KIE handbook of creativity

edited by
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KIE Handbook of Creativity

Guest Editor
Fredricka Reisman, PhD

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CHAPTER ELEVEN

CONFORMITY, DEFORMITY AND REFORMITY: CONSIDERING THE DOMAIN-IDIOLECT CREATIVITY DYNAMIC

MICHAEL BROWN & CHRIS WILSON

Abstract

In any given field of artistic practice, practitioners position themselves—or find themselves positioned—according to interests and allegiances with specific movements, genres, and traditions. Selecting particular frameworks through which to approach the development of new ideas, patterns and expressions, balance is invariably maintained between the desire to contribute towards and connect with a particular set of domain conventions, whilst at the same time developing distinction and recognition as a creative individual. Creativity through the constraints of artistic domain, discipline and style provides a basis for consideration of notions of originality in the context of activity primarily associated with reconfiguration, manipulation and reorganisation of existing elements and ideas. Drawing from postmodern and post-structuralist perspectives in the analysis of modern hybrid art forms and the emergence of virtual creative environments, the transition from traditional artistic practice and notions of craft and creation, to creative spaces in which elements are manipulated, mutated, combined and distorted with often frivolous or subversive intent are considered.

This chapter presents an educational and musically focused perspective of the relationship between the individual and domain-based creative practice. Drawing primarily from musical and audio-visual examples with particular interest in creative disruption of pre-existing elements, creative strategies of appropriation and recycling are explored in the context of music composition and production. Conclusions focus on the interpretation of creativity as essentially a process of recombination and manipulation and highlight how the relationship between artist and field of practice creates unique creative spaces through which new ideas emerge.

Keywords: creativity, music, education, domain

"The task of the teacher and scholar is to study means, cultivate tradition, and preserve the purity of methods, not to deal in incommunicable experiences which are reserved to the elect – who often enough pay a high price for this privilege." – The Music Master, The Glass Bead Game by Hermann Hesse (1943)

Introduction

This paper has been informed by observations and insights by music practitioners and educators, derived from almost twenty-years of teaching students of popular music in higher education sector at an arts-based college within a UK university. The study of popular music at undergraduate level typically involves a modular-based approach dividing academic focus across a number of separate but interrelated disciplines which may include performance, composition, technology (production and recording), music business, history and contextual studies. The popular music programme of study at The University of Derby was originally designed to respond to a developing interest in the academic study of popular music, predominantly from an Anglo-American rock tradition which is still a fundamental driver, and has evolved to embrace the broader context of music within popular culture. This particular programme of study is integrated into a college which is the academic home of a diverse array of artistic disciplines within which the musicians frequently interact and collaborate on a number of levels.

The primary objective in this study is to explore creative motivations and approaches in the production of new compositional designs in the context of the broader arts, which involve the creation of increasingly sophisticated and distinctive structures merging both through, and as a consequence of, new technologies. The work explores the concept of tradition and the creative processes involved in working sculpturally with pre-existing materials as well as within the constraints of existing, very often commercially facing, stylistic conventions. Unlike the *Music Master* in Hesse's epic final novel, the authors have adopted a less doctrinaire attitude to the teaching of music composition and have attempted to encourage individual interests and approaches in the pursuit of personal expression at the outset. As an integral component of compositional classes, the prevailing theories that offer appropriate insights into our understanding of the creative process are presented and discussed. The paper is divided into three main sections, reflecting the title, to promote discussion of three distinct aspects of musical creativity. The intention is not to offer a qualitative perspective or prescribe a linear progression from one mode of operation to another but to discuss the educational insights gained and the possible dialogue between the domains within which composers of musical composition define themselves creatively.

Conformity: what is 'normal'?

An endearing characteristic often encountered amongst students of popular music is their general capacity to absorb and embrace novel, at least for them, musical ideas. At the start of the undergraduate experience, many are invariably bound by an encultured sense of the aesthetic, informed and steered, more often than not, by informally acquired knowledge gained through peer tuition (Green, 2006), online instrumental insight (Kruse et al., 2012), and subcultural identity, rather than formal educational experience. The motivations for engaging in formal music within higher education are varied, but a degree programme that purports to support primary interests, and provides access to near professional music production facilities, is certainly a primary attraction. From this preliminary perspective the students, left to their own devices, will typically exercise a limited degree of re-creational freedom within the context of their interests, skills, knowledge that serve to define their creative domains. Consequently, they are encouraged to deconstruct their work and associated influences on a number of levels, raising awareness at a structural level to facilitate mechanical understanding, endeavouring to provide insight into intuition, to provide a framework through which new ideas can be integrated into the taxonomy of acceptable techniques as more personalised expressive voices are developed. This is manifested as an open-minded appetite for stylistic and technical novelty, demonstrating stylistic eclecticism, mediated very often through technology, within the constraints of the developing domain. An inventive combinational flair is often exhibited within creative artefacts, that are typically uninhibited by formal knowledge of context, possibly a reflection of the favoured learning methods and diverse sources that have hitherto informed understanding within their musical universes. This perhaps provides some insight as to why John McCormack (2003) made the observation *"much of the innovation today is not achieved within the precious bubble of fine art, but by those that work in the industries of popular culture."* There are a number of common patterns of attitudes and behaviours that may be observed amongst students that will be discussed as this work progresses and a number of *antidotes* to creative conformity will be presented for discussion.

Teaching Musical Creativity

A less universally typical but integral component of music compositional classes at Derby are incorporated sessions on creative thinking. Classic domain-general models of the creative process such as by Wallas (1926), Koestler (1964), Guilford (1967), Baron (1969) and Sternberg (1999) are discussed to raise awareness of potential common creative mechanisms that may serve to promote beneficial creative conditions. The fundamental objec-

tive in this undertaking is to offer meaningful and applicable insights into the creative process and consequently encourage the student to take greater control over their personal creative activities. The extent to which *domain-general* theories can have a meaningful impact upon the productivity and successes of a specific set of creatives is debatable (Baer, 2012) but nevertheless, the sessions are generally very well received and do promote very positive discussions of productive attitudes and practices although, tests of creative potential (Kim, 2006) rarely yield any meaningful insights into the creative potential of the twenty year old student of popular music. A common initial conception that arises out of student discourse is that creative states of mind are inaccessible without some form of inspirational intervention and as such the study of creativity may not be directly beneficial; this perspective for some results in potentially redundant timetabled laboratory sessions within which the creative artefacts that are requested are not immediately forthcoming. This is compounded by the observation that much research into creativity is often preoccupied with the study of examples that transcend the boundaries of the domain, whereas musicians generally wish to refine that which defines creative identity which depends to a large extent upon repetition of behaviours. It is interesting to note that when students are invited to share personal work that is regarded as fundamentally a result of inspiration, no examples offered have ever been realised without a stylistic context. All work was stylistically framed by experiential conditions within a familiar domain. As observed by David Byrne (2012) *"I had an extremely slow-dawning insight about creation. That insight is that context largely determines what is written, painted, sculpted, sung, or performed"*.

Since the commercial world of music production, which this particular programme of study looks to, often depends upon specific musical requirements achieved within tight deadlines, the practical sessions are designed to steer creative production through outcome simulation to serve as agents for creativity productivity defined by rigid and limited operational constraints. Under such conditions productivity, often re-creative, is assured and ultimately cultivates a greater awareness and control over diverse stylistic domains and creative attitudes. Interpretative flexibility within the domain allows for a degree of individuality but it is nevertheless extremely challenging to create work that has enduring commercial appeal. The primary current stylistic domains within popular music as defined by HSD[1] indicate a high degree of formal commonality (see Figure 1 on he next page).

1. Hit Songs Deconstructed. http://reports.hitsongsdeconstructed.com/charts/2015-05-16-genre/ <accessed 12th May 2015>

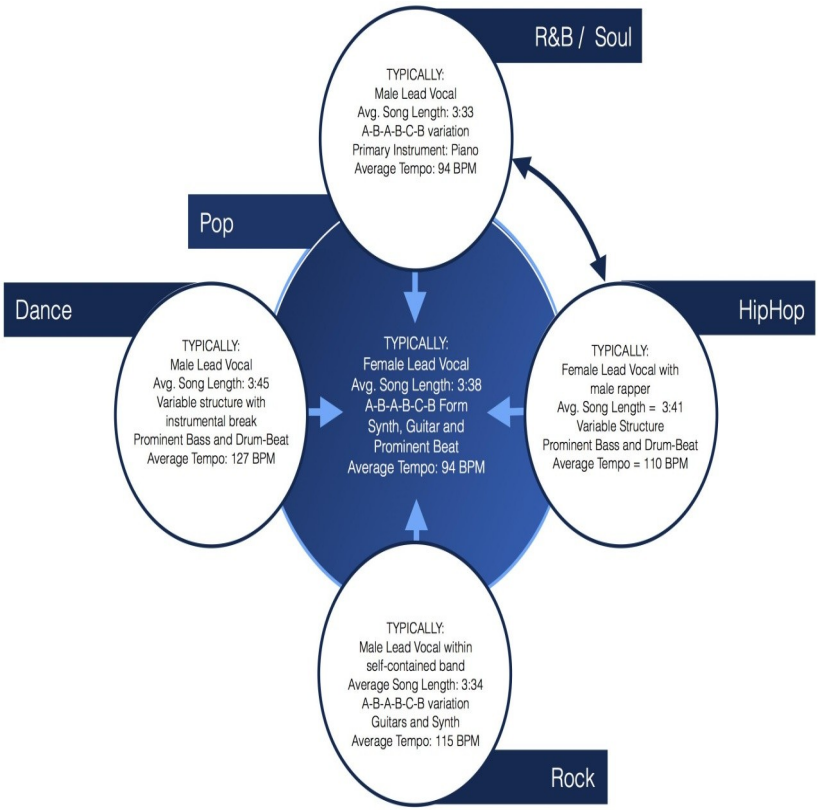

Figure 1: The Primary Stylistic Domains within Commercial Popular Music

Boden (2012) defines creativity as the production of ideas that are *novel*, *surprising* and *valuable*; the extent to which these values are quantifiable depends upon the scope of the evaluative domain. Novelty may be regarded from a number of perspectives, Boden (ibid.) talks of P-creativity and H-creativity to make an evaluative distinction between psychological and historical creativity; psychological to describe an idea that at the time of conception is novel and exciting to the inventor and historical to describe an idea that is deemed to have never been thought of before and is novel to the population as a whole (see Figure 2 below). All artists are generally wishing to produce unique ideas that after scrutiny may be quantified as H-creative but the path, putting plagiarism/imitation aside, to P or H may ultimately be the same; the path to a creative solution, within a similar domain, may be evolutionarily traversed in convergent ways by different individuals at different times. How do we know when we have produced something that is novel? Because it is unfamiliar to us on some level; within the scope of our domain-specific knowledge we determine the idea to be *new*. We seek to validate the

novelty of an idea by sharing it with others, because we cannot be completely sure of all of the artefacts within any particular context.

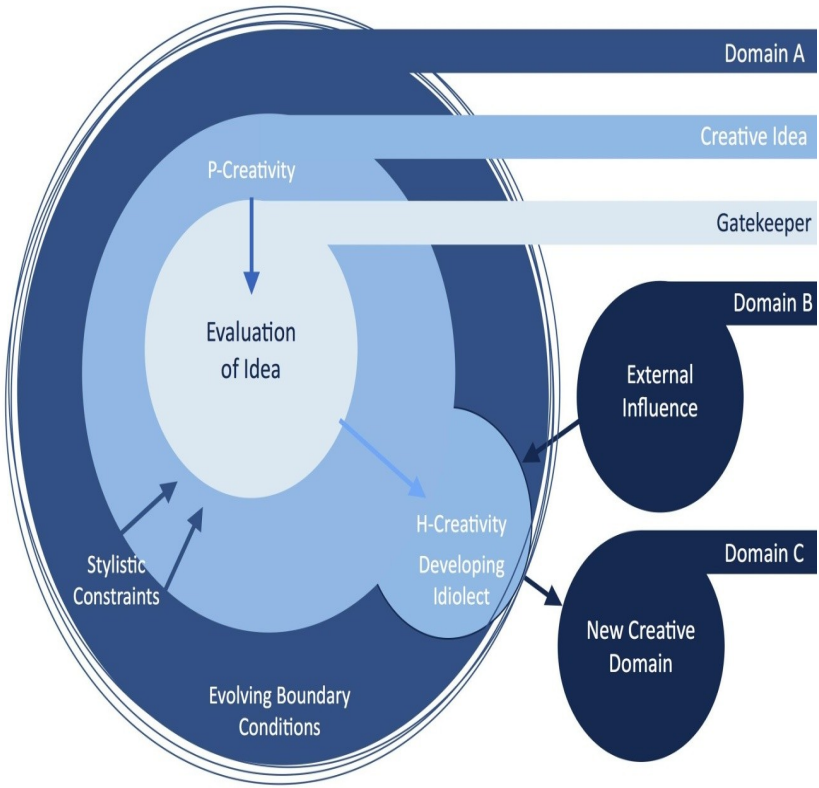

Figure 2: P-creativity and H-creativity. Adapted from Boden (2010)

It may be determined the idea/artefact to indeed be novel but does it have value? In terms of its function or aesthetics. Novelty within music is comparatively easy to find, by choosing unconventional combinations, but very often to do so the work would likely engender contextual incoherence. Novelty itself then is not the only criteria for creative validation; the idea must also have value, at least within a particular stylistic domain. In what ways can a creative idea be said to exhibit value and does this value remain consistent? Creativity according to Boden (2012) can occur via three distinct mechanisms:

- *Combinational*—making unfamiliar associations between familiar components. This could be two or more ideas from a common domain or could be from completely unconnected areas. It may be possible to establish connectionist strategies for achieving such outcomes.

- *Explorational*—the production of variations within familiar styles. This may involve establishing certain starting conditions or constraints within which the known components can be reorganised or reshaped.
- *Transformational*—the creation of a new style that would potentially challenge accepted conventions within a particular creative domain.

The primary mechanism within music is exploration. Very often one domain attribute will contribute to the definition of another because of inherent dynamics, stylistic and/or personal constraints; it is not uncommon for related attributes to receive simultaneous invention as a performer improvisationally explores the domain (see figure 3 below). The teaching of music at a fundamental level often overlooks this mutual structural dependence for the sake of elemental clarity.

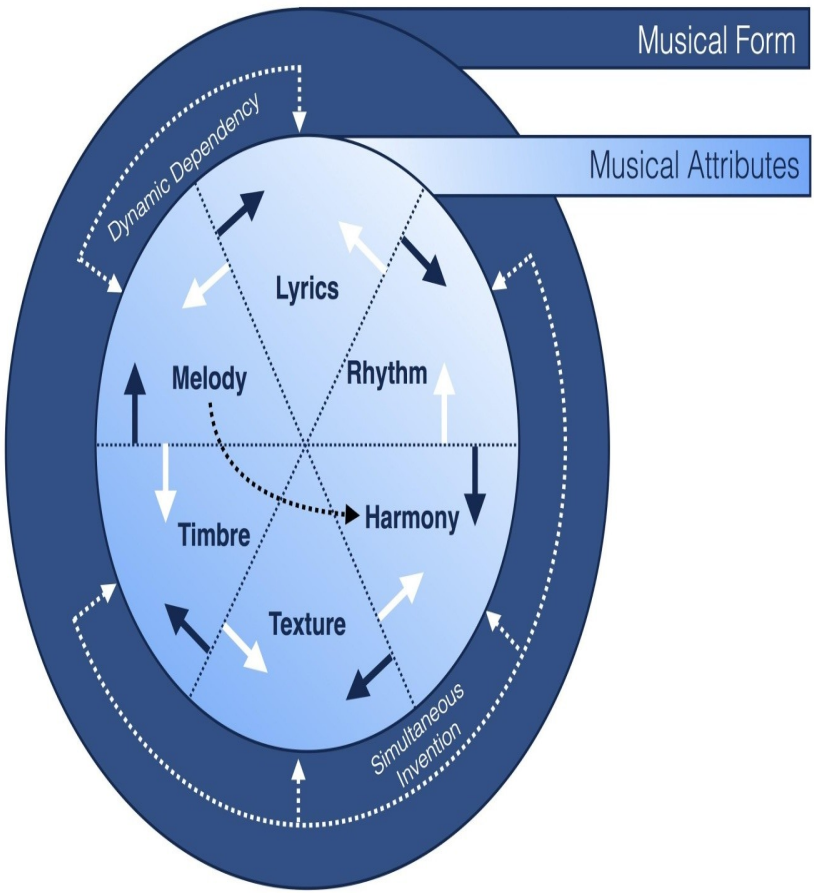

Figure 3: The Interdependency of Musical Attributes

The interrelationship of the elements can result in small-scale musical structures arriving to a greater or lesser extent fully formed in the imagination of the composer. Creativity may be regarded as a *construct*. To be creative, an idea or artefact must connect with established concepts and ideas in ways that resonate with a given domain, extend a domain, or inaugurate new domains closely related to identifiable precursors. In musical creativity, particularly in a popular idiom, the composer will likely work within the accepted constraints of given structures and styles. For the sake of perceived coherence in reception and creator identity the composer adheres to the rules, or guidelines, of the system, often intuitively, and seeks novel patterns and arrangements within ensuring that the ideas, combinations and sequences have a meaningful and useful context. Creativity as such exists within predetermined boundaries and explores the variable relationships of the defined elements; within such a system new styles may evolve through the breaking of structural boundaries as personal identities are established through individual patterns of creative behaviour. The challenge lies in the production of favourable aesthetic solutions; there are perhaps certain configurations that are more likely to yield successful, aesthetically and economically, outcomes offering the right balance of consistency, novelty, complexity, simplicity, or elegance of form, but there is no certainty. Levels of associated creative quality or value relate directly to the level or range of impact or usefulness, perception of creative context or domain, and, most significantly, recognition and appreciation. Why choose one solution over another? There are many choices to me made within any domain. The criteria for selection whether conscious or not may involve issues of aesthetics defined by familiarity and cultural conditioning, or emotional expression to seek empathy, to shock or repel. Aesthetic sensibilities may be influenced by a multitude of criteria, and, as highlighted in figure 4 below;

> *"In aesthetics ... there are no absolutes, we have to choose... decisions about what a work of art is, are personal choices, that does not mean that they are unimportant. On the contrary, like ethical choices, they shape our lives. Nor does it mean that they are unalterable... our aesthetic preferences may change... it may be the result of gradual discovery and persuasion - a process we generally call education."* Carey (2006).

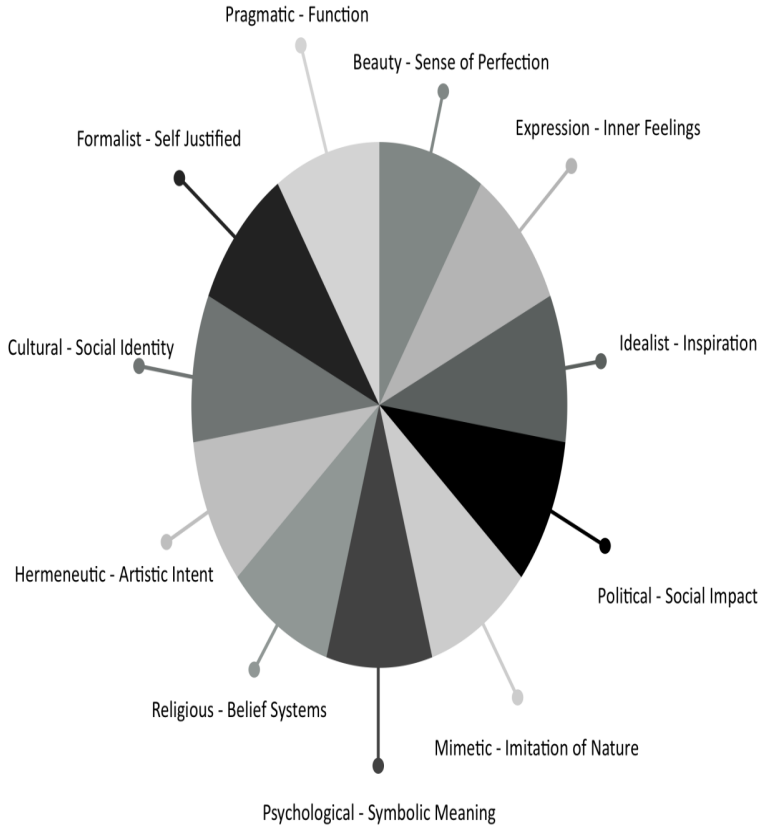

Figure 4: Influences upon Aesthetic Sensibilities

Without connection with previous conventions and a wider framework, perceptual interpretation is divorced from the required solid ground upon which to base assumptions. As expressed by Pete Seeger (within Zollo, 2003):

> *"Even the most original song you can think of is liable to have a good deal of tradition in it. After all, the major scale and the minor scale were invented thousands of years ago… And the English language was invented a long time ago, and the phrases that we use. And we're just rearranging these ancient elements".*

Dutton (2012), when discussing aesthetic norms, said that there is a certain, *"cultural uniformity of aesthetic taste."* This is certainly an interesting perspective when considering musical evolution through which musical styles and trends are steered by familiar forms and solutions as the composer seeks personal expression through coherent frameworks. Mauch, et al., (2015) pro-

vides an interesting insight, born out of audio analytics, stating that "music is the result of a variational-selection process" supporting the analogy to evolution through the production of "an account of how musicians imitate, and modify, existing music when creating new songs, that is, an account of the mode of inheritance, the production of musical novelty and its constraints".

In the arts in general, fields of activity and domains of practice have become extremely well defined over centuries of endeavour and documentary. Commonly delineated by the related sensory focus, there now exists an extremely well established series of cognate disciplines in the performing arts, the visual arts, and crafts including more contemporary disciplines emerging through new technology. It can be challenging however to offer meaningful insight and applicable guidance to students of music; prevalent theoretical models provide a good foundation and discussions of creative environment and productive attitudes are well documented and helpful, but are often very limited in relation to musical creation particularly when the domain appears to the uninitiated to be very tightly 'locked-down'. The narratives and traditions surrounding defined artistic disciplines operate through established systems, frameworks and institutions defining and maintaining through shared activity a precarious path from the old to the new, the history to the future, and a loose series of interconnected narratives. Artists define themselves in many ways with many active in the discourse that surrounds their work and others reticent or unable to engage with qualifying discussion.

If we can accept Hamilton's (2007) general definition of music as a *"practice involving skill or craft whose ends are essentially aesthetic, that is the enrichment and intensification of experience"* and regard the composition of music essentially achieved through *the organisation of sound over time*; coherence and identity then depends upon the mechanism inherent within the organisational framework which often involves repeated, stylistic and personal, frames of reference. Whatever the level of involvement, creative work that reaches a sufficient level of interest and attention is inevitably enveloped by a wealth of qualifying decryption, analysis and commentary. Art, and the artist, even where attempts are made to subvert normal categorisation or definition, is inevitably categorised.

The inevitable connection between art and domain is primarily one that is actively cultivated. With artistic practice emerging through cultural contexts and established practices, affiliation and identification is maintained through enculturation and discipline. The terminology of artistic domains becomes a means of efficiency of communication and a matter of internal dialogue relating to the creative motivations and processes of practice itself. Ultimately, all creative practice is positioned on a spectrum between domain (the shared or common elements of artistic practice) and idiolect (personal expression). In a context where the technology continues to collapse boundaries between domains previously maintained by geography, information or opportunity, and distinctions between domains through virtualisation of modelling, sound and image, self identification with any given cultural code of practice or tradition

of expression has never before been so open to choice or happenstance of influence, and perspective of interpretation so potentially diversified. Furthermore, with all acts of human creativity definable as intersections between domain and individual (both in inception and reception), that meeting point represents perhaps the most important space conceptually for the consideration of creativity itself. Authorial identity is defined within any strictly constrained creative domain through the repetition of particular identifiable attributes that leave fingerprints within the elemental arrangement. The creative DNA of the composer/performer resides in learned patterns of physical and technical behaviour; it is the *syntax* that is born out of sustained listening, analysis, tuition and repertoire development, merging a number of sources into a unique identifier.

Deformity: evolving the domain and the limits of originality

Creative identity and diversity is very much dependent upon the scope of the observer; the similarities appear greater than the differences to the uninitiated, but such idiolectic variations give rise to a distinctiveness that defines authorial identity. The development of the domain and the cultivation of an individual voice depends then upon scope and perspective; for a small minority of creatives (see Duchamp and Cage) an individual identity may be defined by continual *disruption* or *transformation* of the domain and stylistic migration. Deforming a known domain, by pushing the limits of stylistic acceptance, can trigger novelty but can also engender incoherence.

A common theme in the study of creativity is that of novelty or originality. Without seemingly questioning the implications or perhaps referring more generally to the abstract ambition to attain recognition or professional distinction, a focus on originality remains a frequently cited ambition of many studying artistic disciplines. The following scenario reveals the conceptual fallacy of simplicity in the implications of this assumption:

> *The tutor assigns a musical composition task for students of an undergraduate music degree to compose a short musical composition for any instrumentation or style of approximately 2 minutes in duration. The assessment criteria is specified very clearly as originality as the work is introducing experimentalism in music. During shared discussion of resulting work, one student stands and presents their chair with the word 'Love' written on a piece of paper on the seat - "I have subverted the normal conventions of sound use and replaced musical structure with three-dimensional form, I also present the composition as a musical pastiche of the work of Duchamp using this found object. The audience is invited to consider this for exactly two minutes."*

That the example in question would represent originality given the specifics of the brief is undoubtedly the case. That this particular response to the brief would ultimately be judged the most creative is however questionable. Firstly, the fundamental premise of the example is reminiscent not only of the cited artistic reference (Duchamp), it is also reminiscent of the work of John Cage and many more contemporary artists and ultimately identifiable as a composite model of pre-existing ideas. Secondly, whilst other classroom examples may well fall short in terms of contextual imagination, more immediate functionality may well prove significantly superior and result in the highest level of creativity being judged to lie elsewhere. Finally, if this idea was replicated as a consequence of reading this text it would then be plagiarism. Only if the specific example emerged without any contextual placement or foundational knowledge ('I just made this up'), would this demonstrate insight or higher levels of imagination. Even if truly original responses were evident in the context of this example, the further the reduction in application of pre-existing conventions, the further removed from consideration as a creative act within the boundaries of those conventions. Ultimately, as observed by Martindale in his book 'The Clockwork Muse', "if they do not innovate in appropriate ways their audience will ignore them" (in Saunders & Giro, J. S., 2006c). A musical idea expressed using no aspect of musical convention is not a musical expression.

The ultimate extremes of originality in the context of creative disciplines can either be transformational in extremely rare cases or entirely useless as is most commonly the case. Originality within the constraints of any given artistic discipline remains primarily concerned with the development of novel combinations of pre-existing elements and ideas. As a consequence in part of so much ground having already been covered, traditions established and frameworks of reception negotiated, and in part a consequence of conscious and unconscious patterning and variation though replication, originality is invariably sought and invariably gained in context and in discipline.

A question of identity: the domain-idiolect spectrum

Whatever the self-conception of the artist in any given context of creative practice, a proximal relationship is inevitable with a particular domain of practice. Potentially centred on materials of practice and related traditions, educational structures provide further demarcation and codification to the extent that identification with well defined aspects of a particular domain is irresistible. To do what can be recognised and celebrated within a particular domain without awareness of a given domain is unlikely, without connection is impossible. Whilst technology is central to the emergence of new creative arts practice in which visual, auditory, virtual, physical, performance and participatory, and the distinction between artistic disciplines subject to such challenge and redefinition, there invariably exists a form of narrative around

which or through which creative arts practice emerges. Stratified according to levels of specificity, art emerges primarily to engage specific or particular senses, under a broad definition of closest possible form of artistic category (art, music, prose, literature, photography, film, technological arts), and through a series of self conceptions of the processes of creative communication and the contexts to which this relates. Art may well emerge by accident, but wherever identified, there is invariably a network of conceptual connections and common understandings between the emitter and the receiver.

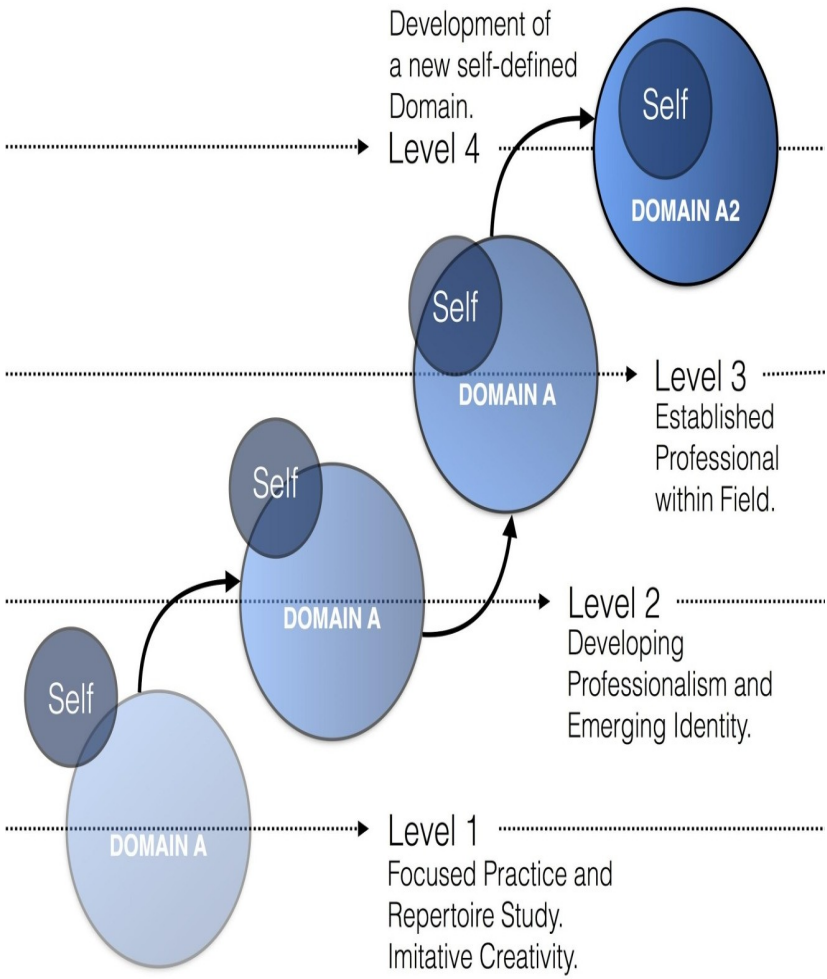

Figure 5: Levels of Creativity by Domain

With respect to domain affiliation, this is a common feature in musicians. In undergraduate students of the authors' institution, self-identification as a composer or performer invariably connects with varying levels of specificity in terms of musical genre or tradition. Indeed, the subject of musical identities is a well-established field of social science research in cultural studies more generally. More broadly, from an educational and professional development perspective, Figure 5 above represents a four-stage model of artistic transition from aspiring amateur to professional competency and beyond. Level 1 represents the initial stages of focused practice and deliberate steps towards absorption within a domain. Intriguingly this is the level for some that is the most productive creatively. Level 2 represents the development of professional competency where individual practice becomes indistinguishable from prevailing standards and norms. Level 3 reflects the attainment of professional standards and emerging potential to stand out within the field. Level 4 represents the rare occasion where individuals transcend a given domain and inaugurate a distinct variation according to their particular contribution. A frustrating observation sometimes manifest is the inverse proportion of developing knowledge and skill, and diminishing creative productivity; as the domain becomes so well understood novelty becomes more difficult to imagine. This is perhaps compounded by the tendency for the expert to seek more sophisticated creative solutions reflective of the advanced understanding rendering more simple solutions inaccessible.

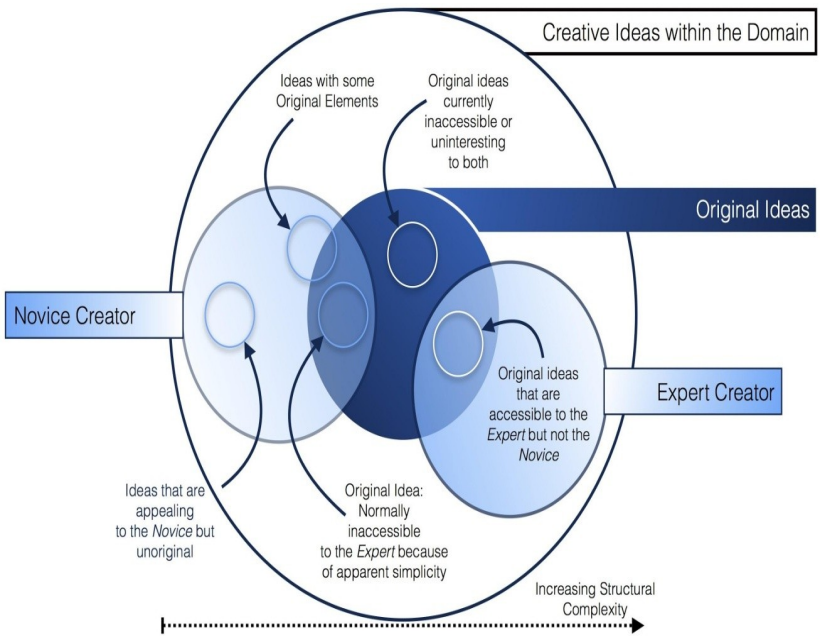

Figure 6: Increasing Complexity

A creative strategy for the *expert* is to try to recapture a more naive perspective through a variety of provocation mechanisms, see Brown & Wilson (2014). Considering Csikszentmihalyi's systems model of creativity, Figure 7 below represents the ultimate position of individual practitioners in the arts and wider forms of cultural practice with respect to the generation of novelty and originality and the definition or realisation of idiolect. In any given context of artistic practice, a series of different contributions to, and factors motivating development of, originality, play through related circumstances to set conditions both through which creative acts can emerge and through which distinctive attributes can be identified.

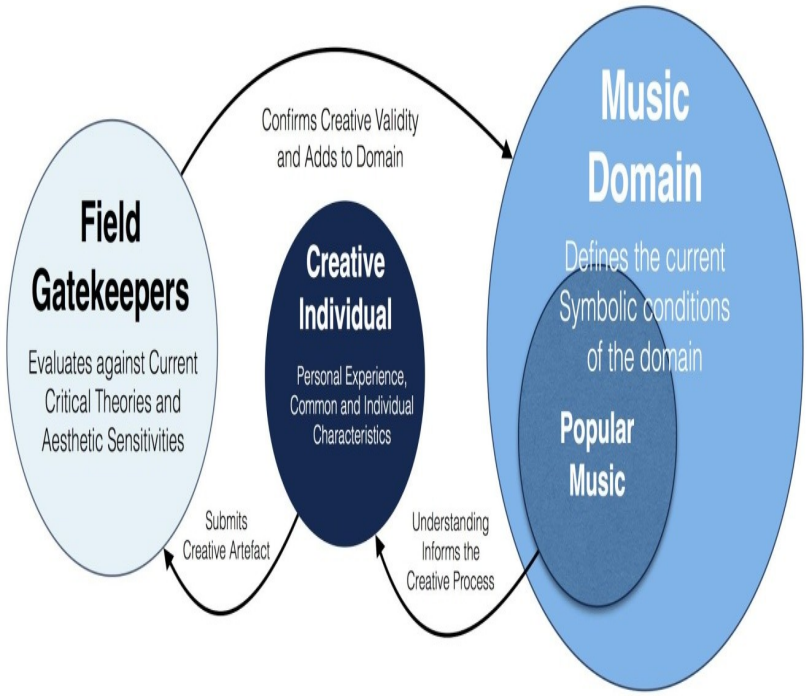

Figure 7: A systems dynamic view of creativity. Adapted from Csikszentmihalyi (1996)

The emancipation of technology and increasing human mobility provides ground for potentially exponential diversification of societal and cultural circumstances and experiences. Shifting and dynamic geographies, cultures, paradigms, and means of documenting, manipulating and sharing cultural expression may even constitute fertile ground for the development of new ideas and new forms of cultural behaviours. Recognising that many with the ability to create significant new ideas operate on the fringes of security, opportunity or clarity, narratives remain central to the development of creative

artistic ideas and dynamics of experience, expression and reception significant in determination of originality and identity.

Uncomfortable territory

A common strategy in educational practice is to confront values and comfort zones. Recognising the virtuous drive towards personalisation of learning at all levels of education and fundamental need to match challenge with the necessary support and guidance, educational development being predicated on 'movement beyond', provocation is an inherent feature of successful pedagogic practice across all cognate disciplines, perhaps most notably in the arts, and key to specific creative thinking exercises, most significantly in the work of De Bono's lateral thinking. With respect to musical creativity in particular and the notion of stable creative musical identity, there is an immediate potential for pedagogic provocation to challenge a defined sense of personal style and working practice. As well as supporting all creative identities (there being capacity to personalise and follow self-designated approaches as a component of most creative music assessments in the authors' degree programme), there is also a concerted effort to structure provocation and creative challenge in ways appropriate to general and individual circumstances. Constriction and constraint are evident in most aspects of modern educational practice. In the context of musical creativity, there suddenly appear deadlines, specifications and stakes. Solutions need to be developed for an audience, according to prescription or commission, completed by a specific time, and the quality of results matter. For many experiencing formal education in the arts, all fundamental components of educational experience jar against the freedom of open artistic practice and foundational experience. In addition to the systemic abrasion of often archaic educational processes, the formalising of scrutiny on aspects of creative capability most recently acquired (creative expression through current learning), and using musical elements both generally unfamiliar and, given the close relationship between musical identities and personal identities, often in unfavoured styles and genres, can be considered to be significantly provocative.

In the context of undergraduate study of musical composition and production at the authors' own institution, one particular educational exercise designed to draw learners into uncomfortable territory relates to the study of musical value judgements and aesthetics. Exploring the work of Theodore Adorno and the Frankfurt School and related position on artistic aesthetics and identification and critique of the 'culture industries', students explore their own musical tastes and preferences, engage in primary research about musical taste preferences and potential correlates, and, in a compositional setting, are invited to identify the epitome of low aesthetic qualities and as far as possible the polar opposite of their own individual musical tastes and preferences. Having articulated the rationale for their individual selections—often

including examples to which a distinct lack of musical appreciation is matched by often closely relating ideological opposition--the compositional challenge is then presented to pastiche the identified musical example as credibly as possible. Invariably greeted with disdain, often acutely, the exercise nevertheless poses a useful illustration of working relating to the professional environment, and often leads to quite remarkable outcomes.

Firstly, many learners who initially express different levels of opposition to the concept often exhibit 'convert' behaviour during the early stages of work. Often revealing the cultural constraints relating to musical practice, musical tastes and subcultural identity, the 'permission' to work with the most unfavourable musical elements can often prove a liberating experience. Past initial expressions of resistance, when engaged with what is initially perceived as an often alien exercise ('this isn't how I normally do this/what I normally do'). Secondly, inventiveness in the context of working with the unfamiliar or the 'strange' is not only inevitable, it also emerges observed and acknowledged. The results of working with new musical ideas, of breaking patterns of creative procedure and processes of activity, can often lead to significant expressions of quality. Very rarely correlating with significant underperformance, the challenge of working with unlikeable materials can often become quite engrossing and, as reported by many students, a quite objective creative experience and opportunity to consciously appreciate iterative processes of creativity.

The imposition of constraints, either self-inflicted or as an educational exercise, upon composers is a common strategy for the stimulation of novel ideas. Very often the process, which may involve a working with an unfamiliar instrument, performer, modified instrument or tonal restrictions, forces a new perspective through imposed defamiliarization with a known domain. Novelty in this respect is the very least that defines educational experience. A liberating experience for the composer is to surrender the responsibility for control over a core parameter to another dimension as highlighted in Figure 8 below. Extolling the virtues of interdisciplinary values Bernstein (1972) expressed *"The best way to know a thing is in the context of another discipline"*.

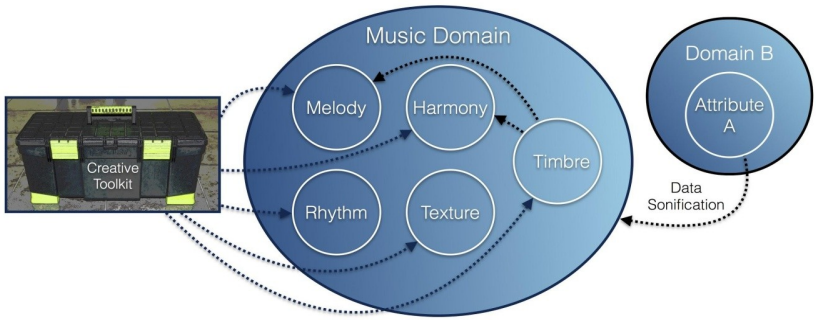

Figure 8: Attribute Data Translation

Reformity: inserting yourself into the 'narrative'

Increasingly students of popular music, when called upon to create musical forms, will routinely draw upon a variety of pre-composed structures that are *combined* to provide definition to the musical design; from pre-existing loops of music to acquired and manipulated fragments of sound, to the employment of instruments exhibiting automaton musical intelligences. Such activities may be employed to kick-start the creative process, provide a foundational undercurrent to the production process or may result in a complete mosaic of sound. The re-use of musical material is ingrained into musical history, with musical evolution dependent on this gradual process to develop. Educationally, students of music develop their craft and eventual identities through learning repertoire and imitating style through the production of pastiche. Historically a common practice for the early medieval composer of Gregorian chant was to utilise the techniques of *melody-type* and *centonization*. *Melody-type* prescribed the complete reuse of existing melodies as vehicles for new text and *centonization* encouraged the development of new melodies from collections of pre-existing melodic phrases. The development of musical dice games in the 18th century, one of which was attributed to Mozart (Hedges, 1978), may be considered precursors of algorithmic composition. Pre-composed musical segments were selected according to the roll of dice to generate a likely unique minuet through virtue of the high number of possible variants. It is also not uncommon for established composers to quote one another; *"So-called creative thievery isn't just the privilege of pop musicians; it is the God-given right of all musicians and the very basis of Western music, ... Music was born as an art of absorption. ... You would be hard put to find a great composer who didn't use what came before, and the more progressive the composer, the bigger the bandit."* (Swed quoted in O'Bannon, 2015). In popular music the use of the standard 12-bar progression or the chord sequence from Gershwin's 'I Got Rhythm' is considered a rite-of-passage for many Jazz improvisers, and common turn-around chord patterns provide a foundation for modern popular song structures. It was common place in the bebop era (1940s) to utilise the chord progressions of popular songs since chord progressions alone were not considered intellectual property; more recent copyright cases indicate that caution here also is required.

Craft, creation, bricolage: The impact of technology on the arts

When Oswald (1985) presented his *Plunderphonics* paper the technology was still in its infancy but he had a vision of a potential future, not without problems, but a future in which the creative musical community embraced technological advances as they have always been from the advances in instrument design to electronic production and manipulation techniques:

> *"Musical instruments produce sounds. Composers produce music. Musical instruments reproduce music. Tape recorders, radios, disc players, etc., reproduce sound. A device such as a wind-up music box produces sound and reproduces music. A phonograph in the hands of a hip hop/scratch artist who plays a record like an electronic washboard with a phonographic needle as a plectrum, produces sounds which are unique and not reproduced - the record player becomes a musical instrument. A sampler, in essence a recording, transforming instrument, is simultaneously a documenting device and a creative device, in effect reducing a distinction manifested by copyright."* Oswald (1985).

The sampler offered composers, in particular DJ's or musicians with non-traditional instrumental skills, a mechanism to create music by combining extracts derived from existing recordings, often from diverse contextual sources; in effect create collages of sounds that converge in unique ways. The collected extracts could be processed (distorted, time adjusted, modulated, reversed etc.) and repeated or looped. Composers using this technology sought to create unique combinations out of collected sounds but also to establish stylistic coherence. Certain sources consequently became more frequently used; one famously in the form of the 'Amen Break' which is a four-bar drum solo recorded in 1969 within the song "Amen, Brother" by the group The Winstons. This six-second drum-loop defined a series of popular electronic music sub-genres by providing a foundation upon which to develop unique expressions bounded by familiar structure. Currently *WhoSampled*[2] lists the 'Amen Break' as the most sampled loop with 1668 registered inclusions. The practice of utilising loops of material became an industry within popular music as companies began supplying ready-made loops in a variety of styles eventually integrating into common software and hardware systems. What began as an innovative use of technology defining genre capable of *transforming* or introducing new *combinatorial* solutions is now to some extent potentially becoming *conformed* as normalised behaviour.

Conclusions: The self and the collective and authorial identity

Music as an art form provides a rich heritage of cultural information through which traditions and innovations have been developed and maintained over time. The digital medium offers a mechanism for the development of electronic dialogues between different art-forms through virtue of common data storage and transmission models allowing translation from one element to another or one domain to another. If the artist's expression is a collage of other people's work where then lies ownership and identity? Whilst authorial identity is a more focused consideration in creative writing than perhaps in

2. WhoSampled.com http://www.whosampled.com/most-sampled-tracks/1/ <accessed 19th May 2015>

other disciplines, it is certainly an explicit point of consideration in terms of developing an individual musical voice in the light of the new technological tools in which collage is a primary creative technique. In many ways nothing has changed, music evolves on the back of older forms to create the new. Identities are established through the craft of the reproductive processes: *".. the selection, arrangement, and juxtaposition of the found bits of prior culture is the art"* (Keller in Miller, 2008). Through the choice combinations of pre-recorded sound, novelty is created: *"We live in the post-sampling era. We take the things that we love and we build on them. That's just how it goes. And when we really add something significant and original and we merge our musical journey with this, then we have a chance to be a part of the evolution of that music that we love and be linked with it once it becomes something new again."* Mark Ronson (2014).

The challenge for education, especially in arts-based disciplines, is to maintain the appropriate balance between the maintenance of established disciplines and the cultivation of the new. The notional transition through formal instruction to develop technical and intellectual mastery and, ultimately, 'professionalism'—itself a complex and contested term—is an unstable paradigm. The nature of professionalism is open to continual redefinition and reconstitution and, in the arts, there are also evident tensions between mechanisms designed to inculcate students with the necessary knowledge and skills to thrive professionally, and the conditions necessary to promote the most effective personalisation of creative practice and expression. Whilst the educational objective would always be to enable learners to express themselves freely and productively, there will inevitably be compromises as to how practitioners develop effective ways by which careers can be developed and individuality maintained and nourished.

The compromise position for university study in the arts is often to combine elements of artistic freedom and self direction with more prescribed and focused inculcation into new practices and creative processes, or to combine approaches and to build educational progress on the development of individual practice more exclusively and to relinquish control over the direction of progress to the learner more progressively. In any eventuality, the dynamic remains subject to an increasingly diverse range of destabilizing factors and an increasing range of potential starting points; students at all stages of education and higher education in particular are as evident, and to be increasingly expected, subject to increasing diversity of cultural influence, knowledge, learning motivations, and experiences of subject and practice.

In this paper three modes of observable creative operation have been discussed in the form of 1. *Conformity*, where the creative product is bounded by strict constraints; 2. *Deformity,* where the boundaries that define the constraints are systematically broken, and; 3. *Reformity*, in which existing components are reused to create new hybrid forms. The presentation in not advocating a creative linear progression or a qualitative review for in this context defining and maintaining creative identity within the confines of commercial

music can be exceptionally challenging. The objective of the paper is to provide an overview of the primary mechanisms of musical creativity, with a view to facilitating and nourishing educational experience and professional resilience through transferable insights into the creative process. Ultimately, the tension between what is known and understood and what is novel and unfamiliar is a significant basis for understanding creativity both as lived and received experience. Far from signalling an end to traditional notions of craft or tradition, technology may be opening up significant new spaces for creative activity and developing the means by which different ideas can be brought together, manipulated and communicated as never before. The final word here is given over to Bernstein:

> *"I believe that a great new era of eclecticism is at hand — eclecticism in the highest sense — and I believe that it has been made possible by the rediscovery, the reacceptance of tonality, that universal earth out of which such diversity can spring"* (Bernstein, 1972) - The Unanswered Question: VI - The Poetry of Earth, The Norton Lectures, 1972.

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Michael Brown is the Programme Leader for the *BA (Hons) Popular Music with Music Technology* degree in the College of Arts, at the University of Derby, UK. He holds diplomas in both Art and Music, a BSc (Hons) degree in Software Engineering, Mathematics and Music, and a Masters degree in Contemporary Composition, which combine to serve his interest in computer creativity. He is a Principal Researcher with over twenty-five years of teaching experience, an active artist, composer and musician. As well as maintaining his professional role, he is a member of the American Creativity Association and has presented his research in multimodal creativity internationally.

Chris Wilson holds the position of Senior Lead in Learning Enhancement at the University of Derby in the UK and is a Senior Academic in the College of Arts. He is a classically trained musician and practitioner in the technological arts and has presented and published internationally on the subjects of creativity, artistry, technology and education. An active member of the American Creativity Association, Associate of the Digital and Material Arts Research Centre in the UK, and a governor for his local primary school, Chris teaches across a number of subjects and works to actively promote creative practice in higher education.

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