

Part One

Shibusa: a musician's perspective

Introduction

The *Shibusa* exhibition is a collaboration between the painter Pip Dickens and myself that has developed through a kindred approach to thinking about our respective art forms and the influence Japanese culture has on our work. Dickens' fascination with

Japanese *katagami* stencils was the starting point for the collaboration. These fragile and intricate mulberry-paper stencils have been used for centuries in Japan in the dyeing of textiles (see Figure 1.1). The stencils themselves often feature much repetition of either geometric or figurative design. However, as the stencils are handmade, this repetition is never exact. The stencil betrays the humanity of the artisan – the physical trace of cutting and crafting the patterns. Through an in-depth study of the methods of creation and use of *katagami* stencils, a core set of concepts has emerged in our thinking: the inexactitude of a hand-crafted repetitive physical process, a physical trace, noise (the interruption of a process), colour, pattern, repetition, layering, counterpoint and texture. This shared vocabulary and terminology have provided a starting point from which we have developed our individual practice.

As the project has developed, the collaboration has become one in which the resulting work is a refraction of multiple layers of influences: my music and Dickens' paintings, while based on the original *katagami*, have assumed their own influence. This is to be expected of such a process. However, for me as a composer and an academic, the interesting issue has been to ascertain the sometimes startling differences in perception we have of each other's work: examining how the painter hears music through visual metaphors, and how the composer looks at paintings as if every brushstroke is a sound suspended in a virtual space kinetically interacting with other sounds

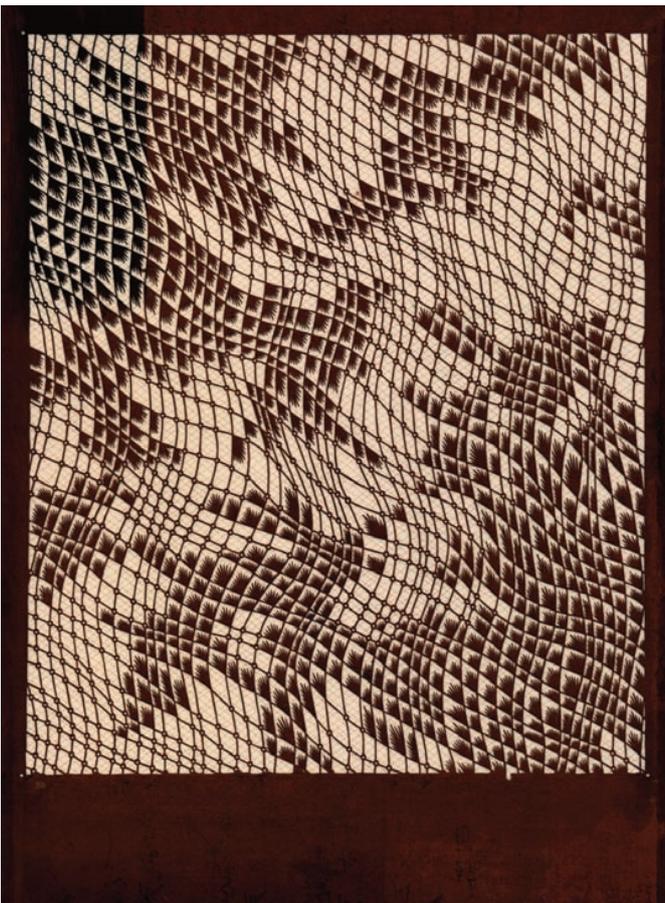


Figure 1.1 *Katagami* stencil: Japanese hand-cut stencil for printing on to kimono fabric. Collection of Pip Dickens, © Pip Dickens

around it. These differences in perception are worthy of further examination, for though a kinship between music and painting has been the subject of many writings throughout the twentieth and twenty-first centuries, many of these writings consider aspects of rhythm, colour-timbre and harmony, which, while valid in the construction of music and art, do not examine our perception of the resulting artefact.

Sound and image: an historical perspective

The association of sound and image has been a subject that has fascinated composers and artists for centuries, and can be traced back as far as the investigations of Aristototele and Pythagoras into the correlation between the light spectrum and musical tones. Although the main theoretical texts that discuss the relation between music and painting emerged in the early decades of the twentieth century, most notably centred around those artists associated with the Bauhaus and the famous meeting in 1911 of Arnold Schoenberg and Wassily Kandinsky, practical investigation and experimentation between colour and sound has its origins further back in instruments often termed ‘colour organs’, such as the clavecin oculaire constructed by Louis Bertrand Castel in 1734. In 1720, some 14 years prior to the construction of the clavecin oculaire, Castel wrote, ‘Can anyone imagine anything in the arts that would surpass the visible rendering of sound, which would enable the eyes to partake of all the pleasures which music gives to the ears?’¹ The clavecin oculaire was a device that used 500 candles, 240 levers and pulleys, and 60 reflecting mirrors to illuminate a 2-metre-square frame with 60 coloured windows (5 octaves of 12 tones, each with a specific hue), each with a curtain that was automatically raised when the corresponding key on the harpsichord was struck. Many such instruments were developed throughout the eighteenth and nineteenth centuries – Kaster’s pyrophone, Vietinghoff-Scheel’s chromatophon and Thomas Wilfred’s clavilux are but a few examples of instruments that all worked on a similar premise. All these instruments were based around the keyboard

as a means of triggering colour–pitch combinations. In the twentieth century this tradition of using a physical mechanism to produce an association of sound and colour continued with experiments using film to combine sound and image, particularly in the work of Norman McClaren, Oskar Fischinger (who created his own colour organ – the lumigraph – in the late 1940s) and Walter Ruttmann.

Aside from these mechanical devices aimed at multisensory stimulation, conceptually the most coherent approach is found in Richard Wagner’s notion of the *Gesamtkunstwerk*, expounded in his essay ‘The artwork of the future’ of 1849, and which he defined as a unification of music, song, dance, poetry, visual arts and stagecraft.² Although Wagner’s influence on future generations of composers is often discussed in terms of his advancements in harmonic thinking and the emancipation of the dissonance, the idea of the *Gesamtkunstwerk* can be traced through Schoenberg’s opera *Die Glückliche Hand* (1910–13) and Scriabin’s *Prometheus* (1911) – both of which were accompanied by carefully choreographed coloured lights – and Ives’ unfinished *Universe Symphony* (1911–28), as well as countless contemporary multimedia spectacles.

At the same time as Wagner’s development of the *Gesamtkunstwerk*, a shared vocabulary emerged between painting and music that extended beyond mere metaphor – works in both creative disciplines were discussed as compositions, panels or improvisations that have a form. James Whistler went further and titled his paintings with musical terms such as ‘nocturne’, ‘harmony’ or ‘study’, and most famously the *Symphony in White* series (1862–7). The purpose of such titles was to emphasise the tonal qualities of the composition and to reduce the emphasis on narrative content.

In Karl Gerstner’s book *The Forms of Color*, he observes that:

Each musical tone can be defined by three parameters: 1) frequency (pitch), 2) amplitude (volume), and 3) overtones (tone color). Each color can likewise be defined

by three parameters: 1) color tone (or hue, according to Munsell), 2) lightness (or value), and 3) purity (or chroma).³

In the early part of the twentieth century the mapping of colour to musical pitches was the principal preoccupation of Roy de Maistre, a contemporary of Klee and Kandinsky. De Maistre's 1935 painting *Colour Composition Derived from Three Bars of Music in the Key of Green (Colour Scale on a Musical Theme from Beethoven)* is typical of his work and is based on a system the painter developed from Sir Isaac Newton's theories of colour, expounded in the latter's treatise *Opticks* of 1704. De Maistre believed that 'a mathematical relationship of frequencies ... united the physical phenomenon of light and sound'.⁴

During the first part of the twentieth century a number of composers were also active as painters. Schoenberg painted a number of expressionist works and maintained close contact with Wassily Kandinsky and Der Blaue Reiter group. Schoenberg's pupil John Cage created drawings and paintings that often used similar chance techniques to those employed in his compositions; indeed Sharon Kennedy maintains that 'Cage's awareness of silence in music can be seen through its abundance of white space in his piece called *Stones 2* (1989)'.⁵ While only Kandinsky purported to experience an intense synesthetic bond between sound and image, it is clear that the visual work of both Schoenberg and Cage were informed by their musical aesthetic.

As digital technologies proliferated during the second part of the twentieth century, it might be assumed that the connection between music and painting would become lessened in favour of music in conjunction with the moving image. Yet despite the propensity of visual music in our contemporary culture, painting is still a significant source of inspiration for contemporary sound artists and composers. The influence of painting on music comes in many forms: the initial structural model of Kaija Saariaho's *Verblendungen* (1982) was a brushstroke from which the composer abstracts simple geometric shapes that control parameters such as tessitura,

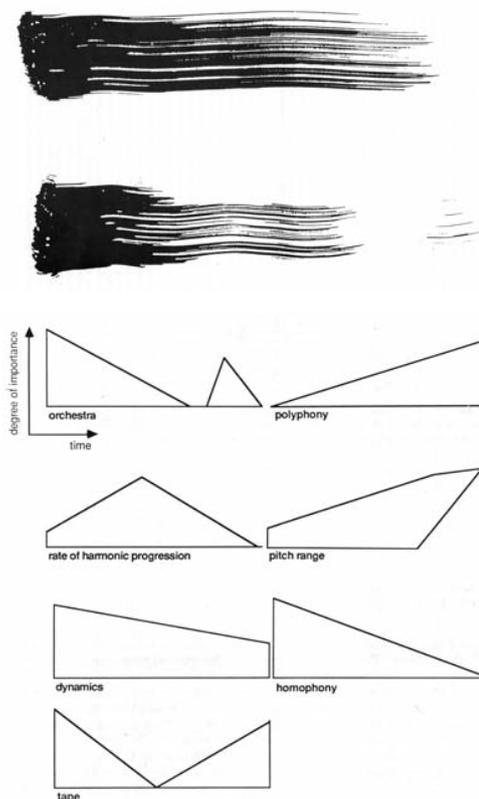


Figure 1.2 Saariaho, *Verblendungen* sketches: shapes for musical parameters derived from the initial brushstroke.

harmonicity and polyphony, and the relationship between the orchestra and the electronics (see Figure 1.2).

Richard Barrett's *Ne Sonje plus à fuir* (1986) is influenced by a painting by the Chilean surrealist Roberto Matta; while more recently Liza Lim's *The Four Seasons* for solo piano is subtitled 'after Cy Twombly', demonstrating a kinship with Twombly in the way in which Lim handled her sonic material. In electronic music Richard Chartier's *decisive forms* is derived from and takes its title from the biomorphic forms of Jean Arp's early work, while his collaboration with Taylor Deupree on *Specification.Fifteen* (2006) was inspired by the *Seascapes* series of the Japanese photographer Hiroshi Sugimoto. Bernhard Günter's *brown, blue, brown on blue (for Mark Rothko)* clearly states its inspiration in the title. Morton Feldman was also influenced conceptually by the work of Mark Rothko,

writing in all but name Rothko's requiem in his *Rothko Chapel* (1972). Dore Ashton writes on Feldman that:

His music – hesitant, reticent, disembodied and non-symbolic in the sense that the sounds have no reference to anything but themselves – refuses the architectural tradition of music and aligns itself with the expansive space of contemporary painting ... he himself described the effect of one of his pieces 'as if you're not listening but looking at something in nature'.⁶

One of the reasons why many composers are drawn to the still image rather than the moving image is to do with the nature of our perception of the static image as opposed to the moving image and sound. Many musicians revel in using their imagination to explode the stillness of painting into musical time, rather than following the implied narrative (no matter how abstract) of a moving image. Through placing one temporal medium in conjunction with a non-temporal one, the artists leave much interpretation open to the viewer. However, as soon as one temporal medium is combined with another temporal one, in this case music and image, a hierarchy is established – often to the detriment of sound. The visual component of any film dominates the senses, with the majority of sensory information being received through the eye. Regarding the connection of artistic practices and temporality, Hugo Garcia writes that:

One of the most important paradigms in the audiovisual field is rooted in the different nature of the musical and visual domains. The musical language is developed over time, while the graphical expression is created over space. Metaphors, abstract relationships, and even methodic mappings have been developed in order to merge both domains. In the case of music and static images, the relationships tend to be more subjective, but at the same time they possess a subtlety that is lost with the use of dynamic graphics. On the other hand, in the case of dynamic graphics, the

music and image share the same time element, which makes them more related.⁷

Though superficially lacking a temporal dimension, a painting nevertheless displays evidence of the work's creation. Whereas music necessitates an experiential temporality (the perception of the work through time), painting demonstrates a witnessed temporality (the perception of a past process of creation). The muscular 'memory' of a physical gesture is important as it always carries the trace of human action and betrays its emotive force in the spectral or paint density. The physicality of an instrumentalist's performance or the recording of a ball rolling around a jar has a counterpart in the gesture of a painter's brushstrokes. A simple analogy is between the note or sound object that can be split into intensity, duration, pitch, timbre and shape, with elements such as form, colour, texture, location and light. Rudolf Arnheim, in *Art and Visual Perception*, describes high-level structures of the visual domain.⁸ For example, shapes have weight and direction, and these two elements generate balance. Hugo Garcia notes that:

Arnheim also analyzes the concept of movement in two different contexts: first as the physical displacement of objects in time, considering speed and direction; and also as an illusion in static works, produced by the 'simulation of gravitatory effects' and the direction of the shapes. Finally Arnheim analyzes tension as another perceptual element that is associated with the movement and the illusion of movement without motion.⁹

In the latter part of the twentieth century there were numerous attempts to marry the physical visual gesture and sonification within the musical domain itself. Max Mathews and Lawrence Rosler's *Graphic 1* (1968) and Iannis Xenakis' UPIC system (1977) both translate images made by the composer into sound. In the UPIC system composers can map their physical gestures to waveforms for synthesis, volume envelopes and larger scale form – the composer can literally draw the

composition. One of the first examples of such a sonification of visual data was Xenakis' electronic work *Mycenea Alpha* (1978). In this work the 'score' comprises drawings of interlocking aborescent structures that determine pitch direction, volume and timbre.¹⁰

Further software developments that continue in this vein of converting image to sound are *Metasynth* by Eric Wenger and *Iannix* by La Kitchen. Arguably, much contemporary electronic music is primarily composed through reliance on the visual and *Shibusu* is no exception. Unlike analogue studios, in which there was little correlation between eye and ear in the treatment of sound (the process was more of a physical one, very much reliant on the ears to adjust parameters), many digital studios are now based around the computer, with each piece of software having its own graphic user interface (GUI). Such is the influence of such GUIs that Oval (Markus Popp) talks about his work visually – the layout of sound files in a sequencer window is important aesthetically to him.¹¹

Despite the sonification of images enabled by music software, this does not guarantee that the listener will perceptually make the connection between the two explicitly. The neurobiologist Jean-Pierre Ternaux maintains that:

Transferring structural or numerical features from one domain to another may in many cases result in some quite bad category mistakes, i.e. mistaking principles of organization in one domain as valid for another, totally different domain.¹²

Synesthesia and perception

While the *Shibusu* project does not attempt to translate music into the visual or the visual directly into music, it is nevertheless important to establish how certain audio-visual correlations have been scientifically tested. One such example is the association of low frequency with dark colours. We all generally make the assumption that there is a relationship between the two and that it *feels* right. However, explaining why this is the case

is more difficult. In his article 'Synesthesia-like mappings of lightness, pitch and melodic interval', Tim Hubbard writes that scientific tests as early as the 1940s demonstrated that 'auditory stimuli that are lower in frequency typically evoke visual sensations of stimuli that are darker, and auditory stimuli that are higher in frequency typically evoke visual sensations of stimuli that are lighter.'¹³ Hubbard goes on to demonstrate that:

A clear relationship was seen between the direction and size of an auditory melodic interval and the visual luminosity judged as best fitting with that interval. Lighter visual stimuli were judged to fit best with descending intervals. Additionally, the size of melodic intervals ... led to preferences for more extreme levels of lightness or darkness; specifically, visually lighter stimuli were preferred for larger ascending intervals than for smaller ascending intervals, and visually darker stimuli were preferred for larger descending intervals than for smaller descending intervals.¹⁴

This correlation was further refined in the work of Roy D'Andrade and Michael Egan, who demonstrated that 'colour-emotion associations were not due predominantly to hue ... but to the degree of saturation and brightness of the colour'.¹⁵ This difference between the saturation of a colour and its brightness can be seen in the emotional intensity that is inherent in the three paintings Mark Rothko produced in 1955–6, each comprising yellow, orange and gold. Although all three paintings comprise the same colours, the saturation of each differs radically. As a result, the paintings create a perceived intensity that ranges from a distant, almost transparent afterglow, to scorched desert sands in the heat of the midday sun.

Hubbard's use of the term 'synesthesia-like' is an interesting one. It can be suggested that much of our everyday experience results from the synchronous perception of the audio and the visual. The scientist and painter Bulat Galejev maintains that 'synesthesia is an essential aspect of language and, more

generally, of all figurative thinking, including all imaginative thinking for all kinds of art, including music.¹⁶ Daniel Levitin goes further, maintaining that:

At a very early age, babies are thought to be synesthetic, to be unable to differentiate the input from the different senses, and to experience life and the world as a sort of psychedelic union of everything sensory ... the process of maturation creates distinction in the neural pathways ... what may have started out as a neuron cluster that responded equally to sights, sound, taste, touch and smell becomes a specialised network.¹⁷

If we all, as is suggested, start out as being in some way synesthetic, why is it that in some of us this remains into adulthood while in others there is a clear separation between the senses? Ani Patel, in his ‘shared syntactic integration resource hypothesis’, demonstrates that an infant eventually creates dedicated neural pathways, but that these pathways in maturity may share some common resources.¹⁸ The different ways in which these neural pathways mature in each individual accounts for the differing colour associations of similar phenomena. One such example is in the association of musical keys with colours.

Although there have been numerous such tables produced over the past 300 years (Newton, 1704; Castel, 1734; Jameson, 1844; Bishop, 1893; von Helmholtz, 1910; Klein, 1930; and Belmont, 1944), many of which informed the production of colour organs and other such instruments, the comparison of two Russian composers, Alexander Scriabin and Nikolai Rimsky-Korsakov, working in the same cultural milieu at the turn of the twentieth century, will provide a useful example (see Figure 1.3).

It is conjectured that Scriabin was as much influenced by theosophist readings of colour as he was by any truly synesthetic perception of music and colour, while Rimsky-Korsakov is acknowledged as a synesthete. Another composer who was a synesthete is Olivier Messiaen (1908–92). Messiaen wrote ‘I see colours when I hear sounds, but I don’t see colours with my eyes. I see colours intellectually, in my head’. In the *Traité de rythme, de couleur, et d’ornithologie* the composer describes the colours of certain chords from ‘gold and brown’ to the more elaborate ‘blue-violet rocks, speckled with little grey cubes, cobalt blue, deep Prussian blue, highlighted by a bit of violet-purple, gold, red, ruby, and stars of mauve, black and white. Blue-violet is dominant.’¹⁹

Key	Alexander Scriabin	Rimsky-Korsakov
B major	Mid-blue/pearl	Dark blue
B \flat major	Dull deep pink	Darkish
A major	Green	Rose/pink
A \flat major	Lilac/light violet	Grey/violet
G major	Orange	Brown/gold
F# major	Bright blue/violet	Grey/green
F major	Deep red	Green
E major	Sky blue	Sapphire blue
E \flat major	Crimson	Grey/blue
D major	Yellow/golden	Golden/yellow
D \flat major	Intense violet/purple	Dusky
C major	Intense red	White

Figure 1.3 Scriabin and Rimsky-Korsakov: mappings of musical keys to colour.

As is clear from the differing colour charts of Scriabin and Rimsky-Korsakov and the writings of Messiaen, there is no single mapping of colour to sound that is universally agreed upon. While each composer is consistent to their own mapping, these mappings are highly individual. Such individuality does not invalidate the impact on the composer's work. Indeed it may even explain why certain composers create the work they do. The fact that each composer holds strongly to their own particular pairing of colour and key demonstrates Patel's shared syntactic integration resource hypothesis at work.

Messiaen's limited modes of transposition (essentially a series of uniquely constructed scales) and the predominance of symmetry in his work often eschew traditional notions of Western teleology. This allows the establishment of fields or chords of harmonic colour around which the other musical materials radiate or emanate. This formal application of the synesthetic correlation of colour/music is seen even more overtly in the work of the American composer Michael Torke. Torke, in an interview with Geoff Smith, says:

I had always had a synaesthetic reaction to music which I felt was a personal and maybe even dangerously indulgent thing even to talk about: someone taught me that to create a form you have to establish a frame of reference like establishing a room, and then you move out of the room and return to it somehow ... then I thought if you're in a room and there's a party going on, why would you want to leave it? Couldn't you create some kind of form where you never leave? And then the idea that, if you found a harmony that associated with a colour, you could never choose to leave that harmony; the piece would then be about that colour, or the colour would identify the building block I decided to use.²⁰

In the work of Torke we find synesthesia not merely informing the particular harmonic makeup of chords (as in Messiaen) or in keys

(as in Rimsky-Korsakov) but determining formal aspects of the work. If harmony – traditionally the structural driving force of a work – remains static, then other parameters must be brought into service to propel the logic/fabric of the music.

In the *Shibusa* collaboration there are harmonic centres at work that are derived from Dickens' sketches and paintings as well as traditional Japanese objects. *Shibusa* is a Japanese word that defies simple translation into English. *Shibusa* is a positivist universal beauty; it is a term that refers to a particular aesthetic of simple and understated beauty, which nevertheless is sophisticated and somewhat austere – a 'concept [that] revolves around the skillful blending of restraint and spontaneity'.²¹ Harada writes that *shibusa* 'is that quality which is quiet and subdued. It is natural and has depth, but avoids being too apparent, or ostentatious. It is simple without being crude, austere without being severe. It is that refinement that gives spiritual joy.'²² Within this aesthetic, particularly in Japanese crafts, *shibui* objects appear initially to be simple but on further inspection reveal a wealth of detail that balances overall simplicity with more detailed inner complexity. It is this carefully designed balance of simplicity and complexity that enables the continued appreciation of the *shibui* object.

In an interview for the magazine *House Beautiful* in 1960, Yanagi S etsu, late director of the Museum of Folk Crafts in Tokyo, defined *shibusa* in terms of seven attributes:

- simplicity;
- implicitness (the intrinsic meaningfulness of the *shibui* object to avoid it being superficial);
- modesty;
- tranquillity;
- naturalness (if too much self-consciousness or artificiality is displayed then the object cannot be *shibui*; David and Michiko Young write that: 'some of the best ceramic artists in Japan create pots that look uneven. They have an "imperfect" quality that results from allowing the clay to grow spontaneously on the wheel instead of

forcing it to conform completely to the hands'²³);
 normalcy (*shibui* art is a positivist art that does not countenance deformation and abnormality);
 imperfection (David and Michiko Young write that 'because *shibui* objects are natural they often have irregular textures. Bizen pottery provides a good example. The Bizen potter often leaves irregularities in the clay, such as small stones, that project from the sides of the pot or leave small pits on its surface'²⁴).

Shibui objects may include various textile products whose design is the result of using *katagami* stencils in the printing process. The colours of *shibusa* are often muted, earthen or dark. For example, in interior decorating and painting, grey is added to primary colours to create a silvery effect that ties the different colours together into a coordinated scheme. *Shibui* colours range from pastels to dark hues, depending on how much grey is added. After much experimentation with sounds from a broken piano – initially an important conceptual link with Dickens' 'destroyed' brushes – I returned to my original instrument, the clarinet. The timbral similarity of all the final compositions, achieved through using the clarinet as a source for further electronic processing, acts as the grey that ties the different colours together. Even though some of the processed sonic material ends up quite different from the original clarinet sounds, there is still the spectral trace of the original. This trace comes about from the acoustics of the clarinet itself. By developing a binding family of processed sounds from clarinet samples, this provides a 'bed' for the real clarinet to produce different contrasting timbral colours around it.

The clarinet itself has a particularly mellow, deep, chalumeau register, a rounded mid-register and a bright upper register. For me, the clarinet creates a range of colours: the lower chalumeau register is purple, the mid-range clarino register is green and the high altissimo register is yellow. The reason I perceive these ranges as having different

colours, rather than the clarinet per se as having a particular tonal colour, is in part due to the harmonics that the instrument produces in each of the registers. In the lower register the fundamental tone and odd harmonics are emphasised, with the even harmonics being weak. Moving into the mid-range of the instrument, the even harmonics start to become stronger – changing the tone of the instrument. In the upper register the strength of the even and odd harmonics is virtually equal.

Like Rothko's use of colour saturation in the trilogy of yellow, orange and gold paintings of 1955–6, so in *Shibusa* changes in the intensity of breath pressure when playing the clarinet can alter the sound significantly. The instrumentation, pitch range, dynamic range and textural counterpoint are all thus derived from visual stimuli. What is not derived from Dickens' paintings is the form of the work. This is due to the fact that musical time implies very different formal considerations from those that determine the construction of paintings. Here Jean-Pierre Ternaux's words echo loudly – the mechanisms for creating a visual formal balance in a two-dimensional a-temporal artwork cannot simply be transplanted to a temporal medium such as music. This does not mean, however, that the painting cannot stimulate the composer to rethink musical form in the light of the processes at work in a painting.

Formal considerations

Although not a result or synesthesia, there are a number of composers who have also developed different approaches to form as a result of the engagement with painting. The American composer Morton Feldman and the English composer Bryn Harrison both view their manuscript paper as a frame to be subdivided in time, just as a painter will subdivide the canvas. Feldman's late works (in their original form) all use the same format of nine bars to a page – in some instances using a symmetrical layout of repeat marks from page to page and never letting a repeated section spread across a page. Similarly, Harrison divides his page into irregular-length bars

and continues this same page layout for the whole composition. The manuscript page becomes a visual means of organising sound in time. Harrison has said that:

I treat a bar not as a unit of emphasis but as a space in which to contain the musical material. It is a visual space, really. There is a visual identity to the music that is not directly heard but has an implicit effect on what you hear.²⁵

A number of painters and techniques have influenced Harrison's compositional thinking, including Robert Rauschenberg, Agnes Martin, Brice Marden and Bridget Riley. For Harrison, the work of the latter two painters in particular conveys an allusion to nature and natural forms, but nature presented in an abstract manner – the essence of nature rather than trying to depict something from nature itself. Harrison comments that:

I've always been interested in what a still image can convey in the way certain painters have sought to encapsulate a sense of movement in stasis. I'm interested conversely in what you can do with sound in that there is always getting from one point to the next in music, but how you can nonetheless convey a sense of stasis or rested motion through music almost to

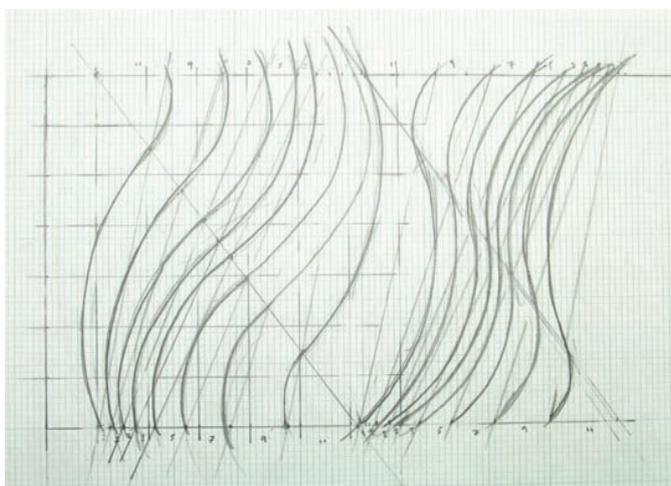


Figure 1.4. Harrison, *Six Symmetries*: sketches for 'Riley' curves. Reproduced with permission, © Bryn Harrison

present music that steps outside of time as a conscious linear progressive construct.²⁶

In Harrison's *Surface forms (repeating)* (2010) there is a conscious attempt to convey a sense of structural stasis through a density of surface detail. Shards of melodic figuration surface momentarily but are reabsorbed into the interwoven musical fabric, before then become perceptually individuated. There is little sense of evolution of the material in any traditional sense; rather, the compositional structure is constructed from temporally asynchronous instrumental 'loops' (with subtle alterations between each instance of the loop) – for example, the vibraphone and harp repeat a 40-second passage whereas the vocal loop spans over a third of the piece. This approach stimulates a sensation in the listener similar to that of looking at a monochromatic painting. Harrison's influence for this method of working is the series of *White Paintings* (1951) by Robert Rauschenberg. Harrison, like Rauschenberg, is aiming to express pure experience rather than figuration.

Such an approach prompted fellow composer Nicholas Williams to comment that 'I like what I hear, but I am not sure what I am listening to'.²⁷ For Harrison, this is an interesting response. He comments:

I think more texturally – if texture is the main thing you're listening to and a fluidity of cycles that continually return, then what are we listening to? It is about experiencing that sense of stasis, the sense of suspended motion – a state of flux.²⁸

In his *Six Symmetries* (2004) for large ensemble, Harrison draws directly on the structures of Bridget Riley. In the second movement of the work Harrison uses a curvilinear grid derived from Riley's use of arcs on a sixth of a circle to determine the entry of the instruments (see Figures 1.4, 1.5 and 1.6). Harrison, in a discussion of the influence of Riley on his work, has said:

What you see is beautiful and organic despite its detailed construction. They [Riley's paintings] seem quite simple,

but when you start to break them down and go in you find all sorts of relationships between things within them. It's work that warrants a long time of looking ... The way colours converge along narrower lines creating the sensation of a third colour that hasn't been painted but is nevertheless perceivable is something that interests me. This concept comes through in the music in the way in which pitches converge to produce an incidental harmony.²⁹

Although Harrison is strongly influenced by painting, *Six Symmetries* is the first piece in which he consciously tried to recreate the technique used in a painting in one of his compositions. Harrison comments that:

I was interested in seeing what kind of harmonic correlation it would produce through sound, the way the curves bunch up and separate in places. It is another way of working with rhythmic placement that allows me to step back from the process. Up to that point I had used a lot of number sequences to determine duration – using rhythmic points that get closer and move away from each other, then superimposing those to create different levels of density. Using Riley's techniques was another way of creating a canonic rhythmic form that was out of my control. I like the way that the canonic lines would get ahead of each other, sometimes behind, sometimes converge. I've since absorbed this elongation and contraction of rhythmic material from Riley as another technique into my working method – I don't need to use number systems to do that any more.³⁰

In Harrison's work, painting is thus a stimulus to think about musical materials in new and novel ways. His concern to create the sensation of stasis in a time-based medium, the density of his orchestration to create a kaleidoscopic surface layer of instrumental detail and his use of rhythmic canons all stem from his consideration of painting techniques – not solely the resulting image, but the process that is used to create that image.

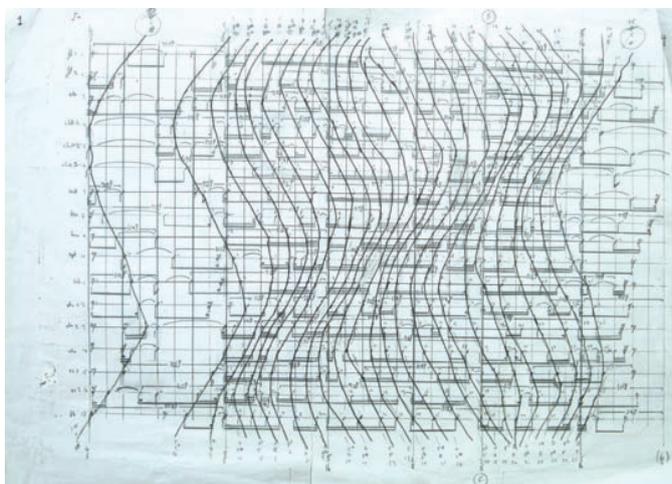


Figure 1.5 Harrison, *Six Symmetries*: 'Riley' curves on rhythmic grids. Reproduced with permission, © Bryn Harrison

Figure 1.6 Harrison *Six Symmetries*, movement 2, page 17: 'Riley' curves as they appear in the completed score. Reproduced with permission, © Bryn Harrison

The American composer Aaron Cassidy is another for whom painting suggests not merely a prompt for different ways of thinking about music but a complete re-evaluation of the nature of composition and the relationship between the composer, performer and audience. Cassidy's recent work has been profoundly influenced by the work of Francis Bacon, particularly when refracted through Gilles Deleuze's text *Francis Bacon: The Logic of Sensation*. Bacon's unconditioned, unfiltered pure physicality and Deleuze's exquisitely written philosophical critique of the paintings are both reflected in Cassidy's music – a multilayered, highly intellectualised complex music that celebrates the raw animality of the human condition. As such, it is a resurgence and development of expressionism. The music is not trying to express emotive states, but rather it is trying to perform sensation:

Bacon constantly says that sensation is what passes from one 'order' to another, from one 'level' to another, from one 'area' to another. This is why sensation is the master of deformations, the agent of bodily deformations ... The violence of sensation is opposed to the violence of the represented.³¹

This desire for the artwork itself to be the object of sensation rather than the conveyor of sensation is fundamental to Cassidy's work and is implicit in the manner in which he chooses to 'notate' his music in the score. In Cassidy's scores there are no traditional 'notes' – no specific denominators of frequency. In his compositions the score assumes a role very unlike that in traditional classical music. In traditional scores there are indications of pitch, rhythm and dynamics conveyed through a symbolic notation that has been codified and refined for centuries. Practised musicians can 'read' a score and form an impression of the music. In such scores the physical actions of the performers are rarely specified – though we have become used to view the expressive movements of a concert pianist as cues for our emotional understanding of the music. Cassidy's scores propose these physical gestures as the starting point for the music

itself. Instead of taking a rhythm or a set of pitches and subjecting them to developmental transformations, in Cassidy's scores there is a notation for physical gestures that decouples the mouth, the fingers and other means of sonic production, resulting in a series of bodily actions that can be isolated as units of performative action and deformed – just as Bacon deforms his material through the process of smearing. The score thus presents not a traditional notated score for performance but rather a call for choreographed actions from which the sound will result. Cassidy has commented that:

The original materials of my compositions are bodily and gestural. I see those gestures as already being musical – not just having a musical significance, but as physical actions that have a musical identity. I take those gestures and map them on to different surfaces, instruments and different kinds of resistance, so they generate different kinds of sonic results.³²

Cassidy's ensemble piece *And the scream, Bacon's scream, is the operation through which the entire body escapes through the mouth* (2010) takes Bacon's *Three Studies for Figures at the Base of a Crucifixion* (1944) and subjects it to structural, figural and philosophical analysis to inform all aspects of the composition. In the composition there is a specific seating plan that is influenced by Bacon's treatment of perspectival depth in his triptych. The trumpet–trombone and oboe–clarinet duos form an inner ring. A secondary ring is formed from a trio of violin, viola and contrabass. The third outer ring comprises harp and percussion. This arrangement is directly drawn from the planar arrangement of elements in the paintings. Deleuze writes:

A round area often delimits the place where the person – that is to say, the Figure – is seated, lying down, doubled over, or in some other position. This round or oval area takes up more or less space: it can extend beyond the edges of the painting or occupy the center of a triptych.³³

Bacon isolates the Figure, often by placing it inside a cube or precipitously perching it on a curved bar. In *And the scream*, Cassidy has two instrumental duos that act as soloists, essentially as the Figure. Although there is a clear hierarchy between these ‘solo’ and the ‘hyper-instrument’ lines in the ensemble, there is always a sense of fluidity or flux between these layers. As gestures are deformed and weave through the ensemble parts, so the relationship between the solo and hyper-instrument lines is constantly being reconstituted. Deleuze discusses the planar non-perspectival aspect of Bacon’s painting, writing that:

The rest of the painting is systematically occupied by large fields of bright, uniform, and motionless color. Thin and hard, these fields have a structuring and spatializing function. They are not beneath, behind, or beyond the Figure, but are strictly to the side of it, or rather, all around it, and are thus grasped in a close view, a tactile or ‘haptic’ view, just as the Figure itself is. At this stage, when one moves from the Figure to the fields of color, there is no relation of depth or distance, no incertitude of light and shadow. If the fields function as a background, they do so by virtue of their strict correlation with the Figures. *It is the correlation of two sectors on a single plane, equally close ...* He distinguishes three fundamental elements in his painting, which are the material structure, the round contour, and the raised image.³⁴

In a discussion of the formal arrangement of the ensemble and how this affects the material of the piece, Cassidy has stated that:

One of the ideas for the piece from the very beginning was the instability between foreground and background – each of the three layers has a different function and relation to material types. The first layer of soloistic material has largest dynamic range. The second layer has a lesser dynamic range and all the materials in this middle realm are recombining physical gestures from the foreground layer – so

material from trumpet and slide [trombone] might now appear in the left-hand motion of one of the strings, or fingering patterns in the clarinet end up as fingering patterns in the contrabass. The middle layer instruments are doing this modelling of gestures that have appeared before but now with different articulating layers. The background layer is a stretched version of materials that have appeared before. On top of this physical layout each player has their own set of foreground/background roles – the use of mutes on strings and brass provide additional layers of compression of sound independent of their foreground–background role in the ensemble.³⁵

Cassidy’s treatment of his musical material is clearly derived from Deleuze’s discussion of the Figure – the Figure that is ‘contracted and aspirated, sometimes stretched and dilated’.³⁶ This treatment of materials can be seen in the examples from Cassidy’s own analysis of his work below. What is important to emphasise is that this manner of treating material – the deformation of physical gestures that act upon an instrument – often results in a radically different sonic outcome from the original.

Figure 1.7 clearly shows the decoupling of physical gestures. In this example the bowing indications appear on the upper stave and the position on the fingerboard in the lower stave.

In Figure 1.8 each line of the upper and lower stave are assigned to a finger hole or key on the oboe – the different blocks indicating fully closed/open finger holes and a number of stages in between.

In Figure 1.9 the gestural material in the contrabass comprises a stretched version of the viola’s bowing figuration: a deformed version of the viola’s fingerboard material from Figure 1.7 and a stretched and deformed version of the oboe’s fingering patterns from Figure 1.8.

In *And the scream*, as in Harrison’s *Surface forms (repeating)*, there is an intentional self-similarity in the timbral palette across the whole duration of the piece. Despite the radical aural difference, both works are deliberately amorphous and formless. In

Figure 1.7. Cassidy, *And the scream*, viola (solo), bars 46–8.

Figure 1.8 Cassidy, *And the scream*, oboe (solo) bar 50.

Figure 1.9 Cassidy, *And the scream*, contrabass (ensemble 'hyper-instrument' material), bars 52–4.

Harrison's work the asynchronous loops create a constantly shifting surface texture that 'hovers'. In Cassidy's work the multiple layers of physical action interact with one another in different ways at different times. The sonic result is the violent collision of independent layers of activity. Cassidy states that in *And the scream*:

This happens across nine instruments that are structurally not aligned – you get these constant fluttering shifts of timbre and gesture. This is happening in Bacon's work too – the sense of two or even four physical motions attempting to happen simultaneously and the smearing is the result.³⁷

Cassidy's re-evaluation of musical material, notation, structure, physical gesture and stage presentation extends far beyond any previous consideration of the relationship between music and painting. In combining the intellectual critique of Deleuze and the treatment of the body from Bacon, Cassidy has developed a startling and unique musical approach that would be impossible without Bacon's original paintings.

While *Shibusa* does not present such a radical re-evaluation of musical materials as Cassidy's compositions (such a re-evaluation would not be appropriate for a work informed the aesthetics of *shibusa*), nevertheless, the music is aesthetically and materially governed by the concepts and processes that underpin the creation of *shibui* objects. Following an examination of *katagami* stencils and the manner in which they were used to produce certain effects when printing on textiles, Dickens and I arrived at four fundamental models on which to base our work:

- the smudging and blushing of colours and motifs into one another – something that is drawn predominantly from Japanese kimono designs;
- the layering of different patterns on top of one another and allowing certain aspects of one or another layer to come to the fore at determined points;

repetitive patterns that are imperfect and are interrupted – the idea of lines breaking and reforming to give gestalt good continuation; the repetition here is not always exact, reflecting the human hand rather than the use of the machine to create repetitive patterns (there is a peripheral analogy here to the inexact grids in the paintings of Agnes Martin); interlocking linear motifs that are clear in their group trajectory but remain independent lines.

The resulting music of *Shibusa* is thus the result of reflection on the inherent qualities of *shibui* objects; the pastel-dark hues predominant in *shibusa* mixed with a binding grey; the four models outlined above; and finally the sketches and paintings of Dickens.

Although our conceptual starting point is similar, it is clear that the processes that Dickens and I initially go through to develop work is different. Dickens' approach is to explore through countless sketches the ideas and concepts around which the work is based, often superimposing computer drawings and painted fragments to create hybrid digital sketches. It is upon reflection of these sketches that certain ideas and concepts come to the fore and can then be reviewed to be explored further in numerous complementary ways. These sketches form the foundation from which to generate further ideas for paintings in the studio. None of these sketches is simply replicated, as the process of painting itself suggests new alternative possibilities. For me, compositional sketches are never merely ideas for something else, but rather they become more and more refined until they are integrated into the final composition. Finding the correct instrumentation is essential to the compositional process and itself informs the way in which the material is developed.

Another difference in our working method concerns the framing of time or the picture. When I first showed Dickens the temporal framework at play in the first part of the work there was an initial shock at the means by which this was arrived. Whereas Dickens develops her paintings intuitively from a pool

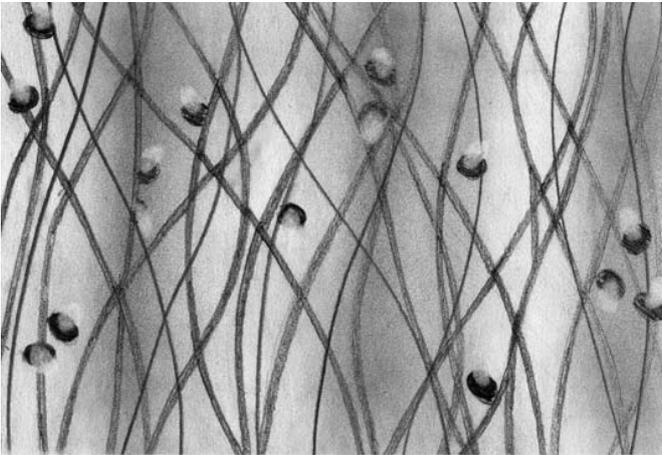


Figure 1.10 Dickens, example pencil sketch towards *Shibusu* paintings.

of initial ideas, the four compositions that make up *Shibusu* work have a simple but predetermined temporal frame. The term ‘frame’ is important. In *Shibusu* timings are used in a manner akin to Harrison’s and Feldman’s framing of the page by a certain number of bars. In painting there are some pre-considerations given to the size of the painting even before a single brushstroke has been made, involving the stretching and priming of the canvas itself. Similarly for me the way in which I start a composition is to establish limits – essentially a frame. These limits are often to do with the overall balance and shape of the composition rather than specific details. In an interview in 1997 I likened my process of composition to a puzzle – one in which the overall shape of the pieces was determined but the details of the picture itself was not preconceived.³⁸ The important thing to note in this process is that I do not simply inject my materials into this a priori structure. The final musical composition is arrived at via empirical means. Adjustments to structure, flow and internal balance are continually made as the details of the composition unfold.

For me, the seven attributes of *shibusu* can be split into two, reflecting the more tangible and less tangible concepts at work. The first group comprises *simplicity*, *implicitness*, *modesty* and *tranquillity*. The second group comprises *naturalness*, *normalcy* and

imperfection. The concept of seven-ness and its split into groups of three and four is fundamental to the temporal and structural parameters of *Shibusu*, both on a macro and micro level. The lengths of the four pieces are derived from the lowest whole number ratio of the 3:4 ratio (9:12), resulting in pairs of movements with lengths of 9 and 12 minutes.

In *shibusu I – (sendai threnody)* the interweaving ribbon-like motif that occurs frequently in Dickens’ paintings and sketches was taken as a starting point (see Figure 1.10). Unlike Harrison, who took the arcs in Bridget Riley’s paintings to configure strict points of rhythmic entry, I took the encircling of one line by another to express long melodic lines, each following their own trajectory. At points they cross and coincide. At other points the trajectory of the lines is momentarily interrupted. Rather than create a composition within a strict tempo scheme with contrapuntal lines, numerous improvisations were recorded on clarinet in the studio. These free asynchronous lines were then reassembled and edited in a multi-track editor. As a result, the lines hopefully convey a sense of naturalness, normalcy and imperfection, rather than being too self-consciously crafted. All the melodic material is also governed by the intervals of the third and the fourth, as well as their inversions – the fifth and the sixth. As a result of focusing on only four main intervals, the melodic line continually reorders and reworks this small pool of material to create a strong sense of unity that is both intrinsically simple but complex in its multiple possible outcomes.

In *shibusu II – (entangled symmetries)* the concept of seven-ness is again structurally important. The overall structure of the work was derived from a two-stage process. The first stage was to develop a foundation in which the relationship of 3:4 is fundamental. It was decided to have three sections of material with a fourth as a coda. The interval ratio of 4:3 is that of a fourth. So each of the three sections rise a fourth, using the same sonic materials as their foundation. As a result of each section rising a fourth, the temporal relationship between each section can be expressed in compound 4:3 ratios – 16:12:9. Each section also divides internally

by the ratio of 4:3, as there are two iterations of related material in each section. The density of material also increases throughout the sections from roughly 9:12:16 sonic layers, although this was eventually determined more intuitively. Thus the most complex sonic interaction occurs in the third of the four sections of the composition. In this composition the principal concepts at work are those of irregular repetition, interrupted trajectories, the seeping of one sonic layer into another and the occlusion of layers of material.

shibusa III – (kyoto roughcut) has a structure that is split into two main sections with the ratio 4:3 – the first section is characterised by interruptions of linear trajectories and the continual ‘smudging’ or ‘blushing’ of one gesture into another. The latter section is characterised by noise-based looping figurations.

The final part of the work, *shibusa IV – (permutations)*, again draws on the interlocking ribbon motif from Dickens’ paintings, but does so on a more conceptual level. I wanted the final part of the work to be as simple as possible – essentially a melodic figure that repeats over and over, with each repetition being subtly different. Having tried and rejected a microtonal melody for being too ‘affected’, I recalled the change ringing techniques I had heard so often as a boy chorister. Change ringing differs from other forms of bell ringing in that there is no attempt to make a melody – merely the ringing of the bells in a preordained mathematical permutation. This technique is inherently simple, beautiful, rigorous and without affectation. I chose to use the simplest pattern ‘Plain Hunt’, using six tones (two sets of three). The resulting permutation is shown in Figure 1.11 (the ‘1’ is shown in bold to demonstrate the weaving ribbon effect).

1 2 3 4 5 6
2 1 4 3 5 6
2 4 1 6 3 5
4 2 6 1 5 3
4 6 2 5 1 3
6 4 5 2 3 1
6 5 4 3 2 1

5 6 3 4 1 2
5 3 6 1 4 2
3 5 1 6 2 4
3 1 5 2 6 4
1 3 2 5 4 6
1 2 3 4 5 6

Figure 1.11 Change ringing permutations for ‘Plain Hunt’.

This technique resulted in 12 permutations of the basic sequence. This was split into two groups, one comprising five permutations and the second comprising seven permutations (this is almost equivalent to a 3:4 ratio). Each permutation was then written so that ‘1’ started each permutation and wrapped around back to the beginning to finish the sequence –

Figure 1.12 Permutations of the initial six-note cell used in *shibusa IV – (permutations)*.

so [3 5 1 6 2 4] became [1 6 2 4 3 5] and so on (see Figure 1.12). The first set of five permutations is presented exactly. The second group is presented with occasional changes of phrasing; for example, instead of two groups of three notes, the phrasing is sometimes changed to a group of three and a group of four notes. As a result, the phrasing ends up crossing from one permutation to another.

The changes in the second set of permutations reflect both the idea of ‘imperfection’ in *shibui* objects and also the notion of complexity in simplicity – a simple idea becomes more complex in its presentation through subtle shifts of phrasing, even though the ‘object’ (in this case a permutation of notes) has not changed at all.

Temporality in *Shibusa*

In this last section of the work, the listener first attends to the shape of the melodic phrase and perceives a sense of closure after each of the first few occurrences. However, as the figuration is repeated over and over, this sense of closure is lost. The experience becomes one of stasis, of viewing the same object over and over from different perspectives. The sonic material essentially becomes directionless, devoid of predictable change, and creates an auditory aura perceived as continuing ‘present’. This sensation of directionlessness in music is what the philosopher Don Ihde terms ‘surroundability’. Gordon Fitzell, discussing Ihde’s concept, writes that:

The concept refers to an enveloping sensation or ‘auditory aura’ that emanates an ‘ambiguous richness of sound’ ... From the perspective of temporal experience, surroundability constitutes the opposite of directionality. Whereas directionality refers to a perception of predictable change along a particular dimension, surroundability refers to an experience devoid of predictable change. Within such a perception, the onset of each event is ‘enriched by the depth of those [perceived events] which have just preceded it “equally” present’.³⁹

Prior to the emergence of the Darmstadt avant-garde in the late 1940s and early 1950s, musical time was considered to be primarily linear, centred on the teleology of tonal structures. Many electronic and instrumental works still follow this notion of musical linearity, defined by Bob Snyder as ‘a metaphor of physical causation ... an attempt to make musical events seem to cause each other’.⁴⁰ In the post-war era there have been numerous composers who have considered alternative modes of temporality in their work. Pierre Boulez wrote that:

A composition is no longer a consciously directed construction moving from a ‘beginning’ to an ‘end’ and passing from one to another. Frontiers have been deliberately ‘anesthetized’. Listening time is no longer directional but time-bubbles, as it were.⁴¹

Stockhausen formulised this thinking further in his concept of ‘moment form’,⁴² while Morton Feldman aimed at a disorientation of memory through constant changes in short fragments of material. To understand how compositions such as *Specification.Fifteen* (2006) by Richard Chartier and Taylor Deupree, the *monochromes* series (2009) by the electronic music duo Tu M’, and the works of Eliane Radigue and Bryn Harrison extend the traditional linear concepts of temporality, it is useful to consider them in relation to Edmund Husserl’s exploration of experiential time.⁴³ In his theorising on the structure of consciousness, Husserl developed the notion of a subjective time-consciousness that is distinct from objective time. Within this framework, Husserl developed the notion of ‘inner time-consciousness’, the main focus of this being an individual’s ‘temporal span’ – essentially how one’s memory stores information through time. Husserl maintained that the temporal span comprises three main parts that are inseparable: primal impression, retention, and protention. Fitzell writes that:

Devoid of substantial directionality, a nonlinear temporal experience permits

no protentions of closure, only nondirectional protentions of continuance. Unlike linear music, which features readily apparent and often predictable temporal trajectories, nonlinear music curtails a listener's ability to anticipate conclusion. The effect is one of enduring present awareness.⁴⁴

What the last movement of the work, *shibusa IV – (permutations)*, presents is an extreme case of perceived parametric consistency; continuity that Thomas Clifton refers to as 'sameness succeeding itself'.⁴⁵ This sensation of stasis is perceived because of the repetition of small melodic phrases. In the second part of the composition, *shibusa II – (entangled symmetries)*, there is a local sense of moment-to-moment progression. Due to the large-scale tripartite repetition of the opening material the listener is unaware of the remaining duration – the repetition of material that rises a fourth at each occurrence could continue indefinitely. However, in this process, the listener remains aware of local duration, sensing no protentions of closure but instead a continuity of 'phases' rather than a teleological progression.

In choosing to present the music in this atemporal manner, allied to the focus on irregular repeating patterns, the 3:4 ratio and concept of seven-ness, imperfection, simplicity and asymmetric forms, there is a suggestion of what Yanagi S etsu terms 'scars and spontaneous irregularities'⁴⁶ and 'beauty with inner implications. It is not a beauty displayed before the viewer by its creator; creation here means making a piece that will lead the viewer to draw beauty out of it for oneself.'⁴⁷

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