the evolution of the reinvention test design. As before, the creative cycle and Geneplore operations acted as girding. The aim of this study was articulated as follows:

In this session you will be asked to create a response to the Appalachian Study in pairs. You should aim to devise a short 'reinvention' of the material together that lasts around two-three minutes. The reinvention should be mainly improvised, but explicitly draw on and refer to the original.

Preparation and deconstruction

Given the lack of a recorded version, I played the piece through at the piano to anchor the instruction for the participants. Throughout, analysis was presented as a practical exercise, rooted in aural exploration and experimentation.

Thirty minutes were then given for a group identification of the gesturals, instruments at the ready, and with prompting when required. Some open questions were given to frame this exploration, moving through each element of the piece as in the previous section, including intervallic language, harmonic features, bass line function, recurring rhythms, and the overall structure.

Internalisation and preinventive structures

Some of the findings were immediately assimilated into potential preinventive structures, again with guidance from me as facilitator to aid internalisation through checking thorough understanding of the musical principles and their potential application. These are presented in the next section. Participants were encouraged to sing short ideas before extrapolating them on the instrument.

Individual exploration

In the next ten minutes, Charles, Anna and Sid played the piece through, with Sid and Anna taking a short solo in the twelve-bar break, bars 27-32. The group discussed first impressions of the piece and how certain ideas might be extended in the reinvention phase. A further ten minutes were allowed to play with some starter ideas, separately but in the same space. Notation of these ideas was encouraged, even in rough form or shorthand.

Collaborative exploration

The group was first split into like pairs (Anna on violin and Charles on piano, Sid on sax and Owen on piano) and given forty-five minutes to reinvent the piece together, using elements from the original study as a platform for their creation.

I observed this process, taking notes and avoiding any kind of intervention. Having considered some form of video or audio recording for this process, it was agreed with the participants that the scrutiny that would bring, at this vulnerable early stage, would be counterproductive.

Verification

The group then was recalled to share their improvisations, which were audio recorded. Feedback was then invited on each other's work, followed by an interview about their experience of the process so far. This took forty-five minutes. The recordings and transcriptions of these interviews are available as appendices.

Alternate pairings

After a break, the participants were then split into mixed pairs for another forty-five-minute reinvention together. This was observed as before, with the same performance and assessment afterwards.

Post-test assessment

The recordings of the reinventions were sent to the participants to assist them in a brief self-assessment questionnaire based on the Torrance-Webster indicators (as

iterated on p28). The same pro form was used by the researcher, again on re-listening to the recording. The scoring was not used for any kind of quantitative analysis, but rather as a prompt for reflection and a means for basic comparison.

6.3 Analysis of the *Appalachian Study*

As this was the first study for the new group of participants, it seemed appropriate to write a piece that represented a roughly equal balance of style influences and that was equally unfamiliar to everyone. My *Appalachian Study* was loosely inspired by the orchestral suite to *Appalachian Spring* by Aaron Copland, written in 1944 as the final of his trio of populist ballets. Copland's clarity of motivic development and the transparency of his writing lends well to student analysis and, potentially, to a reinvention exercise. As part of his own composing rationale and in the quest to find an authentic 'American' voice, Copland also bridged classical, jazz and folk elements in his scores. *Appalachian Spring* famously quotes a Quaker folk melody, *Simple Gifts* (1848), and subjects it to a number of variations at its culmination, as well as referencing some melodic and rhythmic idioms from the pioneers' dances and songs.

Aside from one nod to Copland's predominant triadic bitonal chord – a second inversion E major over a first inversion A - in the final bar, the study piece bears no resemblance to the original, inspired by the spirit rather than the letter of the composer's work. (For ease of reference in the exploration phase, I named this bitonal chord the 'Mother Nature' chord, after its narrative context in the original.) The study was written the participants' instruments in mind, scored accordingly for piano, sax and violin. It was important at this early stage that they could play the material through for themselves and get acquainted with it practically as well as theoretically. The parts lay well within their technical abilities and were sight-readable, with recurring intervallic and rhythmic motifs that could quickly be identified and assimilated. Although mainly fully notated, I included six bars of chord symbols, in the style of a jazz lead-sheet. This was a means of gradually introducing the practice of playing over chords for the uninitiated, as well as giving the jazz musicians some more freedom. The study is given in full overleaf:

Appalachian Study

♩ = 60 Reflective, searching

Violin

Alto Saxophone

Piano

7

Vln.

A. Sax.

Pno.

12

Vln.

A. Sax.

Pno.

Breathily *tr* *pp* *p* *warmly* *mf* *Freely* *p* *Freely, molto rit.*

Detailed description: The score is for three instruments: Violin, Alto Saxophone, and Piano. It is in 4/4 time with a tempo of 60 beats per minute. The key signature has two sharps (F# and C#). The piece is marked 'Reflective, searching'. The first system (measures 1-6) features the Alto Saxophone with trills and a piano part with a melodic line. The second system (measures 7-11) shows the Violin and Alto Saxophone with more active lines, and the piano accompaniment. The third system (measures 12-15) continues the development of these parts, with the Alto Saxophone playing a melodic line and the piano providing harmonic support.

17 $\text{♩} = 90$ Vivo

Vln. 

A. Sax.  *mf*

Pno. 

19 Folk-like

Vln.  *f*

A. Sax.  *mf*

Pno. 

21

Vln.  *f*

A. Sax.  *mf*

Pno.  *f*

23

Vln.

A. Sax.

Pno.

26

Improvise in turns around chords

Vln.

A. Sax.

Pno.

G9 A♭11 Em11 Ebmaj7+13 D9 Cm11

(Guide voicings only)

33

Vln.

A. Sax.

Pno.

p rit. *p* rit. Molto rit. *pp* *pp*

p colle parte

Ex.6.1 'Appalachian Study', by the author

6.4 Identification of gesturals

The design for this study was to remove the pedagogical tool of a worksheet that was used to scaffold the analysis in the exploratory study, given that two of the participants were already familiar with the reinvention test. It was deemed more instructive to observe how they applied their own analytical skills at this stage, and how they would lead the other two participants through the process. As a facilitator I was on hand to signpost the following features, most of which were successfully identified by the students independently.

The short piece (about three minutes long) follows a clear emotional arch, starting and ending softly, with a folk-dance inspired middle section. This imprint in itself could be used as a gestural if required, a basic shape to respond to. Another general direction is that it moves from chromatic dissonance and uncertainty through to open triads and resolution.

The harmonic language is inspired by Copland's bitonal polychords, which could be read as 'upper structures' from a jazz theoretical standpoint. The iconic opening polychord to *Appalachian Spring* –the 'Mother Nature' chord in the original ballet narrative - provides the template. Tethered to an A pedal, it creates an openly voiced Amaj7+9 chord, but is introduced, gently arpeggiated up the string section, as two separate entities, the dominant triad responding to the tonic, before merging into one sonic unit.



Ex.6.2 The 'Mother Nature' chord

The piano part uses polychords initially, as a reflection of this 'Mother Nature' shape:



Ex.6.3 'Mother Nature' polychords

A version of the iconic chord is also given by all instruments in the final bars:



Ex.6.4 Closing iteration of the 'Mother Nature' chord

Aside from chord shapes, several other gesturals recur at the beginning. The rising minor second, responded to by its inversion, a falling major seventh.



Ex.6.5 Motivic intervals and their inversions

Seconds and sevenths then predominate the violin folk material from bar 19:



Ex.6.6 Use of motivic intervals

The saxophone repeats a quaver-crotchet-quaver rhythm that will be subject to diminution in the middle section to form a riff, itself built on the melodic shape of the bars before. The semitonal movement of bars 12-16, oscillating between Dmaj7 and Ebmaj7, is picked up in the *Vivo* session as the riff passes between those chord shapes (transposed below into C):



Ex.6.7 The riff combining rhythmic and intervallic motifs

In this middle section, the violin continues the double-stopping employed in the introduction, as well as the semiquaver movement, this time with more energy and purpose. When the piano enters in bar 21, it gives space for this busyness by using quartal and quintal voicings, another reference to Copland’s typical harmonic language and ‘open prairie’ sound.

The semitonal bass line continues as a guiding principle in the piano part, before giving a direct quotation of the ‘Mother Nature’ chord in bar 33.

6.5 Generating preinventive structures: teaching techniques

Using similar techniques to those discussed in the worksheet to the exploratory study, the following is a selection of generative processes specific to this study that formed the basis to helping the participants internalise the gesturals above and start creating preinventive structures. They are not exhaustive, and only a few were used in the preparation phase (see below) as instructional tools. Instead, this is a representative sample to demonstrate the thought processes involved:

Participants were encouraged to experiment with minor seconds and major sevenths, seeing them less as a static motif and more as intrinsically melodic:



Ex.6.8 Preinventive structure based on motivic intervals and their inversions

They were asked to verticalise them as chords, with an added note for extra colour:



Ex.6.9 Verticalisation of preinventive structure

These composites avoid a classical or jazz bias. They are conceptually founded, unbounded by style.

The two methods of functional interference – linear and vertical - could now be combined to give both harmonic and melodic starting points:



Ex.6.10 Combination of linear and vertical functions

The ‘Mother Nature’ chord made for an obvious source of preinventive structures. It could be transposed, put through different inversions, used as a basis for melodic invention, and the composite structure altered to find new possibilities that still reference the triadic foundations of the original. The example below transposes the chord up a semitone, suggesting a melodic response and maintaining the fourths as a characteristic of Copland’s style:



Ex.6.11 Extrapolating the 'Mother Nature' chord

Having introduced the oscillation between D and Eb from bar 12, this remains a fundament in the *Vivo* section, until the piano enters at 21. Here there is a degree of functional interference through reharmonising, dropping the bass line through thirds (yielding Gmaj7#11 and Em9 under the Dmaj7 upper structure and Cm9 and Ab9+13 under the Ebmaj7), while maintaining chromatic movement to pass between the two.

The participants were encouraged to experiment with shifting the bass line in the same way, observing the same upper structures, and to comment on the different complexions to the chord, in particular the effect of moving between sharp and flat keys: how do the colours of the underlying chords affect the melodic choices? Is the Eb necessarily 'darker' than the D, or does the major seventh in both give them comparable brightness?

Exploring this chromatic harmonic movement could be done in progressive steps, to support those less used to improvising while setting a challenge for the more adept. Thus, having established common notes between the two chords and their derived scale – D, G, and A in the case of Dmaj7 and Ebmaj7 – a simple route between the two could first be found, for example:



Ex.6.12 Pivoting between chromatic colours

This could then transmute into more fluid motion, with some rhythmic interest in the second bar. In the example below, this is set against the motivic rhythm from the sax riff of before, demonstrating the combinatorial quality of preinventive thinking.



Ex.6.13 A more fluid response

Finally, using the principle of contextual shifting, the context of the original ballet could be reintroduced, to give a different overall function and purpose to the reinvention. What if their reinvention were to accompany a ballet? How could their writing lend itself to a choreographic interpretation? Does it have to do with rhythmic vitality or graceful lines, or is that a cliché?

6.6 Initial observations

The thirty minutes given to the preparation phase looked potentially too short on paper, but in practice was sufficiently long for the participants to form an inventive structure from which they could then improvise effectively together. The time limit was more strictly imposed than in the pilot study, as a means of bringing focus to the dialogue and to make sure the pair stayed focused on the task. It also mitigated against fixing the ideas too firmly, leaving room for improvisational spontaneity.

The classical pair, Charles and Anna, started by sight-reading the whole piece through, familiarising themselves with the original material aurally as much as

practically. The jazz pair, Owen and Sid, departed from the original immediately and launched into improvising ideas. This corresponds to a similar bias in the Lasky pilot study, where Charles felt more comfortable in analysis mode initially, sight-reading the Lasky conscientiously from beginning and to end and pausing to reflect at the keyboard. Owen, however, immediately experimented with left-hand riffs or began extending chord shapes into melodic gestures. The stereotype of classical musicians being more score-bound compared to their free-flying jazz counterparts seemed to be upheld here.

There is, however, an apparent paradox in how keen Owen is to capture those improvisatory thoughts and settle them into a fixed composition. In his pairing with Sid, it was Owen who took the lead by suggesting preinventive structures and directions, with a view to them culminating in fully formed, agreed ideas. Sid was vocal and contributed, but was mainly in responsive mode.

Charles' classical thinking was evident in his references to Messiaen and the notion of 'colour chords' as a means of guiding his non-functional harmonic choices. He led Anna in discussing an overall form and structure to the reinvention first. They agreed to observe the same basic evolution of the material as the original, using that to scaffold their joint exploration.

Neither pair used manuscript to notate such thoughts as they went, despite that being on offer. The exchange of ideas flowed between verbal and purely musical, dialoguing on the instruments alone. Despite the invitation to communicate ideas through vocalising and singing, this again was not apparent in either the deconstructive or generative phases.

In the second cross pairing, the keyboard players, Owen and Charles again took the lead in forming patterns and suggesting a harmonic rationale for the reinvention. Owen used the same language as in his like pair to develop ideas with Anna, referring to suspended chords and their associated Mixolydian modes to kick-start

their collaborative process. Anna accommodated this without resistance, tracing scalar ideas from the modes in the same way a primary study jazz musician would.

In the second Charles-Sid pairing, the ideas seemed to flow less readily, as if both were politely refraining from dominating the process. Again, Charles seemed eager to agree on an overall form for the reinvention and use this as the initial way in to negotiating next steps. Both he and Sid held the original more in mind, referring to it more consistently than the Owen-Anna pairing. Sid was happy to improvise melodic ideas, giving Charles a more accompanimental role than in the first pairing with Anna, spontaneously harmonising Sid's line.

Contrary to the exploratory study, where there was a sense of trepidation about the task and time needed to embed the instructions and work through the conceptual framework of the reinvention test, the fact that both Charles and Owen were already initiated seemed to help the flow and pace of the session. They could guide the others through the process and ensure they did not feel as easily overwhelmed.

6.7 Analysis of the recordings

Each reinvention was audio-recorded for later analysis, and the following commentaries are designed to be read alongside those recordings.

Classical pair: Charles and Anna

Charles and Anna's reinvention lasts just under three minutes, which is almost double the length of the solo responses recorded for the Lasky study.

It starts with a free exploration of the feature intervals, Charles falling in semitones and rising in fourths, and Anna responding with a chain of rising and falling sevenths, creating a lyrical motif akin to the preinventive structure suggested earlier (ex.13).

Although the thinking is clearly led by the intervals, they have sought to create a sense of line, with the repetition of a simple idea - a falling and rising seventh – to consolidate its melodic status. Charles accompanies sensitively, interpolating minor

seconds between Anna's wider intervals, before using some polytonal chords. The language is contemporary classical, unmetered and yet with form and phrasing.

The transition to the faster section, referencing the *Vivo* from the original, is reasonably abrupt, almost as if they had lost faith in the potential of the opening section. Over the 'sax' riff (ex. 12) played by Charles in its original key, Anna plays a lyrical melody that has elements of Klezmer through its extrapolation of the semitonal movement of before in a rich, deeper register. Charles shifts the bass line downwards under the riff, allowing for an otherwise static harmony to take direction. Anna picks up the rhythmic gestures of the riff and quotes them different pitches, before slowly introducing some falling scalic ideas.

This signals the next development, where both use the scalic folk violin elements from the original. Anna makes the most of double stopping to structure her solo and the reinvention intensifies over the Dmaj/Eb maj coupling, only to lose its harmonic footing. For several bars, as both players try to second-guess each other's next step, the improvisation slips into atonality, with increasing discord in Anna's folk gestures. This seems to prompt her to return the angular intervallic language of their opening, with minor ninths and sevenths, giving the sense perhaps that this tonal disintegration had been intended all along as a means of establishing a ternary structure. They end on a final, pre-agreed gesture of the 'Mother Nature' chord (ex.10).

There is evidence throughout that the pair are listening closely to each other and responding in the moment to unforeseen prompts, something they affirm in their self-assessment. They balance this spontaneity with the use of clearly recognisable preinventive structures that they have negotiated together prior to performance. There are four sections governed by principal ideas that merge well together into a convincing whole. It appears an equal co-creation, with a classical stylistic bias, as can be expected, while avoiding any clichés, remaining surprising and new. The imprint of the original study is apparent, and so the brief of a 'reinvention', rather than a freer response, has been observed.

Jazz pair: Sid and Owen

The reinvention is almost a minute longer than the classical pairing, reflecting that both Sid and Owen were relying more on improvisation and less on following a set structure, as Sid reveals in his self-assessment: 'I often forgot parts of structure and had some confusion with the harmony.' Owen suggests that they had convened on a form for the piece, but that this had become confused in the performance. Part of this was down to the 'complex ideas' (Owen's phrase) that formed the basis of their improvisation, perhaps.

Owen starts with an extemporisation loosely based on the Mother Nature chord, polychords, and some whole tone inflections. Sid introduces the sax riff from the original in free time, with Owen reharmonising underneath. This gives way to an 'a tempo' version of the riff, in the original key. It is interesting that both pairs chose to keep to the original's key centres in this way.

Underneath this riff, Owen plays a staccato accompaniment with right-hand crotchets marching on the beat, almost in the style of a music theatre vamping figure. After a whole-tone connecting run, these ideas and shapes are extended through improvisation, with Owen introducing first inversion chords. Sid then uses the melodic gestures from bars 23-26 in the original for variety, breaking from riff-based material.

The next section is fragmentary, with plenty of rests to break up the flow. Owen retains a staccato character and Sid his legato. This is where the harmonic structure appears to wander, mirroring a similar process in the classical pairing. It is as if, after the stability of passing between two-chord pairings, as soon as the bass line begins to waver from the path and, in this case, move in fourths, the soloist is left floundering. The harmonic path has lost its signposts. Sid does well to find common tones and keep responding to what Owen randomly presents.

In a coda section, Owen ripples through between a second inversion E major and a Cmaj7#5, essentially allowing for a semitonal expansion (B-C) in his right-hand figure in a way that recalls the step-wise relationship from before. Sid quotes the quaver-crotchet-quaver rhythmic motif over this in different pitches and then, surprisingly, rather than settling in E major, they both disintegrate into apparently random discord, with some falling fourths in Owen's right hand perhaps as a final comment on their predominance in the original.

Cross pair: Owen and Anna

Anna gives a new interpretation of the main riff (ex.12), plucked this time and in a 3-3-2 rhythm. Owen joins in with a swung accompaniment that compliments that framing of the rhythm. His left hand keeps this rhythmic riff going, passing this time between G and Ab and stretching over a ninth, while the right sets out a new melodic idea, not relating to the original study aside from the predominant use of semitones.

Anna takes up this new idea as Owen takes the bass down a third (a recurring preinventive structure) and then to Eb. Then the two play the new idea together in a well-planned duet, first in thirds and then in seconds. The harmony continues to pass between E and Eb, but Owen introduces quartal chords and arpeggiated gestures on the Eb, a new feature, before returning to the home pairing of G and Ab.

The two improvise around this chord change and, with that freedom seems to come a more jazz-like 'feel', with swung runs from both and bends on the violin.

Owen dissolves into upward-rippling arpeggii in the upper register- a feature borrowed either directly or not from his improvisation with Sid, and, after some negotiating of key centres, they end on the same essential chord relationship (E/C #5) that Owen had used in his earlier pairing, albeit over a C#-C fluctuation in the bass this time.

In a new stroke, however, Anna and he contrive to create a bitonal ending that, through its blurring of G and G#, suggests both C and E major.

The impression is that Owen is using this second outing to refine ideas he had initiated with Sid, at least in part, but they are kept interesting and new through Anna's input and fresh direction. The overall style leans more towards jazz, mainly through its rhythmic features and grooves, and the intermittent swung episodes. Much of the playing is non-idiomatic though, evidencing a cross-fertilisation of styles. There is a palpable direction to this reinvention, helped through locking down the harmony to two chords per section and agreeing on unison iterations of the main idea. Owen seems to be directing the compositional flow from the keyboard with Anna as the willing partner.

Cross pair: Sid and Charles

The free introduction bears some similarity to the like pairing with Anna, as if the template is to go from the inchoate to the formed. There are loose references to various different motifs passed between the instruments, with Charles using whole tone ideas and thirds. He echoes Sid pitch at points, but otherwise a fixed tonality is avoided.

This is addressed by the middle section, as Charles moves back to the well-established D-Eb progression. Sid responds with lyrical arches from bars 23-26 of the original as he had done with Owen. Direct quotations of the original seem to be an important device for both players, a way of signaling the validity of the reinvention in progress. Charles retains a mainly accompanimental role, using some jazz-inflected chords and avoiding functional harmony – both new departures for him. Sid plays improvised falling scalar runs above.

After what seems like a winding down and a false ending, Charles leads into a final section with some sax comments brooding in a low register, the piano loosely referencing the Copland's Mother Nature chord and some harsh dissonances based on major sevenths. Sid uses this interval to trigger a restatement of the main riff-based melodic motif and they end on another version of the Mother Nature chord again, neatly divided into one instrument per triad as in the original, although with a

different voicing. The overall tone throughout is confident and rhapsodic, with each player speaking in their own musical voice.

6.8 Discussion of themes arising from the pilot study

In line with the principles of comparative study design, I will review how this study addressed the corollary questions (see section 5.12) from the previous Lasky exercise, using those responses as a springboard into more general discussion on elements of the paired creative process, and keeping the Geneplore model and educational principles in the foreground.

6.8.1 Notation and vocalization

The first corollary concern was whether to insist on the participants notating their ideas in some form. Correspondingly, the participants in this study were invited at several points to use the manuscript provided. This invitation was ignored by all.

From the researcher's perspective, having written evidence of the preinventive process would have been a good tool for analysing preinventive structures in more detail, comparing similarities and differences across the pairs and looking for any elements of style bias. This had, however, to be held in check against the main research objective of these studies, which was to observe how these students naturally generate ideas together. To add the condition of notating their ideas may have felt like a contrivance to them, particularly in a paired setting. It potentially impedes the organic flow of communication and generation of ideas between the pair as they experiment and try to form a coherent response. As in a verbal conversation, there is not the same space to stop, break away from the dialogue and write something down. The free-flow of dialogue, whatever the context, is predicated on the continual reciprocation of statement and response.

This issue could, however, be circumnavigated by setting up a different expectation in the next study which allows for independent thinking and a degree of notation to be an explicit part of the process. Although the research objective may require a

neutral distance in one sense, these studies are not purely based on observation but on a continuous refinement to the test design, with flexibility in the experimental framework as long as the basic structure remains intact and the central research questions are not deviated from or compromised. I resolved in the next study to integrate a small degree of notation into the expectations for the task.

The same thinking applied to the encouragement to vocalise ideas, where again there was little uptake in practice. Singing in front of each other presents in itself a potential challenge to group flow, particularly if a participant is embarrassed to share thoughts in this way. Conversely, and following the line of argument from the previous paragraph, it could be argued that insisting on more vocalisation, even if it feels instinctively artificial, could help unlock ideas and improve fluidity of both generation of ideas and their negotiation. It could, in other words, actually contribute to triggering new and surprising cognitive patterns, and to pushing individual learning into their Zone of Proximal Development. The same conclusion was therefore reached: having observed the pair in their natural creative habitat (relatively speaking), it would be useful to integrate more vocalisation and examine its effect in the next study.

6.8.2 Preparation time and pacing of the test

In the Lasky study, participants were given twenty minutes to prepare their reinvention before performing it. In the current study, this was increased to thirty, given the consensus that more time could potentially yield better results. This small increment of ten minutes was to preserve the rationale of balancing the necessary time to assemble preinventive structures to the point they can support the generative process against the temptation, with too much time on hand, to fix them and reduce the capacity for improvisation in the moment.

It would seem, on the restricted evidence of this first paired study, that the pacing needed to be redressed given the new constraint of working in pairs. Owen put it this way:

I think it speeds up the process to have someone to have a dialogue with, to bounce your ideas off each other.

This concurs with my observations of how quickly the generative phase moved into an exploratory one compared to the previous test, notwithstanding two of the participants' growing familiarity with the reinvention techniques. Charles, as noted before, spent a considerable part of the allotted preparation time for the Lasky study in analysis mode, sight-reading and testing harmonic functions. When paired with either Sid or Anna, however, he was drawn to testing and communicating ideas from the keyboard almost immediately.

In the interviews, the final question addressed this topic head on. I asked whether they felt doubling the preparation time to an hour would have made a difference. Owen, as before, shows a tendency to want to embed ideas more before improvising around them:

More time would have been good. We had a really good idea and tune, with a progression of chords and stuff. We would have finalised it, could have made it more concrete.

Anna added more detail, referring to her pairing with Owen:

I was just playing the tune at a different pitch when we changed the chords. I think we could have made it a different melody, something that would have made it a definite other section.

Owen continues:

It felt as if it was slightly cut off. But we just threw everything in and just played it.

Owen's dissatisfaction in this respect was telling as, out of the four, my observation was that he shows the most inclination to experiment through improvisation rather than composition. In some ways, he is the most resistant to tying down or completing an idea. Paradoxically this 'concretisation', adapting his phrase, is important to him in theory if not in practice. For Owen, it would seem that his improvisation process relies on a more extended period of preinvention – or precomposition – in order to feel comfortable exploring ideas spontaneously. His

aversion to shorter preparation periods marks one area in which he could be pushed into his personal ZPD.

He qualifies his response later, however, to account for the difference of working in pairs:

If we had more time, we would be more biased in the way we work with each other...In some ways it's quite good to just go straight in because in this case there are lots of things to draw on.

The bias he refers to here is one person dominating the process with preconceived ideas. This bias is reduced if the preparation is brief enough not to allow such preconceptions to take root. However, the issue is rendered more complex when the reinvention test is repeated on the same day using the same material, albeit it in a different pairing. Staying just with the basic issue of timing, both Sid and Charles comment on this distinction:

Sid: I think in the second group towards the end we were maybe running out of ideas.

Charles: Yeah, I think we ran through it a couple of times, didn't we, we tried out a couple of ideas and it was like, 'well let's just do it, just dive in.'

Sid: Whereas in the first one I think we had a few ideas floating around and we could have done with refining them and coming up with more things to do with it.

This could argue for a shorter preparation period for the second test, but it could also be a reflection of several other factors: how this particular pair function together, individual creative habits and personality, whether there is a fatigue with the exercise across the test period as a whole, and whether there is a deeper cognitive inhibition at play when repeating a task in this way. It could be that once a preinventive structure has been chosen, it is somehow difficult to 'unchoose' it, to discard it in favour of something completely new. Rather than do away with the structure, it is easier to revisit it with a new partner in a different light. Returning to the trifold criteria for ascertaining creativity here, although the results might be new to that pair and valuable as a learning task, they lack a surprising quality.

Given such diverse factors and the subjectivity inherent in both the individual's creative response and in observing it, it makes sense to keep the parameters constant for future tests and to look instead for discernible patterns. The preparation time, broadly speaking, seemed to suit the task inasmuch as it established enough space for the participants to develop a coherent reinvention together. Noticeably, nobody reported the sense of being 'overwhelmed' by the task in the same way as the Lasky study, despite the fact all were new to the paired way of working, and two were completely uninitiated in the reinvention test. It signals that lack of preparation time did not put any participant under undue stress.

6.8.3 Scaffolding the task and allowing for interdependency

One key feature of how the learning in the Lasky study was scaffolded was the inclusion of a worksheet. It was interesting to register the difference when withdrawing this level of support and allowing, instead, for the pair to discover the preinventive structures for themselves, with some teacher facilitation. The guiding principle for the tutor-facilitated opening session moved from consolidating specific responses to outlining the techniques involved, and from a focus on product to one on process. The half hour of small group work, instruments in hand, led at the piano by the tutor was a means of ensuring a shared understanding of the task and allowed the exploration of ideas to start in a less pressurised setting. At this stage, all questions were welcome and all ideas received. The end-goal was to identify communally some gesturals from the source piece and some basic ways of manipulating them.

A worksheet may detract from this collaborative process. If one of the aims is to model learning together, then the worksheet could be too prescriptive and constraining, unless used as a prompt for dialogue and joint experimentation. Exploring ideas together at the piano, however, facilitates the dialogue on which the remaining paired tasks rely, and is in itself a bonding process, acknowledging the underlying need for socialisation advocated for effective paired learning. From the earliest point possible, the pair needs to operate as a distinct learning entity,

interdependent in their generation of ideas. The role of providing scaffolding, as Rogoff (1990) proposed, can then pass from teacher to peer.

In trying to capture practical exercises on paper, the format of a worksheet can also end up complicating what is otherwise a straight-forward exercise. A demonstration of finding common tones between two chords, for example, can seem formidable on paper. In practice, the ear can lead swiftly to the desired target notes. As the tests in this main phase rolled out, so the front-loading of each task with instructions lessened and the tutor scaffold gave way to a more supple interaction between the learners: evidence in itself that the reinvention techniques were being assimilated and internalised.

One ancillary consideration from this was whether to allow for time prior to the paired period, and whether this might helpfully be structured with the use of a worksheet. When asked about this, Charles was ambivalent:

I think if you work on something by yourself and you're then put into a pair, you have to start compromising...which is...I don't know if that's a good thing or a bad thing.

The concept of 'compromise' here is interesting. Musical creativity is so often an isolated, independent activity, where the individual owns their creative product and regards it as their intellectual property. It is harder then, once ownership in this sense has been established, to start sharing the spoils of your labour. Charles may also be touching upon a more universal attribute here to paired learning: the impulse for some may be to hold uncompromisingly to their original thoughts and just pay lip service to concepts of negotiation and dialogue. This potential for duplicity, conscious or not, was flagged for observation in later tests.

6.8.4 Assessing the Zone for Proximal Development

The final outstanding question from the pilot study was how to assess the ZPD in a paired setting. As this was the first of three paired studies, the *Appalachian Study* provided an interesting test bed for this issue. The self-assessments and

questionnaires on previous learning consolidated the knowledge I already had of the participants' competence in improvisation and general creative potential through having taught them in the Bristol Pre-Conservatoire. This first paired test acted as an updated benchmark for those creative abilities, and although the subsequent two tests were to have slightly different parameters and angles of analysis, there was enough consistency to compare performance against this first study meaningfully.

Although the ZPD refers to how an individual can be prompted into a new level of understanding through working with a peer, this study also raises how that dyad might be assessed as a single learning entity, itself able to pass into a 'proximal zone' of competence. Over the cycle of three paired studies, I was interested to observe whether the dyads would take on distinctive characteristics in their learning strategies as a unit, and to what extent this was either facilitated or frustrated by aspects of study design and other interpersonal issues.

The main ways of evidencing progress of this kind, whether individual or paired, would remain qualitative across the whole test cycle, focusing on moments in interview or in observation where the learner was seen to complete a task well despite having initial misgivings – i.e. overcoming self-imposed limitations – or when the knowledge or skills attained through the task were demonstrably new or surprising for the individual or pair concerned. Novelty in itself may not necessarily attest to the value of the learning – a creative product in this instance may be new but ultimately irrelevant to the task and the learner - but it does indicate that the learner has broken the confines of previous understanding.

6.9 Themes arising from the semi-structured interviews

The interviews after each recording of the paired performance were semi-structured and aimed to uncover thinking and practice –as defined in the coding for the pilot study - around preinventive structures, generative processes and style bias, with the addition of examining the experiences of collaborative learning. The guide questions for the interview were:

- Which elements from the source material did you use in your reinvention?
- Which devices worked and which didn't work? Why?
- What style did you feel you were working in?
- Did concerns of style impact your working as a pair and the reinvention?
- Where did you feel you had the most original ideas? In which pair and why?
- What are your comments on the process – logistical and otherwise- that we can take forward to the next test?

6.9.1 Common preinventive structures and generative processes

Several of the gesturals adapted by the participants for generative thinking were common across the pairs. The first was the overall form, moving from free, relatively dissonant ideas to a rhythmically driven, ostinato-based section, before ending in acquiescence. This is an archetype of musical creative thinking in so many areas, to progress from diffuse ideas to introducing elements of structure, with a need somehow to reference the opening idea for the sake of unity and completion. It may be that participants were simply observing this trope in the *Appalachian Study* and conforming to the test stipulation to refer to the original, or maybe they were responding to the deeper, almost subliminal creative model, which at root is about moving from the simple to the complex. It would have been a bold move to start by reversing the order, and counter-instinctive in a new pairing in particular. Each reinvention started by testing the ground musically, a tentative introduction at times that presented the preinventive structures before establishing more direction and coherence, both musically and in terms of paired interaction.

The dissonant minor second and major seventh featured prominently in all four reinventions, as if they were a prime colour that could not be ignored. The derived riff was also a key feature (ex. 12, given again for below), along with its repeated rhythmic unit:



Ex.6.7(bis) Commonly found preinventive structure

Owen was explicit in his use of these elements across both reinventions:

I focused mainly on the first theme with the rhythmic pattern. And I used the minor third, minor second and major seventh intervals. And used other chords and harmonic language that I drew from the piece, made it my own, and played around with it and stuff. And fourths.

He draws on a wide selection, and importantly talks of ‘making it his own’, rather than just quoting and imitating. In both studies, Owen has been drawn to rhythm as a helpful preinventive starting point. In his pairing with Anna, they talk about this:

Anna: We decided to change the time signature and to make it a bit different.

Owen: And then we were jamming with that time signature. Because it was a different time signature it made me think of phrases differently, and I started messing around, improvising, and came up with a melody which was-

Anna: - and then we started harmonising it.

This ‘jamming with the time signature’ – experimenting in different meters and exploring different time-feels within those meters, from what I observed of that process - lead them through to new ideas across both axes, melodic and harmonic. Normally, a melody suggests a meter, rather than the other way around. Anna talks of this liberating the creative process for her, in that the change of time signature gave permission to define the reinvention for themselves:

It was less like the original music. It didn’t really have any boundaries about what it could sound like because we’d chosen the motif and thought, ‘oh we can, you know, do whatever’.

This was an example of a pair coming up with a completely new preinventive structure to anything that had been shared either in the opening instruction period or the first reinvention. It also demonstrated that this pair had begun to own the task for themselves and to redefine its inventive scope. Part of this is just a change in attitude. They move from perhaps a more submissive stance in the first reinvention – one that respects the original source material and the protocol to reference its

main ideas – to one where they feel they can ‘mess around’, be more playful and ‘do whatever’. The decision or permission to be playful and to see the task as ludic emerges as an important theme.

Despite this playfulness, both Owen and Anna paradoxically speak of this second reinvention being more ordered. Owen puts it this way:

Everything fell into place in a more structured way...The last one was more improvisatory. This one had more fixed melodies.

When asked why, he ascribes it to having more time to have had processed the ideas and ‘to make sense of them in my head’, as it was the second test. This is a good description of the internalisation process and how taking command of preinventive structures can yield both more cohesion in the creative product but also less spontaneity. Sid also recognises that the second attempt was ‘more structured, for the same reasons.’ He notes that in the first attempt that ‘we had a few ideas floating around and we could have done with refining them’.

Structure or refinement in this context can suggest the elaboration process has been more profound, more rationally oriented perhaps, and could point to a more satisfying paired process. It implies that core ideas around the shape of the piece and its content have been negotiated and agreed. However, if one of the aims is to encourage work that is new and surprising to the creators, maybe this familiarisation effect has to be somehow countered in the second reinvention by stipulating that demonstrably new starting points need to be used. When a preinventive structure starts to lead in predictable directions, then its creative potential is diminished, however gratifying the ensuing cohesion of idea.

6.9.2 Collaborative processes

In the first reinvention (like pairs), it seemed that the line instruments defaulted more often to following the lead of the piano. Sid describes himself as mainly reactive, despite having ideas of his own, including ‘moving about’ the main rhythmic motif and scalar patterns:

A lot of the stuff was reacting to Owen, the rhythms he introduced...I was trying to pick up on some of the harmonic things that Owen was doing. Although it was actually quite difficult.

Owen agrees, opining that 'it's difficult as a saxophonist to hold your ground and lead it'. These expressions of difficulty have to do with trying to second-guess the harmony when this has not been established. The more successful sections were inevitably those where the harmony was relatively basic – alternating between two chords, for example – and where each musician had more freedom to respond in the moment, both melodically and rhythmically.

The second reinvention (mixed pairs) seemed less constrained by this traditional leadership role of the pianist, maybe in part because the line instruments had more ballast to offer through having internalised ideas from the morning. For Charles, it was also a matter of being more methodical in the preparation phase, mainly through having more agreement on the form and content of the piece, how to assemble 'melodic fragments' and 'experiment together'. Anna agreed, talking of the importance of discussing 'which features we could make most prominent' such that:

...we could respond to the other person and pass ideas between us rather than just doing our own thing.

She asserts that working together in this way was preferable to doing 'her own thing', because:

...the other person will have more ideas than you would just by yourself and you can incorporate things you wouldn't have thought of before.

For someone who in her questionnaire had self-identified as a collaborative creative musician, this aspect of combining forces, having two minds stronger than one, is not a statement of acquiescence – a violinist acceding to the leadership of a pianist – but rather a principle, a valid means of searching for originality together. When asked whether there should be more individual time to prepare the response prior to working with the other, she argued that it better to 'have ideas at the same time' together, avoiding potential conflict later in the process.

Sid also talks of the requirement of working together and the discipline it brings as something positive:

I'm not sure I'd be able to think of many ideas if it was just me trying to go through it. I'd probably just be randomly making it up. It was good to have someone else there to be encouraged to pre-prepare some bits.

This supports the benefits of collaboration in the generative phase, where the pair can pool more ideas, but also in terms of encountering that need to put more shape on the process, a tension between having more promising material and the need to wrestle it into order.

6.9.3 Style bias

Regarding Charles' more methodical approach, the question arose as to whether this was due to his classical training, as if the reassurance of having an agreed plan was an ersatz to the written score. He describes classical musicians as being more used to the 'set limits' of the genre and its lack of improvisational freedom, so the natural response to an open-ended task such as this is to look for order, like grasping for a rail to hold on to when taking the first teetering steps in a rink. Charles uses the analogy of thinking within the box:

I suppose when you're confronted with something that is boundless, that the first instinct is place those limits – so fill in the box and not go too much outside it.

Sid was hesitant to define classical thinking as intrinsically more structured, however, preferring to use the expression 'prescribed'. Anna found the construct of a jazz 'head' with improvised sections helpful:

I feel we structured it more like a jazz head, like a section which repeated and then we went to the next section, did the chords, and then went back. So it was less, sort of, general.

She adds that the irregular time signature (5/4) also made her think as a jazz musician, combined with the overall structure above that included, in her words, a 'coda' at the end. This is an interesting instance of mixing terminologies and thinking from both worlds.

When Sid was working with Charles, he quoted more readily from the score, which he associated with being a more classical practice, even though jazz musicians often use quotes in the same way to structure their solos. For Sid, though, he felt as if he were thinking more as a classical musician in that pairing, perhaps more in the adherence to the score rather than the act of quoting itself:

There was a lot of stuff from the vivo section that I took into play straight from the score rather than just completely making stuff up.

In terms of perceived style bias, Charles for his part was conscious of thinking with his 'jazz head' on, which required him to react to Sid's melodic improvisations in a new way:

When he was improvising melodically, I had to support him harmonically, which is not something I do very often. That's what I kind of associate more with the jazz mindset, the free accompaniment.

This did not translate, however, to a jazzier way of playing – unsurprisingly, as jazz harmonies and melodic 'licks' are simply not in Charles' piano vocabulary. In his second, mixed pair recording, Charles adopted a more radical contemporary classical sound, the analogue to the language of free jazz. It is as if working with a jazz musician – Sid, in this case – had given him permission to be less harmonically constrained. Ironically, Sid felt he was improvising in a more 'classical' way, as discussed above, and that the imposition of more 'classical' constraints helped 'develop more ideas in a particular direction'.

What sounded like a creative release was, however, in Charles' self-assessment actually more of a constraint. Unlike the other three, he felt that the classical pairing had been a more freeing process, with some qualifications:

I feel that sharing a common musical language is almost more freeing and the restrictions that you place on yourself when you're faced with a new style are positive in the sense you explore different ideas, but because they're new you can't explore them in maybe as much depth? That's what I feel. I wasn't as secure in what I was doing because of the new approach.

Charles highlights here an important benefit to sharing a common vocabulary and musical language, even in a context where the joint response is meant to be non-

idiomatic. Astutely, he raises the idea that the quest for novelty may compete with the potential depth of sharing across styles. This is a reservation about cross-stylistic work that was highlighted in the literature review, raising the question of how cross-stylistic sharing might avoid a compromise of this kind.

However, on analysis of Charles' second (mixed pair) reinvention, I contend that it has more expressive depth and breadth of idea than the like pairing. In his written self-assessment on both recordings he notes that in the classical pair ideas were 'not developed in much depth', whereas within the cross pairing they were 'developed further' through a new focus on 'three-part texture and improvisation'. This contradiction, combined with my own observation and Sid's self-assessment, suggest that although Charles' point is valid in theory, he might have been just taking the opposing view as an intellectual exercise.

Owen sees the collaboration as less defined by style boundaries and more by process and creative personality. Although he saw his reinvention with Anna as belonging to a 'jazz mindset', it was initially the fact he had more time to 'really absorb the ideas' he liked from the first pairing that made the difference. As he puts it, 'we already had a base on which to work'. This settling-in period was noticed by Sid as well as an enabling factor. Owen then broadens the argument beyond genre specifics:

Really, it's just about creativity and improvisation in a wider sense than just genres which don't always mean anything. It's more about the process and the different factors that affected how we created our pieces.

Later he appears to contradict his assertion from before that the amount of time is the main deciding factor, saying 'in some ways it's quite good to just go straight in'. Instead, he then argues:

It's more about the creative interaction between the two people rather than your own skillset and disposition.

This, in its succinct way, touches on Sawyer's concept of 'emergence' (see 2.3) in a group setting, where the creative product is distinguished by an unanticipated

combination of idea and energy in the room, the merging of intent and spontaneity that is the distinct property of playing and creating together.

The question, in the subsequent studies, would now be to what extent the potential for emergence of this kind was actually down to style constraints or not. Certainly, any secure concepts of style-based thinking that the participants may have had prior to these reinvention tests had already been loosened and challenged. This was evidenced in part through contradictions over what it is to play with a 'jazz head' as opposed to classical one actually means in practice – in particular over whether it releases more freedom or imposes more constraint – and whether such definitions should be resisted in any case. This would be tested by moving from a piece which deliberately drew on compositional techniques from both styles to ones that belong to a distinct category: a jazz standard and a classical octet.

6.10 Summary of implications for next study

A recurring theme was the question of the time allowed for preparation and self-guided study prior to the paired process. For the next task, the participants would receive the material a week in advance, to assess the impact of this form of self-guided 'pre-preparation'. The indications from this study were that it could facilitate more depth of idea in the initial contribution but that this in turn could frustrate the collaborative process, both in terms of an individual sensing the need to 'compromise' more of their ideas (to use Charles' term) and of undermining the principle of a joint reinvention.

Other parameters would be kept constant to ensure the comparative process was valid, with the exception of testing whether notating and vocalising ideas could help push participants into their ZPD and more originality, as a challenge to existing habit.

New devices would also be brought in to help with the initial instruction process and give fresh techniques, avoiding a sense of repetition and routine. These would include manipulating short ideas through transposition, a pedagogical technique

shared by both classical and jazz worlds. More attention would also be given to the non-verbal communication required when improvising together, and how to signpost musical intention in the moment. The focus thus far had been on the communication in the preparation phase and not in the performance. Thirdly, the Genevieve concept of contextual shifting was not developed in this study, or only in passing. This could be reintroduced after noting the effectiveness of response after using this device in the pilot study.

The preinventive structures that the pairs gravitated to were all connected to the *Appalachian Study's* initial musical ideas, even though this generated a multiplicity of responses. In the next study it would be interesting to see whether this was the default position in the creative process: to develop the idea first alighted on rather than pressing into later ideas or those on the periphery. Finally, and perhaps most fundamentally, it would be important to swap the order of the pairings to even out the bias of familiarity in the second test.

Chapter 7

Paired study two: *Kinsale Shore*

This second paired study happened three months after the previous one. Ideally the gap would have been shorter, but the logistics of convening the participants and a suitable venue did not allow. *Kinsale Shore* is a jazz ballad I wrote with the participants and their competencies in mind, using the same combination of piano, sax and violin as before. It is a lyrical piece with a slow tempo that allows plenty of time to navigate through the chords with a basic solo. The chordal language borrows deliberately from the jazz style, with added-note, extended and upper-structure chords and their associated symbols.

The composition allows space, however, for a non-idiomatic response. There is no requirement, for example, to swing the rhythms or to imitate a bebop language as there might have been in an up-tempo number like *Cherokee*. Instead, the emphasis is on using the reinvention exercise to build on preinventive structures in such a way that matches the melancholic mood and melodic qualities of the original.

As with the *Appalachian Study*, there are clearly repeated melodic and rhythmic ideas in *Kinsale Shore* to which the participants can respond. The challenge of the exercise resides less in the depth of initial analysis and more in the quality of the response to the visual and aural prompts. These motifs and the harmonic choices will be discussed in the next section.

7.1 Setting the ZPD

Having established that the participants were able to improvise brief responses to previous material and to communicate effectively together, to the extent of convening on a joint reinvention and executing it together without faltering or stopping, the question with this study was how to draw each individual into their new respective ZPD - or rather, how that process might best be facilitated in pairs, through peer interaction as much as the task itself.

The piece therefore had to contain enough challenge and provocation to pull the jazz students out of their standard response, while ensuring it was not so complex that the classical students were de facto drawn to the most basic elements or, worse, overwhelmed to the extent of not knowing where to start. It needed to combine improvisational demands that lay within everybody's competence as well as drawing them (rather than pushing) into a place where they could generate something new, surprising and valuable. Previous observations of the participants had highlighted certain improvisational habits that could usefully be disrupted, as detailed below.

Owen's first instinct was to establish a left-hand groove that reframed melodic ideas. *Kinsale Shore*, although not avoiding a pulse altogether, resisted a groove-based response while not ruling it out. The emphasis was on right-hand lyricism rather than left-hand rhythmic drive.

Charles had thus far reorganised loose harmonic structures into cadential formulae, or used the relative freedom of underlying harmonic structure to justify abandon tonality altogether. *Kinsale Shore's* harmonic progressions contained enough functionality to encourage staying within the bounds of a tonal, or at least polytonal, response.

Sid, in his keenness to observe the strictures, as he interpreted them, of the task had kept close to the preinventive structures, referring closely to the original sometimes to the detriment of the melodic line. Encouraging less adherence to the score would be an important objective in the opening generative session with him. Although it was important the reinvention could somehow be traced back to the original, this need not be made explicit throughout. The score needs to be a platform for new departure, not a holy object left untouched.

Anna had been led by the pianist thus far in her harmonic choices, relying on her ear to bridge between the chords they set. Her challenge in this second study would be to unravel the more complex structures in such a way she could make a personal, pro-active harmonic response. The tendency for her when faced with a chord like

Cm7+11 had been to find the path of least resistance and use the notes of the tetrachord rather than enjoy the possibilities of the sharpened fourth. Again, this extra level of personal engagement – the headwork of figuring out the relevance and possibilities of a ‘foreign’ chord – would need to be attended to in the opening session, testing her individual understanding and showing how the chords could be manipulated.

The participants were given the following lead sheet (with an Eb part for Sid) one week prior to the joint session, to allow for more preparation time in accordance with the recommendations from the previous study, as well as a guide recording (see appendices).

Kinsale Shore

The musical score for 'Kinsale Shore' is presented in 4/4 time with a key signature of two flats (B-flat and E-flat). It consists of four systems of music, each with an Alto Saxophone (in C) part and a Violin part. Guide chords are written below the notes to provide harmonic context.

- System 1 (Measures 1-3):**
 - Alto Saxophone: $A^{\flat}\Delta^{\#11}$, $Gm^{\flat13}$, $Fm^{\flat7\#13}$, $D\emptyset$, $G7^{\flat13}$
 - Violin: *p*
- System 2 (Measures 4-7):**
 - Alto Saxophone: $Cm^{\#11}$, $A\emptyset$, $D7^{\flat9}$, G^{sus} , $G7$, $A^{\flat}\Delta$, $E^{\flat}maj7$, $D7$
 - Violin: *f*
- System 3 (Measures 9-12):**
 - Alto Saxophone: *mf*, *f*
 - Violin: *ff*
 - Guide Chords: B^{\flat}/F , $C7/E$, $E^{\flat}\Delta$, $G7$, B^{\flat}/C , A^{\flat}/B^{\flat} , G^+/A^{\flat} , $D^{\flat}\#11$
- System 4 (Measures 13-15):**
 - Alto Saxophone: $A^{\#11}$, $A^{\flat}7^{\#11}$, $Cm^{\#11}$, $D\emptyset$, $G7^{\#9}$, $Cm^{\#11}$
 - Violin: *pp*

Ex. 7.1 'Kinsale Shore', by the author

The guide chords overleaf were also sent for the pianists, to help them understand how the more complex symbols could be interpreted, with typical jazz voicings that maintain an integrity of line:

Kinsale guide chords

A^bΔ^{#11} G_m¹³
F_m^{#11}
D[∅]
G7^{#13}
C_m¹¹
A[∅]
D7^{#9}
G_{sus} G
A^bΔ
E^b^{#11} D7

B^b/F C7/E E^bΔ
G7
B^b/C
A^b/B^b
G⁺/A^b D^b^{#11}
A7^{#11}
A^b^{#11}
D^b7^{#11}
G7^{#13}
C_m¹¹

9

D[∅]
G7^{#9}

18

Ex.7.2 'Kinsale Shore' guide chords for jazz pianists

In addition, with Charles and Anna in mind, the following simplified version was also sent, using four-note voicings and restricting the extension to the seventh, in the main:

Kinsale guide chords (simplified)

The image shows two systems of musical notation for piano accompaniment. The first system consists of 9 measures, and the second system consists of 10 measures. Above each measure, simplified guide chords are written. The key signature is two flats (B-flat and E-flat), and the time signature is 4/4. The notation includes treble and bass staves with chord symbols and some melodic lines.

System 1 Chords: A^bΔ G_m⁷ F_m⁷ D_m⁷ G⁷ C_m⁷ A_m⁷ D⁷ G_{sus} G A^bΔ E^b⁷ D⁷ B^b/F C⁷/E

System 2 Chords: E^bΔ G⁷ B^b/C A^b/B^b G/A^b D^b⁷ A⁷ A^b⁷ D^b⁷ G⁷ C_m D_m⁷⁻⁵ G⁷

Ex.7.3 Simplified guide chords for classical students

7.2 Kinsale Shore study protocol

Advance preparation

In the guide recording sent out a week earlier, the saxophonist was asked to demonstrate how they could embed some of the core features (or gesturals, to return to the Geneplore terminology) into their solo in an organic, non-contrived way. The recording comprises the ‘head’ and two saxophone solos, with a short outro. The piano part is kept deliberately simple and non-intrusive to allow for focus on the improvising instrument and the typical devices used to shape the line.

In an accompanying email, participants were encouraged to listen to the piece three times and notice the prominent intervals, chord types, scales and rhythms. They were also asked to transcribe some of the solo for themselves, in the loose sense of repeating certain phrases on their own instrument rather than notating them.

In an attempt to re-activate the Geneplore process of contextual shifting in this study, participants were also invited to re-imagine the piece as they listened in a

number of different arrangements and instrumentations: as a string quartet, an orchestral rhapsody, a big band, or a Latin salsa group. This was to ascertain whether recontextualisation of this kind prompted any novelty within either the generative or exploratory processes. Would hearing the piano chords, for example, in the register and setting of a string quartet open up different harmonic pathways before even trying the original out at the keyboard? Or would that pre-suppose a good working knowledge of quartet writing and sensitivity to that particular tone palette?

The same format was adopted as before for the reinvention process on the day:

Full group preparation and deconstruction

Forty-five minutes were allotted to this opening group session. After re-listening to the recording together, the piece was played through twice, giving both Owen and Charles a turn at the piano. The participants were now invited to take more leadership in identifying the melodic, harmonic and rhythmic gesturals, with some facilitation when required to ensure each individual had some input.

Unlike before, time needed to be given to ensuring the chord symbols were fully understood by the classical participants, in particular the triangle for major sevenths and the crossed zero for half-diminished chords. It was explained that the simplified chords were adequate as a basis for improvisation, with the original extended chord-types as optional extras for those more fluent in them.

Some time was also allowed to explore the underlying jazz processes in the harmonies, including the characteristic ii-V-I movement and chromatic shifts. The tritone substitution (Db7, bar 15) as a delay to the dominant (G7, bar 16) was also discussed, together with the ii-V 'turn-around' in the final bar.

Internalisation and preinventive structures

In the building of preinventive structures, a new exercise was introduced that required them to pick one gestural and transpose it in upward and downward-moving sequences. Otherwise, the generative methods of taking gesturals into a

preinventive state were as before and are detailed below. Thirty minutes were allowed for this.

Individual exploration

Ten minutes were added for further exploration alone. Although participants had been given more time in advance, it was important that Charles and Owen could feel comfortable with the chordal language of the piece, and that I could observe their assimilation of those chords at the piano and see whether they represented a barrier to their ability to work effectively in pairs.

Collaborative exploration and verification

The timings were kept consistent with those of the Appalachian study, with half an hour for each paired preparation. The second pairing was allotted the same amount of time as the first, despite the finding from the previous study that this may not, on the face of it, be required. This was to set the expectation that they were to press further into the creative process the second time around and not rely on previous patterns and findings.

Each joint reinvention was recorded and discussed in the group. In addition, three minutes of the paired exploration were video-recorded.

Post-test assessment

The self-assessment questionnaires were again used to prompt individual reflection as well as observations from recording the interviews, using the same coding criteria as before.

7.3 Identification of gesturals

The mood of *Kinsale Shore* is overcast and melancholic, with an emphasis on tone rather than agility in the solo parts. This dark colour and the warmth of tone it invites on the instrument in itself constitutes a gestural, a guiding temperament for

the reinvention. Participants could choose either to incorporate this mood or react in some way against it.

The overall dynamic shape is also clearly marked: an arch from *piano* to *fortissimo* and back, all within the limited span of twenty bars. This too could be taken as a starting point and the same arc observed in the reinvention if desired. The intention here was to observe whether the participants would diverge from or disrupt this trope, for example by starting loudly before ebbing away.

Within the duet the saxophone takes the melodic lead - apart from in bars 9 and 10, where the violin quotes the opening phrase – but there is close imitation between the parts, either through responses in similar motion or in unison (bars 11 and 12, the final gesture). These imitative devices could be considered as gesturals, whether the material is quoted directly or the participants simply imitate each other's lines in a freer improvisation.

Gesturals within the intervallic language are mainly to be found in the linear rather than vertical axis. The opening melodic idea on the saxophone (below) interlocks an ascending and descending sixth before coming to rest on a descending seventh. This is repeated before the shape is adumbrated by the violin in bars 9-10.



Ex. 7.4 *The interlocking 6ths as a gestural*

The fourths between the solo instruments stand out in bar 3-4 and again at the end:



Ex. 7.5 *Moving in fourths and the dactylic rhythm, both gesturals*

Harmonically, the ii-V-I was used as a cadential device on four occasions, with chord ii flattening the fifth in anticipation of the tonic in the minor key, as normal.

Upper structures – a feature of the *Appalachian Study* – were now used in a jazz context and mainly in stepwise movement, e.g. bars 11-12. Both the upper structures and the parallel movement could be viewed as gesturals:

The image shows a musical score for two staves in 4/4 time, key of B-flat major. The top staff is the treble clef and the bottom staff is the bass clef. The bass line consists of a dotted quarter note followed by eighth notes, moving stepwise down. The melody in the treble clef mirrors this pattern. Chords are indicated below the bass line: Bb/C, Ab/Bb, G+/Ab, and Db#11. A forte (ff) dynamic marking is present at the beginning.

Ex. 7.6 Parallel movement in the upper structures

Here the bass line drops a tone at a time, but this is followed by more chromatic movement on an A7#11 (essentially a whole tone chord in this context) then Ab7+11. The chromatic movement and whole tone colours could serve as imprints.

The piece is rhythmically basic, with some syncopation on the initial idea and a repeated dactyl, organised either as quaver and two semiquavers or with the first emphasis lengthened to a dotted crotchet, as in the example above. The insistence of this rhythm (ex.18) marks it out as a potential gestural.

7.4 Generating preinventive structures: teaching techniques

As in the case of the *Appalachian Study*, the following represents the typical processes involved in this phase of generating preinventive structures, including the new elements suggested such as transposition and notation. In this representation, though, the focus is on the development of a single two-bar structure, to show how the full range of Geneplore operations can be applied. This is not an attempt at systematising the process, which would restrict the creative potential to a step-by-step construction kit, but rather a reflection of how it might organically develop with certain prompts in mind.

The participants were first invited to create a chain of sixths within the scale of the original (Cm), responding to the first gestura



Ex. 7.7 Chain of sixths

Then transpose it up or down:



Ex. 7.8 Chain of sixths transposed up a tone

In order to move this idea from an abstract, study-like chain of sixths, it might be further manipulated by interrupting the flow, adding link-notes and sequencing:



Ex. 7.9 Introducing interruptions

A useful set of questions revolves around what can be added or subtracted to this idea, to test its combinatoriality in the first instance. Can the motivic rhythm, itself a gestural, be incorporated to ornament the line?



Ex. 7.10 Combining melodic and rhythmic gesturals

Or could the single line be recast as a duet, as in the original, referencing the gestural of interlocking sixths?



Ex. 7.11 Recasting the material as a duet

The dactylic rhythm could also be referenced here in the duet part:



Ex. 7.12 Introducing more of the dactylic rhythm

Harmonically, there were two main gesturals to consider. The first was applying a cycle of fifths, grouped into ii-V-I's apart from the step up back into C at the end (this time in the major, to reiterate of the tonal home of the first bar):



Ex. 7.13 Harmonic gesturals: cycle of fifths

Or using the other gestural, parallel movement with upper structures, referencing the dactylic movement as well for good measure:



Ex. 7.14 Harmonic gesturals: parallel movement

These upper structures take a while to be computed at the keys, particularly if new to them, and their harmonic function is less clear than the more standard movement in fifths. A student might not, for example, think to harmonise an 'E' in the melody with an F/G chord. Aggregate chords such as these suggest themselves first as a colour rather than through a logical fit. This Debussyan 'pleasure-first' approach to harmonisation could represent a 'functional interference' for uninitiated students, a different, creative method for approaching the chord.

Participants were therefore encouraged to build an upper structure at the keyboard and transpose it up and down, singing the constituent notes in each chord and enjoying the colour of the sound as it subtly mutated according to register. This was both to activate a timbral appreciation of the harmonic process that might otherwise lay dormant, and to explore non-functional harmonies as a concept.

7.5 New exploration techniques

The effect of transposition

While transposing smaller ideas in this way – melodic or harmonic features as above – participants were also encouraged to consider moving away from the tonal centre (C minor) of the original. Discussion was prompted on how this might help expand the creative response, either by alienating the original material and objectivising it in that way or through being led into new territory by the colouristic suggestions of the new key. Both pianists noted the difference of playing in either D minor or B minor as opposed to C minor in terms of the relative difficulties of navigating standard progressions – a iim5-V-Im for example – in keys where there are more than three flats or sharps. The C#m-5 - F#7 - Bm, understandably, posed more problems for all concerned.

Regarding the aspect of colour, the line instruments talked of the weight of the sound increasing with registral depth and were less concerned with technical constraints. All agreed that transposition helped to foster more critical distance to the original and to see it as a construct rather than an unimpeachable whole. This in turn emboldened the creative response and sense of personal ownership over the material. The issue for the group, at this stage at least, was that they were not used to transposing at sight and so even shifting a tone either way presented too much of a barrier. The consensus was that this would be a useful ideal to aim for in future and a skill that would enhance their general musicianship.

Contextual shifting

Discussion was also engendered on the question of how *Kinsale Shore* might be re-arranged and ‘re-heard’ for different ensembles. None of the participants had given this topic much thought, despite the prompts of the email sent out a week earlier. In the group discussion, various approaches were explored and demonstrated. Charles and Anna – both string players – suggest a swirling, triplet-based accompaniment on string quartet with pizzicato on double bass to underpin the chord changes.

Interestingly, they envisaged the saxophone remaining the lead instrument in this context, rather than re-imagining the whole piece for strings.

Sid and Owen considered a close-voiced sax ensemble and jazz back-line to reinforce the dark mood of the original, with some brighter brass colours being introduced in the upbeat to the upper structure chords in bar 11. Both pairs here are taking the traditional route of the arranger, respecting the original's mood and tonal colouring rather than seeking to reinvent them. By identifying general composing rationales and sounds of a quartet or jazz band wind section they were gently expanding their vision of the original rather than challenging it or radicalising their response. Nobody had the appetite to consider an up-tempo version, or a fundamental shift in genre to, for example, a Latin style.

This brief observation suggests two directions for the application of the Geneplore concept of contextual shifting in this context. First, that it may help release new thinking through subtly opening the ear to different possibilities that could translate, eventually, to a different solo response. Secondly, that if the shift is to depart from the original in a more radical way, then this would need more time and space than the particular process for this reinvention test would allow. It also implies a different brief. A necessary constraint and overarching goal for the study was to reference the original in the reinvention, and the 'value' of the creative response, to return to earlier definitions around creativity, is bound to this complementarity. Although reproducing *Kinsale Shore* as a Salsa may have some pedagogical benefits, the brief is to show what can be reinvented within the stylistic categories of the original. Recalling the visual operations discussed in the Geneplore model, it would be as if the task were to deconstruct a chair and the individual, through a radical shift, had re-envisaged it as a geranium. It would be novel, certainly, but not valuable to the group investigation, recalling Boden's (2004) insistence on value and relevance being coterminous in exercises of this kind.

7.6 Initial observations of common tendencies

Group deconstruction and generation of preinventive structures

The increased familiarity with the task was immediately apparent, with all four participants showing more input in the group analysis. Out of the gesturals discussed above, the first to be identified, and the most obvious in that sense, were the interlocking sixths and long-short-short rhythmic unit, or dactyl (exs.17 &18). These were quickly and adeptly explored, both in a solo context and in duet. Although the element of dialogue derived from the imitative devices of the original was apparent, staying within a key when sharing the interlocking sixths between two instruments was more challenging. Here the material quickly became atonal. Both the saxophone and violin found pitching descending sixths harder, which is a common finding for ideating and pitching intervals over a third without the support of a keyboard. The narrower ambit of the dactylic rhythmic motif allowed for a more tonal response.

Equally, the ii-V-I movement was readily recognised by all, although Sid and Owen were quick to differentiate between the approach to a major or minor tonic, flattening the fifth on the ii chord accordingly. Owen was initially dismissive of this exercise, breezing through ii-V-I licks typical of a jazz pianist. This was held in check by the constraint of referencing certain gesturals in the response, rather than just relying on default motor patterns.

All reported they had listened to the piece a few times prior to the discussion, although the sense was that not much exploration had happened beyond that. Charles and Sid, however, had transcribed some of the saxophone solo from the recording, which led to a useful discussion on the benefits of that process in sharpening the ear and in describing patterns that could be adopted or rejected on their own instrument.

In this group generative phase, moving towards preinventive structures, the idea that appeared to spark most interest was that of shifting upper structure chords block-wise up and down the keys and freely responding in the solo line above, led as much by the colour of the chord as by the tone-set. Charles was quick to spot the

parallel between the upper structures and the construct of the 'Mother Nature' chord from the earlier Appalachian exercise.

The group discussion concluded with the handing out of manuscript paper and pencils with the instruction to capture some of the next paired process in writing.

7.7 Observing the paired process

With the participants' permission, I filmed small portions (around three minutes) of each pair, partly to document their work and provide extra evidence of their collaborative approach, but also to test how the intrusion of the camera would impact their creativity. The following is a discussion of each video, pinpointing as before any discernible elements from the Genevieve paradigm or educational theory around paired learning.

Video: Owen and Anna (cross pair)

The video starts several minutes into their exploration, with Owen picking out a fast right-hand ostinato based on the sixths motif, and Anna ghosting it beneath, pizzicato. This repeated riff and the Latin quality to the rhythm, almost as if it were a *montuno*, appears to be a *modus operandi* for Owen, a habitual starting point for all of his reinventions so far.

As an example of functional interference, Owen takes the C minor tonality – the key of the original – and undermines it with cluster-chords in the left hand. Anna reinforces the riff, now playing with the bow and a sixth below, in a rhythmic unison. Owen drives a crescendo from the piano and they land in a new, unexplored section.

Noticeably, Anna takes up Owen's suggested starting note – a D – and starts experimenting with the dactyl rhythm, observing the scalic quality of the original. All of this happens without any verbalisation before Owen draws them back to the notated original lead sheet. They pause, considering which starting point to take

next, demonstrating ideas fluently on the instrument as they go. Anna suggests both an idea in seven-time and C Phrygian mode.

This is transformed into an idea for the opening to their reinvention. Having played the mode as a scale once, Owen arpeggiates it up the piano, establishing a dark Phrygian colour out of which interlocking sixths emerge. Anna suggests keeping these sixths and the resulting riff in the mode, requiring a D flat.

Owen initially appears to ignore this suggestion but his extemporization at the piano (with rebel D naturals) actually turns out to be a bridge to accommodating the mode. He ends by building a new rhythmic idea, derived from the riff and Phrygian mode, suggesting Anna improvises over the top of it.

This snapshot reveals an equal interchange of ideas, both individuals responding to the detail of each other's suggestions and both advancing their ideas as much from the instrument as verbally. Crucially, they seem to share a vocabulary for referring to the grammar of the music – its rhythms and modes, in particular - and are well matched in their improvisational abilities, such that they can work together without compromising their expressive potential, or at least not obviously so. There is no 'novice-expert' asymmetry on display here.

Video: Charles and Sid (cross pair)

Unlike Owen and Anna, who committed the barest sketches of their ideas to paper, Charles and Sid were conscientious in writing their joint material down. This is evidenced immediately in the video, with both noting a sequential idea over a cycle of fifths that they will use.

Both are happy to talk about the underlying harmonic structure, such that the decision-making is dominated by the harmony instrument. They convene on when to 'break' the sequence and find a new major tonality. Sid thinks through a melodic idea on the saxophone, playing it to himself without taking it anywhere. Both are happy experimenting in this way, 'taking an idea for a walk', rather than intellectualising it or overburdening the process with words. Charles then suggests

'layering the sixths' at the end, as a means of bringing the structure full circle. A good example of negotiation happens here, as Sid counters by proposing a conflation of the sixths and the rhythmic motifs. Immediately, and without announcing it, the pair try that combination out on their instruments.

As with the previous pair, there appears to be a good parity of skills and exchange of idea, both of which facilitate an even collaboration. There is perhaps a bias towards a more classical sound, as Charles eschews the jazz voicings given in the lead sheet. Sid, when exploring ideas by himself, gives the line a jazzy inflection but this is subordinated to a 'straighter' style when fitting in with Charles.

Video: Charles and Anna (classical pair)

Paradoxically, the first minute of the classical pair shows both immersing themselves in extended jazz chords, starting with an eleventh, which Anna suggests could be made into a riff. This seems to mirror the approach taken with Owen, allowing a riff to be the uniting element in the composition, with harmonic options emanating from that decision.

Charles, always alert to strong progressions, falls back on the ii-V-I he has used to good effect in the morning as a means of harmonising Anna's idea. They convene on it even though it is a loose fit – a question of theoretical principle superseding experiential practice, perhaps. Anna shows that, despite not being a harmony instrument, she is also thinking harmonically, leaning over to the piano to test out her own ii-V-I.

The video later reveals that the extended chord has come about not through striving for a jazz sound but more as a composite of two triads. As they struggle to find a way of developing that static idea (in the sense it does not suggest a harmonic progression), both reaffirm how pleased they are with their 'classical', Bach-style introduction, that references the sixths and other gesturals. It is a brief but indicative example of their using mutual encouragement to push through a creative barrier.

Anna finds an innovative way forwards here, suggesting a busy piano part that turns the polychord they have chosen into a cross-rhythmic dance while the violin plays a *cantabile* line above, based on dactylic gestural in its augmented descending form from bar 12. Charles is keen to develop this, while Anna seems happier to leave it as a working idea over which they can improvise in the performance, advocating they return to the introduction instead. Ostensibly this is to refresh their memories of what they have created, but it could also be due to the camera being in the room, as if to prove the validity of the work so far.

They try the introductory idea through, based on the tight dotted rhythms of a grand French baroque overture. There is some confusion over where the dominant chord falls, but this is quickly self-corrected. Both display strong aural skills and a keen musical memory, prerequisites for confident improvisation.

Video: Sid and Owen (jazz pair)

Sid quotes the tagline from the original piece, which Owen immediately seizes on and reharmonises with upper structure chords and whole tone clusters that he is gleaned straight from the sheet of suggested voicings. His currency with these kinds of chords is immediately on display.

Both are searching for a three-against-two quality, possibly through mixed meter or through hemiolas in the melody. After a few false starts, Owen suddenly remembers an example of a Dave Brubeck piece that mixes 3/8 with 4/4 bars and suggests a similar approach for the reinvention.

Sid takes this suggestion on board, capturing the idea on his manuscript as well as trying a melodic lick on the saxophone. Owen continues to lead this section, albeit in a way that seeks consensus rather than trying to dominate. He complicates the structure further before they try it through. Unsurprisingly, Sid gets lost, playing over the sections he is not supposed to, and not quite finding the mode that would work over Owen's chosen chords. He manages to sustain a fluent line through the section nevertheless.

Brief conclusion

These four snapshots confirmed that the pairs were working collaboratively towards commonly agreed goals and that there were no obvious impediments in the communication process or improvisational ability. Patterns observed in previous pairings were being reasserted in the generation of preinventive structures, but these were healthily disrupted by the other in the pair, regardless of style background. In that regard, there was evidence of each individual being challenged to move into their ZPD through interaction with another, equally able peer. Owen, for example, had to consolidate his rhythmic invention through verbalising his thinking to Sid. Charles was drawn into a more riff-based structure by Anna. Everyone had to accommodate and assimilate new ideas in the course of the three minutes videoed.

Out of the four, the first is the closest to a non-idiomatic language, despite leanings towards a Latin style. In the other three, there is a clear style bias, mainly in keeping with the strengths of the like-styled pair: a Bach-style overture from Charles and Anna, and jazzy mixed meter inspired by Dave Brubeck from Owen and Sid.

7.8 Analysis of the audio recordings of the reinventions

This analysis of work in progress could now be cross-referred against the audio snapshots made of the reinventions, corroborating and extending the observations so far.

Cross pair: Sid and Charles

This reinvention lasted one and half minutes and developed two primary gesturals, first the sixths and then the descending dactyl. The pair clearly decided to keep to the lyrical setting of the original, with a free introduction as Sid worked through a sequence of rising sixths, not all aligned to Charles' underlying chord. They then took the opening phrase, with Charles reharmonising and Sid extending the line above. As per the video of their preparation together, this led quickly into a cycle of fifths.

Despite the freedom in the tempo and feel, the harmonic choices were classical, with little of the extended chords invited by the lead sheet. When there were potentially jazzy approach-notes in the saxophone, these were sometimes the result of Sid quickly correcting a missed accidental rather than a designation of style.

A more fluid dialogue ensued, with Sid referencing the scalic idea that drops over a third, with Charles echoing him with sixths, heavily blurred by the pedal. Put together, these resulted in more adventurous harmonies that suggest the verticalisation of a mode rather than a functional progression. After a brief solo extemporisation by Sid, both use the closing motif of the original in fourths to round off the reinvention, ending in the major.

The reinvention proceeded quite tentatively on the whole. Asked immediately afterwards whether the performance had proceeded as planned, they agreed that it was more of a starting point, with the potential for developing the ideas in each section, with more time. Sid adds in his feedback sheet that they 'had more ideas' they 'did not use'.

The model so far from previous studies had been reasserted here, namely to pick up on the most obvious gesturals – the sixths, falling scale, and laconic mood – and to use them for basic preinventive structures that remain close to the original design. To continue our visual analogy from before, Sid and Charles took the 'chair', deconstructed it and made another chair, not some more outlandish piece of furniture. This might reflect their understanding of the constraints of the brief, as will be discussed later, but it more likely is born out of an unwillingness, conscious or not, to go beyond default patterns.

Cross pair: Owen and Anna

Both Owen and Charles started their reinvention on the piano with an atmospheric rippling up the keyboard. Owen introduced a flat ninth in his arpeggiation, to suit the Phrygian mode later. Anna contested this by plucking their designated riff, based on interlocking sixths, inviting Owen to join her, which he did a tenth higher. This is

subjected to different harmonic permutations through clusters in Owen's left hands and one flat thirteenth pivot chord. They moved confidently into a call-and-answer section, repeating their individual motifs in different pitches but staying within Phrygian mode apart from some dominant chords. Anna responded quickly to Owen's lead, making her scalar ideas (built on the dactylic gestural) suit the chords. It ended abruptly, playing Owen's dotted rhythm in unison.

What is noteworthy about this short reinvention (lasting just two minutes) is that it abandons the mood setting of the original, adopting a more rhythmically driven and aggressive tone. It also departs from what now seems to be standard ABA structure for these reinventions, choosing binary form instead and halting mid-sentence. As with Charles and Sid's piece, there is the sense that this could have gone somewhere even more dramatic with a bit more time. So far, it seems that two minutes is the default length for these paired reinventions, almost as if the preparation time does not allow for ideas to be spanned over a longer structure or sustained confidently together.

Jazz pair: Owen and Sid

Owen, true to form, set up a lilting ostinato pattern with rich added-note chords. Sid quoted the opening phrase above, and continued to sketch the shapes of the original, taking his harmonic lead from Owen. As anticipated from the video of the preparation, Owen bridged into a quick 3/4 section, leaving Sid searching for a downbeat. Both the rhythmic and harmonic integrity broke down here, although Sid did manage to shadow some of the altered chords later into the sequence.

Owen took a solo in a more overtly swing style, and his touch became correspondingly more rhythmic, with a customary single solo line in the right hand. It was a brief break, in the style of a 'middle 8', before he led back into the opening accompanimental figure. Sid quoted the opening theme again, for sake of completion, and they ended on a fading pause.

It is clear that they attempted more jazz-inspired idioms in this reinvention, from the swung rhythm through to the completely improvised sax line. In their interview, they confirmed little had been pre-notated, and this was manifest in both the apparent spontaneity of their response and the attendant slips in the solo line, where Sid admitted in his questionnaire later that he played ‘unintentionally out’ of the harmonic framework. Owen’s chords were ambiguous, however.

Classical pair: Charles and Anna

In their interview shortly before playing, Charles spoke of wanting to ‘do something totally different’, having found their initial ideas were too similar to previous attempts that day. They therefore tried a contextual shift, re-imagining the opening sighing sixths as a declamatory statement in a double-dotted French baroque overture in the minor. Charles supported with a generic descending bass line, dropping from tonic to dominant.

The next section was a surprise given that context, transitioning from the classical paradigm into a syncopated, rhythm and contemporary harmonies. Charles dances between two chords, with Anna melodicising *cantabile* above, using the descending phrase from bar 11 of the original, but with more rhythmic freedom. This set up a solo from Anna, in which she uses sixths both melodically and in her double-stopping.

They then swapped roles, with Anna taking up the syncopated accompaniment and Charles playing the descending figure in the upper register, using sixths and thirds in his right hand. They used a diminished chord to approach the dominant before finding their way back to the opening ‘baroque overture’ material, this time with more extemporisation and suspensions in the harmony. They finished on the dominant chord as a joke, avoiding the resolution to the tonic – something they admit immediately afterwards as not having been planned.

7.9 Comparative study issues arising from previous study

7.9.1 Progressing into ZPD

From these observations, there is evidence that this study has developed and deepened individual understanding and skills. In the classical pair with Anna, Charles abandoned his reliance on cadential formulae and tried some non-functional movement, where he fluctuates between two polychords. The prompt for this appears to be both individual generation and dyadic exploration. Charles treats the polychords as preinventive structures, having found them 'later in the piece' (i.e. the original), but organises them into a syncopated ostinato as a result of Anna's creative choices, setting up an interesting foundation over which she can solo using, as she puts it, the 'ninths, elevenths and thirteenth'. The polychords from the *Appalachian Study* may have acted as a useful precedent, however.

Anna's harmonic thinking here represents another step into her ZPD. Whereas in the earlier study she followed the harmonic lead given to her and focused mainly on her melodic role, with Charles she was observed (as captured in the video) working out how a movement of fifths would help transition them to the home key. She also speaks of deliberately targeting the extensions of the chords and the 'mutual notes' between her line and Charles' accompaniment. With Owen, she talks of 'harmonising and expanding' on the Phrygian mode they selected, rather than just restraining it to a linear function.

Generally, I observed a bolder voice from Anna in both pairs in this study, perhaps due to familiarisation with both the parameters of the exercise and her peers. There was a sense that she relished the opportunity to show her jazz credentials and to put her understanding of jazz improvisation (from the few one-to-one lessons she had had to date) to the test. She challenged suggestions from the pianists as well as suggesting her own, based on worked idiomatically for her instrument (for example, passages that facilitated her using double-stopped sixths). This exemplifies how socialisation within the dyadic process unlocks creative boldness and enriches the collaboration.

Owen's creative process seems the most entrenched and immutable. Regardless of his peer, he brings his own method to the exploration phase, reaching as soon as possible in the process for grooves and ostinato patterns that he can subject to 'slight variations' so he can 'drag out ideas longer'. He sees this as a contingency of both the compressed preparation time and the collaborative process:

...If you have a very short space of time but you want to coordinate something you both know, you can't both play long phrases or melodies...Mainly it tends to be improvisation over chords that you both know, or the same rhythmic thing, the same ostinato. But it's short, simple riffs.

This reliance on ostinati is as much about his own improvisational approach – a common one for pianists – as giving a platform to the line instrument. His busy left hand means that he generally reserves more spacious, open chords just for beginnings and endings. His reinventions in this main phase have all been rhythmically driven, even when presented with a source piece that invites a calmer response.

Sid, in this study, has continued to reference the original material quite closely, sticking to the same preinventive structures across both pairs. This seems to be unaffected by the inclusion of a recording of professional saxophonist in the preparation period, which he part-transcribed. His soloing does, however, seem to be more fluid in this study than the last, evidencing he is making more out of the exploratory process even if his generative phase is limited.

7.9.2 Observing jazz harmonies

The guide voicings for the pianists were referred to in the preparation process and it seemed that some of the harmonic language percolated into the reinventions, more so than was the case in the *Appalachian Study*. This was mainly evidenced in treating an extended chord as an isolated colour rather than observing its function within a progression. Both Owen and Charles were drawn to the upper structure chords (e.g. bars 1, 2, 4, 11 and 12), yet the more jazz-specific ones, such as the half-diminished

and even the major sevenths, did not seem to find their way into the reinventions, despite some of the group exploration being dedicated to their identification and comprehension.

One of the concerns in providing a relatively complex set of chords was that Charles might not be able to utilise them effectively as preinventive structures. In the end he found the voicings ‘both a frustration and yet also a provocation to think’, citing the lack of preparation time as the frustration, for when he had ‘run out of more basic chords.’ In his first reinvention with Sid, he observes the cycle of fifths in the bass line without going much beyond the seventh in the chords above. In other words, he took from the information what his classical training allowed and used the jazz chords as a ‘provocation’ for more ambitious harmonic exploration of his own, particularly in his reinvention with Anna. Judging from the fluency of his playing in both pairings, it would seem that the ‘foreign’ jazz language did not inhibit his creative potential nor his ability to collaborate on equal terms with his jazz counterpart, the central concern of this thesis.

7.9.3 Task timings and added preparation time

Participants seemed to have acclimatised themselves to the pacing of the tests, with the time being efficiently used for both pairings. Maintaining a pivot point between spontaneity and structure seemed to be served by the relatively compressed schedule for the paired component.

The main difference this time was the availability of the score and recordings one week beforehand, for individual exploration. Opinions were split as to whether this was helpful to the collaborative process. Owen said that the extra time spent on his own meant that it was ‘quite hard to think of organically of new ideas’ and to be inspired in the moment. He explains further:

I found it hard to break away from them [earlier prepared ideas], or if I’m trying to think of creative ways of taking aspects of the piece and reinterpret them, ...I think it was hindering my creativity, in a free sense; it just kept pulling me down to ideas that I’d had.

This confirms my observation of Owen's relative rigidity in what should be the fluid dynamic of paired work. Although he reacts to ideas proposed to him by his partner in the dyad, the new proposal is generally made to serve his preconception of the reinvention, rather than radically alter it. The fixing agent here may be a predisposition to compose and to find creative solutions independently. And yet, Charles and Sid both self-identify as composers as well and seem to be more open in their collaboration.

When pressed on what would be the ideal preparation time for a collaborative task of this kind, Owen talks of achieving a golden medium:

So, it's like a limbo between knowing it really well and being able to improvise on it really freely and being comfortable with it, and having it presented to you and just having to take up ideas in a really short space of time.

Anna, who self-identified less as a composer and more as an improviser, preferred a more spontaneous approach:

I thought it was good last time when we heard it for the first time all together, so our initial response to it was together. So, we couldn't get set in our ideas yet because we'd only just heard it. And it was easier to combine our ideas because it was the first time trying to reinterpret it.

7.9.4 Cognitive processes

There is a strong logic here, and it raises an important question of how possible it is, intrinsically, to combine preinventive structures in pairs at the generative phase. The exploratory phase can be shared as it is essentially an exercise of externalising what had previously been purely mental artefacts and constructs. Generation, however, relies on uninterrupted internal dialogue only, on internalisation. It is such a private, independent act – and one that in musical terms is activated as soon as the musician hears or audiates the sound – that it is hard to imagine how a pair could 'co-preinvent', to extend the terminology.

Sid and Charles, however, represent the other end of the spectrum. For Sid, the issue is one of awareness that, in a pair, you may need to compromise to the extent of

relinquishing your own creative vision. Individual preparation for him was a means of ensuring there are more ideas on the table that can be either utilized or discarded as fits the collaboration. This corresponds to one of the standard Torrance-Webster indicators of creative potential, 'fluency'. Individual preparation time may be key here in allowing enough uninterrupted space to generate a critical mass of preinventive structures, in the knowledge that more are likely to fall by the wayside in a collaborative exploration than a solo attempt. Sid puts it this way:

I found it helped, for me, to have it before and to be able to, sort of, gather thoughts, even if I were...trying to keep mind those thoughts might not come to fruition when it comes to agreeing and making something together. But I think I did find that having it before was helpful for me.

He notes that they had more ideas this way than in the previous *Appalachian Study*, and were able to 'allow them to come together'.

Increased fluency may also have contributed to the relative lack of creative fatigue in the second test, compared to the *Appalachian Study*. Whereas in the latter it was noted that the energy sagged in the afternoon and several reported a tendency to recycle similar material to the morning, the afternoon sessions this time brought more surprising and elaborate reinventions. Anna and Charles had their breakthrough with a contextual shift into a baroque overture, while Owen and Sid explored complex mixed meter. Neither were preplanned, but they seemed to emanate from a more dynamic, 'fluent' creative space than before.

Charles considers the importance of having done some analysis first as impacting on the discussion as much as the improvisation together:

I think going through it individually allowed me not only to know what the important motifs and elements are...I think it also helped in the moment of working together, discussing. We had a conversation right at the beginning about what we found...

For him, this is as much about being able to generate ideas effectively together as making efficient use of the time available:

When you haven't prepared individually then you have to do all of that exploration which in practical terms wastes time, almost.

These comments, combined, point to a creative continuum that runs between a blank slate and a set recipe at the generative phase, between starting from scratch (Anna) and having preconceived starting points (Owen). It mirrors a certain aspect of the creative personalities involved, for those who enjoy being more *playful* in their initial generative process – a concept that recurs a lot in Owen's and Anna's responses – to those who are more comfortable with self-guided analysis that lends to a deeper discursive process (Charles and Sid). Charles' last comment is telling in that it puts the weight for the paired work firmly on the exploration, not the generation of ideas, continuing the argument for doing so from before. Trying to generate preinventive structures as a pair for him was potentially a 'waste of time'.

Pedagogically, the method should allow for responses across the continuum. This correlates to the overall principle of these studies of engendering parity in the creative process when in pairs. If an individual comes to the paired process with too much fixed material and is unable to negotiate, then they will inevitably end up either dominating the exploration phase, rendering it non-reciprocal, or feeling frustrated that their ideas cannot be realised.

My observation of the creative products after the increased preparation was that they were generally more fluent and confident than in the previous studies. Trying to attribute this just to one factor – more preparation, in this case- is futile, however. It was most probably a combination of more familiarisation with the exercise, growing socialisation across the pairs, the accessibility of the material and the clarity with which it presents preinventive structures, as well as the increased individual preparation time.

7.9.5 Notation

There was more insistence on participants noting their ideas down during the generative phase in this study, in line with the recommended actions from the

previous study. I observed this being enacted in all the pairings this time, with participants sketching short melodic ideas, chords and rhythms as prompts and cues for navigating the relevant structure of each reinvention. The feedback from Sid and Charles, who embraced this development the most, was helpful in outlining the perceived benefits. After revealing that Charles had taken the lead in committing some of their ideas to paper, Sid remarks that:

We had some quite complex rhythmic and sequential things that wouldn't have worked so well had we not written them down.

The level of *elaboration*, again using one of Torrance-Webster's indicators of creativity, is therefore improved when there are cues to work from in the performance. Sid acknowledges that you can be 'equally complex', when 'creating in the moment', but the implication is that this spontaneous form of complexity cannot be reliably reproduced when performing the reinvention in a pair unless it is either captured in some notated form or specifically rehearsed, even when the notated ideas are in the form of rough sketches, or 'certain moments' that have been written down, not to the 'exact note' (Sid).

Regarding the previous study where manuscript was discarded in the corner, Charles says 'I found I was forgetting things'. He then makes the connection between enhanced recall and internalisation:

I think the act of writing is also good to keep things in your memory; the simple of act of writing it down, clarifying it through notation, helps to get your head round it.

The effort taken to note the generative operation would seem to enable it to be digested and embedded in the creative process, ready for reenactment through performance. Sid allies this to another important benefit that may not be so readily appreciated, adding:

And it definitely means you agree, of course...

This brief observation carries a lot of importance for a paired exercise where consensus is critical. The notation, in its way, acts as an informal compact between

the pair, an important means of drawing lines in the sand of what may and may not happen in the eventual joint reinvention. Charles also observes that this may be a liberating influence, rather than the contrary:

I think that because we both have the freedom to go off on our separate tangents, when writing things down at least we have certain anchor points? If I hear for example [sings rhythm], which I've written down, I know he's about to start on that sequence, so I know therefore that those chords are going to follow. It gives us milestones.

Having 'anchor points' and 'milestones' would seem essential for the pair to have a safe enough construct from which they can dive into less explored territory, or 'separate tangents', and take risks. It could be a prerequisite, in that way, for breaking through into a product that is new and surprising. All that seems to be required for this break-through is a loose penciling of ideas, enough to keep the structure in mind and prompt recall of the more complex ideas agreed on. It could well be that going beyond an informal sketch such as this and trying to notate in more detail would be counterproductive and constrain spontaneity.

7.10 Other themes arising from the semi-structured interviews

To ensure consistency with the thematic interrogation from the last study, similar questions were used to structure the pre- and post-test interviews with the participants, with some additions due to the new material and evolution of parameters for this particular study. The guide questions were:

- Did you feel the process had been equally shared?
- Which elements from the source material did you use in your reinvention?
- Which devices worked and which didn't work? Why?
- What style did you feel you were working in?
- Did concerns of style impact your working as a pair and the reinvention?
- How did notation affect your reinventive process?
- How did having more time to prepare affect the process?
- What are your comments on the process – logistical and otherwise- that we can take forward to the next test?

Many of the findings from these questions have already been addressed by looking at the comparative issues so far. Four areas, however, remain to be discussed: the concept of reciprocity, genre bias, and a more fine-grained analysis of both the preinventive and generative processes.

7.10.1 Reciprocity, or learning on equal terms

Three of the four participants were happy that the task of reinventing the original had been equally shared across each pairing, with Owen giving pause for thought in both instances. His first hesitation was due to finding the process with Anna 'quite chaotic', and therefore difficult to define levels of input and how equal they may have been. In his second pairing with Sid, he avoids the question of equality, explaining the process more as a division of labour according to conventional roles:

I think as the pianist I decided the form more, because I feel as if I'm playing an accompaniment and Sid is soloing and improvising over me and playing the head, creating the melody.

Sid agrees:

Yeah, I think we had different roles in the interpretation. You [Owen] came up with quite a few of the ideas, whereas I implied those ideas through playing the main melody in the different time signature to what we were doing. My role was more implying some of the ideas.

Both these responses reveal an inherent problem of trying to converge on what reciprocity might mean in this context. It requires going beyond a crude comparison of time spent by each individual leading the process to discerning what the nature of that leadership has been – how ostensibly collaborative – and how flexible the roles have been throughout the process. If, for example, Owen's view that the harmony instrument necessarily has to dictate form means that Sid is excluded from that central concern, then that is a challenge to how the process is shared. However, Sid sees his role as offering an equal and opposite input, with him taking control of melodic ideas and suggesting alterations to the construct (time signature in this case) through a subtler communication. Where Owen explicitly specifies his intentions, Sid is happy to imply through his playing alone. The level of explicitness

in the communication should not skew the perspective on how reciprocal the sharing of learning has been.

Charles and Anna's response to the same question reinforces how important socialisation of the pair is to the ability to contribute on equal terms, whatever the role adopted. The elliptical nature of their answers and how they finish each other's sentences act as an unintended microcosm of shared thinking:

JJ: What did you notice was different in the dialogue and the negotiation of ideas compared to the other pair?

Charles: That's a difficult question, actually.

Anna: I think the way we got the idea of making it classical is that we kind of played –

Charles: - yeah –

Anna: - we did that and it kind of happened –

Charles: - because we know each other's playing so well.

Anna: Yeah, it wasn't like a conscious decision –

Charles – it just happened.

Whether the process could have been as equally shared had they been less familiar with each other is a moot question. However, this is a useful representation of a collaborative process in flow, without the need for verbalisation at times.

In all of the responses, I trusted the participants to be honest if they had felt their contribution had been constricted by the other. Inequality in a shared process is perhaps better assessed than equality, because it is more readily expressed through negatives – the frustration of not being heard, or an impatience to assert a creative personality in some way, for example. Significantly, none of this surfaced in the interviews, nor in my observations. I am satisfied that that each pair was able to work positively together and could contribute as they saw fit, whether within the confines of a role or not.

7.10.2 Style bias

The question of which role a harmony or line instrument plays within the pairing also intervenes on issues of style and the perceived conventions - in this case, of a jazz duo, with a free line instrument over 'comping' figures in the piano. Sid recognised

he had reverted to a less vocal role, 'implying ideas' as he put it, in part because of this typical role distribution. He also talks of his reinvention with Owen as being more 'harmonically driven' than that with Charles, giving him a more defined responsibility for melodic content as a result. That content, in the jazz pairing, was to be more improvised than in the cross pairing, with the consequence that less detail was written down, as Sid explains:

The only things we've really written down this time are form-based things, whereas in the previous one we wrote things down to do with specifics that we were playing; we wrote down a section or two. Some are sections are more improvised in this case...

Owen then comments on how the piece was structured, concluding that this was a reflection of jazz style:

I wrote out a form and it developed as us falling into a more typical jazz format. It's got a piano introduction with sax improvising motifs that we've taken from the piece over the top. And then the head, which is in 3/8 ...then we've got a 3/8 and 4/4 section which is taken from another part of a piece..and another 3/8 bit then end. So, it's symmetrical and a more conventional jazz format.

The terminology of 'heads' and having a bridge section point to jazz thinking, and yet the 'symmetrical' qualities less so. That is more a reflection of individual perception than a tenet of style. Equally, most of Owen's reinventions by this point have followed a similar arch, namely an introduction, a couple of contrasting episodes in which motifs are developed, then a reprisal of earlier material to conclude. Consciously or not, this structural template endures regardless of style choices in either the original material or its reinvention.

The influence of Dave Brubeck and his mixed meter has already been noted, although mixed meter in itself is not typical of any one style. Anna and Owen mixed 5/4 and 7/4 in their cross-stylistic response as well. The language of Sid's improvisation was perhaps the more compelling representation of jazz thinking, with freer treatment of harmony and discord – although he later admitted playing 'out' of the harmonies more than he had intended.

For the classical pairing, there was a concerted effort, it seems, to assert a more overtly classical model through adopting the baroque French overture style for the introductory paragraph. When asked whether this was in response to Sid and Owen being overtly jazz-orientated and an implied expectation of a similar style-specific response, Charles answered that it was, with Anna keen to point out there were also non-classical elements to the middle section of their reinvention as well. The main motivation for choosing the baroque pastiche, it transpired, was simply to 'do something totally different' (Charles) to any of the reinventions so far that day. And, as first study classical musicians, their definition of difference was to reach for a distinctly classical model that the other pair would not have emulated.

When working with Sid, Charles was happy to relinquish style bias, and they both agree their cross-paired reinvention lay 'fairly central in the spectrum'. Charles adds that this is in part due to his limitations as pianist:

I don't have the knowledge of jazz piano to make it totally jazzy. I suppose the limitation in my ability forces it lie there in the middle.

The limitations he refers to only really come into force if the task objective is to play in a specifically jazz style. Instead, Charles has validated the hypothesis that it is possible to respond creatively and effectively to source material even when it is in an alien style, opting for a middle ground.

7.10.3 Observations on generative and exploratory processes

As with the *Appalachian Study*, and to a certain extent the pilot exercise, participants seemed drawn to the same gesturals. In this case it was the interlocking sixths and dactylic rhythm, in its various forms. Both appeared across all pairings, although they had been manipulated into different preinventive structures and subjected to different exploratory processes. Part of this may be to do with the influence of the group exploration at the beginning of the day, where participants are led towards certain starting points and ways of extending beyond them. Reassuringly, however, each reinvention was markedly different and still retained elements of surprise, reaffirming that much diversity can still come from a small collection of stimuli.

In their explanation of their creative approach in each of the pairings, the participants are all able to pinpoint the gesturals in the source, either pointing out them out on the score itself or through singing the ideas. What was notable in this study compared to the last was a collective effort to break the mould and venture further from the original.

For example, Anna and Owen were keen to jettison the 4/4 of the original and replace it with 7/8, together with choosing a new modal language to contain their preinvention. Correspondingly, their preinventive structures derive from uneven meter and Phrygian mode. As was seen on the video of their pairing, their generative process involved repeating these ideas in a loop, finding different harmonic and melodic responses as they went, as Anna explains:

We came up with a basic idea which was to be in 7/8 and we were using, which mode was it? Phrygian mode, in the same key as it was written [the original]. So, we came up with that and we set a motif. Then we started playing, harmonising it and expanding on that, looping it for quite a long time and working out what we were going to do.

This exploration process was characterised as 'chaotic' by Owen, and 'not very organised', again reflecting perhaps that he would have individually leaned to a more procedural approach that he enjoys when working alone. It might be that Anna is the slightly disruptive force here, for both him and in her other pairing with Charles, as the process in both her pairings seem to be more experimental and experiential, as opposed to head-led. The paradox is that in both her pairings the creative products seem to flow with more order and fluency than in the others, despite having just 'thrown stuff together' for the sake of performance, as Owen puts it.

Although happy to experiment through practice in this way, Anna could not be accused of being random with her creative choices, nor deliberately disruptive. She displays a clear rationale in her approach, alongside a desire to remain open to what the paired process might produce. Additionally, her mode of communication is

intrinsically practical, regularly demonstrating ideas on her violin in the interviews as much as during the paired sessions. It is simply her way of expressing creative thought.

The choice of uneven meter in Owen and Anna's reinvention reflects a trend, as they correctly identify:

Anna: I think we both liked five and seven as time signatures, so last time I think we were in five, weren't we?

Owen: Yep.

Anna: And this time seven, so yes, there's a pattern...

Part of this may be just a way of breaking from the original material and making it their own, a natural rebellion against a 'bland' even meter. It is also due to Owen's creative habits, as has been previously observed. When talking about the ostinato basis to his reinvention, he mentions this proclivity for reframing a melody in a new rhythm:

I just came up with it while I was hearing the melody in my head. I could just hear this [pointing to extract] being reinvented in that way, so...

Anna follows this up by highlighting how the Phrygian mode compliments the rhythmic character Owen has chosen.

I think also because of the mode we were trying to use as well [plays motif in Phrygian mode], that compliments it. We decided to use those specific notes.

Aside from being a creative 'tick', Owen's reliance on building *ostinati* as initial preinventive structures turns out to be more strategic. Parenthetically referring to a lack of time in the task, he explains that *ostinati* are a stable default when finding longer melodic phrases may prove too time-consuming. The time constraint necessarily results in 'short, simple riffs' instead. Anna talks, though, of the potential for expanding these riffs and *ostinati* as a means of generating new ideas:

I guess that was what we were doing [playing *ostinati* patterns] and then we started changing the end-notes of the motif.

Charles and Sid responded to a different gestural, the melancholic mood of the original, and to make that the starting point of their reinvention. Even here though, the pair were keen to break from the original:

I feel like our reinvention criterion was to end in the major, to change the tonality of it, to change the mood of it.

In this pair, the generative process flowed from that rationale, itself representative of how a mood can become a preinventive structure. The corollary of these and other choices is that melody becomes a subordinate to considerations of rhythm, harmony, mode or mood. The reinventions were, to my ears, more surprising on the grounds of rhythmic inventiveness and the non-functional 'colour chords' rather than their melodic inspiration. Although risks were taken in the distance reached between reinvention and original, certain safety mechanisms were routinely employed, whether ostinati or ABA structures, or variants thereon.

7.11 Implications for next study

The timings and task protocol appeared, on the evidence above, to be reliable and valid, in terms of ensuring creative products that required each participant to move into their ZPD and contribute equally to the collaboration. These would therefore be kept in place for the next study, while seeking a new level of technical challenge that would keep the pairs from falling back on what were already becoming creative habit and routine.

The requirement to notate ideas in sketch form would be maintained, given the positive effect it had on the elaboration of preinventive structures both in exploration and performance. On balance, the element of having extra preparation time seemed to create an uneven playing field, with some firming up their preinventive structures in a way that could potentially hinder the paired process. In any case, there was no way of monitoring this preparatory phase and ensuring a uniform commitment to it from all participants. This stage was therefore removed for the final exercise, so that everyone would come to the material fresh and without a preconception of their joint response.

Chapter 8

Paired study three: Stravinsky's *Octet*

Everything that fascinates me, everything I love, I seek to make mine. I suffer, no doubt, a special sort of kleptomania.

Stravinsky, quoted in Routh (1975, p150)

Whom better to turn to for the final, classical model of reinvention than the master of reinvention himself? Throughout his life, Stravinsky's particular manifestation of creative 'kleptomania' was to borrow from the aesthetic of previous eras or the composing rationales of others, past and contemporary, as a springboard for his own compositions. Although already evident in his early Russian period, his adoption and adaptation of the past came particularly to the fore in the twenties, as he turned to the forms and transparency of classical and baroque styles in an attempt to achieve what he called an 'objectivism' in his music. The style template became a means of masking his role as a composer, distancing him from the text and neutering it of authorial intent. His contention was that the music would thus appear less prey to subjective forces and governed instead by its own internal logic.

The *Octet for Wind Instruments*, or 'Octuor' as he referred to it, was written in 1923 (later revised 1952) and is a seminal work in his new, neo-classical approach, as he playfully dissects and reinvents an eighteenth-century serenade. The finale is a showpiece of dazzling counterpoint, pairing the instruments in different timbral combinations. The mood is light throughout, belying its clever construction, and the final page devolves into a unison statement of a '3-3-2' *khorovod* rhythm ('stolen' from Russian folk music), stripping the previous complexity back to a simple dance-like conclusion.

On the face of it, the *Octet* was an ambitious choice for young students to tackle in their own reinvention. However, I was keen to increase the level of challenge in several areas for this final test, to combat over-familiarity with the process and the

tendency for creative acquiescence. The objective was to ensure all four participants were stimulated to learn in new ways together, and to move into their respective ZPD. A sample of the finale (1952 version, Boosey & Hawkes) is given below, to illustrate the deft writing, with its detailed articulation and sharp contrast:

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Finale

Sempre $\text{♩} = 116$ (Tempo giusto)

The musical score is arranged in three systems. The first system includes staves for Flauto, Clarinetto in La, Fagotti I and II, Trombe I and II, and Tromboni I and II. The second system shows Clarinetto in La, Fagotti I and II. The third system shows Clarinetto in La, Fagotti I and II. The score is marked 'Sempre $\text{♩} = 116$ (Tempo giusto)' and includes dynamic markings such as 'sempre p e stacc.' and a rehearsal mark [58]. The publisher's name 'B. & H. 17281' is printed at the bottom.

Ex.8.1 Excerpt from first page of the finale from Stravinsky's 'Octet'

8.1 Challenges of the *Octet* as source material

Starting with the score itself, the *Octet* presents multiple intellectual and practical challenges. None of the *Octet's* instruments are ones played by the students and some of the lines (clarinet and second trumpet) require transposition. It is the first source piece not to have been written specifically for the reinvention task and the instruments at hand. They could therefore approximate some of the material on their own instruments without being able to play the piece together as before.

Secondly, even though the students were not familiar with the score itself, they all recognised Stravinsky as a master of his art. This perception of authority and the stamp of his genius in each bar constituted an initial barrier to appropriating his language. The notion of 'defacing' a piece by a known seemed at first to be a disincentive, but later turned into exactly the intellectual incitement needed to break from previous creative habits.

Stravinsky's organisation of ideas is quite clearly signaled in the score, with well-delineated principal ideas, devices and recurring features. Identifying these in the deconstruction phase was not anticipated as the major hurdle. Rather, it would be appreciating the skill and craftsmanship of the composer at work that would either discourage or inspire the student, as they marveled at how he treated and re-worked his ideas.

A further challenge would be the fast tempo. The reinvention pieces so far, including the pilot test, had all been at slow or moderate speeds, with an emphasis on the lyrical. The *Octet* finale, in its way, is the equivalent of a bravura up-tempo jazz number, with bristling bebop and busy independent lines. The impression, on first listen, is a piece requiring formidable technical ability, with its light staccato runs and complicated accentuation. This alone would be a stimulus to the students to consider higher performance levels in their own reinvention.

The finale is also longer than previous studies, and its formal design more intricate and elaborate: A-B-A'-C-A''-D'-D''. Locating gesturals that could be turned into preinventive structures and explored in pairs would need correspondingly more time than for the earlier, shorter study materials.

Stravinsky's harmonic language is also more elusive. There is no obvious scaffolding here for the student (relative to the other studies) such as clearly demarcated tonal centres or chord symbols. His acerbic sound derives from the independence of tonal direction in each of the instruments and the fluidity of the harmony, at least until the final page where there is more stability and the chordal language softens to include major sevenths. He manages to connote a harmonic framework while maintaining chromatic freedom, a hard balance for any student to emulate.

Finally, the textural detail is significant. Stravinsky's *fugato* results in a fast interchange of ideas, with each voice holding their own weight within the overall sound. None of the students' reinventions so far had ventured into contrapuntal thinking and this in itself could lead to a different allocation of task leadership as well as a more diverse musical response.

8.2 Octet study protocol

A fundamental strategy for facilitating learners to move into their ZPD is to reduce the amount of scaffolding in the task, encouraging them to lean more on each other for guidance than external prompts and advice (Wilson & Devereux 2014). For this final study, the group were left to find their own working methods, starting with a group discussion where they were encouraged to lead the analysis after a brief introduction to the piece.

Preparation and deconstruction

After playing a recording of the *Octet* finale, all four were facilitated in a group discussion lasting forty-five minutes, during which they were encouraged to identify principal ideas from the original and play them on their respective instruments. This

was a means of compensating for the lack of ability to play the actual piece through in entirety, given its instrumentation.

Internalisation and preinvention

Now well acquainted with the creative requirements and tactics, the students discussed improvisational approaches, including fragmentation, imitation and inversion of motifs (as in the original). This full group discussion was followed by twenty minutes of individual analysis and exploration, to aid internalisation. As before, they were encouraged at this early stage to commit seed ideas, however sketchy, to paper.

Collaborative exploration

The joint sessions began with the like pairs this time, to alternate against the previous pattern and even out any bias. Participants were given a slightly extended time of forty-five minutes, to reflect the increased complexity of the task. Encouragement was given at the outset of the exploration to help the pair through the initial sense of being overwhelmed by the apparent increased challenge of tackling Stravinsky. Thereafter there was no intervention.

Assessment

The same protocol was followed as in previous studies: performances and semi-structured interviews were audio recorded, and the participants filled out the self-assessment questionnaire. No filming took place this time in response to the feedback of cameras providing an unwelcome scrutinising presence in the room. It was keen for their creative process to be as natural and unimpeded as possible.

The test was followed by an hour-long group discussion of the cycle of studies as a whole, appraising the evolution of learning and creative practice from the candidates' perspective. This will be discussed separately in the next chapter.

8.3 Identifying gesturals in the *Octet*

The first gestural to take into account was the imprint of the neo-classical style: both the classical mannerisms and how they had been re-imagined. The brittle staccato, kept *sempre piano* but peppered with anachronistic off-beat accents and tidy trills comprises a basic sound-image to which the students could respond.

The opening fugal subject, pairing the two bassoons, follows a typically angular shape that requires nimble negotiation of falling sevenths. The scalic accompaniment on second bassoon was also a key feature:

The image shows a musical score for two bassoons. The top staff is labeled 'Bassoon 1' and the bottom staff is labeled 'Bassoon 2'. Both staves are in 2/4 time. The key signature has one sharp (F#). The music is marked 'sempre piano e staccato'. Bassoon 1 plays a melodic line with trills and staccato markings. Bassoon 2 plays a scalar accompaniment.

Ex.8.2 Fugal subject from *Octet finale*, bars 1-6

The clarinet in its counter-subject takes these underlying rising and falling scales and diminishes them into semi-quavers. Participants noted how the fugal subject was later augmented and subjected to variation, e.g. in the first trombone part from bar 128:

The image shows a musical score for a clarinet counter-subject. The staff is in 2/4 time. The key signature has one sharp (F#). The music is marked 'dolce'. The score shows a melodic line with a falling seventh motif.

Ex.8.3 Fugal subject in augmentation, bars 128-133

The falling seventh from the original subject is foregrounded as an important motif in itself (and therefore a possible gestural), presented in opposition in the brass:

Trumpet 1 in C
Ben marcato

Trumpet 2 in A
f

Trombone 1 *f*

Ex.8.4 The seventh as an important intervallic motif, bars 51-53

A contrasting second idea in the B section stands out as a possible gestural for its sweeping legato line. Charles called it 'schmaltzy', which fits with Stravinsky's recasting of an eighteenth-century serenade, a piece of light evening entertainment:

Trumpet 2 in A
p

Ex.8.5 The trumpet 'serenade', bars 40-45

A final obvious gestural is the *khorovod* rhythm, a staple of the Russian circle dance that Stravinsky had used in previous works. This is referenced throughout the finale, moving from subtle allusion in the opening section to a bare homorhythmic statement from figure 73. Here is how it is presented in the brass at that point:

Trumpet 1 in C
p subito

Trumpet 2 in A

Trombone
p subito

Ex.8.6 The 'khorovod' rhythm

The major seventh from before is also prevalent here.

8.4 Preinventive structures and exploration tactics

One of the first tactics for exploring the neo-classical style and – or perhaps more neo-baroque in the case of this finale – was to experiment with free contrapuntal improvisation. This was a concept that each participant had already encountered in creative sessions as part of the Bristol Pre-Conservatoire. The students, in small groups, are required to pick a mode they are comfortable with – Mixolydian or Dorian, for example – and then fashion a free-flowing baroque line, slowly layering up the texture and embracing any dissonance as part of the new language in so doing. This is irreverently called ‘baroque scunge’, to reflect the anarchic qualities involved and the deliberate messiness.

The initial freedom can then be gradually finessed to reflect more features and baroque thinking. A simple fugal subject can be introduced and passed through the instruments, before they are released into free episodic response. The articulation can be made lighter and more nuanced to recall the period style. And finally, students are encouraged to listen more intently to each other and to pounce on possibilities for more dialogue and imitation.

It was noted by several participants that, with this study, other main gesturals were developed enough in their initial presentation to be already considered preinventive structures in their own right, such was their elaborate quality. The distinction between the two is certainly more fluid in this case. To use a visual metaphor and with Finke’s original shapes in mind, it was as if the gesturals had evolved from triangles into pyramids, more suggestive of potential function than their crude two-dimensional counterparts.

Participants therefore needed to consider the most basic elements of each gestural in order to manipulate them effectively. As an example, they could build upward from the *khovod* rhythm and introduce an angular, Stravinskian idea that featured sevenths and an ornamental flourish, for good measure:



Ex.8.7 Angular ideas over a khorovod bass rhythm

Whatever elements the students settled on, they could use close imitation as a means of both essaying the original’s style and of sharpening their own improvisatory reaction and level of dialogue with each other.

Throughout, the balance sought was between introducing harmonic freedom while implying a tight structure to hold any chromaticism from wandering aimlessly. One suggested device to achieve this, taken from the original, was to repeat a short scalic idea and put it through different chromatic permutations:



Ex.8.8 Chromatic permutations of short ideas

This then could be made more Stravinskian by displacing the beat and including off-beat accents:



Ex.8.9 Rhythmic displacement

Participants tried diminishing and augmenting basic themes, as well as experimenting with *stretto* entries. Notation was encouraged, as was a seeking a

clear form for the preinvention, given the students' natural proclivity to losing direction in a contrapuntal improvisation.

8.5 Initial observations of Geneplore processes

In general, fewer exploration tactics were employed in this study than in previous ones. There was no attempt, for example, at contextual shifting, nor at explicitly singing ideas before playing. This narrowing of activity was down to the increased technical challenge and analytical burden of the source material and the short amount of time given to reinvent it. Participants focused on experimenting with contrapuntal devices rather than drawn on more peripheral ideas, such as how the *Octet* would sound in a jazz band, or a vocal group.

In Torrance-Webster terminology, this equates to less fluency (fewer generative ideas) but potentially more elaboration, as participants stick with the concept to try it out in more depth. The question was whether this would yield less variety in the creative output. Would anybody get beyond the *fugato* treatment, and would their reinventions, as a result, just sound like a Stravinsky pastiche? The other concern with a narrower field of generative devices was to improvise using an equal sharing of 'home' languages. Would the respect for the original mean that the jazz players, for example, felt they could not use their home language? Participants were accordingly reminded that Stravinsky's syncopation and angular lines are actually closer to bebop than the players might at first realise.

An early observation in the group discussion was that there was increased involvement from all parties in both analysis and experimentation, continuing the positive trend in this regard from the *Kinsale Shore* study. Left to their own devices, however, participants were less inclined to either sing or notate ideas. It seems that this extra effort needs scaffolding in some way.

Once in pairs, there was a longer acclimatisation period than before, as participants tried to overcome the resistance to the task, whether due to the analytical demand

or the difficulty in responding through improvisation to it. The ratio of talking to playing shifted towards the verbal, as each pair negotiated both their practical strategy and the form the reinvention should take.

Critically, though, no pair failed to produce a reinvention nor did they require external intervention to help generate their ideas. Although certain aspects of the Stravinsky perplexed them, they were well versed enough in the reinvention method to at least give it a reasonable attempt. This in itself proves the task was within their ZPD. Whether some of them may have given up without the support of a peer is not something we were able to test, but it felt like a possibility for the first time in the study cycle.

8.6 Analysis of the reinventions

Jazz pair: Owen and Sid

Owen launches with an energetic baroque bass line in octaves, Sid holding long trills above. This is abruptly taken up a semi-tone, this time with Owen in ninths, before dropping back to the original key in tenths. Sid responds with scalic quavers in no specific key, and there is punning, passing reference made by Owen to the original fugal subject so far. Within around twenty bars they have thus managed to develop five features of the *Octet* already, appropriating the score in both spirit and letter.

They briefly pass the fugal subject between them, keeping the quaver movement running alongside. Sid then introduces a sixth element, the *khorovod* rhythm on a repeated note. This seems to signal to Owen to return to the opening propulsive bass line. Sid then augments his earlier quaver idea into crotchets and Owen begins trilling underneath.

After some rhythmic counterpoint around the *khorovod* idea, Sid gives an augmented variation of the subject while Owen introduces some bitonality, playing the second idea in diminution in a new key. The tone becomes progressively more humorous, almost carnivalesque, with jaunty dotted-note figures. This turns out to

be a brief episode before the opening ideas return and both end with a version of the fugal subject.

The performance lasted just over two minutes, but there was so much incident and playful use of the original features, together with a clear structure to govern the improvisation.

Classical pair: Charles and Anna

After a classical, graceful exchange of (long-long-short, 3:3:2) rhythmic ideas, Anna plays the fugal subject, extending it into a sequence over a cycle of fifths given by Charles underneath, with the 3:3:2 idea interjected in the bass. It makes for an elegant opening. Some of the extended chords Charles uses lend a jazzy overtone. They have clearly planned the harmonic progression and play as if reading from a score.

The 3:3:2 idea is now expanded on over a pedal note before a semitonal shift into a surprising key, Anna quoting the fugal subject in a brilliant new register. The second idea is now referenced, flowing lyrically over a *khorovod* bass rhythm. They return to the opening material, this time with more confidence and breadth of tone. Then a surprise ending: a halting reflection by Anna, just picking up the first four notes of the second idea, before a flippant, 'that's that' two-note finish on the piano by Charles, very much in keeping with the parodic quality of the Stravinsky. Within a brief ninety seconds, they two have managed not only to capture the irreverence of the *Octet*, but also use five features from the original.

Cross pair: Charles and Sid

Charles plays a robust *khorovod* rhythm using octaves in both hands, and Sid plays the fugal subject above. After repeating these ideas, Charles segues into the relative major and Sid plays a looser, more improvised version of the subject, a softer variation before they pick up the bold opening idea again. This comprises the A section.

Charles picks up a fragment of the subject, an open fifth, and oscillates on this, signaling the B section. While one plays the fifths, the other departs on scalic, baroque figures. They fluctuate between two semitones in the bass, and then the *khorovod* rhythm is reprised for the final time. Charles allows himself a direct reprise while Sid embellishes the line from before. A small rhythmic idea, again from their 'A' section, a short-short-long repeated phrase, is used to fade out before a playful, loud final chord.

Although longer than the previous reinventions, this one involved fewer ideas from the original - three, in essence – and more repetition as a result. Its creative scope was perhaps compromised because of that, and the preordained structure did not seem to allow for many spontaneous departures. There was also more static harmony, with clear tonal centres to anchor the improvisation.

Cross pair: Owen and Anna

In contrast to the bold openings adopted in other reinventions, this one surprised with its quietness and freedom. Anna holds a double-stopped minor seventh – one of the gesturals - with Owen adding ornamental arpeggiated flourishes around her. The exotic colours he uses recall Stravinsky's Russian phase, although that was most probably unintended. Owen develops some lyrical phrases that derive from the implied harmonies of Anna's seventh. It has the manner of a free jazz introduction.

Predictably perhaps, the *khorovod* rhythm is now introduced, as both find a new groove that fluctuates between minor and major. Anna improvises a melody over this groove. Aside from the rhythm there is nothing connecting this to the Stravinsky melodically or in the style, which ignores any neo-classical template. In this context, the piano and violin coupling sound turn the *khorovod* rhythm into something more like a melancholic tango (which shares the same syncopated bass).

Then the spirit of Stravinsky unexpectedly turns. Owen subdivides the rhythm into busy quavers and the language becomes less harmonically stable. Out of nowhere, this breaks into a French-style fast waltz, with Anna playing the second idea with

élan. They expound on this briefly before the *khorovod* rhythm comes back in a new key, Anna returning to the double-stopped chords of before. They drift off mid-sentence in this section. This is a reinvention that combines the predictable – notably habits from earlier reinventions by this couple – with the unexpected, almost in equal measure.

8.6 Observations on recordings and comparative issues from previous studies

On the evidence of these four reinventions, there is no doubt that the participants had created something that, to them and to me as an observer, was new, surprising and valuable. Although certain overarching creative imprints remained - the ABA structures, the reliance on repeated rhythms – their musical vocabulary had grown and they employed different devices to previous studies. This expansion of idea and new-found freedom had not come at the expense of structure. If anything, the syntax showed more rigour: more cross-referencing within the reinvention to intrinsic motifs, more referencing to features in the Stravinsky original, and better articulation of structure and purpose.

On this last point it is tempting to think that Stravinsky's own compositional rigour may have inspired the same discipline in the pairs' responses, whether consciously or not. The corollary is that their playing, with the exception of the final pair (Owen and Anna), felt more controlled and less spontaneous than before. Although the material had not been written down, it sounded somehow pre-learned. This did not impact on its originality, but just raised the question of how more improvisatory freedom might have impacted the final product. Would it have detracted from the careful form and design, or would it have helped extend certain ideas and make them even more compelling and convincing?

There is an interesting balance here to be found between the Torrance-Webster indicators of fluency and elaboration. In my earlier observations of the exploratory processes, I expressed concern that the balance would tip in favour of elaborating on a single idea – the *fugato* – rather than casting the net wider and aiming for

ideational fluency. This turned out not to be the case. Most of the pairs drew on a wider set of preinventive structures from the original than in previous studies and managed to embed them naturally within their own creation. Part of this may be to do with the abundance of ideas in the *Octet* compared to the purpose-written, shorter pieces of before. Another factor may be that, as this was the 'classical' study, it was perceived that there should be more adherence to the text than before and more reverence shown to the composer; an instance of improvisational *Werktreue*, in a way.

Although the timing of the exercise was not cited as an issue in the participants' feedback, there is the question of how many of the issues above may have been redressed by allowing just fifteen minutes more in the joint exploration stage. It may be, for example, that the pairs would have improvised more and elaborated more deeply on their preinventive structures had they felt more familiar with their construct and felt they had a more secure platform from which to spring into the unforeseen. The preparation time had already been extended by fifteen minutes in anticipation of this, but arguably it was not long enough to yield results.

However, there is also the possibility that the pressure of a relatively compact preparation period was conducive to maintaining a grip on the form of the reinvention, as well as not over-complicating the interaction between players. It is harder to have a conversation when the other is preoccupied with the intellectual content of what they are saying. Possibly, having less time to build clever musical sentences helped the flow of dialogue and promoted a more mutual exchange of idea.

As the next section will relate, it was clear that each participant experienced a high level of challenge when confronted with the seemingly impregnable score of the *Octet*. My observation was that there was a commensurate intensification in their negotiation and joint exploration. Over the course of these studies, they had learned to trust each other's musical instincts and had familiarised themselves with each other's working practice, such that a reinvention of Stravinskian language was

achievable in a way that it would not have been before. This was the right study to conclude the cycle, in that respect.

This study was then, from my perspective, a fitting culmination to the research, yielding the most interesting and original results and further validating the reinvention method. It was therefore striking to note the contradiction in the participants' feedback, and analyse why they, for the most part, concluded otherwise.

8.7 Themes arising from the semi-structured interviews

The interviews around this final study reprised themes and questions from before, but this time in a less structured way, to allow for the participants to lead the conversation, and to respond more organically to the activities as they unfolded. Part of this is reflected in the interviews happening more informally both before and after the performance of the reinvention, in order to compare intention against product. Broadly though, the conversations revolved around the following research questions:

- Which elements of the *Octet* were you able to respond to?
- What were the challenges of this exercise and how did you overcome them?
- Did concerns of style impact your working as a pair and the reinvention?
- How did the timing of the test affect the process?
- What have you learned from responding to the Stravinsky in particular and from working as a pair?

8.7.1 Higher levels of challenge

Each participant, in their own way, referenced the increased difficulty of the task of reinventing Stravinsky. Charles' comment was typical of the group:

It was really, really difficult. *Really* difficult!

There was consensus on what constituted that difficulty across the group. In various ways, each participant described the *Octet* as a fixed object, and therefore less accessible on a number of fronts. As Sid put it:

This one, kind of, feels more fixed and harder to take bits apart from it, because it's how the whole thing works together.

One element may have been the sheer number of instruments involved. The coordination of eight instruments into a fastidious contrapuntal arrangement appeared formidable, on first listen. Charles and Anna refer to how Stravinsky's precise arrangement of the eight voices did not lend itself to an improvisational response:

Charles: ...every part is there because it *needs* to be, so you can't do the thing of 'you take one [theme], you take another one, mash them up, see how it works.'

Anna: Yes, and because it was all contrapuntal, it's quite hard to improvise like that. You can't just, sort of, improvise and play freely otherwise it will just sound weird...

Owen put it this way, emphasising the perfect balancing of voices within the score (quoted in the final interview):

...it's quite delicately arranged. If you're trying to draw from that, you're not really getting much of the essence because it's like an equilibrium that has to be sustained by all these small, subtle things.

8.7.2 Stravinsky's harmonic language

Despite the contrapuntal ingenuity of Stravinsky's writing, Anna remarked she was not deterred by that, nor by the fact her own instrument, the violin, was not represented in the score. Rather, it was his polytonal language that seemed to represent the chief barrier. The lack of a clear tonal structure resurfaced as an issue for Owen in several of his comments. First, the level of dissonance, or perhaps what we might recognise as Stravinsky's 'objectivity' in the writing, seemed to distance him:

I think the effectiveness of what we've done as opposed to the other tasks is less convincing because of its abstract nature. It's tonally very complex, so you can't really access that at all apart from the intervals of a seventh and the triadic patterns in the melody.

Faced with the complicated and often chromatic harmonic configurations in the *Octet*, Owen resorted to parsing the linear elements instead and choosing recurring intervallic motifs, the seventh and triads – gesturals, in other words - as a means of accessing the work. Or at least, that is how he perceived it: making do with meager pickings rather than absorbing the full essence of the style. The latter, he said, would have ‘taken so much time’, and required listening to the original many times over. Charles referred initially to ‘the lack of functional harmony’ as being problematic, but then identified the real tension in Stravinsky’s harmonic writing:

We realised the tonality *was* there and it’s very structured; it just sounds quite anarchic and free.

8.7.3 Jazz and classical responses to harmonic challenge

The apparent freedom of the tonal language, or as Charles rightly insists, the *structured* freedom, prompted an interesting divergence in the creative response among the participants that could be attributed to their primary style background. The jazz pair, Owen and Sid, reacted to this tension by turning to freer improvisation. This was a way, for Owen, of side-stepping the need to emulate Stravinsky’s complexity:

I feel like with this [the Octet], because it’s so complex and abstract, we’ve just improvised a lot and taken some features, just gone for it. We haven’t really pre-composed or pre-arranged much stuff.

And he elaborates later that:

We’ve just taken aspects and done it, sort of, in a blanket way in order to get the feel of the piece without mimicking much of it.

Sid concurs, saying that the pair were only able to respond to the ‘rhythmic ideas and spirit’ of the piece rather than ‘taking specific examples’. It represents a switch of objectives for him, a turn-around from having to adhere to the original:

Sometimes it feels like we’re not necessarily encapsulating the piece but...almost *getting away* from it. (My emphasis.)

He later acknowledges that they did use some of Stravinsky’s ideas, but more as signposts to coordinate the paired improvisation, a means of ‘knowing we’re on the same page’ rather than as preinventive structures on which to elaborate.

In this apparent escape from the strictures of the *Octet's* writing, Owen is quick to say that their 'free' response is not as compositionally robust or satisfying:

I don't think what we're making is particularly solid: it's free, but I don't think 'free' is convincing...from a compositional point of view. I think 'freedom' is the wrong word because it's a positive thing and I don't think it's necessarily positive.

Even though they found the improvised approach less satisfying than the more planned reinventions of previous studies, it is interesting that improvisation felt like the obvious response for the jazz pair. The classical pair (Charles and Anna), true to type, faced up to the challenge by looking for anchor-points and structure. Charles explained that they were using Stravinsky's complexity as something to hide behind, 'an excuse to do what we wanted':

You need to have a structural approach. 'I'm going to play this, Anna will play that, and that's how it's going to work.' You have to classify it.

The need for order was mainly a coping mechanism for dealing with counterpoint in an improvised setting. The *Octet* has every pair of instruments in creative dialogue at times, and those multiple conversations were hard to emulate in a pair, as Anna noted:

It's crazy, it bops from instrument to instrument as the melody is passed [around]...And that was quite difficult because there are only two of us and it has to be very controlled.

The pair may have tried to pre-ordain roles and sequence of dialogue to rise to the challenge of recreating Stravinsky's neo-baroque busyness, but ultimately they jettisoned this approach. Anna revealed that this involved stepping out of the neo-baroque template altogether and finding a 'Romantic' style that they felt more comfortable with and that allowed more lyricism. Part of this entailed refashioning the harmony to suit their ends, or as Charles put it:

We kind of 'canned' it into functional harmony!

This 'canned' effect certainly explains the more formulaic qualities to their harmonic progression in the 'A' section to their reinvention, as well as the slower tempo and overall shift of mood away from the dryness of the Stravinsky.

Both pairs, then, dealt with the high challenge of the *Octet* score by simplifying it and reimagining it in their own image, either as an improvised ballade or a more structured Romantic invention. Aside from what this suggested about style bias, it also showed resourcefulness, a good deal of pragmatism, and a resolve not to be defeated by the task at hand, despite being dissuaded initially by the apparently intractable problems of the score. These are qualities that have not been tested to the same extent thus far in the cycle and perhaps fundamental to success in any creative endeavour.

8.7.4 Conclusion: contradictory perspectives

In the preceding section I signaled there would be a considerable split in perception over the success of the reinventions and their creative value. It is hard to explain, from the evidence of the recordings and my observation of the process, why the students felt their response lacked structural coherence when this was demonstrably not the case. Or how they could perceive their material as freely improvised and had scant reference to the original when, in the case of Owen and Sid for example, there were more quotations and references of the source piece than ever before.

This performative contradiction emanates perhaps from the fact that, in verbalising what has been a challenging process, participants may be focusing more on the problems – the fears and frustrations – rather than positives. Their verbal accounts, for example, do not always concur with the brief written summaries in the self-assessment questionnaire, where the picture is generally more positive. Owen, for example, jokingly calls his first paired response with Sid ‘pretty damn original’ and writes about ‘building well’ on a ‘good number of new ideas’.

It is also telling that Owen and Sid’s quotes on the spontaneous freedom of their response, or the disengagement in effect from the Stravinsky original, come from the interview *prior* to their performance. Maybe in the playing, the pair were paradoxically able to find the form and creative scope that had to that point eluded

them in the preparation phase. They just needed to, as Owen put it, 'go for it' and trust their musical instincts.

Chapter 9

Summary discussions and conclusion of main phase of research

In the literature review, I quoted from Odena's anthology of current research in musical creativity (2012), which recognised that more needed to be done to understand collaborative work across musical genres. This cycle of studies has allowed for a detailed observation of how classical and jazz students might learn together on equal terms and has proposed the reinvention method as a viable means of doing so in pairs. Where Hsieh (2012) and Sudnow (1978) suggested that domain knowledge and associated musical skills could not easily be transferred between genres, particularly in the context of improvisation, this research concurs with Sarath (2010) and others in asserting that by using a non-idiomatic improvisational language, knowledge and skills can indeed be usefully shared, and put towards a common creative goal.

The reinvention method has proved to be a practical way of crossing the 'tribal' divide between classical and jazz students, with the overriding conclusion that the differences in primary study style have, due to this method, in fact had little impact on the depth of collaborative learning involved, nor on the level of creativity manifest in both process and product. The method has facilitated a parity and reciprocity of learning across styles without, from the evidence of these case studies at least, allowing the conclusion that a cross-styled pairing carries more benefit than a like-styled one.

The implications of these studies have been iterated in the running commentaries and discussions of each case, in line with the paradigm of comparative case study research. A summative, semi-structured group interview with the participants was also instructive in gaining a more holistic view of the process from the participants' perspective, and quotations from this interview will be used to support my concluding observations in this chapter.

I will now summarise the main findings into those areas that have consistently framed and defined this research - creative cognition, collaborative musical creativity, improvisation studies and socio-cultural learning theories - before critiquing the methodology used to observe these key areas and considering directions for future research.

9.1 Findings on collaborative musical creativity and creative cognition

9.1.1 Revisiting the definition of musical creativity (2.2.2) and the relevance of the Geneplore model

As outlined in the literature review, there are two elements to return to in assessing how these studies contribute to our understanding of collaborative creativity within a musical context: first, how to observe creative cognition within the musical domain and secondly, how that thinking is affected by collaboration. To address the first, here again is my definition of musical creative thinking from section 2.2.2 that substantiated and qualified Webster's version (2002) by incorporating elements of creative cognition borrowed from Finke et al (1996, 1992) and Vygotskian theory in general:

Musical creativity begins with the audiation then generation of a seed idea that assumes preinventive potential as it is explored both audibly and intrapsychologically, taking shape through mental operations that move reiteratively between deconstruction, internalisation and externalisation, until the process culminates in a product, however brief or incomplete, that contains elements of novelty and surprise for the creator.

The reinvention method offered a means of fulfilling that definition in practice, as well as giving multiple insights into its constituent elements. It required participants to 'think in sound' (Webster's definition, 2002), activating the audiation process from analysis of the score through to co-creating a response. From the initial presentation of the source piece onwards, participants had to listen 'purposively' (Green 2014) and manipulate the aural and notated features of the music both mentally and on their instruments. This was particularly tested when, in the case of the Stravinsky *Octet*, the source material was not sight-readable and participants had to rely on the recording and their mental representation of the score.

The mental manipulation was rendered a 'structured process' (Webster 2002, again) by applying labels and operations taken from Finke et al's Geneplore model, previously only tested within the realms of figural and verbal cognition. After considering what the various operations of categorical reduction, functional interference and contextual shifting could correspond to in the musical domain, participants were taken systematically through the generative and exploratory phases in the model. Finke et al argued that constraints on the category and function of the creative product enhanced the speed of the cognitive process – the composing of mental structures and their recall – as well as yielding more diversity. The axiom that creativity functions more efficiently and effectively under certain parameters and constraints has been borne out in many fields. The execution of the reinvention method seemed to benefit from constraining participants to work from a given text and reference it in their responses, in the main. Only in some instances – notably with Sid's response – did this seem to limit rather than release the imagination and the range of response possible. There were also moments in the second paired exercise (*Kinsale Shore*) where creative fatigue in the second task of the day would have been alleviated by asking participants to shift and alter the parameters of their reinvention.

A useful distinction was found between what constituted a gestural in music and the preinventive structure derived from it after a period of internalisation. The gesturals that seemed most easily manipulated were intervals and short rhythms. These could then be expanded into more complex structures through mental reproduction, vocalisation and experimentation on the instrument. Equally powerful as starting points in this respect was the colour of the music, its stylistic template and overall mood. All acted as valid access points to the reinvention process.

More emphasis was given to the exploratory processes rather than the generative when in pairs. The initial generation of gesturals may have been enhanced through the scaffolding of group analysis, but the internalisation of those gesturals is necessarily a private and very individual operation. The Finke model is restricted to

the act of individual cognition and does not allow for group effect. Once the preinventive structures had been generated, however, the paired process helped to deepen the exploratory processes, mainly through the metacognition involved in discussing the creative tactics involved and critiquing them afterwards. Having an idea challenged also improved the bi-directionality between the two primary operations (generation and exploration), strengthening and elaborating the product accordingly.

9.1.2 Torrance-Webster indicators

The indicators for assessing a creative product that Torrance and Webster proposed were useful in both structuring the questionnaires and in evaluating the process and product. In their way, they offered a model of what successful reinvention could sound like: coherent and well formed (high level of syntax), drawing on multiple ideas from the original piece (fluent) that are manipulated successfully in the moment (elaborate), while departing in new and surprising directions (original). The fifth indicator, performance, received less weight and attention. The reinvention method was about capturing a snapshot of collaborative work, rather than a finessed joint creation. Although participants refer to unforeseen elements in the performance and how they, under the pressure of the situation, did not capture all they had intended, the tonal, dynamic and other expressive considerations normally applied to performed work were largely overlooked. It is a reminder that these elements are perhaps often undervalued when focusing on the syntax and content of an improvisation and seen as a final touch rather than a fundamental layer to the recreation. In the context of advanced studies, this should not be the case. A professional instrumentalist will attend to their sound and levels of expression regardless of what they are playing.

9.1.3 The impact of pairs and assessing collaborative creativity

The overall pattern was that, as trust developed between the pairs and therefore their ability to take creative risks grew, so the responses became more new and surprising, and technically audacious. This trend was particularly convincing when

comparing the individual response to the pilot study and re-listening to the Stravinsky paired reinventions at the end of the cycle. The improvement in levels of ingenuity, ideational fluency and confidence is marked. In their final interview, all four participants agreed that they were, in their own estimation, more creative in pairs than they would be alone when faced with a similar task (see appendix F).

Some of the improvement over the course of the studies was inevitably down to increased familiarity with the task itself. However, a recurring factor in how working in pairs promoted a sense of newness and surprise - to return to those all-important indicators - is the element of disruption. The participants seemed to fall into those that were more naturally solitary and resistant to disruption when composing or improvising (Charles and Owen) and those who inclined to be collaborative in whatever creative mode (Sid and Anna). Interestingly, these corresponded neatly to their instruments, suggesting that those that play harmony instruments are more likely to be solitary due to their self-sufficiency as opposed to those on the line instruments.

Regardless of their predisposition, the common finding was that being in a pair helped to disrupt habitual creative practice. It was the presence of another musician that acted both as a mirror on such habits, enhancing growth again through metacognition, and as a sounding board for the process, either reinforcing or challenging new ideas. Disruption, in itself, could be both productive and inhibitive in terms of creative flow. Ultimately, it produces a 'messy situation', as Owen put it, referring to the disruption Keith Jarrett faced when dealing with a faulty piano in his early Köln concert, which went on to be a best-selling album. More often than not, 'mess' in a creative situation leads to more spontaneity and more unforeseeable outcomes, both indicators of originality.

Participants noted that the disruptive element was the requirement to agree and negotiate with the other, and the need to verbalise what would otherwise remain unarticulated thought. Charles summarised this as follows:

When there are two, you both have to agree, you have to discuss...it actually makes you have to voice your creative process...to note, to make it clear in your head and focus on that as opposed to just noodling away on the piano.

The act of verbalisation works to concretise the process, rendering it more focused and potentially more structured. It fixes what might otherwise be fluid, ephemeral and potentially forgotten. It creates a line of understanding that can then be negotiated, or erased and redrawn. It prompts recall, even when the words do not become notated ideas, and anchors an otherwise meandering trajectory. Sid commented on the usefulness of being held to account in this way, concluding that the accountability can help ideas to germinate:

If you come with an idea on your own that idea might not go very far. So, you might just discard it. But if there's someone else there, then if they think of a good way to treat that idea, it can develop.

However, it also requires more flexibility when the partner departs from the expected flow or forgets what has been agreed. This can either derail the performance or, again, act as a trigger for more novelty.

Too much discussion is also a risk to the creative process. Anna advocated for less verbal input and more experimentation:

I think part of it is...not having to discuss too much; just try and play something and then see if anything comes from it, rather than trying to plan it all out before.

Whether verbal or non-verbal, the decisive factor here is dialogue and feedback, and with that the implicit consent to accommodate ideas other than your own.

After having completed just two of the main studies, it was already apparent that there was a tension between the need for greater fluency of ideas and the improved ability to elaborate them through joint exploration. It seemed that more preinventive structures needed to be developed before entering the joint exploration phase in the knowledge that only a few would be a compatible and several would need to either be reviewed or ignored. In general, however, the design and timings of the reinvention test put the weight on exploration rather than generation. In the first two studies this led to fewer ideas being sourced from the

original and quickly agreed on, even though this led to a fuller elaboration in a pair than might have been the case individually.

The exception to this was the final study, where there was a balance between fluency and elaboration. Uniformly, there was a wider selection of gesturals and preinventive structures from the Stravinsky *Octet*, in part reflecting the richness and length of the original material, but also the pairs' ability to elaborate on them. The new balance meant there was a more productive cyclical process of shuttling between the generative and exploratory too, as ideas were both jettisoned or developed. This dynamism was not as apparent in the earlier studies, where, once embarked on the exploration there was less returning to the generative phase, and less willingness to review and start afresh.

9.2 Musicological observations for improvisation studies

One of the most important effects of the reinvention method was to assert that every musician, regardless of style background or primary study, is creative. Although the four participants already self-identified somewhere on the continuum between composer and improviser (as Nettl referred to it), it is acknowledged that many advanced musicians, particularly with classical music as their first study, may have lost contact with that identity. This research does not elevate composition and improvisation over other musical creativities, such as interpretation or performance, but it does recognise them as a fundamental to a well-rounded musicianship and to any programme of advanced training.

The reinvention method emphasised that continuum between the tasks normally ascribed to the composer – analysis, setting of form, arrangement of voices, notation of motifs – and those of the improviser, such as in-the-moment creation and spontaneous reaction to the other musician. For the jazz musician, it offered a means of breaking from chord-scale thinking and being led more by matters of formal structure, texture, style and adherence to the score. For the classical, it encouraged moving away from functional harmony and cadential thinking and to a

new degree of spontaneity. As small examples, Sid mentioned the problem of having to interpret and re-envision the *Octet* score, whereas Charles had to experiment with a new chord vocabulary, particularly in the *Kinsale Shore* study. For all, the method represented a creative challenge and a new opportunity for expressive freedom.

9.2.1 Did style background make a difference?

There were two elements to the main research question that the reinvention method could plausibly help examine: whether classical and jazz musicians could collaborate creatively on equal terms, and what the perceived impact was on their creativity when they do. Regarding the latter, the hypothesis was that working across styles may represent more of a provocation and therefore yield more novelty and surprise.

On this, the results were split. From the feedback across the studies, it emerged that Sid and Anna perceived the cross-stylistic work to be slightly more innovative – while Charles and Owen broadly saw no difference, as Charles tactfully relates:

I haven't really seen much difference in working with someone who is mainly jazz. I found the process equally...equally difficult and equally fun as well.

Owen, in his assessment of cross-stylistic influence, shifts the focus onto the level of openness to improvise:

When looking at the jazz and classical elements, that isn't really a huge factor in the way we work together. You may be informed by the style you play, but the actual skills that we're showing – like improvisation, being able to step outside of our comfort zones, that kind of thing – we're all showing that really well, so...I think as a whole all of the pairings work well in different ways.

My observations concur with this. As noted before, the sheer fact of having to share an otherwise private process was enough of a disruption to think differently. What made the real difference were the creative problems inherent in the source material, whether extended chords or counterpoint, rather than the individual's style background. The language of their primary study and their framework of reference (whether Brubeck or Bach) coloured their response, certainly, but the

deconstruction of the score meant that that its constituent features could be appropriated to the task regardless of style concerns. Even if the score was predominantly in one language rather than another, this did not impede a non-idiomatic response. The individual's style became a matter of software, not hardware, a template rather than fundamental design.

The critical element here is the deconstruction. As long as a complicated language can be stripped back and pared down to features that can be accessed by everybody, then a meaningful reconstruction can occur, both individually and in a pair. This reconstruction may need differing levels of scaffolding and external guidance, but the fundamental question is whether the musician is able to manipulate the essential features and make it their own. To that end, an important factor in the choice of source material for the reinvention has to be the clarity of its gestures and how they might be re-appropriated. This was attended to in the scores written for the purpose (*Appalachian Study and Kinsale Shore*), as well as a consideration in the choice of the Stravinsky *Octet*. Once familiar with the task of deconstruction and analysis, the source material could contain less obvious signposts for reinvention, as part of increasing the challenge.

9.2.2 Finding the tipping point

The moment where the musician in the reinvention is free enough to 'make it their own' represents an important tipping point in the creative process. It signifies a creative risk has to be taken to appropriate the original's language to the extent of stamping an individual voice on the product. In general, this happened more readily in the second reinvention of the day once, as Charles put it, 'the oils had been wheeled'. On one occasion, with the *Appalachian Study*, it felt that ideas had been exhausted in the first session. On the other occasions, however, the first attempt proved to be a trial run of sorts and gave permission to break away from the source material in the afternoon, drawing on more peripheral ideas and finding more individuality. Again, style concerns appeared to have no bearing on this tendency, whether regarding the pairing or the source material.

Charles also cites timing as an issue here. When there is only a small window available to reinvent the piece, a decision has to be made relatively quickly as to whether the 'reinventor' will adopt one stratagem or another: either connecting more deeply with the source piece or re-fashioning it in their own image. This was particularly apparent with the Stravinsky study:

With this one [the Octet] we were presented with a totally different language, which we had to either circumnavigate and ignore, like I did with Anna - we did functional harmony - or embrace and see the freedom in it, which has been really interesting.

One other pertinent observation from the studies is that different manipulation techniques allow for different levels of alienation to the original score (where alienation is seen as a prerequisite to a more personal, unique response). Transcription, in the once instance it was used (on the sax solo in *Kinsale Shore*) connected the listener more closely to the conventions of jazz improvisation, but also bound them to a certain vision of the piece and how it might be interpreted. Transposition, however, pulled the musician away from any affective component, drawing the attention to devices within the written language and helped them to 'neutralise' the score and see it as a mutable object.

9.2.3 What else had a perceived impact on the creative output?

In a task such as the reinvention exercise, a recurring influential factor was not how the individual identified with a certain style but how they self-identified as a creative musician. Throughout, it was noted how both Owen and Charles brought their enthusiasm for composing to bear on the process. For both, it was a self-identification that empowered them to take leadership in the task, but also constrained them, making them slightly less able to adopt other's ideas and depart from a self-ordained route through the reinvention. There was a hint of perfectionism in their approach and a higher degree of self-criticism around the creative product. For Owen, this tendency was held in check by the need to expedite his usual process:

I find it quite useful because you just have to plump for stuff and then just play it. You can't think, well is that good enough?', you just do it. So I think it accelerates some of the creative growth I could have had outside [the pair].

Over the cycle, different 'weightings' transpired in the way each individual approached the task of reinvention according to their individual creative personality. Without wishing to oversimplify the amount of complex interplay between the following, it appeared that each participant gravitated instinctively towards a certain area for instigating both their analytical and their reinventive processes. Charles was drawn to harmonic ideas, to the progressions and vertical structures involved. Anna, meanwhile, responded more to melody and mood, and seemed most at home in a lyrical mode. Owen had a clear propensity to build ideas from *ostinato* patterns and concise rhythmic riffs, whereas Sid took more risks with the tone and colour of his saxophone and attended to issues of voice arrangement and ensemble. Having recognised these tendencies over time, the pedagogical imperative would be to hold them in check with future tasks, extending the individual beyond their natural *modus operandi*.

9.2.4 Common creative trends

Beyond these individual propensities, there were certain creative trends that extended across the whole group and became more pronounced as the studies went on. Grooves and *ostinati* were commonplace and offered a simple holding pattern for improvisation and the development of idea into all areas, harmonic and melodic. These grooves tended to be built on motifs taken from early in the source material and there was a sense of 'making do' with an obvious primary idea rather than exploring deeper to find a more elusive inspiration. Part of this may be down to the time pressure of the task, but I was not convinced that more time would have necessarily led to fewer rhythmic *ostinati*. The repetition and safety net they offer, particularly in paired work, is too compelling to be discarded for a different approach.

Harmonisation choices in both the classical and jazz reinventions were often governed by the cycle of fifths, with a varying degree of extension to the chords

used. There was also a common tendency in the pianists to drop the root of the chord by a third for a quick reharmonisation. Until the final reinvention, the participants tended also to adopt the key of the original without thinking. All of these derive from a typical training in functional harmony received in school and elsewhere and were to be expected. In a context where clear harmonic signposts were needed and where little notation took place, the progressions needed also to be kept simple. When Owen, for example, went off script with his harmonies or incorporated too many complex chords that could not be easily 'read' in the moment, then the ability to co-create tended to suffer. The main route to experimentation came through modal thinking and linear manipulation rather than harmonic progression. It seemed that all were comfortable thinking along that horizontal axis more than vertically.

The structural integrity of the reinvention varied with each pairing, but the ternary, ABA trope proved a hard one to escape from. It is understandable that the neat cycle and sense of telos that an ABA offers would offer a patina of form and structure to a potentially free improvisation. It was only when the participants were specifically instructed to reconsider this instinctive pattern in the Stravinsky reinvention that they tried either binary (Owen and Anna) or *rondo* forms (Charles and Sid).

Notation of improvisatory ideas was generally resisted, for reasons discussed in the earlier studies. In summary, participants felt that pausing to write too much would inhibit group flow, but they acknowledged the helpfulness of a few notes to promote consensus and recall in the process, and in lending more solidity to the eventual paired reinterpretation.

9.2.5 Implications for syntax in the reinvention

Out of all the syntactical areas that required clarity for a successful paired reinvention, harmony comes to the fore. Participants needed clear harmonic pillar points around which to orientate their thinking. This was a recurring feature in particular for Owen, who was more used to improvising from and conceptualising

harmonies as chord symbols. The *Octet* was the first point in the cycle not to include symbols, and it was here that Owen struggled most.

He was not alone. All found it easier to discuss and experiment with other, non-harmonic features. Intervallic language seemed to be the most accessible, both in terms of identifying recurring intervals in the score and in adapting them to the purpose of the reinvention. Fragmentation of the melodic line, or extrapolating smaller ideas also appeared to be a default process of manipulation, requiring little explanation or encouragement. Transposition and reharmonisation were less common. Owen and Anna were more inclined to start, for example, by 'jamming with the time signature' than by considering harmonic patterns, although this also was a concern later in the process.

Pressing (1998) talks of the need for motifs to be short and memorable enough to be manipulated into a convincing improvised sentence, and this was borne out in the studies. Preinventive structures needed to be compact and easily recalled in order to be used as a means of driving a joint reinvention. The ability to vocalise and play ideas while analysing the score was key to this, taking them from an abstract concept to a workable motor pattern that could be re-employed, sometimes almost autonomously, when required in the improvisation. The reinvention task required participants to be at their instrument throughout, activating theoretical knowledge and reacting to sonic ideas in the moment. It was observed how seamless the participants moved from verbal to practical demonstrations of intent and communicated through both as a result, and this would seem to be a foundational component to paired work of this kind.

Melody remains the final frontier in a spontaneous reinvention. Some of the rhythmic grooves suggested melodic potential, but the creative thinking was being led by rhythm, not line. Issues of phrasing or crafting satisfying melodic sentences were noticeably absent from all of the participants' feedback, as if this did not occur to them as a possibility within an improvised format. Equally, issues of dynamic variation remained undiscussed. Although some variation was evidenced,

reinventions tended to proceed at a moderate dynamic level, avoiding extremes of any kind.

All of these considerations suggest possible pedagogical devices in a programme of study that would extend the reinvention method over a longer period. Where there is a potential limitation on the expressive quality and creative scope of the reinvention, whether in harmonic range, melodic interest or dynamic exploration, this could be targeted strategically in the choice of source piece and incorporated both at the group discussion phase and in the performance objectives.

9.2.6 Benefits for individual musical practice

All participants could identify some use of the experience from the studies for their own practice. Owen saw it as expanding his vocabulary as a composer and gaining fresh input:

I think it's a really good exercise for getting new ideas and getting refreshed creatively.

Certainly, in his case I observed more flexibility in his approach to the co-creation of material as the studies progressed, moving away from a self-referential palette of sounds to incorporate devices and ideas from the other in the pair. The same was true for Charles, who found that the exercise sharpened his curiosity to find out more about the source material and interrogate it more personally. After the Stravinsky *Octet* study, he reports that:

I'm inspired to find out more about that style, that particular genre and be able to say, if I did it again, 'well actually I did try it in the style and it worked for me', instead of just having to revert to what I'm more familiar with. I mean, I don't suddenly want to rush home and write a wind octet. It's an urge to find out, to get to know the language better.

The act of reinventing a piece for Charles, of appropriating it for himself, seemed to serve as an empowerment to challenge the perceived authority of the composer and see the score as a dynamic document. The requirement of picking out gesturals quickly and efficiently in order to improvise with them also was seen as beneficial:

It's actually also improved my analysis: which bits to focus on and what to pick up on – that I otherwise perhaps wouldn't have picked up on.

As well as benefiting his analysis in this way, Charles felt emboldened to use elements of the reinvention technique as a springboard for his own composition, not shying away from deconstructing the 'Great Masters' in so doing:

I might try out taking a Beethoven score and just, you know, recreating it or something, as a way of getting the creative juices going...

Sid saw a similar application for his improvisation practice with jazz standards:

It's an interesting means of looking at developing a piece in a very different way, which sometimes people do with standards - but then too often I end up playing them just as a standard swing thing. To take the standards and do this kind of thing with them, I think that would be quite an interesting way of treating them.

He agreed with me that the reinvention was akin to a 'root-and-branch' reassessment of the standard, of disassembling it to be shaped in a radical new way. Certainly, at no point during the studies did he or Owen make recourse to their repository of licks and gestures or to well-drilled motor patterns to navigate through the chords; or at least, not deliberately so. Often the constraints they put themselves under for the reinvention – non-scalar patterns, referencing the original – and the fact that they had to be alive to the other's direction in the moment, meant that they were pushed beyond their normal jazz-related defaults. This reflects also their limitations at this relatively early stage of learning within the jazz language as well, in that a more able jazz musician might easily incorporate the reinventive ideas into their solo, keeping to their home language in so doing. However, for Owen and Sid, the result was to play in a non-idiomatic way. I heard no bebop.

Anna, too, found the process affirmed her identity as an improviser and her ability to be playful with the written text. Playfulness was a key characteristic in her approach, seeing the reinvention as a game and wearing the challenges lightly. This in turn helped her be an agent for change, signaling a practical way forward in those moments when the other was more trapped by the intellectual problems of the study. She also saw the reinvention as a means to 'own' the piece she was working on, and essentially to have more fun with it. When asked how she would reinvent

the Bach she was learning, she imagined taking more liberties with it and emphasising its Romantic qualities, much as she did when responding to the *Octet*:

My favourite style would be the Romantic style. So, reinventing some of the earlier pieces into 'Romantic-y' style, that would make me quite happy! Because I always get told off for playing classical style or baroque in a Romantic style. So that would be an interesting thing to do.

The greatest shift I noticed on an individual level was to go from a place of apprehension towards a score to one of confidently reclaiming it. This sowed a seed, over the short period of study, for each participant to reconsider their relationship to the text, and give new access points to reinterpreting it, whether in analysis, performance or improvisation.

9.3 Implications for socio-cultural pedagogy around paired learning

A primary objective for this study was to establish how musical creativity might be effectively taught in pairs and to test the reinvention exercise as a device for allowing this to happen 'on equal terms'. A basic indicator for success in this respect was to gain consensus from each member that they had, in their estimation, learned something new and valuable from the exercise and that it had not biased one person's development of another's. The evidence showed that all four gained equally from the process and that was no laggard in the group, nor pandering to the lowest common denominator.

Over its limited course, the four participants essentially comprised a new community of practice, a small band of cross-stylistic musical explorers. Whatever individual creative identity they had was subordinated to the identity and needs of the group, allowing the combined product, or 'group emergent' to use Sawyer's phrase, to be greater than the sum of its parts. Within this community there were new rules of engagement with the music and with each other, ones that still gave space for self-determination but that were governed by the task at hand, rather than by personality.

Within this new culture, at least in microcosm, there was less room for classical-jazz tribalism as each musician was addressed at the root level of their creativity, as co-conspirators in a new creative enterprise. Both classical and jazz thinking had their space and due acknowledgement in the community, but neither was prized above the other. What style distinctions existed were porous and allowed for 'legitimate peripheral participation', where contribution was welcomed at every level, verbal and non-verbal. A learning culture was organically created that was distinct to their school experience and that blended formal and informal elements. The task had structure and clear learning objectives, with formative and summative assessment, but was conducted in a collegiate atmosphere, with everybody sensing their unique role within the research.

The benefits to individual learning have already been listed, and there were also improvements when viewing the learning dyads as distinct entities. As the vocabulary for negotiating the exercise became increasingly shared and different working methods were accommodated, so the cooperation between the dyad increased. Their musical interaction became more subtle and nuanced such that they were able jointly to face up to the challenge of reinventing Stravinsky by the end of the programme – something that would have been beyond them as a pair at the start. The length, variety of their reinventions slowly increased with time, and the emergent was consistently new and surprising to those undertaking the task, despite the repetitive protocol for each study.

9.3.1 Vygotskian concerns and aspects of Participation Theory

The paradigm for situating and assessing the paired learning in this research was based in socio-cultural thinking, drawing on tenets of Vygotskian and Participation Theory. It was primarily concerned, therefore, with how learning might most effectively be supported by either peer or external input, rather than isolating the individual experience. Flowing from this, the most recurrent issue was how to keep the participants' Zone of Proximal Development in mind throughout the cycle, and to ensure they had the ability to move into it unimpeded by issues of study design.

The central balance here was always between ensuring adequate challenge and commensurate levels of scaffolding through that challenge, such that either the external guide or the peer could lead the other into their ZPD. This meant a dynamic assessment as the studies progressed, looking for subtle ways in which a participant may be creatively stagnating or, conversely, where the task was simply not within their intellectual or practical grasp.

The cycle included two pressure points where the challenge was particularly high and the scaffolding particularly low. The pilot test for individuals was deliberately open-ended, where participants needed to react to a foreign concept (reinvention) with initially very little support, apart from the detail in the instructions. It was a case of sink or swim. They then were given a worksheet to assist them in the rerun of the same task and this immediately lent structure and direction, although all candidates reported a sense of being overwhelmed. The Stravinsky task was the other pressure point, with more complicated parameters and a withdrawal of teacher guidance in the initial phase. In both instances, the pressure of the situation yielded surprising creative products, but in retrospect the introduction of challenge to the task might have been handled more gradually. Although participants ended up swimming rather than sinking, the prospect in itself of sinking is somewhat out of place in a creative learning environment, where success is reliant on confidence and trust.

The pilot study was the only one to rely on a worksheet to support both the generative and exploratory phases. The worksheet approach was quickly abandoned because it appeared too prescriptive and limited generative thinking rather than releasing it. It was useful for establishing points for discussion, but the rigour and detail of the questions were at odds with an exercise that was meant to feel enjoyable and inspire a free-flow of creative energy and thought. As a scaffolding device, the questions invite a personal, individual response. This might aid internalisation but is not conducive to distributed learning in a pair, nor to a democratic learning ecology. It implies an authoritative presence when the purpose

is to collaborate on equal terms. As such, it is better suited to a preparatory solitary exercise rather than the part of the scaffolding for paired learning.

Instead, the studies in the main phase adopted the principles in the worksheet around manipulation of preinventive structures and contextual shifting but couched them instead in a group discussion. Charles joined the others in finding this 'guided tour' helpful for both analysis and ensuring an even playing field for the paired reinvention:

What was really helpful, actually was when we went through the pieces with you and then you have us a guided tour, almost, through the features. Because I wouldn't have been able to find and label the specific features quite as well as when we all did it. And also, in the fact we all did it, we also had that common base to then go from, which I think made it easier because, you know, there wasn't the advantage that some people had looked at it more thoroughly and some people hadn't.

The 'common base' he refers to was indeed important not only for consistency between the studies and avoiding bias in the joint exploration phase. It minimised the risk of any one participant monopolising the process. All the candidates commented on its usefulness in this respect over the course of the studies. Another important feature was that, once the initial input had been given in this way, I withdrew from the role of teacher and became an observer only. It signified a hand-over of control and signaled that the rest of the session would be student-led, regardless of the level of difficulty. As Charles goes on to note, it was a 'really good point' of the test to have to 'decide for yourself'.

The success of the cooperation between peers over the cycle was evidenced in that each task was satisfactorily completed on time and was in their eyes a reasonable representation of their work together over the session. It was surprising, in fact, that there were not any false starts or more moments where the joint improvisation broke down and had to be recommenced. Rogoff's theory (2008) that student peers can be as effective as teachers in enabling participative learning and travel into the ZPD was validated to the extent that student-led learning formed an intrinsic part to a task devised and structured by the teacher.

9.3.2 Reciprocal learning

An extension of Rogoff's thinking was the model of reciprocal teaching and learning put forward by Palinscar & Brown (1984). The reinvention studies were contingent on reciprocity in the pairing and in the initial teaching session. All participants managed to model their learning to the other in a way that encouraged a deeper understanding of the task at hand, either through active demonstration on the instrument or verbal instruction. I observed no impediment to this due to study design or other factors and am convinced from the feedback in the semi-structured interviews that in this sense equal division of learning had occurred.

Potential barriers could have arisen in both interpersonal and technical spheres. Had there been a lack of socialisation or an inability to either share or compromise creative thinking and practice, the reciprocal flow would have been hindered. This was not the case, as the students knew each other from their interaction at Bristol Pre-Conservatoire. From a musical perspective, the issue of working across styles did not act as a hindrance either, as there was a symmetry in the core compatibilities required for the task: instrumental ability, theoretical understanding and an openness to improvisation. The first two are competence-based and the latter attitudinal. Although Sid and Owen may be more used to improvising than their classical counterparts, at no point did Charles or Anna cite the requirement to improvise as an issue per se. It was not perceived by them as a barrier, nor did that element affect the fluency or elaboration of their reinvention from my observation.

Where there was a degree of asymmetry inherent in the task – harmonic exploration being easier for the keyboard players, for example – then this was balanced out within the forty-five minutes of joint exploration, such as not to prejudice the exercise. I observed each participant taking equitable initiative throughout the course of study, and this was corroborated by the participants' perspectives in the post-test semi-structured interviews. Underlying this reciprocity was the principle, again, of allowing a style-neutral improvisational language. Aside from eliminating

bias, it meant there could be a common language in the negotiations, which is vital for the purpose of co-leadership.

As specified in the study design, ensuring this level of compatibility in the selection and pairing of participants was a deliberate decision. It avoided what are recognised as the common pitfalls of peer-assisted learning, such as the more able being limited to the attainment of the least able (Bastien & Hostager 1988), or the expert improvisers intimidating the uninitiated (Sudnow 1978). The aim thereby was to allow undistracted focus on the subtler interactions involved.

9.3.3 Internalisation

Most of the components to the creative cycle proposed for paired learning (given below again in fig.25 for convenience) have now been analysed from various perspectives. The one relatively unexplored area is internalisation, as its operations are discrete and, by definition, internal. Following the model, a participant needs to internalise a universal gestural – move it from the interpsychological plane to the intrapsychocological (Vygotsky 1978) – so that it can be rendered into a more distinct, personalised preinventive structure and put to use in the exploratory phase. It can be difficult, however, to discern in practice between a gestural (e.g. a sequence of descending fourths) and a preinventive structure (a melodic idea containing descending fourths).

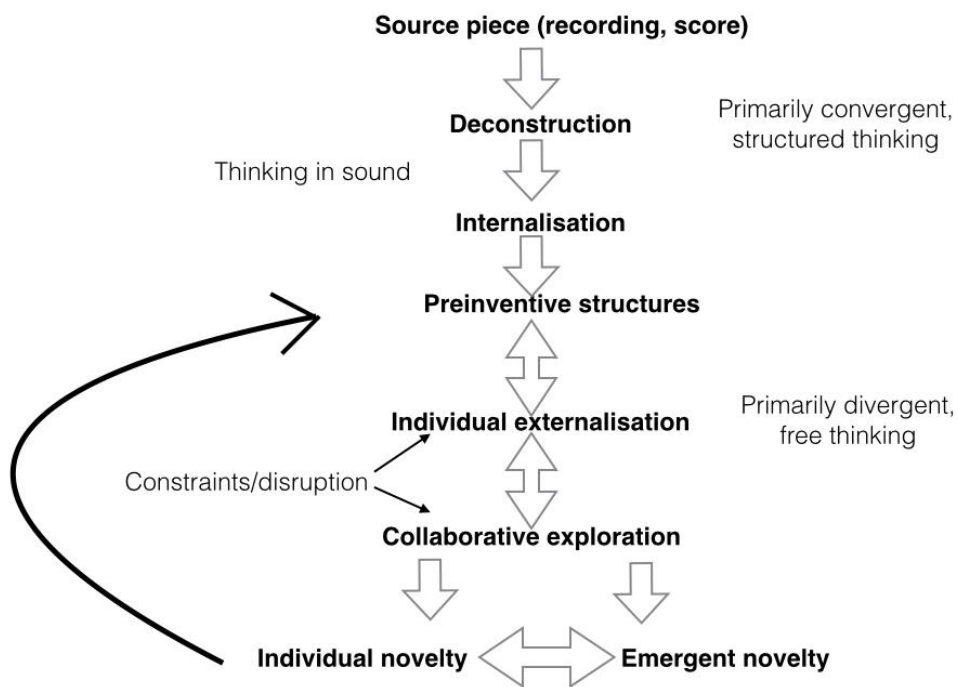


Fig.5 (bis) Creative cycle of paired learning

From the standpoint of pedagogical design, enough time had to be allowed for the individual to generate preinventive structures of their own that could then be usefully developed in a pair, lest one party dominate the other in the exploration process. This, however, had to be done in tandem with the group deconstructing the piece together in the initial phase. On this tension, a recurring theme from the interviews was that too much individual preparation – or internalisation – contrived against collaborative working, whereas not enough processing of the material for oneself compromised the depth of musical discussion.

By the final study, the conclusion was that only ten minutes was needed for participants to internalise concepts from the group discussion before they became too fixated. Ten minutes appeared to represent the golden medium for this length of task at least, where the eventual creative product would only last on average two minutes. This brief time was enough to render the abstract more concrete, to the extent of physicalising ideas on the instrument and testing their viability for further

exploration while leaving enough space for germination in the pair. A concomitant was not to send out the material in advance, as was trialed in *Kinsale Shore* – although the summary observation here was that doing so had minimal impact due to the students not engaging in the level of preparation envisaged in any case.

With the exception of the Stravinsky *Octet*, participants were able to play the study pieces. This happened after the analysis, as a means of demonstrating the theory in practice. This might usefully have been reversed, in retrospect, allowing for more deductive thinking and placing greater emphasis on aural analysis. With *Kinsale Shore* and the Stravinsky, participants were able to listen to the source piece prior to deconstruction as well. A fuller study would be needed to appreciate the impact of these different modes of conceptualising and actualising the material on the internalisation process. Within the confines of these studies, no perceptible bias was discerned in this respect, either from observing the depth of subsequent collaboration or assessing the quality of the creative product.

Donato (1994) insists that the ultimate test of learning from a socio-cultural perspective is whether the learner has internalised enough through their co-construction of knowledge with their peers to transform their world of understanding, rather than merely conform to it. The reinventions of the Stravinsky *Octet*, in my estimation, represented such a transformation, epitomised by Anna and Owen re-imagining the material as a parodic waltz in the Lydian mode, true to the spirit of the composer and yet uniquely their own vision.

9.4 Critiquing the reinvention method and research methodology

When examining musical creativity at this depth, the more generalisable patterns are sought, the more variations of individual creative expression present themselves. The choice to remain in a qualitative paradigm has been fully justified in context of these case studies. In order to be valid and meaningful, any quantitative analysis would need to narrow the scope of research considerably into a controllable set of parameters and test a much wider, non-randomised sample. In this case, however,

it was the depth of individual response and the variables that were the most valuable and informative. In a domain as fluid as creativity, it was a prerequisite that the study design could evolve according to the innumerable variables that would be encountered by the very nature of the field.

The design of constant comparison between case studies was well served by adopting a participatory model, where aspects of the programme could be shaped by the participants in line with the overall guidelines of the research. Examples of this came in the use of notation, the timings of the protocol and length of preparatory study, as well as discussing levels of scrutiny. Students were keen, for example, not to be filmed while at work because it interfered with their creative flow. Involving the students in the study design in this way also offered multiple viewpoints for the assessment of their work and counteracted researcher bias in both the scaffolding of the task and its evaluation.

9.4.1 Role of the researcher

The fact I knew the students from my work with them at the Bristol Pre-Conservatoire and as a mentor was both a strength and a weakness. I was able to select pairings that I knew would be compatible and symmetrical for the purposes of the task. It privileged me with extra insight into their creative personae, their backgrounds and potential influences, and allowed me to spot anomalies and patterns more easily, especially in the more nuanced study of their cognition and the disruption of certain personal habits. It also enabled me to have a more grounded assessment of their travel into their Zones of Proximal Development, given I had a good sense of their starting points and capacity for change from experience of their prior learning.

However, as is inevitable in this mode of teacher or action research, my familiarity with them rendered my assessment of them more subjective, and there will be blind spots due to certain presumptions I may unconsciously be making about their performance and motivations behind certain comments and decisions. I have been

sensitive to this where possible and have tried to maintain an objective distance and an open mind. One affirmation of this was that I was often surprised by their response to the tasks and their creative output. For example, I was expecting the classical students to struggle more with the improvisation element, whereas they exceeded expectations. I assumed the jazz students would naturally speak in a jazz language when improvising, but they adopted a more style-neutral vocabulary. It was reassuring to have assumptions consistently held in check in this way.

9.4.2 Limitations of the research

Hand-picking a small, non-randomised sample of students for in-depth observation would always mean that conclusions about universal trends would have to be very cautiously drawn, if at all. As with much research based on case studies with relatively wide assessment criteria, any results have to be tempered by limitations on generalisability. The reinvention tests offer just snapshots of paired creativity in practice, even though the comparison of those snapshots allowed for valid and meaningful analysis.

In line with the principles of theoretical saturation, I am satisfied that in the case of these participants, more reinvention tests would not have yielded significantly more insight. Patterns of response were recurring with enough frequency to conclude that either repeating the same study or extending the programme with further studies would not necessarily deepen the analysis but only confirm the findings so far. Partly this is also due to the advanced level of the musicians, where their ability to improvise is predicated on such a complex set of influences in their training background and current environment. From the experience of this study, it is more probable that continued research of this kind would reveal issues around individual bias and personal creative expression than it would about broader trends concerning style-related creative thinking, which remains an elusive area for analysis.

The main object of analysis for this study was the dyad as a learning unit. As soon as the reinvention method had been validated as effective on an individual level

through the pilot, the main phase no longer compared paired learning against attainment without peer assistance. This would have been a useful means of corroborating aspects of the participants' move into their ZPD and would have been a reliable control test for benchmarking paired learning. Another control could have been testing the response of all four in a small group, although three participants in their summative feedback hypothesised how this would frustrate individual contribution compared to a pair and result in less accountability. Owen, in his opinion of larger group co-creations, referred to how more voices in the mix tends to dilute the product, leading to the musical equivalent of 'brown sludge'. With some qualification, this has mainly been my experience as well.

Amabile (1996) advocates the use of expert panels to triangulate results within the creative field and externally validate the findings, particularly when assessing their value as a contribution to a specific domain. An extra layer of validation in this way may well lend more robustness to the final analysis. However, in this case the level of creativity – that is, how new, surprising and valuable it was – was always going to be judged from the participants' perspective. If their creative process and product seemed new and surprising to them, then it was a valid instance of 'little c' creativity or p-creativity, to return to those terms (see 2.1.1), where the value is defined by relevance to the task and the respective community of learners.

A longer study would have allowed space to vary the tests' source material and compared various parameters in the creative rules for its reinvention. It was hypothesised that familiarity with a piece might bias the participants' response, in terms of allowing a privileged access to its language for those more familiar. This remains a hypothesis. Similarly, it would have been instructive to compare performance in these relatively open-ended tasks to those with narrower objectives and a tighter set of parameters. A series of tests could usefully explore how limiting the focus to a single component of the musical language – harmony or rhythm, for example – might discipline and the overall process, in the knowledge that sometimes more constraints prompt a wider range of creative response (Boden 2004).

The timings of the sessions were reasonably tight, to keep the pace of learning high. In the main, participants' performance in the reinvention exercise corroborated Odena's (2012) finding that time pressure can be helpful in stimulating a response. Certain timings were extended for more exploration after the findings of the pilot study, but thereafter remained more or less constant, once it had been established that sufficient time had been left for the successful completion of the task. These studies did not test whether allocating considerably more time (hours, not minutes) to different phases of the task would result in more coherent and complex creative responses, or whether creative fatigue might set in after a certain period.

More time would also have given the opportunity to increase the range of exploratory techniques used, particularly in the scaffolded phase to the task. Certain techniques such as transcription, transposition, notation of seed ideas and vocalisation were only briefly used from the exploration toolbox, more as a demonstration of some approaches the participants might like to adopt. Although the aim of the study was to observe which strategies the musicians naturally drew on in their collaboration rather than impose working methods on them, these techniques appear fundamental to the joint improvisation process and have been further explored in chapter 10.

In the final interview, participants were asked how they felt the reinvention work might be brought to bear in the personal studies, and a representative sample of their responses were given above. This impact remains notional and untested, however. The reinvention method, in the guise of these case studies at least, was mainly about pursuing creativity for creativity's sake. It would be interesting to somehow close the loop on the learning cycle and ascertain whether paired work of this kind could enhance other areas of the individual's creative practice, such as composition or performance.

Equally this research, although inspired by real-world practice, has not emulated a real-world setting, as would be the case in a typical action research scenario. The participants undertook the work as an extra-curricular activity. It is acknowledged

that there would be many considerations to address in the uptake of reinvention method within the culture and constraints of a secondary school classroom or a conservatoire improvisation curriculum. This research deliberately stops short of examining the practicalities involved in curricular application.

9.5 Suggestions for potential applications of the reinvention method and directions for future research

9.5.1 Potential applications in UK HE and beyond

Having used elements of the reinvention test frequently in my work as a creative workshop leader in both secondary and university contexts, I would be confident of its viability to be extended into a term-long module, ideally situated in the first year of a higher education music course, whether at university or conservatoire. It could sit alongside current initiatives to improve improvisation studies at this level and facilitate collaboration within the student cohort across styles. It would also represent an opportunity to give structure to peer-assisted learning approaches and buddying schemes that are currently in vogue.

A term-long module would necessitate a more systematic approach to embedding foundational skills required for the generative and exploratory phases, employing the various pedagogical techniques used in the reinvention method over a longer course. This would help build confidence in those less used to improvisation and take a more gradual path to the goal of achieving reciprocity in collaborative pairs. The principles and objectives of the module would remain consistent with those of this research even though the approach would have to be reconfigured to suit the curriculum.

A simpler form of the reinvention method could also be used from Year 10 upwards to complement the wider listening and composing elements in both GCSE and A level music specifications, helping to activate knowledge around theory and make it more relevant to the student body. Although this research has been confined to more advanced and able students, it could conceivably be adapted and made fit for

purpose for less able pupils, with due consideration to the source material and levels of reinvention, with some initial exercises to break down any barriers to improvisation as a concept and practice. That source material could easily comprise set works under analysis. Given the issues of class sizes and limitations on time within the secondary music curriculum, the learning unit would most probably have to be scaled up from pairs to small groups.

As a means of demonstrating how the reinvention method may be differentiated to fit both contexts, I have devised two worksheets that lead the teacher-facilitator through the approach, each responding to the first movement of Beethoven's 'Pathétique' sonata, op.13 in C minor. These are given in appendix I, and their design is shaped by the findings on notation and aurality in the next chapter.

Classical, popular and jazz studies still comprise the mainstream of higher education music courses, but it is acknowledged that other world and folk music styles are now increasingly catered for at undergraduate and post-graduate level. Their integration into the mainstream parallels that of jazz fifty years ago. There is no reason why the reinvention method would not work well across all styles and genres of music, given its convergent and divergent processes can be applied to any source material, regardless of style. In an increasingly diverse student cohort, a style-neutral exercise such as this could promote good cohesion and deepen cross-stylistic understanding and exploration.

9.5.2 Directions for future research

A next step would be to test the efficacy of small group exploration as opposed to pairs, assessing the quality of the group emergent against that of pairs and individuals. Using a single source piece for reinvention and the same timings for consistency, it would be interesting to assess levels of surprise and originality in the product across these different modes. Some of the key pedagogical considerations would be how to ensure that participants share levels of contribution and accountability for the creative process in a group setting, and how all might be

brought into their ZPD by the task or through collaboration. Is there a common point, for example, when a group becomes simply too large for this kind of task, where individual accountability is compromised and the need for a leader emerges?

Further analysis of solo reinventions could also be made, with more attention to the impact on that individual's other musical studies. A more confined study could focus on a single source piece currently being learned by a group of students on a particular instrument – a Bach partita, for example – and examine how reinventing elements of it affects their understanding and interpretation of the piece, both theoretically and practically. In this case, it would be important not to constrain the reinvention to a baroque style but allow for a free and more personalised reinterpretation unimpeded by concerns of period practice. The latter has its use, but the reinvention exercise relies on a non-idiomatic response.

Where this research has been confined to instrumental studies, an obvious development would be to incorporate the voice, both for first study singers and for non-specialists. The analytical focus might usefully shift here to encompass issues around audiation in different stages of the creative process, from deconstruction through to performance. The pitch of the source material may also have to be considerably transposed to suit the vocal range, which may present both barriers to the cognitive process but also opportunities to reassess and reconfigure the original language.

All of the reinventions in this study naturally defaulted to a length of around two minutes. One outstanding question is what the effect would be of stipulating a longer length of reinvention and allowing more time for the collaborative process to mature accordingly. This could aim for a more finessed final product, where greater weight is given to performance quality and compositional integrity. This could conceivably feed into a composition project, where the reinvention is either fully or semi-notated. The requirement to improvise in pairs – or solo, if the task is not collaborative – would then belong to either the process or final reinvention, or both. With a notated reinvention and a more documented compositional process, an

expert panel could usefully be integrated into the assessment process, to compare creative intent and result.

Finally, the two theoretical paradigms used to assess the creative components of the exercise, the Torrance-Webster indicators and the Geneplore model, both invite further research and application. The indicators were not used quantitatively in this study, aside from to give a rough sense of comparison in the participants' self-assessment. In a test environment that involved a much wider sample and narrower product parameters, a quantitative survey may provide a valid and reliable means of assessing and scoring a creative process and product, as well as being incorporated into an assessment of more traditional higher education exercises, such as student composition or performance.

This study has essayed how operations from the Geneplore model might be used to interrogate functions of creative cognition that are unique to the musical domain, such as the manipulation of aural mental structures and their actualisation on an instrument and in collaborative performance. Although providing a helpful conceptual lens on the creative process, the Geneplore operations were used at a relatively superficial level. There is exciting potential to develop this model as a bridge between cognitive science and musical creativity.

9.6 Concluding remarks on main phase of study

The reinvention method and the exploration of its attendant theoretical questions have provided a fascinating testbed for how musical creativity might further be defined and taught, particularly in a collaborative context. The next chapter offers further applications for the method that were developed after deeper exploration of techniques allied to notation and aurality, as the latter have been key themes reiterated in the research so far.

An overarching motivation for this research was to ask not whether the musicians were intrinsically creative, as this was a given, but whether the method could help

them learn to be more so. Whether the participants in this research adopt the actual reinvention techniques for themselves or not, they have had a significant stimulus to examine and re-assess their own modes of creativity and to reassert their identities as creative musicians. It has been found that this identity is brought into clearer focus and enhanced when sought collaboratively.

This reassertion of identity lies at the heart of the exercise. The research, ultimately, has positioned creativity as the core to all functions within the musical domain, and advocates for musicians to engage with their creative identity at all stages of their development, whatever musical tribe they belong to. The rewards are manifold, and the process invariably enjoyable and fruitful – particularly when undertaken in pairs.

Chapter 10

Further applications: pedagogical techniques and issues of aurality and notation

In the previous chapter, I commented on the limitations to the main study (9.4.2), and this included how certain strategies within the ‘exploration toolbox’ for both teacher and student might be elaborated on. A recurring theme across the studies with the regard to these strategies was the apparent tension between two different modalities of creativity: one characterised by reliance on notation and the other on aurality. These modalities correspond, in part, to the two points on the creative continuum identified in chapter two (2.4) where creativity is seen as flowing between the fixed (notated) and the unfixed (aural). In that section, I expounded on Nettl’s (1998) proposition that these two states are in constant flow and dialogue rather than in dialectical tension. In this chapter I test and extend that concept by challenging how fixed or unfixed both notated and aural ideas are within the context of the reinvention method.

The motivation for this extra study, as for the rest of this research so far, is to explore pedagogical techniques that best support the method and its application in real-world settings. I will review the literature on how both notation and aurality have been conceptualised and expressed within discussions on musical creativity, and in particular on its relevance to music education. Broadly speaking, there are two points of entry for examining notation and aurality within the reinvention method: first, in terms of how the original source material is presented and deconstructed (i.e. the generative process) and secondly in how the students support their reinvention in their collaboration (explorative process).

Both points of entry will be analysed through a case study with six advanced young musicians paired across classical and jazz styles. The hypothesis is that a methodology that blends notated and aural techniques will be the most conducive to collaborative creativity, but the experiment deliberately polarises the approaches

in order to differentiate their potential impact on the learning process and to test the notion of ideational flow on the creative continuum as theorised in 2.4.2.

In so doing, this case study breaks from the precedent of the previous studies where the principle, in line with action research, was to observe the participants in their natural creative habitat, or at least relative to the task they were set. If they chose, for example, to ignore the invitation to use notation to support their creativity, then this observation was noted for later analysis. This study contrives learning conditions in order to extricate and isolate what are in fact two deeply interrelated processes, whether led by either notated or aural thinking. The parameters of the reinvention task remain the same in other key respects, however: the fundamental stipulation is still to reinvent the source piece in a way that demonstratively draws on concepts within the original. This cross-relation and relevance to the original ensures the 'value' of the creative task, returning the definition given by Boden (2004). Furthermore, the group interviews are coded and the tasks assessed using the same framework as before, pertaining to the Geneplore model and themes from previous studies.

The findings of this literature review and case study then feed into two sample worksheets that are offered as examples of how notated and aural techniques might be effectively combined when applying the reinvention method to both advanced (first year HE) and intermediate (GCSE) levels of learner in a response to Beethoven's 'Pathétique' sonata. These are attached in appendix H. I start, however, with a summary of issues of notation and aurality have featured so far in the thesis, as a means of underlining their importance to the investigation as a whole and of justifying their further exploration.

10.1 Notation and aurality as recurring themes in the thesis

A couple of observations made by Charles and Owen early in the pilot study (5.12) bring the complementary issues of notation and aurality into consideration when they are asked whether they would prefer to listen to the recording of the Lasky

piece without the score. Owen at this stage was concerned about developing 'tunnel vision' through over-reliance on the written material, and both question whether without the score their response would have been more abstract and less complex. This conformed to the expectation that leading the deconstruction from the score would limit the scope of the response, whereas as a purely aural representation would free it. Notation as a constraining force, aurality as a liberating one: an oppositional relationship that, although not unfounded, was to be challenged in future tests.

At this stage, Charles considered the process of notating ideas might be 'impractical' and impede the flow of creativity, even though in pilot phase they were operating as individuals. While recognising that potential impediment, I noted the following as a recommendation for future paired tests:

Notating ideas could be used in both convergent and divergent modes, for setting down a newly generated preinventive structure, deciding and converging on it in that sense, and consequently allowing it to take on symbolic potential, suggesting divergent pathways. Another means of achieving this symbiosis of thinking patterns is to vocalise the structure, enabling it to assume weight and form through experimenting with the voice before exploring it on the instrument. (p103)

Here vocalisation is introduced as a complement or even replacement to the notated idea, a means of making the abstract more concrete. In the course of the following *Appalachian study* (6.8.1), however, I found that there was a resistance to singing ideas, particularly in front of each other. Even when the student was a strong singer, it appeared there was an element of social embarrassment to sharing their thoughts in this way, presumably because it was so rarely encouraged in a group setting elsewhere.

Given the task objective in all the studies was to encourage originality and novelty of thought, another concern was soon raised around notating a preinventive structure. Once committed to paper, it appeared harder to deselect the idea, bringing rigidity into a creative cycle whose efficacy is predicated on bidirectional fluidity, where the creator has the freedom to go back and forward between preinventive structure and

its exploration in order for it be internalised and then successfully externalised. The diversity and novelty of their response requires the preinventive structure to be pregnable.

Similarly, I found using a worksheet to scaffold the exploration in pairs potentially trammelled their thinking along prescriptive lines. This was, however, in a context where worksheets had already been used to introduce the whole concept of reinvention, and where the pairs had both already socialised and gained familiarity with each other's working practice. Conversely, I commented on how useful it would have been, from the point of data collection, to have more written ideas to analyse.

At this stage, the discussion for the remaining two studies (*Kinsale Shore* and the *Octet*) revolved around one fundamental question: would it be more instructive to allow the participants to continue without the need to notate or vocalise ideas, in keeping with their natural creative stance, or to disrupt their habit by bringing in requirements to elaborate their ideas in writing, whether through transcription or other exercises? A recurring imperative for ensuring a creative response had been to disrupt routine and dislodge habit, prompting better metacognition (through having to reflect on a new process) and providing a provocation to change. How much scaffolding, I asked, was required to maintain that essential 'pivot between spontaneity and structure' (p168)?

In attempt to achieve the necessary balance, I insisted on more notated response in the *Kinsale* study, with transcriptions of the saxophone solo and the invitation to record ideas on manuscript during the paired exploration, before withdrawing from the process in the final, Stravinsky study. In terms of the presentation of source material, *Kinsale Shore* was sent as a recording before students worked on it together, whereas the Stravinsky was offered just as a score. In both instances, the group deconstruction continued at the piano, combining aural analysis with dissection of the score, except that by the time of the final study, the participants led the process more and required less facilitation.

Various recurring themes emerged from the participants' responses and my observations of both these studies. While the concern previously had been around constraining the generative process through notating ideas, Charles and Sid highlighted some benefits of having the idea as an 'informal sketch' that offered 'anchor points' for their eventual joint improvisation (p172). Charles commented on how this clarified their combined thinking, setting out their intent, and aided recall in the performance. Sid pointed out how they were able to create a more elaborate response with a stronger syntax than without the prompts, and that it was a means of signaling consensus in their pair. I commented later (p179) on how written ideas in this way represented a form of 'compact' between the two participants that gave them the security to take more risks.

This final point is worth reiterating, as it runs counter to previous discussions around the effect of notation. Both in the case of *Kinsale Shore* and the *Octet*, I argued that those interventions that encouraged a closer relation to the written material, whether the score or loosely sketched responses, far from constraining the participants' creativity, gave them license to reach out further into the unforeseen. They had a safety net for their navigation through their paired response.

By contrast, the aurally-related features to their analysis and response remained constant and relatively unexamined throughout the cycle of study. The observations and participant feedback recycled various themes around the importance of modelling ideas on the instrument, imitation, 'active' listening, memorising and recall. These were all seen and presumed to be prerequisite to communicating and playing together effectively. Attention was also given to how the score might be aurally deconstructed and the ensuing gesturals manipulated through 'audiation' (see 10.2.4 for further definition) into workable ideas. Whereas such techniques and skills were represented as an equal partner to notation, they were never assembled under the topic of 'aurality', nor did I examine in full the implications they might have for future application, and this is where I now pick up the discussion, starting with a literature review around the multivalent term, its counterpart in notation, and its relevance to music education.

10.2 Literature review

10.2.1 Aurality and orality

'Aurality' and 'orality' are commonly used interchangeably in literature on musical studies, although Joyce Coleman (2007) reminds us of their distinction from the perspective of the transmission of ancient and medieval texts, where the latter refers to how the text is passed down through speaking and the former might be defined as 'the shared hearing of written texts' (p1). Whereas orality is often presented as being in opposition to literacy, aurality in the strictest sense combines the two in its adherence to the written word. The word has to be read out aloud in order for it to be heard. In musical studies, this distinction is downplayed, with 'aurality' becoming the noun encompassing everything that pertains to the aural functions of musical communication, with the emphasis on non-verbal transmission (Keegan-Phipps 2013). The two are clearly interrelated, however, and both have implications on how music is taught and learned.

Patricia Campbell (1989) surveys the history of orality and literacy in music in both western and Chinese cultures, noting that in the Medieval period 'notation provided a framework for improvisation' (p36), and that as notation became more and more reliable and the oral tradition was superseded by an emphasis on literacy, so there was a corresponding decline in the need and ability to improvise (p37). Her thesis is that, as school curricula have placed increasing emphasis on literacy in the transmission of musical idea, so 'the associated aural understanding has been overlooked or reduced to an adjunct objective' (p38). She advocates instead for a balance of orality and literacy in the musical curriculum, decrying the decline in creativity when the aural function in musicianship is neglected.

This has been a common refrain among musical pedagogues since the 1950's. Robert Woody (2012) cites the work of Shinichi Suzuki and Carl Orff in foregrounding aural techniques particularly in the primary stages of learning music. Joining them was

British music educator, James Mainwaring, who called for music learners to 'proceed from sound to symbol, not from symbol to sound' (1951, p12). Woody also references Zoltán Kodály in his ground-breaking work connecting the voice and ear, quoting the Hungarian pedagogue's dismay at able pianists who 'are not musicians but machine operators' (cited Woody 2012, p85) due to their inability to pitch even a simple melody.

Philip Priest (1989) continues this theme by admonishing strong sight-readers for playing like 'copy-typists' (p173) as they convey the word but not the message of what they are reading. He bemoans how playing by ear has been increasingly undervalued in the Western education systems, despite the fact that the core of musical performance is to be found in 'thinking in sounds and being able to appreciate and convey artistic expression through music' (p175). Compared to this, he argues, the deciphering of symbols and notes should be seen as ancillary skills, and as a 'means to an end' (p177).

This corollary concept, 'playing by ear', is commonly contrasted to playing 'by rote', which 'entails aural processes but may also involve verbal or visual hints' (Musco 2010, p50). Anne Marie Musco argues here for a distinction between playing pre-existing music having learned it without recourse to any notation, to other aurally-led exercises such as improvisation and playing off by heart. Priest, in his survey of musicians who learned mainly by ear, is led to a more holistic definition:

All musical playing is by ear, learned sometimes by imitation, sometimes by invention and sometimes by a combination or synthesis of both of these. (1989, p188)

Woody (2012) is equally broad in his definition, writing that when playing by ear, 'pitches and rhythms are informed by an inner hearing' (p82). Priest offers a taxonomy of both imitation and invention that runs from the evocation of imagined sound through to more concrete pastiche. He then organises the activities into a cycle that overlaps at the central point where the ideal of an authentic, expressive performance is achieved (p189). For the purposes of this chapter, I view playing by ear as an expression, or mode, of aurality, inasmuch as it is an activity that is

prompted by a written text at some juncture, however indirectly. The exact theoretical definitions are less elucidatory than the examination of how aurality is expressed in practice.

10.2.2 Different cultures and the dangers of oversimplification

Aurality within music has become an identifier of a culture embodying a particular kind of playing and learning, most typically associated with world music and popular styles. Musco (2010) finds that 'for some, the gulf between "those who play by ear" and "those who read" is still a reality' and that 'skill envy' could be a factor here (p58). Woody illustrates the divide by recounting how Louis Armstrong, when asked whether he could read notation, purportedly replied, 'Yes, but not enough to hurt my playing!' (2012, p83).

Part of the cultural or even 'tribal' divide here, to return to an earlier characterisation in this thesis, derives from the primary musical habitat concerned. If that is an orchestra, brass band or choir, then there will be an inevitable 'notational centrality' (Lillestam 1996). Priest found in his survey (1989), on the other hand, that popular musicians tended to learn first through peripheral participation in jamming sessions and band performances, with the barest of notational support. As Lucy Green (2008, 2002) has subsequently documented, the culture of those who learn in this way is characterised by predominantly aural techniques: imitating recorded and live examples and learning socially through varying degrees of apprenticeship.

Earlier in this thesis (p21), I cited how jazz musicians and pedagogues have placed the importance of a good ear at the centre of their practice, in particular the ability to hear a phrase before playing it (Monson 1996, Berliner 1994). This is not an ability that is exclusively prized by jazz, but rather a shared value among all styles. It is worth flagging, though, that the signification of orality and its predominance within the jazz tradition has engendered its own set of problems, particularly when faced with its integration into the highly codified context of higher music education (Williams 2012, Ake 2002a, Baker 1969). For the first fifty years of its introduction

into the corridors of conservatoires, pedagogues struggled with fitting round plugs into square holes. Kenneth Prouty (2006) warns, though, against falling into an oppositional discourse when describing jazz traditions:

Simplistic, culturally non-specific binary oppositions such as oral/written do little to explain the complex interactions of form, media, structure...that create and musical musical and cultural traditions. (2006, p331)

Within jazz pedagogy (although not exclusively so) sound can become text, as transcriptions of recordings assume the role of tutor and method books in disseminating and clarifying improvisatory practice (Prouty 2004, Monson 1996, Murphy 1994). The attitude to literacy, whether documenting the canon or promulgating theory and idea has changed with the times and in accordance with jazz's gradual absorption into mainstream musical education. Whereas a previous era championed apprenticeship and imitation, sometimes viewing the 'avoidance of literacy as a 'badge of honour'' (Prouty 2006, p324), the modern jazz environment has embraced the challenges and opportunities of literacy.

The 'badge of honour' that comes with 'not needing' notation is a recurring theme in pedagogical conversations, and one that I have had many times with former students on a popular music course. Walter Ong (1982), in his seminal work on orality and literacy, reminds us of the importance of the written text in opening pathways to higher level cognitive tasks:

Abstractly sequential, classificatory, explanatory examination of phenomena or of stated truths is impossible without writing and reading. (p9)

This implies a clear dichotomy between the analysability inherent in oral and written approaches, the logic being that where something is 'fixed' – made concrete through sign or text – then it can be pinned down under a slide for microscopic analysis, whereas the aural remains ephemeral and less within grasp. This has attracted much contention (Prouty 2006 lists the main detractors) for how it underestimates the intellectual possibilities of considering sound as text.

One way in which this contentious issue has been tested in the field of improvisation was when Cheong Ku Wing et al (2014) measured higher level thinking skills in two

scenarios: one where students imitated recorded ideas as a basis for their creation and the other where they were given written motifs as their launch-point. Wing et al found that there was 'robust evidence that the aural-motivic analysis' played 'an important role in enhancing higher-order thinking skills in music improvisation, with correspondingly more 'depth of understanding', better cross-referencing between ideas and a more convincing syntax (Wing et al 2014, pp5132).

This connection between a textual source and the potential for elaboration instinctively informed the pedagogical approach to the reinvention method, as well as the parallel processes suggested by the Geneplore model, which also works from a concrete (most often visual or visualisable) gestural into the preinventive structures and beyond. The assumption was that, even when led more by a recording than the score, some degree of written scaffolding would not just be beneficial but fundamentally required. The question this and the reading of the literature so far begs is whether a purely aural set of prompts could lead to an equally convincing interpretation and reinvention. Whether, in other words, a purely aural understanding could be as 'fixed' as its written equivalent, in terms of the syntactical rigour it engenders in the creative response. And whether this rigour, although scoring highly in Torrance-Webster categories such as elaboration and syntax necessarily leads to a better collaboration or indeed more perceived novelty within the paired creative experience. These considerations have been duly addressed in the research objectives for the new case study.

10.2.3 Audiation and the connection between the ear and the creative process

Another important corollary idea and expression of aurality in the musical realm is Edwin Gordon's concept of 'audiation' (1999, 1997), which I refer to repeatedly in the thesis, most notably in my definition of musical creativity on p24. In drawing on the familiar analogy of the acquisition of musical vocabulary as a child learns their verbal language, Gordon suggests that 'audiation is to music what thought is to language' (1999, p42). He reminds us of the virtuous cycle between listening and speech when language-learning as an infant:

The more you spoke, the more you listened, the more you listened the better you spoke (p42).

Audiation has parallels in terminology around 'attentive' or 'purposive' listening (Baroni 2006 and Green 2002, respectively), where the musician moves from a passive stance of merely perceiving the notes to reclaiming them for themselves, through interpretation, imitation, memorisation or manipulation of some kind. In linguistic terms, audiation occurs when the sign becomes the signified. This process can happen both when the receiver hears the sound or sees it represented on the page (Gordon calls this 'notational audiation'), pertaining to the orthodox understanding of aurality where the connection to the text remains intact.

Gordon and Christopher Azzarra (1999, 1993) both make two important assertions following this definition. First, that a musician benefits from being exposed to a large and varied repertoire of musical sounds and texts from an early age, and secondly that audiation represents a skill that can be systematically developed with time and practice. Here, though, Gordon parts ways with Azzarra in insisting that the underlying aptitude which facilitates good audiation reaches a peak at age nine and then stabilises throughout the rest of that musician's life. Both connect the ability to audiate with fluency and flexibility in handling the musical language, whether in analysis or performance.

Azzarra makes an explicit comparison between audiation and improvisation in particular, writing that 'improvisation in music plays the role that speech and conversation play in language' (1999, p22). The more expansive the musical vocabulary and the more adept the musician is at 'speaking' it, the more fluently they are able to improvise. This is an extension of the music-as-language analogy that is prevalent in jazz pedagogical literature (e.g. Berliner 1994, Bailey 1969), and even in the rhetorical analyses of German baroque theorists and earlier. It is not, then, a new comparison, nor a new discipline within musical analysis. However, as the study of improvisation has developed, it is interesting how central it has remained as a metaphor, to the point of becoming a trope and common rallying point for discussion.

Azzarra and Gordon both argue for early memorisation of tunes in differing styles and meter, but emphasise that the objective has to be to transcend a 'by rote' rendition and to 'own' the material for themselves. Priest characterises this moment as the point where the play-reading becomes enacted on stage. Azzarra, however, is keen to bring the learning in a full circle. The pedagogical use of improvisation, he argues, is not just to enable spontaneous and fluent expression of ideas that are novel to the creator, but also to tie such expression back to the written material. Improvisation can be used to expound on devices they have read and 'notationally audiated' (to return to Gordon's term), rendering the material more memorable and relevant to their practice. From that perspective he is able to assert that 'in actuality, music-reading and improvising are quite closely related' (1999, p24), where comprehension of the text and its enactment work symbiotically to enrich musical thinking and musicianship. This belief, also, has been at the core of the reinvention method and its design.

10.2.4 Further benefits of aurality

All the authors cited so far are unanimous in their advocacy of training ear skills, particularly in an educational climate where such skills are either left to molder or are sidelined to an extra-curricular activity. Kevin Watson (2010) admits a note of caution to this evangelism, finding that in recent studies into instructional method to support jazz improvisation, the question of whether predominantly aural or notated methods are more beneficial 'remains open'(p241). This is mainly from the point of view of statistical analysis and disregarding more anecdotal, qualitative feedback. Instead, Watson follows the precedent of Madura Ward-Steinman (2007) in measuring 'self-efficacy' within the improvisation under study. Self-efficacy is a concept introduced by Albert Bandura (1997) within the field of educational psychology, and connotes a degree of independence, motivation and self-belief in the individual under study. Watson, from his survey of the literature, posits self-efficacy as a 'superior predictor of performance achievement' in both improvisation and more broadly in other performance practices. His own study found that, through

instruction of either kind (notated or aural), students can demonstrably improve their skills, again contesting the myth that improvisational competency is purely innate. He also suggests that:

...educators should strongly consider the incorporation of aural imitation tasks and exposure to exemplary models into their improvisation teaching methodologies. (2010, p250)

So, while not privileging one modality over the other, the implication from the above is that aural approaches at least need to be an integral part to any successful methodology. Woody joins this call to action, embracing a wider set of benefits to improving aural skills, including the development of arranging, composing, and 'more fluent notation reading' (2012, p87), reinforcing the connection back to text-based modalities. Woody joins Gary MacPherson and Alf Gabrielsson (2002) in stressing that aural-based approaches are the only ones capable of contributing across the spectrum of core musicianship skills (listed as improvisation, playing by ear, playing by memory, performing rehearsed music and sight-sight-reading, p85). Maria Varvarigou (2017) found that group ear-playing was 'hugely beneficial' to a similar range of skills, including 'repertoire appreciation, the ability to harmonise other melodies', as well as 'improvisation that was not idiomatic to a particular genre' (p301).

Varvarigou's study is worth highlighting here, as it bears some resemblance to the reinvention method. Her objective was to move between group ear-playing and group improvisation in a variety of musical genres. Borrowing on materials in Lucy Green's book, *Hear, Listen, Play* (2014), Varvarigou observes her students in a variety of strategies as they imitate then recreate what they hear. The reinvention method differs in core respects, in that it does not require direct imitation of the text (or recording) but rather stipulates students should move quickly to the invention of new material. It also admits a degree of notation, both in its study of the score and in the operation of reinvention. Varvarigou isolates playing by ear as the exclusive method for both accessing the original material and reimagining it. She also does not allow for tutor intervention, although acknowledges that 'specialised coaching' could be a future development.

Aside from identifying wide-ranging benefits to musicianship, Varvarigou foregrounds the importance of group-learning, which affirms the equivalent approach taken in the reinvention method:

The most powerful strategy was peer learning, which supported problem solving on harder parts, encouraged mentoring and co-teaching for less confident students, and nurtured a general atmosphere of playfulness and experimentation that was reportedly highly enjoyable. (2017, p297)

Echoing this finding, Kevin Watson (2010) noted that those instructional methods that revolved around aural imitation promoted sociocognitive learning and social cohesion with the learning group. Both researchers make the link here between the ability to learn constructively together and life skills in a musician's potential portfolio career where teamwork will be at a premium. Varvarigou goes on to cite Hallam & Gaunt (2012) in insisting that the creative confidence that comes from building aural skills is essential to almost any career in music, wherever that creativity lies on the spectrum from imitation to invention. Juntunen et al (2015) add the ability to respond to the unpredictable during performance to this list of benefits, suggesting the confidence that comes from being able to play by ear and improvise is a means of addressing symptoms of stage fright (p586).

Attending to aurality in its many guises, then, is represented in the literature as a panacea to myriad shortcomings in the current education provision, as well as providing strong uniting thread for strategies designed to develop comprehensive musicianship from primary ages through to higher education and beyond. Aural-based techniques in class also make an important connection – and offer more relevance – to the informal modes of learning that most students will engage in outside the classroom, whether through online tutorials (learning mainly through listening and imitating) or 'jamming' with friends, often without a lead sheet or score in sight. Recognising those modes of instruction and paralleling them in class helps reinforce learning and give it more life-long potential. Finally, Campbell adds to the jeopardy of not responding to such calls to action by insisting that without a proper blend of orality and literacy in music education, music itself will lose its credibility as

a creative art form, diminishing in status compared to dance, theatre and sculpture (1989, p39).

10.2.5 Barriers and implications for the case study

Many of these findings on the wide-ranging benefits that come from balancing the quest for musical literacy in our education systems with an equal emphasis on aurality may seem like a given – commonsensical, even. If we accept that the ear is central to musical learning, then our pedagogy should surely reflect that. And yet there is still so much resistance to adopting a more ear-led approach. Historically, there has been a nervousness that ear-led activities (typically characterised as ‘fun’) might detract from the more ‘serious’ task of getting down to the brass tacks and grammar of notation. Woody questions how much of this may be down to self-fulfilling prophecy on behalf of the teachers: ‘Is it possible,’ he asks, ‘that we do not value ear playing for our students because we never adequately developed the skill for ourselves?’ (2012, p84). Madura (2000) and Watson (2010) both highlight a lack of teacher competence as the main impediment to promoting aural practices, particularly when they find their own skills are outstripped by a growing level of demand in the classroom (e.g. when moving from primary to secondary instruction). Musco (2010) adds that some of the resistance is also down to time pressures of the curriculum, particularly from secondary stage on.

My own experience in the classroom suggests that such impediments can be more imagined than real, both from the student’s and the teacher’s perspective. It is as if, sometimes, an able swimmer still does not want to leave the shallow end for fear of the deep. There can be a phobic element to letting go of the security that comes with notation and the reassuring cognitive and assessment framework of a literacy-dominated approach – even when the aural task is appropriately presented in small, achievable sections and supported by good resources. An embedded negative script plays itself on loop, suggesting the aural task is either too hard or without assessable purpose.

The reinvention method so far has coaxed students away from such scripts by reassuring them with notational support and, critically, motivating them through learning together in appropriately skilled pairs. One question this extra review of the literature poses is whether facing up to the internal resistance that can come with aural exercises could prompt the student to move into their Zone of Proximal Development, promoting originality in their creative response.

On the more positive side, this review has affirmed that the reinvention method's blending of aural and literacy is commonly advocated in the literature among those who want to challenge the literacy-heavy educational environment. The recent research is unanimous in asserting how nurturing one side to the equation can be reciprocated in the other, setting up a virtuous cycle. It has also provided evidence for how skills in both areas can be improved over time, both in unsupervised settings and through more formal instruction. This has been borne out in the four studies already undertaken, which showed how, in a relatively brief period, participants became more adept at audiating and manipulating material within the context of the reinvention exercise.

There is a clear pedagogical value to seeking a balance between aural and literacy. The aim of the following case study is to tease out specific ways in which those modalities affect the particular components within the reinvention method – task parameters, levels of scaffolding and resource, Geneplore operations, teaching and learning strategies – in order to refine and adapt its design for application in a number of educational settings. The research questions for this study are correspondingly:

- What is the impact of aural and notational modalities of instruction and learning on the creative processes within the reinvention method (analysis, generation, exploration, performance)?
- What is the student perception of the validity and relevance of these various techniques?
- What impact do the different modalities have on the product (paired reinvention), using the Torrance-Webster indicators to assess as before?

- Do the findings bring any new reflection to what might be considered 'fixed' and 'unfixed' on the improvisation continuum?

10.3 Case study to test aural and notational techniques

This study was designed with the aim of giving a brief exploration of the key themes identified from the review, focussing on them within the parameters of the reinvention method, and to offer directions for future research in this area. There is therefore no claim to comprehensiveness and the scope is correspondingly modest, but the study does act as a valid means of testing the 'road-worthiness' of certain teaching techniques allied to the method, as well as allowing processes demonstrating aurality and notation to be appraised using the Geneplore model and Torrance-Webster indicators as before in the thesis.

The study rationale remained constant with precedent in the main phase of studies so far, following a participatory paradigm that allows a flexible role for the researcher as facilitator and observer, with the participants determining their own course of action within a loose set of parameters.

The same protocols as before were observed, following the creative cycle of paired learning (see p216), that I devised to lead the participants systematically through phases of deconstruction, internalisation and generation of preinventive structures, and then both individual and collaborative exploration. The study still has the overarching objective of facilitating reciprocal learning in pairs across classical and jazz styles, with the same selection constraints as have been previously applied.

10.3.1 Participants

Part of the opportunity of undertaking a case study once the main phase of studies had already elapsed was to extend the sample of students. Although this meant the constant comparison method from before could no longer apply, it offered new data on the feasibility of the reinvention method in a different context.

Six participants were chosen to offer a cross-selection of classical and jazz styles, paired into keyboard and line instruments. Four came from the Bristol Pre-Conservatoire and the remaining two from the department of music at the University of Bristol. Their consent to take part in the study was obtained following a full ethics review and their first names have been changed to ensure full anonymity. Each participant filled out an assessment of prior learning, adapted from previous studies to allow brief commentary on aural and notation skills, as given below:

Assessment of Prior Learning

- Name of participant
- Age and current level of academic study
- Principal study instrument and latest qualification on that instrument
- How many years learning principal study?
- Do you study or have you studied at a specialist music institute (e.g. junior conservatoire, conservatoire)? If so, please name
- Would you define yourself mainly as a classical or jazz musician? Or a mixture?
- On a scale of 1-7, how confident do you feel improvising in your chosen style, where 1 is not at all confident and 7 is very confident?
- How do you normally express your musical creativity?
- Do you prefer to make music with or without using notation?
- On a scale of 1-7, how strong are your aural skills, where 1 is very weak and 7 is very strong?
- How often do you use your aural skills and how?
- How often do you use your notating skills and how?

James, age 16

James is a sixth former who has grade 8 on piano and self-defines as a predominantly classical musician, with little confidence in improvisation (3 out of 7 on the scale). His creativity is mainly expressed in interpreting pieces and he does

little composing, using his ear to help his ensemble skills and ‘to get information correct on the clarinet.’ He studies at the Bristol Pre-Conservatoire.

John, age 20

John is a third-year undergraduate musician at the University of Bristol. Although the last classical grade he took was grade 4, he is an adept jazz pianist, playing in the university big band. He is used, therefore, to improvising and uses his ear to transcribe solos and to ‘pick out harmonic progressions’ from pieces he listens to.

Tom, age 17

Tom’s main instrument is the trumpet, and he holds a DipABRSM. He is primarily a classical musician with a medium level of confidence (4 out of 7) in improvisation. He notes that he is equally happy making music with or without notation and uses his ear mainly to ‘listen for balance, tuning etc.’ in group music-making. An occasional composer, his main mode of creativity is interpretation, focusing on the phrase and tone of what he is reading. He studies at the Bristol Pre-Conservatoire.

Lisa, age 15

Lisa, also a Pre-Conservatoire student, has an ARSM on the oboe and self-classifies as a classical player with a good degree of confidence in improvisation. She prefers using notation to support her music-making and ‘fairly often’ when composing and does not consider she uses her aural skills actively.

Cathy, age 17

Cathy has been the lead saxophonist in the Pre-Conservatoire jazz ensemble for three years. She has a grade 8 on the instrument and describes herself as ‘mainly a jazz musician who wants to improve their classical skills.’ She is a confident improviser and likes to experiment with ‘different soundscapes’ and the ‘quirks’ of unusual modes. She uses her ear to do a lot of ‘transcription’, in the acquired sense of imitating jazz solos without notating them. She composes and writes notated instructions when leading a band.

David, age 21

David is at the University of Bristol and is in his third year of study. He has played piano for nine years but holds no formal qualifications. He plays a mixture of classical and jazz, composes his own material and arranges songs for the instrument and a trio. He uses his ear to make those arrangements or to 'figure out songs' on his guitar, sometimes notating those pieces and sometimes not, changing his 'preference in phases'.

10.3.2 Study rationale and protocol

The study comprised two tests that used the Lasky piece, *Please turn up the quiet*, taken from the pilot study (chapter 5) and chosen for its cross-over of classical and jazz influences. This score is given again overleaf for ease of reference.

In the first test, participants were taken through a worksheet (below) to prompt their exploration of the first page of the score. In the second, they were given a recording in place of the score and worked through ideas purely using their ear and singing. Both tests were facilitated by me at the piano. The rationale was to isolate those teaching techniques that predominantly draw on either notation or aurality respectively, with the acknowledgement that there would be some level of overlap. The first test, for example, encourages what Gordon (1999) would refer to as 'notational audiation', where the reader is prompted to hear internally the printed material before activating it, or externalising those aural images on their instrument. A more extreme version would have been to require participants to answer the questions on the worksheet in silence. This, however, would have strayed too far from the central pedagogical method, which is designed to encourage active participation, collaboration and actualisation of ideas through experimentation in practice.

Thus, in the first test the worksheet explicitly guides the eye to the score in order to identify and isolate intervallic ideas, whole tone scales, harmonic progressions,

rhythmic and other features. This combines both deconstruction and internalisation, as the participants are given a model for how to metamorphose the gestural into preinventive structures, e.g. creating a melodic idea that echoes the right-hand line at letter A. It also prompts collaborative exploration, as different participants are invited to respond to the score at the keyboard or on their instruments. The worksheet is an abbreviated version of the one used in the former Lasky study and focuses just on the first section, from the beginning to letter B. The questions were as follows:

1. Try shifting this stack of fourths around to create harmonic colour:



2. Sing this pattern of fourths as you play:



3. Play a melody that uses 4ths over these 2 chords:



4. What are the features of this chord (bar 10-11)? What scale would fit over the top?



5. Describe the harmonic movement in bars 12-15 and in 16-17. Have a go at one of the progressions in a different key.

6. Take this melodic motif and transpose it up and down:



7. Now try keeping the shape but extrapolating the idea a bit, so that it says something different.

8. Comment on how many recurring rhythmic ideas are used - where in the phrase, with what harmonic devices etc.

After working through these questions together, with some facilitation from me at the keyboard, the participants were asked to create a brief response (no longer than five minutes) to the Lasky extract in pairs, referring to the original in terms of its key ideas and devices, but using their own language in their reinvention. They were first allowed some time alone to aid internalisation, and this was kept at ten minutes as recommended by previous findings (section 9.3.3), in order that those ideas retained some flexibility for the co-construction to follow. They were then put into pairs for the main phase of the study. These pairings remained consistent through both tests: James and Cathy (classical pianist and jazz saxophonist), John and Lisa (jazz pianist and classical oboist), and David and Tom (cross-over pianist and classical trumpeter).

In each phase of the exploration (solo and paired) they were requested to commit their ideas to manuscript in sketch form. These sketches were collected as data for later analysis, and I observed each pair at work in turn, rotating three times within the allotted forty-five minutes.

They were then reassembled for a plenary session where the reinventions were performed to each other. These performances were audio recorded for analysis, as were the participants' brief comments on the main ideas (preinventive structures) they had chosen for the basis of their reinvention. They were also asked to verify that the performance went as intended and was therefore a valid reflection of their work together. Finally, they filled out the same self-assessment questionnaire as in earlier studies (appendix C), which categorised their feedback according to the Torrance-Webster indicators of fluency, elaboration, originality, syntax and performance quality. One amendment was to discard the scoring column, as it had been of little statistical value in the data collection so far. The first test in total lasted two hours.

The second test followed the same protocol and assessment practice as above, this time replacing the score from the second page with the appropriate recording taken from Simon Lasky's album, *Story Inside*. This was played to the participants as a

group to launch the test. Without recourse to any visual aids, they were then led from me at the piano through the following guiding tasks and questions:

Bars 20-21

Sing the bass line and comment on it.
Identify the intervals in the right hand.

Bar 25

How many notes are in this chord? Can you sing them? What scale are they based on?
Can you name the polychordal structure? (Two augmented triads).
Can you sing those triads?

Bars 26-27

On your instrument, play back the right-hand idea, defining the rhythm.
On the piano, play the left-hand chords: what chord and voicing is being reiterated here?

Bars 34-37

Sing the pedal note and describe its effect.
Comment on the harmony (Phrygian/diminished).

Bars 40-41

Listen to the A/B and G/F7. Sing left and right hands, describing the harmonies.

Can you imagine this piece rearranged for different forces? Or reconceptualised in any way?

In the collaborative work that followed, each pair was given the Lasky recording to refer to, but no notetaking of any kind was allowed. Instead, participants were encouraged to share ideas as much as possible through vocalisation or demonstration on their instrument, in an attempt to maximise non-verbal communication and attune their ear to the detail of each other's ideas. The results of their paired work were shared and recorded as before, with the whole test again lasting two hours in total.

Following both tests, participants were gathered for one final plenary session of forty-five minutes where they were asked to comment on their experiences of the various teaching techniques involved. This semi-structured interview was audio recorded, fully transcribed (appendix H) and coded using the same thematic

headings as the previous studies, with some additions to reflect the notational or aural bias involved.

PIANO
ACOUSTIC GTR,
BASS
KIT WITH DRUMS

PLEASE TURN UP THE QUIET

Simon Lesley (2014)

INTRO.

TEMPO RUBATO, RADIANTLY

(A) TEMPO MOLTO RUBATO ♩=66

mp ESPRESSO
 Fmaj7/Bb Fmaj7/A Abmaj9(11)omr3 Eb/G Gbmaj9(11)omr3 Fm11 Emaj7(11) Emaj7(11)/Eb

pp UNBEARABLY QUIET & INVERTED
 Cmaj7(11)/E Am13 Bm7 E11(omr3) F13(11)/Eb F7(11) F7(11)/E

Copyright © 2014 Simon Lesley Music

The musical score consists of five systems of music, each with a piano (pnd) part and a guitar (gtr.) part. The systems are labeled (A), (B), and (C).

- System 1 (Measures 20-23):**
 - Piano:** Starts at measure 20 with a *mp* dynamic. Chords include $Bb^{\#}A\flat 7(\#11)(omr3)$, F/A , $A\flat^{\#}A\flat 9(\#11)(omr3)$, Gm° , $C^{\#}m^{\circ}(A\circ\circ 9)$, $F^{\#}m^{\circ} 9$, $Bm^{\circ} 7$, and $C^{\#}m^{\circ}(A\circ\circ 9)$.
 - Guitar:** *(GTR. DOUBLES MELODY)*
- System 2 (Measures 24-28):**
 - Piano:** Starts at measure 24 with a *mf* dynamic. Chords include $A^{\#}m^{\circ} 6$, $Bm^{\circ} 7$, $F^{\circ}(\#11)(\#5)$, $C^{\#}m^{\circ} 7(\#11)$, $Dm^{\circ}(SUS4)$, $E\flat^{\#}m^{\circ} 7(\#5)$, $E^{\#}m^{\circ} 9$, $F^{\#}m^{\circ} 7/B\flat$, and $Dm^{\circ} 7$. Includes a *(WHOLE TONE FILL)* and *(JUST PND.)* instruction.
 - Guitar:** *(JUST PND.)*
- System 3 (Measures 29-33):**
 - Piano:** Starts at measure 29 with a *pp* dynamic. Chords include $E^{\#} 11(omr3)$, $A^{\#}m^{\circ} 9$, $A\flat^{\#}m^{\circ} 7(\#5)$, $F^{\#}m^{\circ} 7(omr3)$, $E^{\#}m^{\circ} 7$, $E\flat^{\#}m^{\circ} 7$, $Gm^{\circ} 9$, and $A\flat^{\#}m^{\circ} 9(omr3)$. Includes a *(PND. ARPEGGIOS)* instruction.
 - Guitar:** *(PND. ARPEGGIOS)*
- System 4 (Measures 34-37):**
 - Piano:** Starts at measure 34 with a *mf* dynamic. Chords include $G/F^{\#}$, $G^{\circ}m^{\circ} 7/F^{\#}$, $G^{\circ}/F^{\#}$, $C^{\#}m^{\circ} 7/F^{\#}$, $B\flat^{\circ}m^{\circ} 7/F^{\#}$, and $G^{\circ}m^{\circ} 7/F^{\#}$. Includes a *(GTR. STRUMS SPANISH STYLE/PHRYGIAN ON 1ST BEAT OF BAR)* instruction.
 - Guitar:** *(GTR. STRUMS SPANISH STYLE/PHRYGIAN ON 1ST BEAT OF BAR)*
- System 5 (Measures 38-41):**
 - Piano:** Starts at measure 38 with a *pp* dynamic. Chords include $Bm^{\circ} 9$, $E^{\#} 11$, $F^{\#}m^{\circ}(A\circ\circ 9)$, $G^{\circ}m^{\circ} 7(\#11)$, $C^{\#}m^{\circ} 7(\#5)$, A/B , and $F^{\#} 13(\#11)$. Includes a *(GTR. DOUBLES MELODY)* instruction.
 - Guitar:** *(GTR. OFF-BEAT HARMONICS)*

Ex.5.1(bis) Excerpt from 'Please turn up the quiet' (copyright 2014), reprinted with permission from the composer, Simon Lasky

10.3.3 Initial observations of the paired process

Contrary to concerns that the newly formed pairs would need time to acclimatise both to the task and to each other, their collaboration appeared to flow well from the start, and each individual was fully engaged in the work. The pairs appeared to have symmetrical competence, at least in terms of meeting the requirements of the task. Transposition issues on the trumpet and tenor saxophone did not appear to impede progress, and a good level of reciprocity in both verbalisation of idea and task leadership was observed. Each individual was able to make a recognisable contribution to the end product.

In two of the three pairs, the sketched material that accompanied their reinvention was minimal. Aside from some words on structure and motifs ('fourths', 'trumpet whole tone'), David committed seventeen notes, in pitch only, to manuscript, with one chord symbol and a few arrows to suggest shapes (fig. 10.1 below).

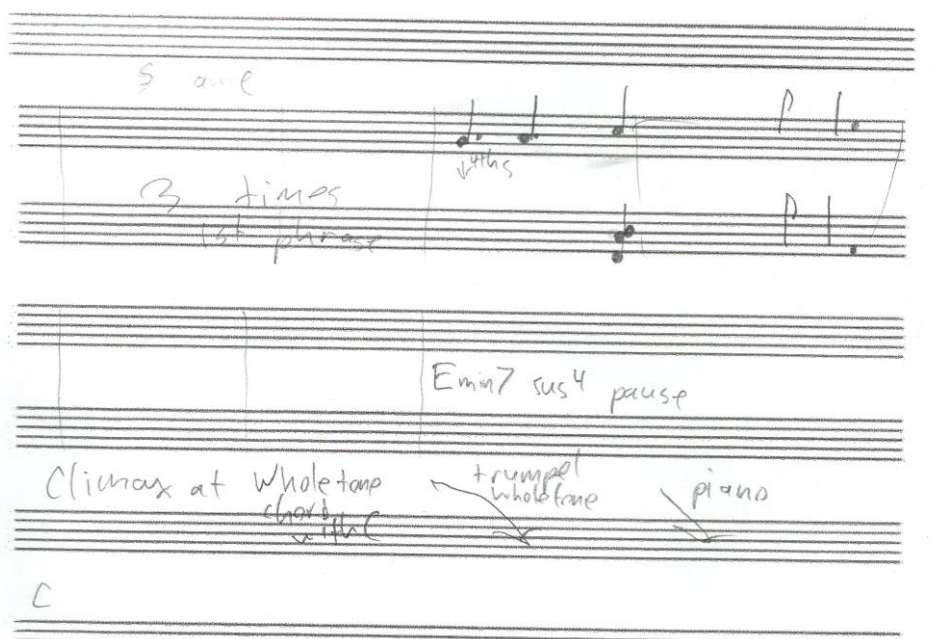


Fig. 10.1 Sample of David's notation

Tom penciled three brief (four-crotchet) motifs, with rhythmic suggestions. James listed a basic structure for the joint improvisation, with one guide chord made up of fourths, a key motif from the original. Cathy's guide sheet, meanwhile is a bullet-pointed list of descriptors ('quartal harmonies', 'sequential', 'nice functional harmony'), with one line of rapidly sketched pitches (see fig. 10.2).

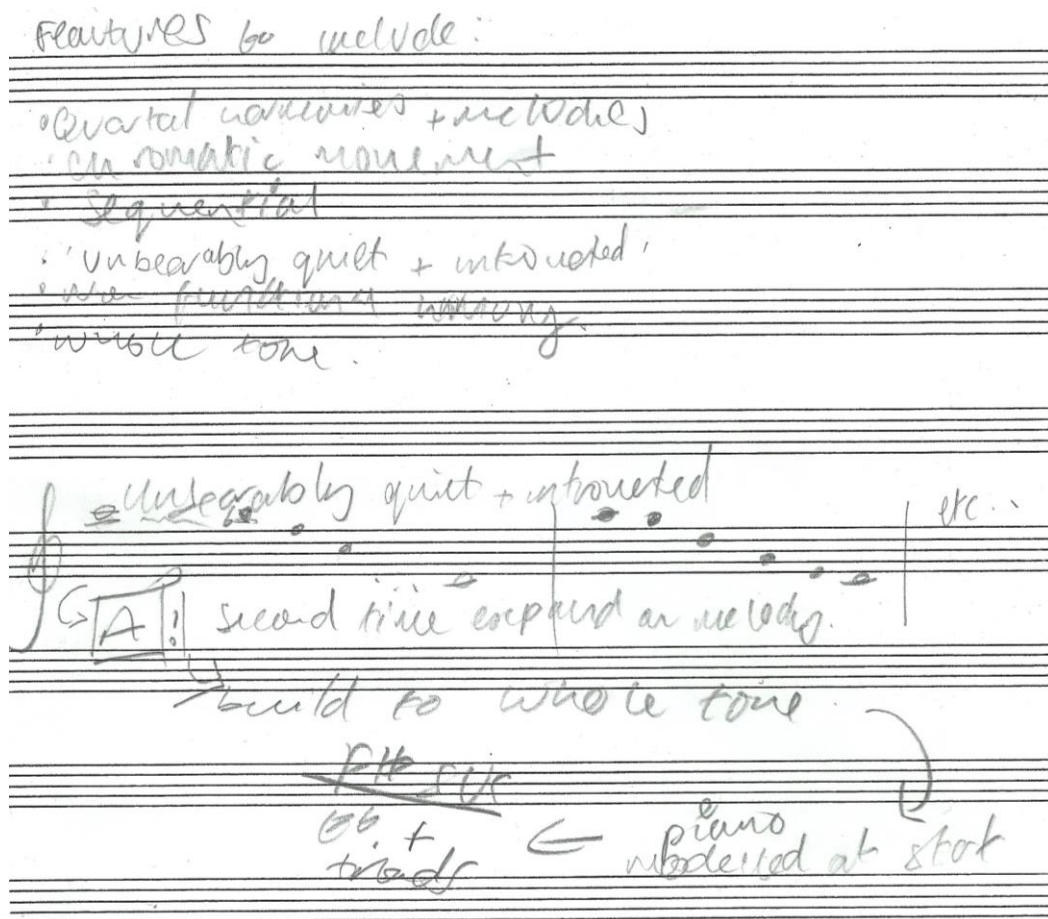


Fig. 10.2 Sample of Cathy's notation

Compared to this epigrammatic style, John and Lisa's approach was notably more detailed, almost as if they were operating from a different brief. Their ideas are fully notated and rhythmically more accurate, with both hands for the piano part and time signatures in the oboe. John here led by example (see fig. 10.3 below), with Lisa following suit. This commitment to detail was matched by their clear agreement on structure and coordination of ideas in general as they worked together, led mainly by John at the keyboard.



Fig. 10.3 Sample of John's notation

These sketches represent a neat cross-section of notational styles, from verbal lists through loose graphic gestures to fully notated ideas. The questions that arise are then twofold: would the less directive notes in former two pairs be substantial enough to guide their reinvention in any discernible way? Secondly, how would the act of writing and tying down ideas in all cases impact both the flow and substance of the reinvention?

In the second test, there was generally more fluidity in the collaborative preparation, with more instances of participants' verbalising ideas as they played them, talking over the top of their idea. In two of the three pairs, there was very little referring to the audio material after the first listen. It could be that sufficient deconstruction had already happened at the piano in the group phase and they did not wish to be constrained further by the recording. In all three pairs, very little transcription

(imitational) took place, and there was a general move towards more freedom in the response. John's encouragement to Lisa to 'go for it and see what happens' was echoed throughout the group.

This freedom seemed to most readily suit a jazz stylistic filter, with more adventurous chord choices, lengthier extemporisations within the exploration phase and a 'jazz vibrato' on the trumpet. The stylistic bias clearly suited some more than others, with James in particular (classical piano) struggling to get a footing on the joint language required. Lisa shared his lack of vocabulary in her pairing, reverting to simpler melodic ideas (three notes in general) that were varied mainly through dynamic and timbre rather. In her John led with more riff-based ideas from piano and might have expected her to give a more elaborate response.

10.3.4 Comparison of modalities across the reinvention tests

Taking each pair at a time, the following analyses consider how the content of the reinvention compared across both tests. This direct comparison aims to distinguish which elements within the content of the joint improvisation might be attributable to the primary learning modality under examination, as well as consider the respective influence on the Geneplore processes involved. The audio recordings for these reinventions are available on the memory stick provided.

Tom and David

Tom and David's first reinvention started with descending quartals on the piano ('sliding chords', to use David's phrase) responded to with an upward fourth in the trumpet. The emphasis was on creating space and summoning the reflective mood of the original, free from meter and playing with tone and colour. The trumpet led into a whole tone section that was more charged, higher in register and heraldic, before a concluding paragraph featuring repeated single notes and long held chords, and one final recall of the fourths that began the reinvention.

In the brief interview afterwards to ascertain whether the reinvention fairly represented their work together, David commented on how loose the agreed

structure had been, and therefore how, in that sense, there was plenty of latitude for how the reinvention could proceed. Both commented on how the ideas were kept simple and had been directly drawn from the original, with the 'only new material' being a triplet fanfare idea in the middle. Notably, this was the only element of the notated sketches that was adhered to closely, taken from one of Tom's three penciled ideas:



Fig. 10.4 Tom's fanfare idea

The rest of the reinvention followed the spirit rather than the letter of the notated plans, with the acoustic of the venue (a chapel) playing a role in the choices of timing and timbre. They used three gesturals from the original, all of them derived from the worksheet: quartals, parallel movement and a short-long rhythmic single note motif. The elaboration was minimal, allowing for a clear arch structure to emerge. Despite not using their notated prompts, their joint improvisation flowed fluently and with confidence.

In the second, aurally-focussed test, the reinvention began in Phrygian mode, with Tom affecting a Spanish tone on the trumpet and some fast triple-tonguing as a gesture towards Flamenco repeated-note flourishes. Clear references were made to melodic ideas from the Lasky original and these turned into malleable preinventive structures with more harmonic diversity than previously achieved. The reinvention was longer and more original than their first attempt, through the proliferation of new ideas that were improvised on with more flexibility by both players. The pair managed to retain a coherence to their improvisation despite the less formal approach, mainly through keeping to a loose ternary form. Both were more confident than before in affirming how the piece had gone according to plan, even though Tim admitted 'maybe we got a bit carried away...'. 'It was easier to get lost in the music', concurred David, who also wrote in his self-assessment that even though

the harmonies where 'more adventurous' this time, they were too reliant on being anchored to a pedal note.

Levels of melodic imitation and invention in both parts were higher than in the first test, suggesting that, for this pair at least, the aural image was more potent than the written. Most of their ideas were, however, extracted from the final paragraph of the Lasky piece only, as well as the Phrygian colouring, begging the question whether memory or lack of a broader analysis may have constricted their preinventive choices and eventual exploration.

Cathy and James

One of the distinguishing features to this pair's approach in the first test was that they spotted the marking 'unbearably quiet and introverted' (bar 16) in the score, a detail that had not been highlighted in the group deconstruction process. This guided their response, with Cathy beginning with breath tone on her saxophone and James playing *una corda* initially on the piano. Cathy took the descending motif in bar 12 as the opening preinventive structure. It is curiously close to the 'Cry me a river' lick many jazz instrumentalists use to practice over dominant function chords. Was it this model that led her choice more than the score, perhaps?

The pair made use of four generative ideas from the original: two melodic (one derived from the worksheet), one rhythmic, and the whole tone scale. Aside from the latter, all the ideas were given a sequential chromatic treatment, with a similar freedom of pulse and meter to the previous pair's reinvention. James directly quoted the Lasky (bars 5-6) towards the end, perhaps as a means of gathering the material back to its source - something he would not have been able to do without the score, given his current transcription abilities. Throughout it was Cathy who took the lead, retaining her own harmonic integrity while James essayed quartal chords in the background, sometimes coinciding with her tonality and sometimes not. He wrote that his performance was 'a bit tentative' due to the 'lack of rehearsal time' - a reflection of his comparative inexperience in improvisation.

Structurally, they shared the previous pair's design in building towards a more dramatic whole-tone episode, with dissipated melodic references before finding more congruence in the concluding paragraph, a version of the 'coming home' trope common to all the collaborative responses recorded in the main study so far. Their rationale, as related in the conversation after the performance, was to 'try and fit all the ideas in, but just in a different order' (Cathy). This led to an episodic structure that kept closely to the brief in terms of referencing the Lasky score, but that lacked a broader logic or persuasive narrative.

In the second test, the template is that of a jazz ballade, which suited Cathy more than James. She was released into a more idiomatic way of soloing, while James kept the pulse and sense of harmonic direction beneath, with a nod towards the jazz idiom despite it not yet being part of his own vocabulary. The tonality was securer and less apparently random than in their first test, with more use of a pedal note and obvious chord progressions, organised into symmetrical phrases. The overall form, too, was more clearly planned out than in the first test, with Cathy referring to an 'AABA melodic head' and 'solos over extended progressions' in her self-assessment questionnaire. James borrowed the same terminology ('head', 'solos' etc.) for his self-assessment. Other preinventive structures included a prominent use of sixths, Phrygian dominant mode, suspended chords and chromatic bass line, all inspired from the original. In other words, the aural approach did not restrict the selection of seed ideas, nor did it diminish the ability to elaborate syntactically and structurally in the creative response. In both phases, generation and exploration, the second test yielded more material than in the first.

John and Lisa

Unlike their predecessors, this pair had fully notated the A section to the improvisation (see fig. 10.4), which they read as they performed. This was followed by a B section where there were fewer prompts and the pair improvised more freely. The binary division was evidenced in the harmonic complexity of their creation, with the A section characterised by parts in contrary motion neatly worked out between piano and oboe and descending sequentially in regular phrases, while the following

section circled around pedal tones. Having played eloquent phrases in the first section that imitated the two-bar phrases that open the Lasky piece, Lisa hovered around one note in the B section, with chromatic colourings given by John underneath. Ostensibly this was a reference to the single-note repeated figure in bars 18-19 of the original, and of its harmonic treatment. However, the impression was that without the notation to support, Lisa's melodic capacity had been diminished. Where Lisa was happy with the flow and novelty of the reinvention, John in his self-assessment wrote of 'stasis' in the harmony and 'losing track' in the second (non-notated) half.

In the second, aural-based test the structure was more elaborate: A B A2 B2 A3. The A section was based on a short jazzy rhythmic groove, with short three-note riffs in the oboe over descending chromatic bass line and harmonies in the piano. Other preinventive structures included whole tone scales over a pedal and sixths, apportioned between oboe and piano. They had clearly given themselves permission in this second test to depart more from the score in terms of mood and tempo. In Genevieve terms it was a contextual shift, applying a new jazz stylistic template – an up-tempo groove – to the preinventive structures. The exploration was therefore more bounded by the ostinati and reiterative structure, while at the same time releasing John to use some of his jazz vocabulary when improvising, playing 'out' of the chord changes in the B2 section. He acknowledged in the self-assessment that the reinvention was 'quite repetitive because of its basis in jazz form', while also concluding it was overall more 'surprising in terms of the mood.'

Lisa also improvised more fluently than in the first test, reaching beyond her three-note riffs in the B2 and A3 variations and showing more confidence in her connection to the piano. This reinvention, it seemed, demonstrated a good balance of spontaneity and structure relative to the pair's improvisational abilities. Interestingly, the syntactical rigour of each reinvention remained consistent, regardless of notational support. The aural ideas of the second test appeared pre-ordained and set, as if they had been written and read. The predominant creative habits of both players surely played a role here: Lisa the classical oboist with less

improvisational experience and John, who enjoys jazz composition. It is not surprising that their collaboration yielded pieces that were structurally sound and well organised and that this was a priority for them, explicit or not.

10.4 Discussion from observations and final group interview

Having completed the tests, the group was gathered to discuss their experiences. The semi-structured interview moved through each phase of the reinvention method, from deconstruction to exploration and performance, comparing issues of notation and aurality as appropriate. This interview was recorded and fully transcribed for analysis, and is attached in appendix J.

As this was a new cohort of participants, the opportunity was taken to check the validity of the reinvention method as whole from their perspective. In general, they deemed a useful means of provoking new creative practice. Three participants talked of the value of ‘bouncing ideas’ off each other and being held accountable to the process, with Cathy saying that process allowed her partner to take her input and ‘perfect’ it ‘in a different way’. David saw a use for the method in order to ‘change up’ his song arrangements ‘more than usual.’ Lisa considered the invitation to respond to a specific piece as helpful, noting that while being inspired by the original it was possible to be ‘completely different’ to it. There was an agreement that having this starting point – whether written or aural – helped move beyond a blank canvas and provided a series of ‘stepping-stones’ to ‘getting to a piece which is really quite satisfying’, to quote Cathy. She continued: ‘It’s not like starting from nowhere. It definitely helps the creative process.’

There was little comment on the aspect of working across classical and jazz styles, as this had only been briefly alluded in the introduction to the exercise. However, John pointed out the potential for ‘a slight barrier’ that would come from ‘different mindsets’, perhaps reflecting his own pairing with the less experienced improviser that day. Cathy agreed, and her pairing with James shared the same disparity. Despite these challenges, each pair was able to collaborate effectively enough for the purpose of the test, with the more able peer carrying the less able into their Zone of Proximal Development, one of the overarching aims of the method.

In the introduction to this chapter, two main points of entry were given for analysing issues of notation and aurality within the context of the reinvention method: generation and exploration. These guide the following analysis.

10.4.1 First point of entry: the generative process

The aim of the deconstruction process within the reinvention method is to provide the pair with sufficient material to feed their collaboration. Both notated and aural techniques met that goal, with no discernible bias in the amount of preinventive structures generated between the two tests, nor in their initial complexity. The experience of the process from the participants' perspective, however, differed. James appreciated having the score to scaffold the deconstruction and identify the components in question, whereas Tom felt that it was 'a lot easier' to deconstruct using the purely aural approach, because they had to 'make it a lot more simple.' The implication is that the aural generative process necessarily involves shortening and simplifying preinventive structures in order for them to be retained and internalised. However, his notated ideas from the first test appeared equally brief and simple, as mentioned earlier. The same discrepancy between perception and observable fact was evident in other pairs' self-assessment as well. It was as if they did not have faith in their ability to hold complex preinventive structures as purely mental images, whereas the recordings suggest no compromise in the generative process in the second test.

In the first test, however, there was more similarity across the group in terms of the selection of initial ideas, which were derived as much from the worksheet as from the Lasky original. James noted this trend, commenting on how 'very different' the second of reinventions were by comparison. Tom commented that this initial adherence to the score constrained the scope of the pair's reinvention: 'I think we were still stuck in the realms of the initial idea, the original notation of the piece'. Cathy saw this as a form of literalism:

When you have the music in front of you...I took it very literally: 'these are the components I'd like to recreate in this version'. Like I said earlier, I literally wrote them out and, very literally – it was like it wasn't much of my

own material at all – it was just re-looking at what somebody else had done and putting it in a different order.

The implication here is that the internalisation process is affected through having a strong visual prompt. What is seen cannot be ‘unseen’, prompting a more imitative, less transformative mental operation. This does not imply, however, that the mental image from a written source need be more ‘fixed’ than one sourced aurally, as will be argued shortly.

One note of caution was brought in by Tom and John regarding the deconstruction element in more general terms. Both independently voiced concerns that there was a danger of being too reductive in response to the original score, missing out on its affective component and emotional narrative and looking at ‘how it worked as a whole’ (John). This potential distraction from the bigger picture was particularly allied to fixating on notation for Tom:

You’re so focussed on playing the notes as opposed to playing the whole piece of music and creating, shaping the story...

Tom also spoke of the need for the initial group deconstruction to be facilitated. Without that facilitation at the piano, he said, ‘we wouldn’t have been able to go away and reconstruct it as effectively.’ James reiterated the point, even claiming he would have ‘no clue what to do’ without that scaffolding. This validates the insistence in the reinvention method not only on some degree of teacher-led activity in the initial phase but also on peer-led learning throughout to mitigate against such barriers to internalisation.

The theory from earlier in this thesis was that vocalising the preinventive structures would help clarify and consolidate them. John initially was sceptical on this, while others saw the pedagogical purpose of it. Cathy said that singing the notated idea and being required to ‘hear it rather just read it’ helped embed the concept and ‘demonstrate the point’ of its identification in the first place. David commented that it helped move the conceptualisation of the preinventive structure from an approximate understanding into something ‘more accurate’. My observation is that the real impact of vocalisation, whether pitch-specific or not, would have to be the

subject of much longer case study given the complexity of issues around notational audiation, sight-singing and levels of self-confidence when singing among peers. It is an important addition to any pedagogical toolbox but comprises an area for future research as far as the reinvention method is concerned.

10.4.2 Second point of entry: the explorative process

There was a general trend in finding the non-notated approach more conducive to collaboration, particularly regarding the readiness to communicate, as Jordan remarked:

I felt I could interact more freely without the notation. We were bouncing ideas differently, I think.

Tom remarked on how ‘without notation it’s a lot easier to communicate, in the sense of you’re forced to listen to each other a lot more’, rather than following a prescribed route. The communication referred to here is both non-verbal and verbal, and I too observed in the second test an increase in the amount of sharing of ideas on the instrument as well as a tendency to speak while playing, improving the flow of the exercise. Part of this may well have been down to the socialisation of the pair across the day and an increased familiarity with the task.

Another observation from Lisa was that they were able to proceed more quickly than in the first test, concurring with my comment in this chapter’s introduction that the writing process potentially interrupts the flow. Cathy, however, felt that committing to a written structure helped to map out the collaboration and sped up the process:

I think with the notation we had a much clearer structure because we planned everything before we even had the creative ideas, we sort of knew the route it was going to take? Whereas the second one it was much more led by ear.

A distinction is made here between the notation during the general orientation of the piece – its form and basic sequence of the components – and the eventual exploration of ideas. All pairs in both exercises used form as their starting point, setting up a container for their ideas to flow into. Although this may seem a self-evident part to the process, a necessary step for a task that ends in a performance

and presentation of complete creative product, it does suggest at what point the notated prompts might most usefully be incorporated. The requirement in future tasks could be to commit to a structure and preinventive structures on paper, in whatever guise works for the individual following it, and then to revert to purely aural techniques from that point on.

For Cathy, abandoning the anchor of notation meant that the final shape of the reinvention took longer to emerge (fifteen minutes, in her estimation), but that crucially this enriched the exploration, leading to 'better ideas', and James agreed. Certainly, there was more coordination of idea in their second reinvention, both in the harmonic structure and the sharing of motifs between instruments.

For David, the question of timing was more task-dependent:

I think that when there's more time for a task, notating can be good, because if I'm notating something it allows me to think more deliberately and come up with things that I generally wouldn't do while improvising. But with a quicker task like this I think the aural methods are better.

Lisa found that the length of task also suited the aural approach, as they 'ran out of time' in the first test, as was evidenced in the shorter, less complex B section to their piece. Conversely, what was apparent when this pair (Lisa and John) took the time to notate their ideas more fully, their harmonic language was considerably deepened, and Lisa's range of melodic idea on the oboe was greatly expanded. Perhaps, had they written down the repeated material of their B section (a lot of it revolving around held pedal notes for the oboe), they would have decided otherwise on seeing its apparent monotony on the page. It could be that the aural method, for this pair at least, resulted in giving them more leniency to ignore the expressive potential of their work. John commented on this in his self-assessment, criticising how their performance had lacked harmonic and dynamic variety.

With the lack of written prompts, memory also plays a more prominent role in both internalisation and exploration of preinventive structures. Cathy conceded that she is a 'quite forgetful person' and that noting ideas down was important in establishing consensus and avoiding 'talking at cross purposes', reiterating a finding from the

main studies. This aspect would presumably be more acute if the reinvention were to be longer and subjected to more scrutiny. In the context of the relatively short tests, any challenges of memorisation would seem to be more hypothetical than actual. None of the pairs reported forgetting key parts to the material, and all of their work flowed without faltering from beginning to end.

10.5 A question of perception? Concluding remarks

Despite some variations, a few trends presented themselves in this final group interview. The common perception was that the requirement to work aurally put a greater strain on the memory, leading to a simplification of the material that in turn was easier to expand on and encouraged more freedom in the collaborative response. This perception of freedom is an interesting one. In the second aural-based test, most of the participants seemed to perform better in terms of the Torrance-Webster indicators. Their reinventions were slightly longer and more fluent, the performances slightly more assured, with greater dynamic variation, and the syntactical rigour and elaboration of idea was equal if not superior to the notation-based test. The participants found more flow in their collaboration and felt less confined to the note-bound approach of before.

However, the one indicator omitted here is 'originality', which in this thesis has been judged from the subjective view of the creator. While the second test may have departed further from the Lasky original and was 'freer' in that sense, in two of three pairs a clear jazz stylistic template – a ballade or a groove – was applied in order to give structure. The result was the reinvention was structurally sounder but lacked the unpredictability of the first test. The wayward harmonies and freedom of meter in the first test (in two of three cases) was striking. Partly this was due to the tentative quality that comes with working with a relative stranger and finding a common language. Yet the level of surprise in this first test outstripped the second, where players fell back more on jazz-based formulae, both in the structure of the paired response and in the syntax of their soloing.

In other words, the participants' perceptions of 'freedom' in the collaboration have less to do with the flexibility of syntax and more with the security that comes with identifying the material in a certain style. Where the participant feels they have the permission to reimagine the material in their own voice, they feel 'freer' in that they are more secure in improvising in their home language – regardless of the fact that may lead to a product that is less 'new and surprising' to them in terms of the actual content.

Returning to the questions of the introduction, another trend and *idée reçue* that can be challenged on the evidence of these tests is that the aural-based, mental image of a musical idea is any less 'fixed' than its written counterpart. The participants certainly thought it was, with the majority reporting more fixation in the first notated task than the second, in the sense of adherence to the score. The recordings, however, compete with this preconception. The level of reference to the Lasky original was just as apparent in the second test, with ideas directly borrowed from the recording and aural deconstruction as readily as they had been from the score. The manipulation of those ideas was just as thorough as well. In most cases, the reinventions felt more fixed in the second attempt than first, in the sense of being more bound to a preplanned structure and route. In that sense, they even appeared 'composed'.

The hypothesis for this study has been affirmed, in that a blend of aural and notated techniques can be advocated for the reinvention method. Certain pedagogical tools need now to be sharpened before they can be added to the 'toolbox', in particular transcription and vocalisation, which could only be explored superficially at this stage. A longitudinal approach would be required here to build the skills on which such tools depend, both for teacher and student.

The two worksheets attached as sample resources for teachers (appendix I) give some indication, however, of how a blended approach could be applied at both GCSE and HE level, following the recommendations of this study and incorporating the findings on the reinvention method throughout the cycle. Both use the first movement of Beethoven's 'Pathétique' sonata as the source piece and demonstrate

how the different modalities might be balanced within a short, focused session in the two learning environments.

Throughout these tests, sound has appeared as robust and 'fixed' as text in providing a basis for improvisation, and text as flexible and 'unfixed' as sound in yielding a surprising creative product. The reinvention method is at its most effective when it seeks this symbiosis between text and sound, combining pedagogical techniques in a way that not only allows best access to and reinvention of the source material but also that opens a new depth in collaborative practice.

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Appendix A

Case studies on classical and jazz creative thinking Assessment of Prior Learning

Name of participant:

Age and current level of academic study ('A' level/BMus etc.)

Principal study instrument and latest qualification on that instrument:

Any secondary study instrument(s)/vocal training? Which grades?

How many years learning principal study?

Do you study at a specialist music institute (e.g. junior conservatoire, conservatoire)? If so, please name:
Currently, would you define yourself mainly as a classical or jazz musician? Or a mixture?

Please rate your familiarity with each style from 1-7, where:

1= not at all familiar, 2-3=small amount of exposure, 4=some confidence in the style, 5-6=confident in that style, 7=primary focus and main area of competence

Classical:

Jazz:

In a few sentences, can you describe your training so far in jazz and classical styles, including whether you are self-taught, peer taught or have had formal lessons from a teacher. Do mention any tutor books or online resources you may have used too.

Jazz:

Classical:

On a scale of 1-7, how confident do you feel improvising in your chosen style, where 1 is not at all confident and 7 is very confident?

How would you define 'musical creativity'? What does it mean to you?

How do you normally express your musical creativity?

Appendix B

21.8.15 Lasky studies: interview transcript and coding

Transcript of interviews between JJ, Charles (classical pianist), Owen (jazz pianist)

Transcript	Coding
<p>JJ: How did you find the exercise? Initial impression?</p>	
<p>Charles: 'I found it quite daunting..because I'm more of a classically orientated person, bits of me wanted to 'resolve it' and tie together loose ends...harmonically. I wanted to taking fragments and put them into a more functional harmony context. Functional harmony is what I understand better and I feel more comfortable creating using it.</p>	High challenge
<p>JJ: Do you always have that functional awareness? Looking for tonality, cadential points etc.?</p>	Habitual constraints
<p>Charles: Yes. Not the same throughout a piece, but I aim for cadential points from traditional harmonies.</p>	
<p>JJ: What did you want to play around with?</p>	
<p>Charles: What attracted me was the freedom of it, the mood of it...I could use silence and not just use continuous music. I listened to the whole piece but mainly focussed on the first two pages (rather than the solos).</p>	Harmonic thinking
<p>JJ: Were 20 minutes enough to develop ideas?</p>	Novelty, disruption
<p>Owen: There are some ideas there but they're not as developed as they could be. I need to have time to let it sit in my head for a bit. If you try to be that creative and put it in a set amount time... it was a bit stifled, I couldn't relax into it. I found it quite difficult doing in that space of time.</p>	
<p>I was initially surprised, because it was harmonically groovy, interesting and spacious. It's jazzy but it's sort of its own thing. I found the prospect of changing it quite daunting, but not in a negative way, just the fact that it's quite in-depth and the person clearly has an idea of what they want, what it's about.</p>	Timing pressure High challenge
<p>JJ: Had you not had the score, how would that have made a difference?</p>	
<p>Owen: It would have been more abstract. With the score I got a bit tunnel vision. If we just had the recording it would have been more would have been more 'emotional'.</p>	Disruption
<p>Charles: Yes, it's more abstract, more difficult without the score. Even more of a reinterpretation. You're left with just an abstract notion of what the piece is, which you then have to</p>	High challenge Abstract vs concrete

apply that in your own language, which is harder.

JJ: It's a different creative exercise.

Owen: I didn't want to adhere too much to the exact score. I was just...panicking a bit. But didn't know whether to stick to this or reinterpret in my own way.

Abstract vs concrete

JJ: So the expectations were unclear in the brief?

Owen: Yes, it knocked me off a bit. I found it frustrating, to keep to the piece. The first chords I found interesting, changing the root notes gave a different context for the melody and I enjoyed doing that...The bit with the quavers, where the guitar comes in, where it flows more, it's interesting.

Confusion over task

Impedance

Often when I'm composing I just sit down for hours. It's a compressed version.

Middle interview: after intervention

JJ: What was the length of the exercises like for you. Were 20 minutes enough?

Owen: Too little for me. I've got lots of ideas and I feel I need to get them down now! Often when I'm composing I play for a few hours. It felt like a compacted version of that.

Exploration

Charles: I've accepted that half of the ideas I'm not going to remember. It felt better than before, though.

Owen: It gave me themes and ways in. It was really helpful.

JJ: Why not notate the ideas?

Time pressure

Owen: If I'm in a creative mindset I normally record myself because I find notating slows me down. Because this is so short though anyway...

JJ: How about that it's all improvised anyway? Does that affect your decision?

Time pressure

Charles: Yes exactly. To write down everything in minute detail would be impractical. But then writing a framework of everything would also be a bit too vague. It almost limits things.

Final interview:

JJ: We've just done small elements of a longer module. I've just dropped in some ideas. First thing: do the recordings accurately reflect your learning curve this morning? Do they

give a valid snapshot?

Validation

Owen: Yes, it's a very good way of seeing how you've developed.

Validation

Charles: Yes

JJ: Second question: how do you think your 'creative product' changed over the three attempts?

Time pressure

Owen: At the beginning, because there was no structure and quite a short time, as I said before, it was quite daunting, in that there's not a lot of structure. I wasn't sure really to what extent I was to reinterpret it, and what the task was.

By the second take, I had an idea of what it would sound like as an ensemble, with drummer and synthesisers. I heard drumming stops that would sound cool with chords. Thought it would sound like 'Owen Jones influenced a bit by Snarky Puppy.'

Abstract vs. concrete

JJ: How did you find the joint exercise?

Owen: Working with someone else you have to be really sensitive to them and reflect what they're playing in your own playing. The outcome was very different. Somebody else's ideas and the interaction allows you to have a different outcome, which is perhaps more surprising. You're more able to be original.

It's really great that you get to explore a different language. But I think if I was composing for a specific piece...it's different..composing on your own allows you to have a very compact vision of what you want and you can expand from that.

Validation

Charles: I think when you gave us the brief, which was purposefully vague - 'reinvent this piece of music' - it was hard, but after you led us through and we analysed it more in depth and you showed us the key features, I was able to see: now I've identified it, now I can try and express these features better. It sounds a bit clichéd but I felt that it was a good 'journey' from one state of mind to another, where you knew what to improvise with.

Time pressure, high challenge, confusion

JJ: What difference did the exercises make to your second improv?

Wider influences

Charles: They gave me more liberty. Now that I knew what the building blocks were, I didn't have to worry about focussing on playing it so safe, or not playing the whole, entire phrase. Once I had the idea, for example, of playing with a fourth, I had much more liberty than had I not deconstructed it and kept to the phrase in total.

JJ: What was the difference you experienced when working together?

Owen: The difference was going through the musical process of listening and sharing it, not making it just your own.

Collab creativity

Charles: Once we'd looked at it I thought, oh yeah, I could have done that. They were the pillars of the piece: the rhythm, harmony, melody. It was the depth we covered it in. Every now and then on the sheet you wrote an idea then said try this and explore it. The step-by-step exercise was really helpful. It's not something I try often on my own.

Owen: It wasn't too restrictive. It gave you a structure and put you in a frame of mind which allowed you to use ideas more comfortably. It was almost like a crash course in getting the nice, key bits, identify what you like and what you want to use and that was really helpful.

Novelty

JJ: I asked you to sing along. How did you find that?

Owen: It was a very good thing to do, especially in jazz. A lot of jazz musicians sing along when they play. It's all about hearing it in the head before you play it. It really helps when you're reinventing something. The best musical ideas often come from that, from understanding it and then coming up with an idea of your own, hearing it first.

Charles: Lots of people say 'don't type it out, write it out by hand and it will stay in your head better'. I think it's the same principle. I think when you sing, you internalise it and it becomes a lot more natural.

Scaffolding

Internalisation

JJ: Final thoughts?

Owen: I've got some nice ideas that I can develop now in the future.

Improvement

Charles: This has inspired me to do more of this, to look at pieces that are more harmonically challenging, more different, take the aspects that make it different and incorporate them into my own composition - I'm quite excited by that.

Owen: When I'm composing I often think just sticking to the piano can be limiting. I like to think of it in terms of lots of different sounds...

Liberating

Charles: I quite like mix of both. When I'm writing I like the setting of the piano. I don't necessarily feel I have to go for a big ensemble. Sometimes I do, it's a bit of a mix really.

Scaffolding

JJ: How else has today been relevant?

Owen: It was interesting. Initially it was quite difficult to get comfortable or to come up with any good ideas. But I often

find it interesting how if you go through a process of 'ugh, there's nothing that I like', often that leads to ideas. They're quite short but they'll stick in my head.

Pre-Composition

Charles: The analysis bit, thinking ideas through, thinking extended harmonies. I found that really helpful to pursue future compositions, seeing how the ideas develop. That's a good thing.

Scaffolding

Validation

Appendix B cont.

01.09.15

Interview transcription and coding on Lasky study

JJ and Harriet (jazz/classical pianist)

Transcript

Coding

JJ: What were your initial thoughts on that task?

Harriet: I was expecting something with a simpler harmonic vocabulary. I was quite overwhelmed at first because there were so many twists and turns. I thought I'd simplify the task because I'm not used to that amount of harmonic information to improvise over. So I took it from A and looked at the melodic shapes, to use that as a structure really, instead of the harmony.

High challenge

Pre-invention

JJ: When you were manipulating those melodic shapes from 'A', do you have a sense of what was guiding you?

Harriet: I liked that first bass line going down, the chromatic B to E. First I did it in first inversion, but then I took that melody and put the pitches around root position to change the shape.

Exploration

JJ: Why were you particularly drawn to that melodic idea?

Harriet: I suppose I usually play pieces with a cantabile melody so I found that the most familiar shape to me, I suppose. I found that easier to hear over a different harmony because I'm more used to it I suppose.

Habitual constraints

JJ: What was the level of challenge for you?

Harriet: Because every parameter was unpredictable that made it difficult to memorise in my head. I find it easy to improvise when I know the piece half well. If I'd known the piece beforehand that would have been easier.

Challenge, audiation

JJ: I noticed you didn't notate ideas?

Harriet: I don't use manuscript, really, in my musical activities.

Notation

Post-intervention

JJ: What were the differences in your creative process once I asked you to focus on the syntax a bit more?

I tried to look at the rhythm more, so the triplets followed by the minim. It did become similar, actually, to the first one, because I was still getting used to it. I was trying to make it

Scaffolding

better rather than starting from scratch.

JJ: What do you mean by 'better'?

Scaffolding

Harriet: Have more of a syntax rather than just looking at a microcosm, a little bit and reinventing that as a whole. I did incorporate the bass line from B a little bit. The piece becomes harmonically simpler as it goes on [from C] and I tried to make it sound more 'poppy', almost, especially when I repeated sections.

Internalisation

JJ: Can you sense a different in your thought processes from this one to your first time round?

Exploration

Harriet: Because I know it better I was able to make my reaction more complicated.

JJ: You weren't looking for different parameters to play with? Was it similar or different to the first one?

Harriet: It was broadly similar to the first one.

Appendix C

Self-assessment of creative task

Recording pre-instruction

Category	Score 1-5 (with 5 being top)	Comments
Fluency How many new ideas? How long is the piece?		
Elaboration How complex are the ideas? How well do they build on the original material?		
Originality How individual or surprising are the ideas?		
Syntax How coherent is the structure? Is there a clear form? Do the ideas cross-relate clearly?		
Performance quality How flowing and confident? How sensitively shaped? How varied?		

Recording post-instruction

Category	Score 1-5	Comments
Fluency How many new ideas? How long is the piece?		
Elaboration How complex are the ideas? How well do they build on the original material?		
Originality How individual or surprising are the ideas?		
Syntax How coherent is the structure? Is there a clear form? Do the ideas cross-relate clearly?		
Performance quality How flowing and confident? How sensitively shaped? How varied?		

Appendix D

24.11.15 Interview transcript and coding on Appalachian study

JJ, Charles (classical piano), Anna (classical violin), Sid (jazz sax), Owen (jazz piano)

Transcript	Coding
Responding after like pairs	
JJ: How did it you find that exercise? What elements did you use?	
Owen: I focused mainly on the first theme with the rhythmic pattern (sings). And what's that chord again?	Pre-invention
JJ: The 'Appalachian chord'?	
Owen: Yes, that. And I used the min 3 rd , min 2nd and maj 7 th intervals. And used other chords and harmonic language that I drew from the piece, made it my own and played around with it and stuff. And fourths.	Exploration
JJ: Drawing from the open fourths and fifths of the Copland. Sid, which elements did you use?	
Sid: I was trying to use some of the aspects of the melody, but a lot of the stuff was reacting to Owen, the rhythms he introduced. I also tried to play with the main rhythmic motif, tried to move that about a bit.	Collab creativity Exploration
JJ: And how did you find the process of working as a pair? What worked and what didn't? Let's stick with Sid.	
Sid: I think...I was trying to pick up on some of the harmonic things that Owen was doing. Although it was actually quite difficult. I think it worked especially with the rhythmic ideas, which moved between the two of us quite well, more so than the melodic.	Challenge Rhythmic/harmonic ideas
JJ: When you say 'moved quite well', was one person leading more and the other following?	
Sid: I think Owen was mostly leading, but there were some things I introduced: maybe scalic patterns.	Collab creativity
JJ: And you Owen, how did you find the process of working together? Because you tried it as an individual initially...	
Owen: I think it's interesting the fact that...because the piano holds the harmony, it's difficult as a saxophonist to generate your own...to hold your ground and lead it.	Impedance
I think it speeds up the process to have someone to have a dialogue with, to bounce your ideas off each other. It's	Collab creativity

quite hard to get an ordered structure and pre-compose a lot of the stuff, so a lot of it was quite improvisatory...and that was fine.	Impedance
JJ: Is that good or bad thing for you?	
Owen: I think it's good, given the space of time we have to create things.	Timing constraint
I think in contrast to the last time when it was just me on my own [Lasky study], I think the creative process is more accelerated when you have someone else to have a dialogue with.	
JJ: Can either of you name any particular instances where it helped to have that dialogue?	
Sid: Yeah, I'm not sure I'd be able to think of many ideas if it was just me trying to go through it. I'd probably just be randomly making it up. It was good to have someone else there to be encouraged to pre-prepare some bits.	Collab creativity
JJ. Great, thank you. I'm going to speak to Anna and Charles now. Same question: What worked or didn't work for you in the process of working as a pair?	
Charles: I think that it would be best if we first played it through and we thought about the main features that we talked about before. And we thought, this is what we're going to take and kind of re-interpret. Thinking, what can we do structurally when we can bring these melodic fragments in and experiment together. I think that works well.	Collab creativity Pre-composition
I think what didn't work as well was just playing it through and kind of not knowing what to do: are we going to stop here or carry on? How are we going to do this?	Pre-composition
JJ: So you had to have negotiation and dialogue. How did that impact on your creativity?	
Charles: It's a positive thing (laughing).	
JJ: What would you say Anna, honestly?	
Anna: Yeah I'd agree, because it meant we knew what we were meant to be doing in the section and we could discuss which features we could make most prominent, and that meant we could respond to the other person and pass the ideas between us rather than just doing our own thing.	Collab creativity
JJ: Why would 'just doing our own thing' be inferior?	
Anna: When you're playing as a duet you have to listen to the other person. I think if you're playing with another	Impedance

person, it means you can't just do whatever you want, which is sort of a good thing because you have to plan out your structure. It's easier to be creative when there are two people and you can, sort of, bounce ideas off each other.

JJ Are you saying it's easier because there are more constraints?

Anna: In a way, but also the other person will have more ideas than you would just by yourself and you can incorporate things you wouldn't have thought of before. Collab creativity

Interview after mixed pairs

JJ: How was that process different to the first one? Who'd like to pitch in first? Owen, you were drawing breath...

Owen: Everything fell into place in a more structured way.

JJ: Why was that? Timing constraint

Owen: I had more time to think about all the different aspects and make sense of them in my head instead of just messing around with them.

JJ: Just by virtue of it being the second attempt on the same material?

Owen: Yes. And I think having a different instrument and different person to work with changes the way you do things. The last one was more improvisatory. This one had more fixed melodies. ZPD, externalisation

JJ: That was notable in your performance. Who was responsible for the fixed ideas?

Owen: We were just saying things like what time signature was it going to be in and we decided...

Anna: We decided to change the time signature to make it a bit different.

Owen: And then we were jamming with that time signature. Because it was a different time signature it made me think of phrases differently, and I started messing around, improvising, and came up with a melody which was- Disruption
Internalisation

Anna: - and then we started harmonizing it. Collab creativity

JJ: There was an element of Yiddish style coming Disruption

through, is that right?

Anna: Not on purpose, it just happened!

JJ: And how about you (to Charles and Sid). How was it different this time?

Fluid vs fixed

Sid: I think it was more structured, for the same reasons, but also because Charles helped to have more of a structure- I suppose because we weren't both jazz musicians doing improv most of the time.

JJ: It would be really helpful to know: what is about working with a primary study classical musician that gives more structure?

Sid: I suppose classical music tends to have...although jazz music has a lot of structure – classical music more so...

JJ: More prescribed, I guess?

Sid: Yes

Habitual constraint

JJ: Anybody else got thoughts on this?

Anna: I feel we structured it more like a jazz head, like a section which repeated and then we went to the next section, did the chords, and then went back. So, it was less, sort of, general. But also, we decided how many times we would repeat each section.

Communication

JJ: So, you called it out as you would in a jazz improv?

Anna: Yeah.

JJ: That's interesting. So, the jazz style there actually gave you the template?

Disruption

Anna: Yes, I think so.

Novelty

Charles: I think that musicians who are more used to classical music are used to the set limits of it. I suppose when you're confronted with something that is boundless, that the first instinct is to place those limits - so fill in the box and not go too much outside it.

Exploration

JJ: Would you say that having these stylistic constraints – speaking a different language in this cross-pairing - made any difference to the process?

Habitual constraint

Sid: I think it worked really well, I suppose because, having different music backgrounds, we had very different ideas going around which we could try and...far from clashing with other we would work together.

Style

JJ: So, you felt the difference in styles was a releasing,

not constraining thing?

Sid: Yes.

JJ: (to Anna and Owen). Did you find with the constraints of style you were able to share a vocab enough musically?

Owen: Yeah. Because we can both improvise, we're not solely jazz or classical...when things are more prescribed and set, it's easier to create a structure. You know, following music or a score. Style

JJ: Anna, were you thinking more with your jazz or classical head on? Style

Anna: More jazz head, especially as it was in 5/4. We made it more jazz than the first one. I think we were thinking in that way. I was imagining the music in my head like a jazz head, dividing into sections with a coda at the end.

JJ: Sid, were you conscious of playing more like a classical musician than in the other pairing? Style

Sid: Yes, I think perhaps more as a classical musician because there was a lot of stuff from the *vivo* section that I took into play straight from the score rather than just completely making stuff up.

JJ: In other words, you associate quoting from the score as a more classical practice? Style

Sid: Yes.

Charles: I felt more that I had my, kind of, 'jazz head' on – if I ever had one- the fact that we were improvising. When he was improvising melodically I had to support him harmonically which is not something I do very often. That's what I kind of associate more with the jazz mindset, the free accompaniment.

JJ: You didn't feel the need to lead melodically as much?

Charles: No.

JJ: Do you think you were more original, with ideas that surprised you with their newness, in the first or second pairing? Collab creativity
Elaboration/exploration

Anna: In the first one I felt we used more ideas from the piece, you know, using the 2nds and 7ths and stuff like that, the rhythm. In the second one it was definitely less focused on it. We used that motif and changed the time signature. So I felt like we were able to be more creative in the second one because we were less focused on

using stuff from the written down music.

Liberating

JJ: You were freed up?

Anna: Yes, because it was less like the original music. It didn't really have any boundaries about what it could sound like, because we'd chosen the motif and thought, oh we can, you know, do whatever.

Exploration

Owen: I think the second one as well because I wasn't having to look at the music so much. I felt I'd ready absorbed the ideas I liked. Something else came out of it which wasn't completely linked note for note, but was enough of a connection to see the progression with less constraints. We already had a base on which to work.

JJ: I'm interested to know whether any of that had to do with the fact you were working with a, let's say, 'classical' violinist?

Style

Owen: I don't know, because as I've said, it's not just solely classical. We both had more of jazz mindset. It was more like a head than taking aspects of the music and following it through.

JJ: So, you would say that the originality was more to do with the fact you had more time with the material and to reinvent it?

Owen: Yep.

Sid: I'd say the second one as well. I came up with more ideas. Partly to do with the fact that I'd had longer to settle in. Also partly to do with who I was working with. It could help to have more constraints to develop more ideas in a particular direction.

Style

Disruption and constraints

Charles: I'm going to be the odd one out and say the first time, not that I didn't really enjoy the second. But I feel that sharing a common musical language is almost more freeing and the restrictions that you place on yourself when you're faced with a new style are positive in the sense you explore different ideas, but because they're new you can't explore them in maybe as much depth? That's what I feel. I wasn't as secure in what I was doing because of the new approach. Does that make sense?

JJ: Yes, makes perfect sense. In your pairings, which style has been more prominent for you in the process?

Sid: Generally, the way it's worked it's been in the jazz way of doing things. Generally. That's the way I perceive it.

Style

Owen: The piece itself has got lots of chords that have

quite strange extensions although interestingly voiced – it's quite an interesting harmony – it's easier to work in the sphere of jazz. But really it's just about creativity and improvisation in a wider sense than just genres which don't always mean anything. It's more about the process and the different factors that affected how we created our pieces.

JJ: So, for you the stylistic denominations are secondary?

Owen: Yeah.

JJ: Final question: had you had instead of half an hour, say, an hour to work together, would that have made a difference?

Timing

Sid: It would have done in the first group, not in the second group. I think in the second group towards the end we were maybe running out of ideas.

Externalisation

Charles: Yeah, I think when we were mixed up we ran through it a couple of times, didn't we, we tried out a couple of ideas and then it was like, well, let's just do it, just dive in.

Sid: Whereas in the first one I think we had a few ideas floating around and we could have done with refining them and coming up with more things to do with it

Owen: More time would have been good. We had a really good idea and tune, with a progression of chords and stuff. We would have finalised it, could have made it more concrete.

Anna: Maybe make a more definite second section with a different tune?

Owen: Yeah.

Elaboration/exploration

Anna: Instead of just – I was just playing the tune at a different pitch when we changed the chords. I think we could have made it a different melody, something that would have made it a definite other section. Then maybe the end we could have worked on more as well.

Owen: It felt as if it was slightly cut off. But we just threw everything in and just played it.

JJ: It worked really well for both of you. Would you have liked more time yourself prior to the first paired exercise? Do you think that might have made any difference, to work through any ideas before being slung into a pair?

Collab creativity

Charles: Yes, but I think that if you work on something by yourself and you're then put into a pair then you have to

start compromising...

JJ: ...and that's?

Charles: Which is [pause]..I don't know if that's a good thing or a bad thing.

Timing, internalisation

Anna: I think it's better to work through it together so you're both having ideas at the same time – someone has an idea, someone else has an idea, and you can merge them, rather than come together having had separate ideas already and then having ideas too...

JJ: ...too fixed? Because you know that the end product is going to have to be a combination, you feel that to start that process together is...

Anna: Yeah.

Timing, internalisation

Owen: Probably and if we had more time we would be more biased in the way we work with each other. Obviously, it would give us more time to work through the different aspects of the piece that you can develop. In some ways it's quite good to just go straight in because in this case there are lots of things to draw on. You don't really need much time to...it's more about the creative interaction between the two people rather than your own skillset and disposition.

Collab creativity

Scaffolding

Sid: It probably would have been helpful to have some to look at the piece before, just to look at some of the aspects of the piece, work out some of ideas of modes and things, especially how the harmony could work...

JJ: To get the building blocks clearer in your own mind?

Sid: Yeah. Rather than come with ideas of how to treat it, just to look at it in detail.

JJ: Is part of that to do with the transposing instrument?

Scaffolding

Sid: Yes, could well be, yes. I didn't actually look at the score, the full score that much. But if I had time I would have looked at the score for a while.

JJ: I should add for the recording that I did provide a transposed part in Eb. Anything else to add? Guys, thank you very much.

Appendix E

24.11.15 Interview transcript and coding on Kinsale Shore

JJ, Charles (classical piano), Anna (classical violin), Sid (jazz sax), Owen (jazz piano)

Transcript

Coding

Cross-pairings after generative process

JJ: Did you feel that was an equally shared process?

Charles: Yep.

Sid: Yes.

JJ: What worked and didn't work in terms of negotiating ideas?

Sid: I think what worked was neither of us got massively set on what had to be in there.

Collab creativity

Charles: Yes. We were both quite flexible.

JJ: Do you feel your creation is going to be more biased to one genre or the other, or does it reflect both of your backgrounds?

Charles: I think it's fairly central in the spectrum.

Trans-stylistic

Sid: Yeah, I think so.

Charles: Because I don't have the knowledge of jazz piano to make it totally jazzy. I suppose the limitation in my ability forces it to lie there in the middle.

Constraint

JJ: Let's talk about the constraints. Just responding to the chords here, you mention say you're obviously not used to following quite complex symbols. Was that an interesting provocation to find new chords, or just a frustration?

Charles: It was interesting in the moment of talking about creation, like, 'what should we do, let's look at this chord, this chord has so-and-so, let's do that'. It was a frustration when we had a go and I ran out of my more basic chords and I hadn't got the time to just read through that. In different contexts it's both a frustration and yet also a provocation to think.

Timing

JJ: What happened for you that was different to how you would have approached it individually, in terms of the creation process?

Sid: I think, writing stuff down for one thing, because [it's] definitely worth doing.

Concretisation

JJ: Why was it worth doing?

Sid: We had some quite complex rhythmic and sequential things that wouldn't have worked so well had we not written them down.

JJ: And did that [writing down] come from our classical friend in the corner here?

Charles: Yes!

Sid: It was definitely a good idea -

Charles - because we didn't do it last time. And I found I was forgetting things.

Preinvention

JJ: So, do you think you were able to be more or less complex in your creations, when you write things down?

Sid: I think more, certainly. If it's something you're creating in the moment you can be equally complex, but it's very difficult to remember those complex things if you don't write them down, and either read that while performing or spend time learning it before you start performing.

Elaboration

Charles: I think the act of writing is also good to keep things in your memory, the simple act the writing it down, clarifying it through notation, helps to get your head round it.

Sid: And it definitely means you agree, of course.

JJ: And do you think that's helpful, given it's a paired exercise, this memorization issue? How do you think this comes into things, this writing things down, this setting of ideas when it comes to a paired exercise rather than an individual one?

Collab creativity

Charles: I think that, because we both have the freedom to go off on our separate tangents, when writing things down at least we have certain anchor points? If I hear for example (sings rhythm), which I've written down, I know he's about to start on that sequence, so I know therefore that those chords are going to follow, it gives us milestones.

JJ: So, you can respond more 'appropriately', as it were; appropriate in terms of what you've decided previously. Anything to add on that process?

Concretisation

Sid: Obviously we've not notated it to the exact note, we've just got certain moments we have written down.

Owen and Anna on generative process:

JJ: Do you believe you had an equal voice in the process?

Anna: Yeah

Owen: Ummm...yeah?

JJ: There was a slight hesitation there...

Owen: It was just quite chaotic, I can't really...

Anna: It just, kind of, 'happened'. We, sort of, played it, or we came up with a basic idea, which was going to be in 7/8 and we were using - which mode was it? Phrygian mode, in the same key as it was written but in a Phrygian sound instead? And 7. So we came up with that and we set a motif. Then we started playing, harmonizing it and expanding on that, looping it for quite a long time and working out what we were going to do [see video]. And then we decided for the second section we wanted to incorporate some of the rhythmic ideas, and that motif was basically around the 6th, we were using the same opening 6th.

Flexibility

Preinvention,
exploration

We decided it was difficult into 7/8, the rhythmic idea, so we got a bar of 7/8 and a bar of...

Owen: Dunno. Regular beats...It wasn't very organised. We were exploring and then at the end, because you need to perform, we just threw some stuff together.

JJ: Ok, so would you say that's more chaotic than your usual composing process when you're by yourself?

Owen: I think the fact I personally had ideas of what it might sound like, because I had time to explore it beforehand, meant that I found it quite hard to think organically of new ideas and be inspired by...in the way, that if I had just had it given to me as I came in.

Flexibility

Preinvention

JJ: So, you had quite pre-set ideas?

Owen: I found it hard to break away from them, or if I'm trying to think of creative ways of taking aspects of the piece and reinterpret them, I think I couldn't really...I think it was hindering my creativity, in a free sense; it just kept pulling me down to ideas that I'd had.

Preinvention

JJ: Ok, that's interesting. You'd have preferred to come at it afresh today?

Owen: Yes. I think I didn't have enough time - well I did have enough - but not to really look at it, to really absorb it.

Timing

JJ: You're talking about prior to this afternoon?

Owen: Yeah. I think I'm halfway between having it presented to me now and having it beforehand and really knowing the piece.

Internalisation

JJ: So, what would your ideal be, given it's a paired exercise?

Owen: I'd say the ideal is really understand and have mulled the piece over, I've had it sat in the back of my mind for a while but I'm not so conscious of it that I'm afraid I might, you know, play it right or get ideas wrong because I don't know it that well. So, it's like a limbo between knowing it really well and being able to improvise on it really freely and comfortable with it, and having it presented to you and just having to take ideas in a really short space of time.

Constraint

JJ: I think what you're saying is you're more able to absorb, say, Anna's ideas if you hadn't had that prelim process?

Collab creativity

Anna: I like it when...I thought it was good last time when we heard it for the first time all together, so our initial response to it was together. So, we couldn't get set in our own ideas yet because we'd only just heard it. And it was easier to combine our ideas because it was the first time trying to reinterpret it.

JJ: Ok, I'd love to open this question up, whether having time to work on your ideas hinders the process of working in pairs or not, in the way that's just been described. Sid, do you have any comments on that?

Sid: Well, I didn't find so much that it hindered. I found it helped, for me, to have it before and to be able to, sort of, gather thoughts, even if I were...trying to keep in mind those thoughts might not come to fruition when it comes to agree and make something together. But I think I did find that having it before was helpful for me.

Internalisation

JJ: Ok, so do you feel you got a better combined creation on this one compared to last one, the Appalachian etude?

Sid: Yeah, I think we had more ideas between us, but we managed to allow the ideas to come together.

JJ: On this one?

Sid: On this one, yes.

JJ: Charles, anything to add?

Charles: I think going through it individually allowed me not only to know what the important motifs and elements are...I think it also helped in the moment of working together, discussing. We had a conversation right at the beginning about what we found and I said, when I had a tinker with it, I thought that this layering of 6ths idea was quite nice and we could both say, 'oh well, let's try it' or 'let's not'. You know, that kind of thing. So, when you're already prepared with some ideas...when you haven't prepared individually then you have to do all of that exploration which in practical terms

Preinvention

Collab creativity

wastes time, almost.

Post-performance

JJ: I loved that! It reminded me of the process you went through with your last one, in that you had a rhythmic set of riffs that you follow and you coordinate in a remarkably short amount of time – material in 6ths or 3rds, or whatever, over that rhythmic idea. Do you agree that seems to be a pattern for you?

Owen: Yeah, we've a certain way of working. In a higher pressure situation where you just have to get it down you fall into that way of working quite easily, you don't really think about it.

Exploration, flow

Anna: I think we both liked 5 and 7 as time signatures, so last time I think we were in 5 weren't we?

Collab creativity

Owen: Yep.

Anna: And this time 7, so yes there's a pattern.

JJ: You like your uneven time signatures, don't you! What worked and what didn't for you? Was that pretty much as you'd planned?

Owen: Before I had these ideas which were... [plays on piano]. That 7 pattern I'd already explored, but...

Exploration

Anna: We put that in at the end but we didn't have much time to develop it otherwise.

Collab creativity

Owen: Yeah. We felt it was quite premature, we just had to...

JJ: Where did that idea [sings same bit Owen had played on piano], where did that come from in terms of the reinvention process? Did you borrow it from there [the original], or not so much?

Owen: Not so much. I just came up with it while I was hearing the melody in my head. I could just hear this [pointing to extract] being reinvented in that rhythmic way, so...

Internalisation

Anna: I think also because of the mode we were trying to use as well [plays motif in Phrygian], that complements it. We decided to use those specific notes.

Constraints

JJ: Yeah, the mode led you to that figure. You started with pizzicato and then went to arco...

Anna: (laughing) Again...

JJ: Is that because the pizzicato is an interesting way to lock into the rhythm, or?

Anna: Yeah, I think also with the piano right hand, at the beginning when it's just the violin and the piano right hand, it works better as pizzicato, it sounds better. And when I changed it up to arco it's when the left hand also comes in and it's also...

Collab creativity

JJ: A similar touch?

Anna: When it's just right hand and pizzicato, I think it complements it better.

Exploration

Owen: Also, you may not think this, but if you can find things that are slight variations you can drag out longer, you can have a build up.

JJ: You mean if you can find ideas that can work as a riff, as an ostinato?

Owen: Yeah.

Anna: I guess that was what we were doing, and then we started changing the end-notes of the motif, going [demos on violin].

JJ: So you think that's a useful device, to have an ostinato that you both think works and that gives you the safety from which you can extend or contract?

Owen: Yes, if you have a very short space of time but you want to coordinate something you both know, you can't both play long phrases or melodies that you've composed in that space of time necessarily. Mainly it tends to be improvisation over chords that you both know, or the same rhythmic thing, the same ostinato. But it's short, simple riffs -

Timing

Constraint

JJ: - short, rallying ideas that you both can use -

Owen: Yeah.

JJ: You say that, and yet the others [to Charles and Sid], you had quite a lot of freedom, I felt, and that felt like a conscious choice, to have that more contemporary classical – or contemporary jazz – space?

Sid: I think one of the aspects of that was that Charles and I were more in a mood, taking the mood from the piece, whereas the others were more motivic and taking musical ideas from the piece, because the piece ended up in a different mood but with motivic ideas, which I think is the difference.

Preinvention

Charles: I feel like our reinvention criterion was to end in the major, to change the tonality of it, to change the mood of it, whereas having heard theirs, theirs was about taking a musical idea and making something totally different – texture,

Preinvention

melody, rhythm – something that's totally different.

JJ: So, a different end-goal, a different rationale?

Charles: Yes.

Owen and Sid on generative process

JJ: Did you equally share the process?

Owen: I think as the pianist I decided the form more, because I feel as I'm playing an accompaniment and Sid is soloing and improvising over it and playing the head, creating the melody.

Style

JJ: That sounds like quite a jazz convention, what you're talking about.

Sid: Yeah, I think we had different roles in the interpretation. You [Owen] came up with quite a few of the ideas, whereas I implied those ideas through playing the main melody in the different time signature that we were doing. My role was more implying some of the ideas.

Preinvention

JJ: And has that role come about because it's the general relationship between line instrument and harmony in jazz? You've reverted to type a bit, do you think?

Sid: Yeah, I think that might be part of it.

JJ: If you compare, for example, what it was like to work with Charles...

Sid: Yeah, I think so, because I think what we were doing was in some ways more harmonically driven, in this version. More harmonically than melodically.

Preinvention

JJ: Tell me what your thought processes are on the structure of the piece, that kind of thing, what you're reflecting from the original.

Owen: For this piece, I wrote out a form and it developed as us falling into more of a typical jazz format. It's got a piano introduction with sax improvising and playing motifs that we've taken from the piece over the top. And then the head, which is in 3/8, and it's the first three bars of the piece, the chords from it, and then Sid's using motifs from the melody as well but putting it into a 3/8 style, so that's sort of the head. Then we've got a 3/8 and 4/4 section, which is taken from another part of a piece, this phrase here...and another 3/8 bit then the end. So, it's symmetrical and a more conventional jazz format.

Style

Collab creativity

JJ: Nice. And I see that you, Owen, that compared to the other exercise, you've notated less for this one?

Owen: I didn't write any for the other one. Exploration

JJ: Did Anna write stuff down then?

Sid: It was Anna and Charles for that one.

JJ: Oh ok, let's talk about you then, have you ended up writing more or less?

Sid: Less. The only things we've really written down this time are form-based things, whereas in the previous one we wrote things down to do with specifics that we were playing – we wrote down a section or two. Some of our sections are more improvised in this case [like pairing] or otherwise more directly to do with the melody. We felt the need to write less down except what we were doing. Elaboration

JJ: Ok. Thank you.

[Sid notes after the performance that he 'played out' more than intended and could have done with simpler chords. Owen added a solo and both improvised the ending 'from scratch'.]

Charles and Anna generative process

JJ: Was the creative process equally shared?

Charles: Yes.

Anna: I think so.

JJ: What did you notice was different in the dialogue and the negotiation of ideas compared to the other pair?

Charles: That's a difficult question, actually.

Anna: I think the way we got the idea of making it classical is that we kind of played – Style

Charles: - yeah -

Anna – we did that and it kind of happened – Exploration

Charles: - because we know each other's playing so well.

Anna: Yeah, it wasn't like a conscious decision –

Charles: - It just happened.

JJ: Just in the way Owen and Sid defaulted to their home style, that happened with you as well? Preinvention

Charles: Yeah

Anna: Although we incorporated in the middle a non-[classical bit]

JJ: Did you do that because you felt you had to, because that was in the nature of today, or because that came from what you'd do anyway?

Charles: We were thinking, what can we do to make it different? Because we were trying things out and they were very similar to some of things we were doing before (today). So I don't know whose idea it was but we said, ok let's do something totally different. Let's go French baroque!

Preinvention

JJ: Great, so what's the rationale for this piece, this reinvention?

Anna: Well, I guess the sixths at the beginning, we've incorporated it, haven't we, into the baroque bit.

Charles: Yeah. So it's got three parts. It begins and ends with this French baroque overture. And that [sings opening three notes from original], that's the main idea. And in the middle we explored some of the polychords, you know, from later in the piece.

Preinvention

Anna: Yeah, with the 9ths and 11ths. And 13ths...

Charles: And we have some solo sections.

JJ: When you say 'polychords' – you [Charles] call them polychords and you saw them as extended chords.

Exploration

Anna: Yeah, I guess. Or no, we did a mixture didn't we. We did some chords over other chords, and then we tried to make it so we used the extensions of various other chords – you know, the mutual notes that chords had.

JJ: You guys are clever! I wish I could do that!

[After performance, they admit to planning a resolution rather than an open end. Happy with it, although it could have been a bit 'neater around the edges'.]

Appendix F

16.03.16 Interview transcript and coding on Stravinsky Octet

JJ, Charles (classical piano), Anna (classical violin), Sid (jazz sax), Owen (jazz piano)

Transcript

Coding

Owen and Sid on generative process

JJ: It seemed to me that you embraced that, just went for it. Have I got the right impression?

Sid: Well, it kind of felt quite difficult to get some things from it, but I suppose the rhythmic ideas and spirit of it was something we could get more easily than taking specific examples, although there are couple of themes like the ones that come up at the beginning that we used.

Challenge

Preinvention

JJ: Owen, was that an easy task for you?

Owen: I think the effectiveness of what we've done as opposed to the other tasks is less convincing because of its abstract nature; it's harder to fully capture the piece without having listened to it very much. And it's also tonally very complex, so you can't really access that at all apart from the intervals of 7th and the triadic patterns in the melody.

JJ: You're treating it quite freely – so do you think having more time to look at the polytonal language would have helped, if you're going to be free anyway?

Challenge

Owen: Well in a way, it would have taken so much time to fully capture literally what's going on tonally that being free is potentially much easier and a more effective approach. I feel like with this, because it's so complex and abstract, we've just improvised a lot of it and taken some features, just gone for it. We haven't really pre-composed or pre-arranged much stuff.

JJ: And is that different to the last two times?

Timing

Owen: Well, the last two times have been along the same lines: you know, we've improvised and not taken every aspect from the piece, but I feel because this is so abstract and complex in comparison to the other pieces that we did, it's harder to pre-compose effectively, so a lot of what we're doing is just going for it, improvising and taking just some simple things that we've noticed and using them as motifs or themes.

Preinvention

JJ: Ok, so the more difficult or complex the source material, the less pre-composition you think is possible, or...?

Challenge

Owen: Yep. There's just so much stuff to take in that if you're trying to capture the piece, as you were saying, you can't

Collab creativity

really do it if you just look at one section. So, we've just taken aspects and done it, sort of, in a blanket way in order to get the feel of the piece without mimicking much of it.

JJ: Sid, if you think about the other pieces that we did – Appalachian etude or Kinsale shore – how was this piece different for you? Was it more challenging, was it easier, freeing? What sort of thing?

Challenge

Sid: Yes, I think it was quite challenging, especially talking about the tonality. I suppose looking into it would probably help in that respect, but without really looking into it it's easier, as Owen said, to be free on it. This one, kind of, feels more fixed and harder to take bits apart from it, because it's how the whole thing works together is quite important as opposed to the...the others felt, I don't know, as if they had more clear themes and ideas that could be taken off and used in different structures and things like that.

Exploration

JJ: That's interesting. I'm interested that both of you feel that the lack of harmonic analysis, or the lack of opportunity to do that, is constricting, whereas I was thinking that with the Stravinsky it's less about the functional harmony and more to do with how the individual lines work together in quite an anarchic way sometimes, or a dissonant way, anyway. Isn't that an invitation to be free? Or do you feel 'being free' is just too easy, you'd rather be doing something that is more complex and Stravinskian than that?

Challenge

Owen: The fact that there is more tonal freedom, that it's more about how the lines work together as you were saying, means that on one level you can be free with it but Stravinsky's composed it in a way in which it works very effectively and it's quite hard to make something convincing because he's using these motifs, it's all about the way he's arranged it. It's easy to play around with the ideas but I don't think we're making anything that's particularly solid: it's free, but I don't think 'free' is convincing.

JJ: Convincing in what sense?

Owen: Well, from a compositional point of view. I just think the end-product from the other tasks have been – because you have chord symbols, for example, something quite concrete to look at – you can choose to ignore them or not but...with what we're playing we have no tonal...

JJ: ..references?

Owen: Yes, it's just free, but I think 'freedom' is the wrong word because it's a positive thing, and I don't think it's necessarily positive.

Challenge

JJ: More 'chaotic'?

Sid: I think it's perhaps quite a lot to do with the fact that it sometimes feels like we're not necessarily encapsulating the piece but..sometimes almost getting away from it. And particularly some of the things like a quaver pulse – it doesn't need to be from this piece...in terms of trying to be inspired by this piece, it seems quite a lot harder.

Exploration

JJ: A hypothetical question: had I not given you the Stravinsky and said 'I want you to improvise in a neo-baroque fashion'. Do you think you would have been naturally thought of the features of the baroque period? Would you have had that information, would you have ended up doing that quaver pulse anyway or that rhythm [sings semi-semi quaver ostinato] anyway?

Preinvention

Sid: Yeah. What we've ended up doing, possibly, is a very *neo-baroque* type thing (laughs).

Owen: 'Neo-neo'...

JJ: I like that. The concept of a 'neo-neo-baroque' piece is very exciting! Finally, the million-dollar question is, do you think this exercise has helped you to be more original in your improv, has given you some access to different ideas than you would have otherwise had?

Exploration

[long pause]

JJ: I mean, could you sit down at the sax or the piano and improvise in this, inverted commas, 'free' way without having this stimulus – or are there some features in the score – how the instruments interrelate, for example - that are inspiring?

Style

Owen: The thing is, you can improvise in a neo-baroque way, but this piece deliberately uses baroque features in dissonant and anarchic ways. It's like a juxtaposition, because if you told me to improvise in a baroque style, I would use tonic and dominant and it would be much more, you know, tonal – and that would give me a lot more of a base to explore, whereas with is, what we're doing is atonal. It's harder. I don't know whether that answers your question...

JJ: Well, it's really interesting. The question is whether there any features in the score that have given you new ideas on the instrument: where you've thought, 'you know what, I'll try this shape, or I'll try this way of working together?' I don't want to put words into your mouth...

Style

Sid: I felt the way it's been is that we have used ideas and stuff from the score, but that's almost a way of knowing we're on the same page, so we both know what idea we're using from this piece. But yeah, it doesn't necessarily feel like it's

because it's for the piece, they're just ideas that we had and we can pick up from each other quite easily.

JJ: Let's listen to the piece and have a quick chat afterwards if you felt there was anything new or interesting that came out of it.

After the piece

JJ: So, did that go as planned?

Owen: I don't really know if we had a plan in the first place...

JJ: I think you did, in fairness!

Owen: Well, I was just looking at these features and looking at ways of [inaudible] rhythms[?]

Exploration

Sid: Yeah, Owen surprised me! Sometimes. I think that was because we were, kind of, improvising before so we were improvising now as well.

Surprise, novelty

JJ: Ok. It's interesting you thought there was an invitation there to 'be free' because the source material was quite dissonant. That was a permission for you to 'go for it' without worrying about pre-planning too much. Is that the message I'm getting?

Owen: Yeah.

Sid: I think so. We almost felt it *necessitated* that...

JJ: 'necessitated' (laughs)...to be true to the original...

Sid: ...the freedom...

Collab creativity

JJ: Right.

Owen: And we were going to end with a little puff (brushes a light chord on piano). But we didn't (laughs).

JJ: Yep. À la Stravinsky, yes, good. Thank you very much.

Charles and Anna on generative process:

JJ: How did you find reinventing things from that score? What were the challenges and the interesting features of working from a Stravinsky score?

Challenge

Charles: Hmm. It was really, really difficult. Really difficult, I suppose because of the fact it was in a style that was so free, but every part is there because it needs to be, so you can't do the thing of 'you take one, you take another one, mash them up, see how it works.' We found it really difficult.

Exploration, disruption

Anna: Yes, and because it was all contrapuntal, it's quite hard to improvise like that. You can't just, sort of, improvise and play freely otherwise it will just sound weird, which we...

Charles: ...which we found out...

JJ: 'Weird' in the sense that you're trying to fit in with functional harmony or some kind of tonal language?

Anna: Rhythmically as well. We were trying to pass it between each other and so it doesn't really work if you're improvising.

Collab creativity

Charles: You need to have a structural approach: 'I'm going to play this, Anna will play that, and that's how it's going to work.' You have to classify it.

Anna: But then we changed our approach because it wasn't working.

JJ: Did it put you off that there weren't any piano or violin parts in the original?

Anna: Not necessarily. I don't think it that was the problem.

JJ: Interesting. You've picked up on a theme that Owen and Sid did, which is this freedom-within-constraints issue. Stravinsky is very clever at bringing together seemingly anarchic ideas in quite a rigorous way.

Anna: Yes.

JJ: Is it a question of time? If you had more time, would that make things easier, or do you think it's fundamentally not helpful to be trying to improvise in that way?

Timing

Anna: Well I think that in our first approach we would have needed quite a lot more time to make that work. We probably would have needed to write down quite a lot of notes and stuff.

JJ: As individuals, you mean?

Charles: Yes. And to be writing a score, a loose score, where you know -

Disruption

Anna: -yes -

Charles: -what's going to happen, the key centres, the basic tonality. What we were trying to do, we were taking the lack of functional harmony and were using that as an excuse to do what we wanted but we realised that wasn't quite working. [to Anna] Is that fair to say?

Anna: Yeah.

Charles: We realised the tonality *was* there and it's very structured, it just *sounds* quite anarchic and free.

Anna: So, we stopped trying to do it in a neo-baroque style and just went with what we felt like we could work with -

Charles: - what we were more capable of.

Exploration

JJ: And how? What is that? What is that common language for you two?

Charles: So, we kind of 'canned' it into functional harmony (laughs).

JJ: That's a good way of putting it, 'canned it'!

Charles: Yeah, I feel like it is a bit of a shame, but it's what we can do and what we recognise.

JJ: Are you saying that had you not being working together, you might not have had to make that compromise?

Constraint

Anna: Well it would be kind of hard to do it by ourselves.

Charles: Yeah. No, I think we would have done it the same. Me personally, I don't think I could reinvent a piece in that style, I'm not fluent enough in that language, really.

Exploration

Anna: Well, I think we could, but it would involve basically rewriting the entire thing and writing it down.

JJ: And that's because the source material is clever and complex...

Anna: ...yeah..

JJ: ..and you feel the only way of responding to it is to be clever and complex?

Style

Anna: Yes. Well, I mean, we've done something else, sort of slowed it down and made it more melodic, in a way, more romantic-styled with functional harmony.

JJ: Ok. Is that about technical ability, to be able to improvise at a slower speed, or...?

Anna: Well I think we just changed the mood of the piece, in a way. I don't know, it's quite difficult to pass a tune between us if we don't know what the tune is.

Challenge

Charles: Yeah, the Stravinsky, it's crazy, it bops from instrument to instrument as the melody is passed, and there are solos. And that was quite difficult because there's only two of us and it has to be very controlled. Plus the speed is a disadvantage, you have to work harder for fewer minutes of music.

Preinvention

Anna: Yeah, so we took the opening tune and various rhythmic ideas, stuff like that.

JJ: So, again: the million-dollar question. Does reinventing a

ZPD

piece of Stravinsky give you new ideas for how you can create as a composer or improviser, or do you feel you're not inspired by it in that way, you not taking anything vitally new from it?

Charles: I'm inspired to find out more about that style, that particular genre, and be able to say, if I did it again, 'well actually I did try it in the style and it worked for me', instead of just having to revert to what I'm more familiar with. So, in that way, yes...I mean, I don't suddenly want to rush home and write a wind octet! It's an urge to get to find out, to get to know the language better.

Charles and Sid: post performance

JJ: Did you find it easier the second time round, to come up with this, or was it like coming at it from scratch with a new partner?

ZPD

Sid: I have found it easier in this case, I think maybe because I've got more thoughts and ideas gathered.

Charles: Yeah, I've found it easier this time too. Hearing the other group and having had a go at it with Anna, I think it's got me kind of thinking, 'what else can I do, what else is there potential for.'

JJ: It's 'oiled the wheels'?

Charles: It's oiled the wheels.

Trans-style

JJ: Yes, ok, that's interesting. And do you think it's more that that's 'oiled the wheels' than necessarily working across styles?

Charles: Mmm. [Pause]

Sid: I think that working across styles has also helped in this case.

JJ: Tell me why.

Sid: I just...I'm not sure. I'm not sure I can explain why, but [pause]..I do kind of feel that in this case, especially as Charles is more used to working from full scores and things, he can pick out ideas from that more easily, and I suppose that's probably helped.

Collab creativity

Preinvention

JJ: So what features, Charles, have you picked out from the score that you haven't already used before?

Charles: The three-three-two rhythm is quite prominent in this and I don't think Anna and I made it quite as prominent. Also, the...I don't really know, the (sings rhythmic idea, semi-semi-

quaver) I don't think we'd really experimented with that. I suppose the biggest thing, the very first thing that we asked ourselves is around structure. You know, what are we going to do, so we had a plan – which is different, I suppose? I'm not sure that due to the differences...I mean, I haven't really seen much difference in working with someone who is mainly jazz. I found the process equally - equally difficult, and equally fun as well.

JJ: Ok.

Sid: Yeah, I'd agree with that, because it's almost a different task for both sides. I mean, by the nature of doing it, you're almost sitting outside of what you might usually do.

JJ: Right, so just the fact that you're in a pair is in itself enough of a different creative environment, rather than it necessarily being across styles? Is there anything about working from a classical score that makes it easier or harder to work with someone from a classical background?

Scaffolding

Sid: I think what Owen was saying earlier about chord symbols - because the other ones both had chord symbols before. And I think all of us are more used to working in tonal environments. In this case because it's not obviously tonal, it's harder in a way to use those kinds of things. So maybe it's forced us to use other kinds of ideas from the piece.

JJ: Ok. That's interesting. So, let's hear the piece. Is there anything you want to say by means of introduction? Ideas that you've used, or do you think that will be quite obvious?

Charles: It's a rondo [laughs]

Styles and constraints

Owen and Anna, pre-performance

JJ: How did that feel, working across styles? Was there something that new that came out?

Owen: [Long pause] I would say that we both have awareness of both styles, so that the main difference was an instrumental...the main factor that contributed to the outcome, apart from the player, was the actual instrument, because you can have different techniques and use different...

JJ: Ok, so it was the fact that Anna was on violin.

Trans-stylistic

Anna: Yeah, I would agree with that.

JJ: So, do you think the complementarity of the pairing is more about the individuals than about having a different style to work with - and to work against, almost?

Owen: Well, if you had purely jazz or classical players, which

is I think is quite rare anyway, then you might have more evidence of that. But I think we all have a grasp, a pretty good grasp, of all the skills that spread across both genres, so: improvisation, being able to work with other people and quickly produce something that isn't necessarily perfect or written down, or anything. I think we're all fairly good at that, so...

Exploration

JJ: I'd agree! Rather damn competent! Anna, any thoughts on what makes the difference, what makes for a great pairing?

Anna: I think part of it is, like, not to have to discuss too much, just try and play something and then see if anything comes from it, rather than trying to plan it all out before. Sometimes jamming makes it...you kind of find ideas, so to be able to do that is important.

Style

JJ: Yes, ok. So, again nothing to do with the style, or the predominant style of the other person. Can either of you think of any time over these past three tests where it has been useful to have that different style to work off? So, we had Kinsale, Appalachian...

Anna: I think maybe the first one. It was...The first one we ended up making it very jazz. It was basically jazz, rather than a mixture -

Owen: - yeah -

Anna: - and this one's, I don't know, what would you say? [to Owen]

Trans-stylistic

Owen: It's quite hard to -

Anna: - it's definitely a mixture, it's not definitely one or the other.

Owen: No, it's not clearly one style. I think the first one, because it was more jazz, the vision was more clear-cut as to what we were contributing, but for the other ones I don't think so.

Preinvention and exploration

JJ: Aha, that's interesting. Great. So, any thoughts on what we're about to hear? What was your inspiration, what was the structure?

Owen: We looked at different aspects that we could use as a stimulus to create something. And, unlike the last session where I think both groups were trying to capture the mood of the piece and play in a neo-baroque style, I think this was more...because I feel like we'd already explored that...this was more free. We just looked at aspects that were in the piece, took them and used them. So, for example, the 7th interval in the first passage, the first theme, we saw that as the sharp 'F' in a Lydian scale. And we've used the Lydian

scale as a way to have a tonal world in which we could explore using that first melody, to create our own melodies and things.

Exploration

JJ: Brilliant.

Owen: Then the second theme played by the -?

JJ: - trumpet -

Owen: -trumpet. We thought that sounded quite waltz-ish – like it could fit in a waltz – so we put it into 3, and we made the transition from 4 to 3 using polyrhythms. And we've also been looking at the 3:3:2 pattern, and using all those things to create...

Exploration

JJ: Ok. Well, I've let Owen do quite a lot of the talking (laughs) but how was the experience, Anna, of the creative process? Did you think it was evenly shared?

Anna: I think so. Well, Owen came up with the idea of using the 7th, and then we just went with it, and the ideas just came from there.

JJ: From playing?

Anna: Basically from playing.

JJ: Great, let's hear it.

Appendix G

16.03.16 Interview transcript and coding on overall process

JJ, Charles (classical piano), Anna (classical violin), Sid (jazz sax), Owen (jazz piano)

Transcript

Coding

Review with Charles [separate from rest of group as he had to leave early].

JJ: Charles, the main question I have is: does this way of working in pairs actually benefit you individually as a musician, as a composer or interpreter? Is there anything that you've taken from these three exercises that has had an impact?

Charles: Yes, definitely, I would say. It's really, really useful because when you're working on your own, you can scribble away, improvising, do whatever you want and you don't have to explain to anybody. But when there are two, you both have to agree, you both have to discuss, and it makes you actually have to say, 'well why don't we try this, because in the score it says that'. So it actually makes you have to voice your creative process and discuss it with somebody. So not only have to voice it but to have to note, to make it clear in your head, but to focus on the clear structure or tonality – to have to focus on that as opposed to just noodling away on the piano.

Impact

Collab creativity

JJ: Does that mean that when you next go to create at the piano, you're therefore challenging to be as focused as in that pairing?

Charles: Yeah, yes. It's a totally different work ethic, and something I might try out as taking a Beethoven score and just, you know, recreating it or something, as a way of getting the creative juices going, you know? To be able to analyse and to be able to just think...it's actually also improved my analysis: which bits to focus on and what to pick up on - things that I otherwise perhaps wouldn't have picked up on.

Preinvention

Impact

JJ: Ok. And looking at the three exercises we had: Appalachian, which went into folk style and had a classical element as well, a bit jazzy in terms of the voicings of the chords; and then the more jazz-orientated Kinsale Shore and today the purer classical. Just an open question really, what did you find enjoyable, creative, inspiring out of those three?

Charles: Oh wow. Each one has been really different and yet really similar. The process has been the same and it's been very, very fun and very, very creative. I suppose that the Appalachian one had a particular focus on harmony – the

Appalachian chord – and the Kinsale Shore was very interesting for me because I tried a bit of transcription. We prepared the piece in advance, which I found helped me. It was very interesting to look at that sort of perspective, which you don't often do. You know, I'm not often transcribing sax solos. So that was really interesting, to see how I could include that also in my own creative process. And then the Stravinsky has been really, really interesting because in the two previous ones, they've both been in a language I could understand. You know, not as well as some others, but I could understand it was a functional tonality, or it was leaning a bit more to the jazz end of things. But with this one we were presented with a totally different language, which we had to either circumnavigate and ignore, like I did with Anna (we did functional harmony); or embrace and see the freedom in it, which has been really interesting.

Scaffolding

ZPD

JJ: Very articulate in your answers, thank you very much indeed! Final question is: what would the ideal exercise look like for you, working in pairs?

Charles: As in, process of general composition?

JJ: Well, just looking at...just criticizing the pairing exercise that we've been doing, we've had quite a few different variables haven't we, in terms of whether you've prepared beforehand, whether you've had a little bit of time as an individual like you did today.

Charles: We didn't have that the other times, did we, the individual prep?

JJ: You had the individual prep outside of the exercise.

Preinvention

Charles: Yep. I prefer doing the individual prep before, I found it really helpful in the last we did, Kinsale Shore. I suppose apart from that...umm (pause).

JJ: Did the timings work for you? Would you have liked longer, shorter in terms of what we were trying to achieve?

Charles: 30 minutes, it's tight, but it's good because there's that element of pressure that means you have to get something together. Now whether that's desirable...maybe you want that but..it works and it's fun because it's 'we have to do this and let's sort this out', so it does create that pressure which I found quite stimulating-

Preinvention

JJ: - useful to have -

Charles: - maybe some people don't.

JJ: Any other concluding remarks on what struck you as helpful or not helpful about the process?

Charles: What was really helpful, actually, was when we went through the pieces with you and then you gave us a guided tour, almost, through the features. Because I wouldn't have been able to find and label the specific features quite as well as when we all did it. And also, in that fact we all did it, we also had that common base to then go from, which I think made it easier because, you know, there wasn't the advantage that some people had looked at it more thoroughly and some people hadn't. So I think that made it equal.

Scaffolding

Preinvention

JJ: Great, that's helpful. Do you think it would have helped to have had more guidance later on in the process, not just at the beginning, or were you quite happy to be left to your own devices?

Charles: I don't know. Being left to just do it is difficult, but I suppose that's a really good point, isn't it? If you were there to tell us what to do, it wouldn't be quite be as thorough an educational thing, to have to decide for yourself.

Scaffolding

JJ: And did you feel...Often I found when you were practising it or rehearsing it, there seemed to be more complex ideas that worked really well, but when it comes to the scrutiny of the performance, sometimes, some of them came across and some of them didn't (from the rehearsal). Is that something you noticed as well, or?

Charles: Yeah. Sometimes...because of the nature of it, because it's 30 minutes to reconstruct a piece and you take down notes but you can't write down everything, there's that element of improvisation, and sometimes it works and you think, 'wow, that's amazing I'm going to do that again.' And the second time it doesn't work. I think that's it.

Timing, exploration

JJ: Did it bother you when I was in the room observing?

Scrutiny

Charles: Um...

JJ: Did it make any difference to how you work?

Charles: Not really, not really no.

JJ: Great, thank you very much indeed.

Whole group feedback:

JJ: Similar questions for everybody: just looking at the pairing process, what's worked for you and what hasn't? What would you change, looking across the three examples? A hugely open question, let's see where it goes. If necessary I'll narrow it down a bit. Who wants to start?

Owen: Well, the problem with that question is...do you mean

what worked well in terms of the work ethic?

JJ: You can start with that.

Owen: - or making a convincing end-product, type thing? I think, as we established before, being able to prepare and not prepare both have their pros and cons. On the whole, if you're judging the effectiveness of a pairing on the end product and how original or interesting the ideas are, I found, I think, that if you have less time to prepare often you're forced into doing something you wouldn't normally do, so it's more original and the ideas are potentially more interesting. But if you're looking for something that's more fixed and pre...there's more thought that's gone into it – less improvisation and that kind of thing, I think having it prepared before works.

Timing

When you're looking at the jazz and classical elements, that isn't really a huge factor in the way we work together. You may be informed by the style you play, but the actual skills that we're showing – like improvisation, being able to step outside of our comfort zones, that kind of thing – we're all showing that really well, so...I think as a whole all of the pairings work well in different ways.

Collab creativity

JJ: And have you had any preference for one source material over the other? A style of source material?

Owen: Because I find it easier to play from chord symbols and to have a more grounded approach, I found the other two before this one [Stravinsky] easier to come up with material that was more 'solid'. But I think all of them were effective in one way or another. It just depends how much improvisation goes into the end performance.

Scaffolding

Preinvention

JJ: When you say 'solid', does that mean 'predictable' or formed, or structured?

Owen: Formed. I'd say formed. Because, like for example, even if you're improvising over jazz material it tends to be easier because you also know what scales to use, that kind of thing. I'd say the other two were easier to make an end-product that seemed more formed, but this one might be more original and stepping out of our comfort zones a bit more.

Style

JJ: Has this exercise, or these exercises - have they had any effect on you as an individual, either creatively or as an interpreter?

Owen: I often find that, because I'm composing all the time, unconsciously the ideas I've been having resurface in these sessions. So, I find it quite useful because you just have to plump for stuff and then just play it. You can't think 'well, is that good enough?', you just do it. So I think it accelerates some of the creative growth I could have had outside. I think

Pre-invention

also working with other people it helps develop new ideas that I can use in my own compositions. I just think it's a really good exercise for getting new ideas and getting refreshed creatively.

JJ: It's a shame we haven't had a chance to try it as a four, rather than just the pairings. I wonder what new material might have come up in that, or whether it would have just diluted each other. But perhaps that's another study! Anna, has anything worked particularly well – or not?

Anna: I think I'd agree and say I think I found this one [Stravinsky] the hardest out of all of them. I felt that we really had to change the mood, which we didn't have to do that much for the other two. But for this one we really had to change the mood when we realised we can't do it the same sort of style. Yeah, I think I found the first and second ones were way easier. In the first one we had chords and in the second one we sort of had chords as well, so it was easier to find a structure. Whereas in this one we had to completely recreate it.

Disruption

Scaffolding

JJ: It's interesting that you both brought up having a clear chordal or harmonic language as being really helpful for structuring your thoughts creatively, as if you need the vertical pillars to be set free - rather than in this case it's been very linear hasn't it, it's all about counterpoint.

Anna: Yeah, we couldn't really find a chord sequence in it so we had to pick our own and just use the ideas. But we did use the same key.

Preinvention

JJ: Did you find making up your own harmonic language, did that free up some interesting stuff for you or did you find it constraining?

Anna: Yeah, eventually it did. But at the beginning we were having difficulty trying to...because we hadn't really thought how much we could change it and literally just used one idea for each section, rather than trying to make it sound the same. So, for example, when we got into doing the waltz it was easier to improvise in that because we had, sort of, a few chords that we went over and over. That was much easier.

Exploration

JJ: Ok. And again, has any of this had an impact on you personally as a musician, or could you see the potential for that?

Anna: Yeah I think it could do. But I don't do much composing or anything at the moment. But it has helped a bit in terms of improvisation because it's quite good practice, to get some new ideas to use, because I do jazz at school, so include it then.

Impact

JJ: So just having that practice of getting up and doing it?

Anna: Yeah.

JJ: And what about as an interpreter, just playing a bit of Bach or whatever?

Impact

Anna: I mean, it does make me want to do it to some of the pieces I am playing, do a sort of reinvented version of the piece, because it's quite an interesting thing to do.

JJ: Do you think you'd play the piece different having reinvented it?

Anna: Probably, because my favourite style would be the Romantic style. So reinventing some of the earlier pieces into Romantic-y style, that would make me quite happy! Because I always get told off for playing classical style or baroque in a Romantic style. So that would be an interesting thing to do.

Style

Exploration

JJ: And would you rather do that individually or as a pair?

Anna: I like doing it as a pair, I feel I would find it much harder doing it by myself.

Collab creativity

JJ: Why is that?

Anna: I think it's better to have two different visions of how it should be. I don't know, I feel I'd find it hard to find ideas, so when I get stuck it's fine because the other person to have an idea for that bit.

Preinvention

JJ: So it's sort of a motivational thing?

ZPD

Anna: Yeah.

JJ: Great. Anything you would want to add on the general what worked in terms of the processes of it: prep time, timings of..

Anna: I feel like there were good and bad things on having time to prepare before. As Charles said, it was quite good when we went through with you to find the ideas we could use. But I felt if we had looked at it too long by ourselves before we would have been stuck in our ideas and not really listening to the other person's ideas and we wouldn't be coming up with them together. We'd be trying to put them all into one and it maybe wouldn't work as well?

Timing

Collab creativity

JJ: And did you want any more guidance later on in the process or were you quite happy just to have a stimulus at the beginning?

Anna: I think we managed because, by the end of it, we were trying to form the whole structure because we knew we had a short time-space. So, we didn't really need much guidance

because we knew what we were doing, I think, we had to get to the end and work out what sort of structure and stuff. We didn't really run out of ideas or anything...

Timing, scaffolding

JJ: No!

Anna: We'd already come up with a few that we knew that we wanted to use, and we said, 'oh we'll develop this bit' and...[pause]

JJ: Great, thank you. Sid, anything to add?

Sid: Well, I think actually I found the last one I just did, the Stravinsky – I found that was the most successful I think I've done. But trying to look at why that is...I think I've just got better from doing a few of them from earlier, but then also I like having not so much time to prepare the ideas, like Anna said, so you can prepare the ideas together as a pair.

Preinvention

JJ: Does that mean not having that initial 10 minutes individually, as we did today?

Sid: I think it would be interesting to try without the 10 minutes individually, I suppose like we did in the Appalachian study. Just have the time of analysis [together]. But I do think actually the 10 minutes was quite useful. It's enough time to gather some ideas while not getting stuck in your ways and not gathering all the ideas that can come out. I think I found especially when we had Kinsale Shore, because we'd already had time to come up with our ideas, by the time we got to the second pairing, we'd sort of already used all our ideas on the first one.

Timing

Internalisation,
preinvention

JJ: Right. And was that a problem generally? Did you notice a bias towards the second pairing?

Sid: I think so –

JJ: - inevitably, I guess–

Sid: - yeah, I think the second pairing was often the one I think I did better on, the one I think was more successful.

JJ: Successful in terms of being original, or just hanging together structurally?

ZPD

Sid: Yes, I think definitely hanging together structurally. Usually the second one has been most successful in terms of that and understanding what we're going to do and when, rather than being more random about it.

Scaffolding

JJ: Same question for you as for the others: has this had any impact, or does it have potential for impact on you as a creative musician?

Sid: Yeah I think so. Because there are the short-term things

like you come up with ideas here and then move onto things. But I think, also for composing, taking ideas from other pieces of music and really developing them. And I think in terms of jazz, of playing standards? Because it's an interesting means of looking at developing a piece in a very different way, which sometimes people do with standards – but then too often I end up playing them just as a standard swing thing. But, to take the standards and do this kind of thing with them, I think that would be quite an interesting way of treating them.

Scaffolding

Style

Style

JJ: So, doing a more root-and-branch reinvention rather than...?

Sid: Yeah.

JJ: Ok. This has been really helpful. Any other thoughts, with you Sid, on what parts of the process worked or didn't work? So, you've already said that having a ten minute thing was about right in that it didn't allow enough time to get entrenched –

Timing

Sid – yeah –

JJ: Any other thoughts?

Sid: I think I always on the whole preferred the mixed pairs...

JJ: [to others] This is the crunch question, be ready to answer this! Which pairing do you feel you preferred...or not, although you might have already answered that...

Trans-stylistic

Sid: I preferred the mixed pairs. And I like the way it worked with how... yeah, people have talked about how being in a pair improves things, but I think there's also the fact that when you come up with the idea, it's not just...you both have ideas but you can both work on the same idea, so if you come with an idea on your own that idea might not go very far. So you might just discard it. But if there's someone else there, then if they can think of a good way to treat that idea, it can develop.

ZPD, collab creativity

JJ: That's exciting, to think about how ideas germinate and with another person there, there's that accountability, almost, to see an idea through. Interesting. Did it matter that I was in the room observing?

Sid: I don't think so. No, I think we tended to work the same. Part of that might be because you were stood behind us and [laughs]...No, I don't think it made much difference.

JJ: No, I didn't observe much difference. Did it bother you, Anna, that I was lingering in the background sometimes? Owen?

Scrutiny

Owen: It's not so much the lingering as the entering! Because you snap out of your...[pause]

Timing

JJ: That's an important thing to say, yeah. I can see that: you're in the zone and suddenly you've got this intruder!

Owen: The timing, the fact that you did come in probably did change the creative output.

JJ: I wonder how?

Owen: Yeah, well...

JJ: We'll never know, right? Far too hypothetical...

Anna: I think sometimes it made it a bit more difficult to improvise, to throw ideas out there that could go wrong when there's someone watching...

JJ: That scrutiny means you have to be a little bit more 'formed' with your ideas?

Scrutiny

Anna: Yeah.

JJ: Yes, I was concerned about that, actually. What the effect of scrutiny has on...

Owen: I feel like that if you were in a room and you were asked to do the same thing, but if there was a panel of very stern people in suits watching you there, it would be significantly harder [laughs].

Scrutiny

JJ: Yes obviously, I would imagine! A panel of anybody for *any* activity, I feel, would be slightly off-putting!

Owen: Yeah, 'reductio ad absurdum'...I think scrutiny does make a difference. It's just that yours was miniscule...

JJ: I'm a benign presence...I just need to 'quietly intrude'. [laughs]. Let me check my grey book, I think we're done. I mean the core question is 'are you more original when paired or not' and I'd love a snapshot answer, just really brief. Do you think you're more or less original when paired with another person?

Sid: When paired. Is that a short enough answer?

Anna: When you're paired there's always more opportunity for the idea to go somewhere, because it's a different instrument.

Impact

Owen: I'd just like to say...You know the Colon concert, the Keith Jarrett?

JJ: Yeah. The Köln.

Owen: The reason why it's one of the best-selling piano albums ever is because it's different to all of his other stuff. And the reason why is the piano that he had to use wasn't in perfect tune, wasn't the same the other pianos, and they tried to change it but they couldn't. So it was like a messy situation.

Disruption

So if you're in a pair...

JJ: - that's even messier, right?!

Disruption

Owen: - of course you're out of your comfort zone and it forces you to do things that are more original and inspiring, and it's a bit like that I think.

JJ: Can it get *too* messy? If you're trying as a four, can it impede you, or would that be overflowing with originality?

ZPD

Owen: It depends on how much of a genius you are [laughs]

JJ: *Clearly* not a problem for you...

Anna: I think we'd need more time if there were more people and that would probably need to more of one person – like, people suggesting ideas – but then one person sorting them out, organizing them, saying 'ok, why don't you do that?' Because with four people you can't really just kind of do it together, we'll just improvise, because that would get messy.

Disruption

JJ: Would you agree?

ZPD

Sid: Yes, four would be a real challenge. And when you're in a pair, when one person asks the question then obviously the other person is the one to answer it. Whereas if you're in a four, some people might avoid certain questions and let someone else come up with the ideas for it. Whereas as in a pair you can be held more to account...

Collab creativity

JJ: Share the responsibility of it all. Yes, absolutely.

I did have one last question.

Owen: I was just thinking, with pairing, you know Stockhausen's *Stimmung*, where people are asked to conform so they're all eventually singing the same thing? Or a different thing, but they've all contributed to it? If you have two people, then it's clear what that point you're trying to reach is. But the point is, if you add, the more convoluted – and diluted- the end product is...like, if you ask an orchestra to improvise, it would be like mixing loads of colours together and you'd end up with a brown sludge, like a nothing. But if you have clear identities but less people I think it's more effective because each person has more to say and more space to contribute to the end product.

Collab creativity

JJ: Very astute comment. It's interesting that when you improvised together as a pair, you felt the pressure to keep playing. Did you notice that rarely did you step back and allow the other person to lead the process for a while and then come back into it? Do you think that might be a learning point? Said he, with a very closed question...

Anna: Well probably because there's only two of you, you

worry about leaving the texture too bare? If one of you is not playing, it's a bit... I think also when you're improvising in a pair you're trying to pass ideas between each other, so you're always playing or accompanying the other person. It's difficult to stop playing, really.

ZPD, Collab creativity

JJ: The final question is with the Stravinsky. Was it the style, the neo-classical style, that you found too constraining, the fact you had to something in that particular style, or was it the fact that it was a fast tempo and quite complex harmonically? Or a mixture?

Anna: I think it was because it was contrapuntal. That made it...because that's quite formulaic and you know you really have to plan that. It's quite difficult to have to just play like that. If it's just you it's easier, but if it's two people...because you won't be thinking the same thinking and you won't be, 'oh I'll do the tune here', and the other person's not going to know that, so it's one of those things I think you'd have to write out or spend a lot of time on, you can't just do it.

Collab creativity

Sid: I think I agree...you need time, you need to write it out, possibly. Although, I think by the end, some of the ideas had sunk in a bit, so I think...

JJ: You were able to play with them and manipulate them.

Sid: Yeah.

Owen: If you're trying to reinvent the piece, the fact that it's neo-classical – it's quite a complex style to encapsulate in your own product. And the fact that it's contrapuntal as well means it's quite delicately arranged. If you're trying to draw from that, you're not really taking much, you not really taking much of the essence because it's like an equilibrium that has to be sustained by all these small, subtle things. So I think the second time round was more effective, because we'd stepped out from just trying to imitate or try and play in that style. And because we'd exhausted that way of doing things we just took things and made new things instead of reinventing in that style. And I think that makes a big difference because the style is so difficult to fully...to make a product with that's convincing.

Constraints

Exploration

Style

ZPD, Collab creativity

JJ: That's really interesting. Thanks very much indeed.

Appendix H

Interview transcript of notation and aurality study. 24.03.19

JJ	A few questions on the reinvention method and on the paired process, just to get your opinions. How was it for you, essentially? How did you find working in pairs, deconstructing, reconstructing and reinventing the scores, regardless of the techniques involved, just the overall impression?	
Cathy	I think it was a very good idea, actually, because we could bounce ideas off each other; so something you might not have been able to put across on your instrument, James perfected in a different way; and it was quite nice to hear a different interpretation of the same thing, even if you were talking about the same thing you could hear it in different ways. That was quite cool.	Collab creativity
JJ	Did you find that, James?	
James	Yes, being able to bounce ideas as Cathy said; because she could express on the saxophone a lot easier than I could on the piano, or something like that, so...	ZPD
JJ	Did you find it an equally shared process?	
James	I felt like Cathy was doing a bit more because it was a bit more jazz-based and she knew a lot more about the harmony, so...I was going along with it.	Style
JJ	Great. Any other thoughts?	
Tom	I think being able to break down the piece into smaller components, or its more basic components...it's quite difficult to pick and choose what bits you take, and I think that's probably why there are so many different outcomes from reinventing a piece. And that's why all of our pieces were so different.	Generative
JJ	They were very diverse, weren't they? Any other thoughts on how you felt working in that way?	
Lisa	I thought it was cool how when we listened to the piece we could pick out a few things and then share them, and then make it into a completely different thing, based on the original one.	
JJ	You liked that process?	
Lisa	Yeah, I thought it was cool.	
JJ	Our university guys, how did you find that?	
David	I'd never really done anything like this before, so it was quite interesting. And I think it would be an interesting technique to have for trying to do a cover of a song and trying to change it up a bit more than usual, it would be a good thing have in mind. So I think I've learned quite a bit from this.	Applications

John	It was good. I felt mixing a jazz person with a classical person - I think in general there would be a slight barrier between us because we have different mindsets, so I don't know if that would...not specifically with us [pointing to Lisa] but in general.	Barrier
Cathy	No, I agree with what you said there. There was a little barrier there.	
JJ	You're not speaking each other's language, musically, but is that a provocation or a barrier, is the question? The million-dollar question. So, let's look at each approach in turn, if I may. Let's start with the notated approach. I'm just going to ask you to comment on four different areas: one, on how having the piece of music in front of you and notating it with the worksheet impacted on your deconstruction; secondly on generating ideas by yourself, exploring those ideas and then playing with them. So that that's the third thing, then fourthly how you performed together. Actually, perhaps you'd like to compare between the notated approach and the aural approach. Let's look at the deconstruction element.	
Cathy	I felt that there was huge difference in terms of the deconstruction. When I was...when you have the music in front of you...I took it very literally: these are the components I'd like to recreate in this version . Like I said earlier, I literally wrote them out and very literally - it was like it was much of my own material at all - it was just re-looking at what somebody else had done and putting it in a different order. Whereas with the aural approach, you hear those ideas that you like and because my aural skills aren't as good as just reading it it's much more difficult, so then you focus on less things particularly, you expand on them more. I thought it was much easier to expand on the sixths idea or the Phrygian idea in the second compared to the first one, where nothing was expanded on in much depth.	Generative Barrier
JJ	Was that a trend? Did people find that with the first one you were more closely associating your ideas with the score than with the second? People seem to be nodding...	
James	You can kind of tell from the pieces that people were making that the second one was quite a lot different, very different pieces. The first ones were kind of similar-ish. Just from...if you have an idea from a notated score then you know how to express it musically because you have it in front of you. But if you then remember the idea from the piece then you think, 'oh, what can I do with this?', and make it up completely from that idea.	Fixed
JJ	So do you think that is purely the fact that you have the visual material there that it's almost subconsciously telling you to have a closer relationship to it?	
James	Yeah. It's like you think, there's a, whatever, chromatic descent here, and then you see it on the score and say, ok I could do it like that. But then if you think, oh, I'll add a sixth, or whatever, but you don't have any reference for it, you just make it up, that's a lot more...I don't know, creative, I suppose.	Fixed
JJ	Did you find you were any more effective in deconstructing in either one mode or the other - when I say 'mode': notated or aural mode?	

Tom	I think in the one without notation it was a lot easier deconstructing what you heard because we tried making it a lot more simple. So I think it was easier to take that material and develop it a bit. Whereas with the first one we didn't really develop it as much as we could have done. I think we were still stuck in the realms of the initial idea, the original notation of the piece.	Generative
JJ	Ok, yes. I just come back to the question of how effective the deconstruction is. Do you think you spot more things when you have it front of you, or did you think when you went through it aurally with me at the piano that was equally as effective?	
James	I'd say it was easier with the score in front of you. You could see stuff and keep looking at it until you realised whatever the feature is, but if you hear it once or twice then it's quite hard to pick up on specific things.	Generative
Tom	Although, having said that, I think maybe that had you not gone through the piece with us aurally and explained it, then we wouldn't have been able to go away and reconstruct it as effectively.	Aural
JJ	You're talking about the first one?	
Tom	The second one.	
James	I agree with that, the second one. Before you had started talking about stuff I had no clue what I could do with it.	Generative
JJ	Ok, so you needed that breakdown?	
Tom	Yes.	
JJ	And did that breakdown work for you guys [to John and Daniel] as well, in terms of an effective way of disassembling the material?	
John	You pointed out the most characteristic features for the piece. But I didn't get the singing part. I didn't get how that helped, I don't know if it's just me.	Barrier
JJ	As in, why it would help? Because by vocalising it you make it a little bit more concrete for yourself, you've had to 'put it into your body' a little bit more.	
John	Fair enough, ok.	
JJ	That's the theory, but do you think it doesn't work?	
Tom	I think it probably does.	
JJ	Well, let's look at it actually, did it help for you?	
Cathy	I think it helped demonstrate the point. I could see on the paper that it was a chromatic bass line, but I wasn't necessarily able to pick out each bass note on its own. It helped having to sing through and hear it rather than just read it and understand that it's there.	Scaffolding
Tom	I don't think it helped actually with the composing or reconstructing itself, it just helped...	
Lisa	...it helped to emphasise the point.	

JJ	Ok, so as a pedagogical tool it's helpful? David. what did you think?	
David	I don't know, I think it might have helped to really figure out what notes they are. Without singing it you could have an approximate idea, but with singing it you know it's exactly, like, two minor thirds descending by half-step. So it just helps be more accurate.	
JJ	Ok. Let's move to the generating and exploring bit. When you're working in pairs, what did you notice about what was different? You've already talked about how closely you adhere to the original when you have the notated material. Are there any other things that were different?	
John	I felt I could interact more freely without the notation. We were bouncing ideas differently I think.	Collab creativity
Lisa	Yeah. I definitely thought the aural one, we got to it much quicker than the other one.	Explorative
John	We were on the same page, always. Whereas with the notated one...	
JJ	And why did you think...?	
Lisa	I don't know, I think maybe it was because with that we'd worked before and got used to it, or maybe it was just because we didn't have to write it down, we could just remember it and carry on going, we weren't having to take a break to write it down. It took longer.	Familiarity Timing
JJ	Did anybody else notice this feature of when you interrupt your flow of thought to write something down? Do you want to comment on that at all?	
Cathy	I think writing it down would have been helpful. I think without - although listening to the music was good, it was more difficult to get your ideas but for the creative process it made it much more freeing, in terms of you're not confined to what's written on the paper. But I'm quite a forgetful person. And it would have been very helpful to have it down on paper to clear up ideas. We found sometimes we were talking cross purposes? It would have been good if I'd been able to write down, this is exactly what I mean here, have a look.	Fixed
JJ	So, for clarity or for when you're recording things it's helpful. Any other thoughts on benefits or limitations of notating things in the creative process at that point when you're exploring?	
David	I think that when there's more time for a task, notating can be good, because if I'm notating something it allows me to think more deliberately and come up with things that I generally wouldn't do while improvising. But with a quicker task like this I think the aural methods are better.	Timing
Lisa	Yeah, I agree with that. I think the notation takes a longer time, so that we found we were running out of time when we were doing the notation one, but we were fine for time when we were doing the other one.	Timing
JJ	And how did you find your memory working? [to Tom] I'm sorry, you were saying?	
Tom	I thought that almost, like, doing notation took away from the musicality in some ways.	Barrier

JJ	Tell me why.	
Tom	Because I think you're so focussed on playing the notes as opposed to playing the whole piece of music and creating, shaping the story, whatever it is.	Explorative
JJ	How did it effect how you worked together as a pair in that respect in terms of how you communicated as a pair?	
Tom	Yeah, I think that without notation it's a lot easier to communicate, in the sense that you're forced to listen to each other a lot more as opposed to thinking, oh what am I doing, am I playing the right notes? It's about listening and thinking, what feels right here as opposed to 'I should play this'.	Collab creativity
JJ	So it takes the sense of duty and obligation away, yes. Any other thoughts? I'm interested by Lisa's perception of, had it been a longer task perhaps notation would help. Is that to do with recall? You mentioned earlier [to Cathy and James] that it was hard to remember the chords when you didn't have the prompts. First of all, did anybody else find it hard to remember sequences and ideas?	
John	Depends on how complicated you make it. We kept it quite simple with ours.	ZPD
Cathy	It's funny, because you mentioned time with yours and that you were struggling with time in the notation one; I think our's might have been the opposite.	Timing
James	Yes, ours was the opposite.	
Cathy	I think with the notation we had a much clearer structure, because we planned everything before we even had the creative ideas, we sort of knew the route is was going to take? Whereas with the second one it was much more led by ear.	Explorative Aural
James	Yeah, that's true.	
Cathy	We didn't actually come up with anything for, like, fifteen minutes. We did all that in the last couple of minutes. It's taken that bit longer to get the ideas. Then, when we did, they were better ideas.	Timing
James	They were better ideas, that's true.	
JJ	Any other thoughts? Could you see any relevance from what we've done today to your study? Is there any way in which this way of working could be applied to either your university degree or whatever you're doing, whether it's 'A' level or whatever? Could you apply it to a set work or use it as a means of exploring a concept?	
Cathy	I think for me it's similar to when you transcribe - it's sound weird - but when you transcribe someone's solo and you get the ideas that you want, and you do that already, and then you might use those ideas later on in a separate solo. You internalise the ideas. I don't whether it's...it's kind of similar because you're responding to a piece, it's just not in the same context. I don't know if that's what you were looking for?	Internalisation
JJ	Yes,it's all interesting. I suppose the main difference is the paired bit? You know when you're describing something for your own personal learning, and then doing that sort of thing in pairs...do you see a role for that in your learning?	

Tom	I think the paired idea is quite a good idea. Working in pairs - it's not too many people to have to deal with and then you're focussing just one on one.	Collab creativity
JJ	It's quite focussed isn't it.	
Tom	So, I think that could be quite effective if you're talking about a certain subject or if you're trying to learn something, or memorise something maybe?	
JJ	There's an accountability. How about you guys on the degree programme. Any elements of what you did today in terms of notating or aural-based techniques that strike you as interesting or relevant?	
John	You mean working in pairs?	
JJ	Well, let's take the pairs thing out now and just look at the pedagogical techniques, you know, aurally breaking down and building up a piece in that way.	
John	In terms of composing a piece?	
JJ	In terms of composing, improvising, or creative exercises, whatever they might be within your study...	
John	Is the aural one better than the notation one, or?	
JJ	Well, I'm asking more now whether you see the <i>relevance</i> to your studies. For example, would you like to see more of this kind of work in your degree programme, or do you think it's not really relevant?	
John	[long pause] Can you come back to me?	
JJ	Yeah, I'll come back to you. David, what do you reckon?	
David	I think it was kind of useful, the deconstruction parts. Because normally if I try to figure a song I just go linearly, like, figure out the notes of this bar and then on to the next one. But finding features and building blocks could be a better way of looking at it.	Generative
Tom	I guess you could apply that to other things as well. like, say you have to revise loads of information or something like that - instead of seeing as a load of massive information, breaking it down into the most important features...And then picking what you think is the most key out of all of them..	
JJ	Ok, so just that deconstruction process per se is helpful. What about the others?	
James	I'd say that with that kind of deconstructing to look at what the basic ideas are, you can kind of miss the point of a piece music, or something like that. So, if someone has written a piece of music and it's to convey a certain emotion and you just go through just learning the notes and stuff without looking at the themes that they're trying to convey that could be quite unmusical, I'd say? So, it's quite an important thing to try and do, like, 'what does this section mean, what does this section mean?', whatever. Something like that.	Barrier
Lisa	I think the aural helps in general with music, so when you're playing in a chamber group, you just learn to listen more, and it helps you to talk to other people, listen and bounce off each other and stuff.	Aural

JJ Yeah. And so having that done in a creative process is more helpful than, say, a notated approach?

Lisa Yeah.

JJ Hands up if you're more used to a notated approach, where you take down ideas as you listen to them, or you work from the written score. [Counts]. So that's four-ish.

Daniel Kinda.

JJ Hands up if you feel more aurally oriented. So, a mix. John, coming back to you and the relevance for your studies.

John Yeah. Well, I was just going to talk about your teaching techniques. I liked how you singled out individual techniques that it was using, but you never talked about how it worked as a whole, structurally, in terms of harmony more, melodic ideas. Maybe that would have helped, I'm not sure? Barrier

JJ So, we did talk about melodic and harmonic ideas, didn't we?

John But in terms of the whole composition, rather than just singling out just one bar. Barrier

JJ Ah right. So, taking a bigger picture view? It's coming back to James and the 'danger' of drilling down too quickly too soon.

John Yeah.

JJ Any other thoughts on negatives or limitations of the exercise? We're almost there. Things that didn't work for you?

Tom I think it's quite easy to have too much freedom to develop certain ideas, and then maybe you get carried away and lose the integrity of the piece, maybe? Explorative

JJ So, if the brief is to keep the original. I guess that's the question, of intent, isn't it?

Tom Yeah, yeah.

JJ But you think it's easy to elaborate in that way and it's more interesting, perhaps, to tie it down a bit and have more purpose to it?

Tom Yes

Cathy I think it can be a good idea, if you want to start getting into composition and you're not sure where to start, it would be a really good stepping stone, thinking well: let's look at the bits that have already been written, pick out the bits that really interest you and then use that in a completely different way. Especially with the aural approach, I think that would be really effective. Because everyone's piece was really different, and different from the original, but I think it was much more effective for their own musical creativity and I think it would help with the composition process. Aural

Tom But I don't think it could be used effectively outside music, necessarily?

JJ Yes, we're looking at it within actually quite an advanced field of training as well...

Tom	Yeah. I think if you had to develop it for someone who was only beginner standard you'd have to simplify it a lot more. But I think the main ideas are still there and I think they would still be effective.	
JJ	Yeah. Thank you. Any other concluding thoughts on what worked and what didn't? I suppose it would be great to get a snapshot of one thing that really stood out as interesting or new for you today? Or perhaps there wasn't anything. I'm going to round the circle on that one. Lisa?	
Lisa	I thought it was really cool how we could pick stuff up out of the piece and make it into our own. You're kind of getting inspiration but it's also completely different. I thought that was cool.	Novelty
JJ	Ok. Thank you.	
James	Yes, kind of the same as that: it's quite easy to be creative if you take key ideas from a piece and then build on those, and make new ideas.	
JJ	As opposed to just having a blank palette?	
Lucy	Yeah it's a good starting point. A canvas.	Generative
James	As opposed to starting from scratch. Or having ideas that are given to you but hearing it in a piece first and then doing something else with it - is a lot better than just being given ideas.	
JJ	A lead sheet or that kind of thing?	
James	Yeah.	
John	Yeah, I agree with him. Taking ideas, simple ideas and concepts that you've from the original and then using or manipulating it in a new context can sound completely different to the original, using the same techniques.	Generative Novelty
JJ	And is that new for you, or particularly interesting?	
John	Um...yeah. Interesting?	
Cathy	I feel like what I'm going to say is actually the same!	
JJ	That's ok, that's fine. It's interesting to have consensus, isn't it.	
Cathy	Yeah, it's definitely just...it's like having stepping-stones to getting a piece which is really...it's quite satisfying when you're composing because you've got a lot of things that are in place and you're able to come up with the composition. It's not like starting from nowhere. It definitely helps the creative process.	Generative
Tom	I think just putting notation aside and trying to think more spontaneously, on the spot, about how you're going to make a piece of music is quite an interesting process. And it makes you communicate a lot more and it makes you a lot more expressive.	Aural
David	I really liked combining the jazz and classical side of music into one thing and just going in between.	Style
JJ	You mean in terms of the language of the original material, or the principal style of...	

David	Both the language and in terms of notation versus aural. I feel it opens up different ways of creating music. Like, for example, if you have a few key ideas that you want to play in an exact way you can write that down and the rest of it just have a vague plan, and then combine that.	Explorative
JJ	Thank you very much.	

Appendix I

Resources for teachers

Reinventing Beethoven's 'Pathétique' sonata, Op.13 in C minor, first movement

A GCSE worksheet for years 10-11

Objectives:

- To identify musical elements and build a vocabulary
- To discuss the effect of those elements and the composer's intention
- To build understanding of basic harmonic and rhythmic devices
- To put all the above into practice on the instrument
- To build confidence in creative practice, from listening through to improvisation

Resources required:

- Recording of the first movement to Beethoven's 'Pathétique' sonata, op.13 in Cm
- Score for the first movement, available on IMSLP at [https://imslp.org/wiki/Piano_Sonata_No.8%2C_Op.13_\(Beethoven%2C_Ludwig_van\)](https://imslp.org/wiki/Piano_Sonata_No.8%2C_Op.13_(Beethoven%2C_Ludwig_van))
- One plenary space and ideally two break-out spaces

Instructions for the teacher:

This is a 90-minute creative workshop that should fit into a typical double period, but each section can be adapted to suit your timetable. Ideally you should demonstrate ideas at the piano, but a recording may also be used.

Students will be led through the reinvention method, which requires them to aurally deconstruct the material and then recreate elements of it on their own instrument in pairs or small groups of up to four.

Any instrument or combination of instruments can work, but ideally they should include a harmony instrument and line instrument(s). For less able students, hand percussion and voice may be used. Instruments should be unpacked and ready to use, to save time in the middle of the exercise.

Listening for features:

Play your students a recording of the *Grave* introduction, then in a full group set them the following tasks to help them deconstruct and 'enact' the material, initially without a score.

What makes this *Grave* so 'pathétique'? (15 minutes)



Introduction excerpt

1. Discuss the meaning of pathos and 'pathétique' in this context: suffering, struggle, fight.
2. Ask them to clap the repeated rhythm in the first two bars (above)
3. Now clap it with a 'fp' on the downbeat as marked, with 'p' response
4. Try clapping it without the dotted rhythm and with straight quavers instead. What effect does this have?
5. Listen to a diminished chord on the piano. Sing it together. Try different root starting notes.
6. Continue playing the *Grave* introduction. Ask them to hold up their hand every time they hear a diminished chord.
7. Now hold up their hand every time they hear a falling couplet, seeing if they can sing the two notes back as they go.
8. What other features can they hear? The fantasia element of the right-hand flourishes? The dramatic dynamic contrast in the dialogue between bass and treble lines in bars 5&6?

Give the students a score (5 minutes)

1. Can they spot two further moments in the score when this *Grave* material reappears? (Bars 123 and 285).
2. What effect do these interruptions have?
3. How would they depict or draw the character this *Grave* leitmotif possibly represents?

What makes the *Allegro* so exciting? (10 minutes)

With the score in front of them, and playing the material either on the piano or recording, give them the following tasks:

Allegro di molto e con brio 175

The image shows three systems of musical notation for piano accompaniment. The first system starts with a piano (*p*) dynamic and includes a *cresc.* marking. The second system also begins with *p* and *cresc.*. The third system features a variety of articulations, including *sf* (sforzando) and *f* (forte), indicating a more dynamic and expressive section.

First subject excerpt

1. Rocking between little finger and thumb on an imaginary keyboard on the table, 'play along' with the left-hand split octaves.
2. With their hand, trace a line in the air to follow the rise and fall of the right-hand phrase in the first subject.
3. Can they spot and name the different accents (staccato, sf)? And the syncopation?
4. In the second subject (bars 41-79, excerpted below), there are two characters in dialogue, one in the bass clef and one in the treble. Get one half of the room stand each time they hear the bass character and the other half to stand for the treble response, sitting down in between.

The image shows two systems of musical notation for piano accompaniment. The first system includes *sf* (sforzando) and *f* (forte) dynamics. The second system also features *sf* and *f* dynamics, highlighting the dialogue between the bass and treble staves.

Second subject excerpt

Alone time (5 minutes)

Split the students into three groups: one to consider the *Grave* material, another the first subject and the other the second subject. These may be further subdivided if numbers allow.

Get the students to spend five minutes by themselves, without conferring within the group, considering how they could reflect some of the elements on their respective instruments. They should sketch their ideas in some form, whether just verbally or with some form of notation.

Reinvention: exploration (25 minutes)

Split into pairs or small groups up to four on their instruments. The brief is to devise a short (30 second) idea in response to one of the devices in the Beethoven original.

Exploration task for the 'Grave' group

- Use the rhythms of the introduction to build a dramatic opening.

It could be on one minor chord, reinforced with percussion. Or it could follow a basic chord progression as below. Some kind of dotted rhythm is essential:

The image shows the beginning of the 'Grave' movement from Beethoven's Piano Sonata No. 8, Op. 13. It is in 4/4 time, marked 'Grave', and features a heavy, dotted bass line in the left hand and a similar dotted pattern in the right hand. The key signature is two flats (B-flat major/D minor). The piece ends with a double bar line and repeat dots.

If possible, add 'weeping' couplets for extra drama, e.g.

The image shows a musical score for a 'weeping' couplet. The right hand has a falling melodic line (e.g., G4-F4-E4-D4) over a dotted bass line. The left hand continues with the original dotted bass line. The key signature is two flats (B-flat major/D minor).

The above could be simplified to a 'mood picture' in a manageable minor key, with a dialogue between harsh dotted rhythms and falling couplets shared between the players. It doesn't have to sound harmonious.

Exploration task for the first subject group (less able players)

- Create a driving *Allegro* rhythm using a pedal note, with rising and falling phrases above. Use syncopation if you can.

If they can, they could recreate the rocking left hand in the piano with growing cluster chords above, e.g.:



Then one student 'marches' upwards, and the other falls in response above. Hand percussion could be used to build the rhythm, and everybody should observe a crescendo if possible, for extra dramatic effect. Again, the key should suit the instruments and vocal range in the group.

Exploration task for second subject group (more able players)

- Set up a dancing accompaniment, with graceful dialogue between low and high instruments/voices as they copy each other.

The idea is to try and recreate an idiomatic classical accompanimental figure and the antithetical voices around it. Ornaments could be added for extra grace, or imitated on hand percussion, e.g.



Performance and feedback (25 minutes)

Back in the plenary session, each group plays their short ideas to each other. If time, you can try to build them together into a joint piece or save that for a future session.

Questions for feedback:

- (To the instrumental group) Which features are you using and how? Why did you pick them?
- (To the listeners) Could you spot the features? How could you help the players make it even better?

Reinventing Beethoven's 'Pathétique' sonata, Op.13 in C minor, first movement exposition

A worksheet for first year undergraduates

Objectives:

- To provoke new creative practice
- To deepen understanding of the score and its devices
- To facilitate peer learning in pairs across styles
- To build confidence in improvisation

Resources required:

- Recording of the first movement to Beethoven's 'Pathétique' sonata, op.13 in Cm
- Score for the first movement, available on IMSLP at [https://imslp.org/wiki/Piano_Sonata_No.8%2C_Op.13_\(Beethoven%2C_Ludwig_van\)](https://imslp.org/wiki/Piano_Sonata_No.8%2C_Op.13_(Beethoven%2C_Ludwig_van))
- One plenary space and break-out spaces as required

Instructions for the teacher:

This is a three-hour workshop, and although the timings may be adapted to your timetable, the process should run without interruption in a single session. Ideally you should demonstrate ideas at the piano, but a recording may also be used.

Students will be led through the reinvention method, which requires them to aurally deconstruct the material and then recreate elements of it on their own instrument in pairs.

Any instrument or combination of instruments can work, but ideally they should include a harmony instrument and line instrument(s). Where possible, pairings should be encouraged across styles.

Deconstruction and generation of ideas (1 hour in total)

In a large group, listen to the *Grave* introduction without the score.

Quick blitz discussion (5 minutes)

This introduction borrows on baroque form and features while incorporating a new, proto-romantic expressivity. Identify the ways in which it looks both to the past and the future.

Animating some features (15 minutes)

- Sing and identify the bass note and chord on the downbeats of bars 5-9

- Over the left hand in this section (b5-9), sing your own melody
- What other features strike you as important to the language of this introduction?

With the score, do you now notice any other features in the introduction?

Quick blitz group ‘instrumental discussion’ (5 minutes)

In what ways do the first and second subjects compliment and contrast each other?
Demonstrate on your instruments without talking.

Demonstrations using some volunteers (35 minutes)

- Give an example on your instrument of an alternative ostinato pedal pattern for the first subject
- Over the top, improvise a rising figure that is grouped into couplets
- As a group, sing the two parts, soprano and bass, that comprise the conversation in the second subject (bar 41 on)
- Transpose the first sentence (41-49) up a tone on your instrument
- Using a classical figuration for accompaniment (such as an alberti bass), improvise a dialogue over the following chords, borrowed from the original progression: **Ebm – Bb7 – Ebm – Ab7 – Db – Bb7 -Ebm**

Exploration tasks

Alone time (10 minutes)

On your instrument or voice, experiment with those features that you find interesting, creating your own version. Sketch some starting points.

In pairs (1 hour)

Draw on these features to create your own response in pairs to the ‘Pathétique’ sonata exposition. Rather than attempt a pastiche, you should create a short piece together in your own style and language, lasting no more than 3-4 minutes. Although you should agree on structure and may follow some notated prompts, you should aim to improvise the response together.

Presentation and discussion (1 hour)

Each pair presents their reinvention to the group, inviting feedback on which features the listener thinks has inspired them.

Summative discussion:

- What did you learn about working together?
- Where there were barriers, how could they be overcome?
- Has any part of the process made you think in a new way and reappraise your own creative habits?
- Could you apply any of these approaches to other areas of your musical life?

Extension task

This improvisation may now form the basis for a free composition arranged for forces of your choice that best suit the style and mood of the music.