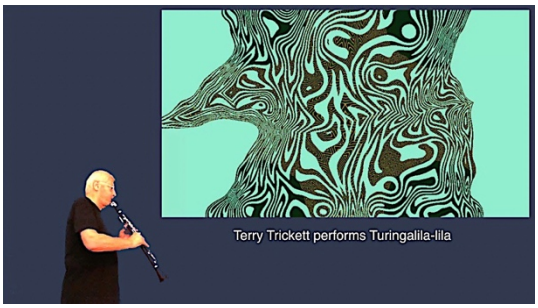
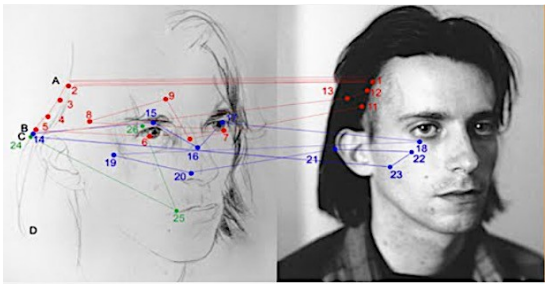
RÉSUMÉ FOR TERRY TRICKETT:
An explanation of how and why I produce my Visual Music pieces.

Making Music Talk: an Introduction to Terry Trickett's Visual Music https://youtu.be/QLtlKmjN_R0



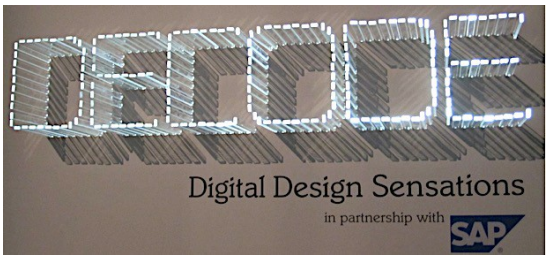
The themes I select for my Visual Music presentations and performances, encapsulate a disparate set of interests and ideas that, more often than not, have been latent in my mind for quite some time. These ideas range far and wide, usually stemming from my past or current activities in music, art and science, design and architecture. Always, in creating a piece of Visual Music, my aim is to share and communicate my idea through a process which combines moving visual imagery with musical performance, usually on solo clarinet.

My activities in digital art have been influenced, in part, by my work as an architect and designer but, also, by my involvement, over many years, in an initiative that succeeded in bringing the disciplines of science and art closer together. With the Wellcome Trust, I invented and instigated a wide-ranging project (Sci-Art) in which scientists and artists, working in partnership, were encouraged to pool their ideas and, thereby, maximise each other's creative potential. This project ran with considerable success for 10 years (1997 - 2006).



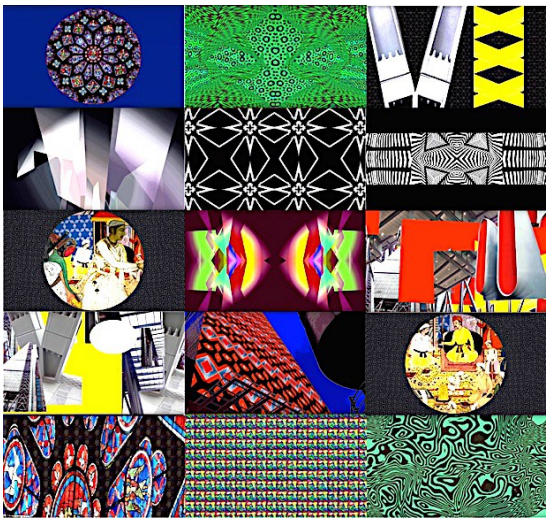
https://sites.google.com/site/researchthelegacyofsciart

It's this interest in the dual worlds of art and science that pervades my cross-disciplinary approach towards creating Visual Music. The method I adopt in harnessing together music and digital imagery was sparked off by a visit to the V&A's Decode exhibition, in 2010, when I became aware of the opportunities offered by coding. At the exhibition, many works were built with Processing – an advanced program for creating movement – which led to me learning the techniques involved and then extending these skills into the realm of Visual Music.



The pages that follow contain illustrated synopses of just a few of my Visual Music pieces. These serve to pinpoint not only my method but, also, to provide some insight into what I'm aiming to achieve. The illustrated synopses contain:

- A summary of each piece's storyline
- Details of the musical composition on which it's based
- The time required to present and perform the work
- Locations of where the piece has been presented and performed so far
- Links to online presentations / performances



My Visual Music pieces have relevance at more than one level of interest and understanding; sometimes, they are primarily musical; at other times, my aim is to tackle a difficult subject or to put forward a controversial point-of-view. More often than not, the title and thrust of a piece changes radically as it is developed over time and as it is adapted for presentation and performance at various locations.

A number of papers have been published as a result of my presentations and performances of Visual Music Here are the links to papers available online:

Revealing the Colours of the Apocalypse through Visual Music

http://ewic.bcs.org/upload/pdf/ewic_eva16_m1_paper1.pdf

'Turingalila' Visual Music on the Theme of Morphogenesis in Evolutionary and Biologically Inspired Music, Sound, Art and Design (pages 218 – 224) published by Springer (only preview available online)

http://www.springer.com/gb/book/9783319310077

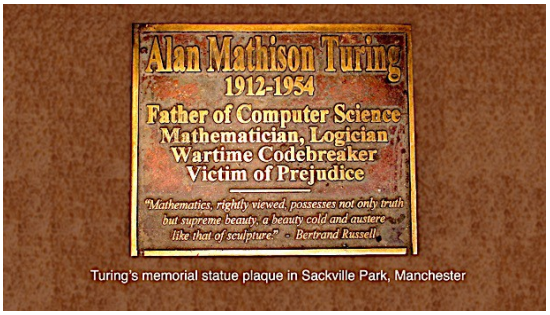
Ragatime: Glimpses of Akbar's Court at Fatehpur Sikri

http://ewic.bcs.org/upload/pdf/ewic_eva17_ic_paper4.pdf

TURINGALILA: VISUAL MUSIC ON THE THEME OF MORPHOGENESIS (synopsis)

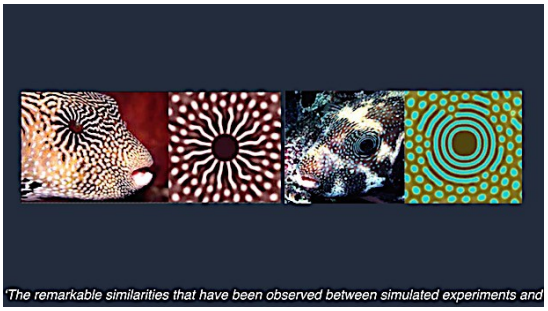
Presentation + performance time: 22 minutes

In the last years of his life, Alan Turing was concerned in the growth and form of living things - ie. the science of morphogenesis. (It's not mentioned on his memorial plaque.) Turing submitted a paper on the subject to the Royal Society in 1952. It was called The Chemical Basis of Morphogenesis. Almost 60 years later, it's now becoming evident that Turing's insights into the nature of growth and form give promise of transforming our physical well-being and the environment in which we live. It's a huge achievement for which he received no credit in his lifetime. Turingalila is an attempt to set the record straight.

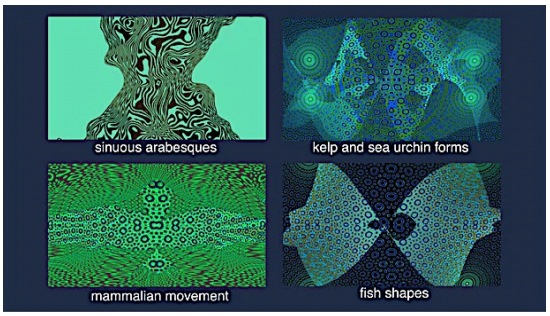


Turing's memorial statue plaque in Sackville Park, Manchester

Mathematical equations lie at the heart of Turing's paper. And it was these equations that provided the proof of his reaction-diffusion system. But it took many years – 40 years, in fact – before Turing Patterns were first observed in laboratory experiments. These revealed remarkable similarities between simulated patterns and the real markings of fish and birds; results which pointed strongly to Turing mechanisms as an underlying principle of biological patterning. Now, these ideas are not only regarded as credible but we are beginning to appreciate the full implications of his amazing insight.


'The remarkable similarities that have been observed between simulated experiments and

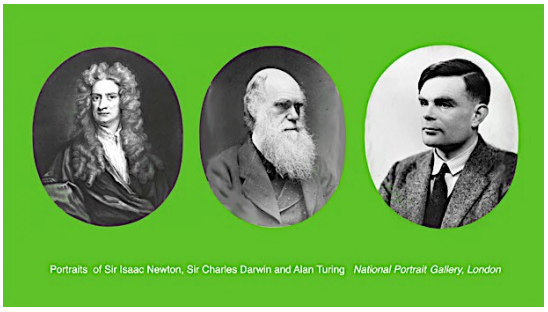
In creating a piece of Visual Music illustrating Turing's morphogen theory, my approach has been to perturb just two Turing Patterns – a hexagonal stripe pattern and a hexagonal spot pattern - in all sorts of ways to engender a process of continuous change and regeneration. The result is serial imagery which I've then matched against the serial patterns of notes in Germaine Tailleferre's Sonata for Solo Clarinet. During my performance of the piece, an extraordinary diversity of forms emerges seemingly spontaneously from my image sequences; It seems I've discovered a purposeful tool for simulating natural processes.



Turing, himself, I think, would have taken delight in such a result, if only he'd lived in today's digital world; it would have exemplified his conviction that complex biological growth can be achieved via simple natural mechanisms. But, even now, not everyone agrees; it will take hard-nosed scientific proof to dispel doubts and scepticism towards Turing's theory. Fortunately, such proof is beginning to emerge. Biologists are now finding out what the mysterious morphogens are. They have been able to identify the actual chemicals at work and, in the future, they may be able to use this knowledge to improve regenerative medicine.

Jeremy Green, Professor of Developmental Biology, King's College, London. 2012

Turing's global impact on science is now recognised. President Barack Obama, when he addressed the UK parliament, in 2011, singled out Isaac Newton, Charles Darwin and Alan Turing as British contributors to science. At last, Turing has taken his rightful place alongside the great scientists of all time but, of course, this is primarily in recognition of his achievements in computer science and mathematics. My purpose, in bringing the worlds of art and science together in the form of Visual Music, is to shine a light on the, as-yet, unexplored possibilities offered by Turing's morphogen theory.


Portraits of Sir Isaac Newton, Sir Charles Darwin and Alan Turing *National Portrait Gallery, London*

Presentation / Performance locations:

2016: Balance Unbalance, Colombia
2016 EvoMUSART, Porto, Portugal
TURINGALILA: Visual Music on the Theme of Morphogenesis

https://youtu.be/M4kI8WMaov8

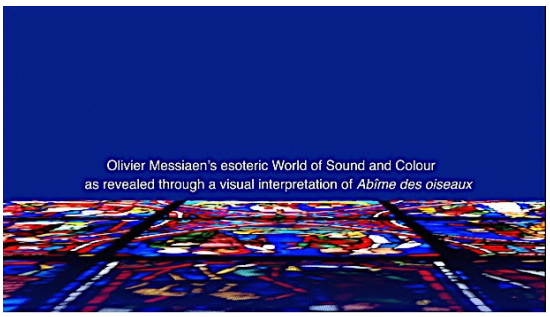
TURINGALILA-LILA: Visual Music celebrating the 'play of creation' in science and art

https://youtu.be/rfUMYPLdAEc

OLIVIER MESSIAEN'S ESOTERIC WORLD OF SOUND AND COLOUR (synopsis)

Presentation + performance time: 22 minutes

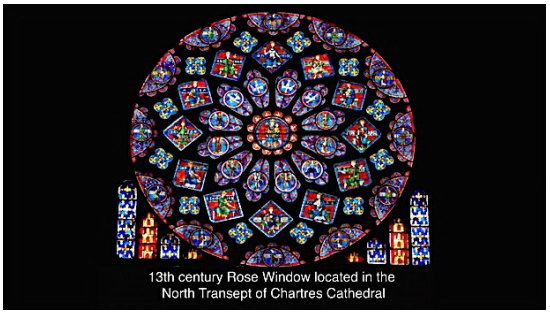
Olivier Messiaen lived in a world of sound and colour. During his life's work as a composer, he revealed much about his sound world but remained comparatively reticent about his world of colour. For the most part, therefore, listeners to his music remain oblivious to the fact that the composer's sensing of colour acted as a significant source of inspiration. But, I wonder, is it just possible that a visual interpretation of his music can throw some light on Messiaen's very individual form of synaesthetic perception? That's the challenge I've set myself in producing a visual interpretation of just one of his compositions: *Abîme des oiseaux* for solo clarinet.



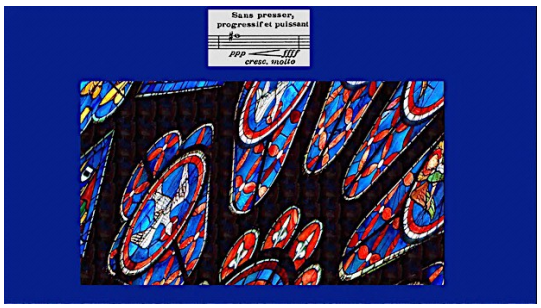
When, early in the Second World War, Olivier Messiaen, Etienne Pasquier and Henri Akoka were members of a military orchestra in Verdun, they listened, everyday, to the chorus of waking birds in the nearby forests. Akoka asked the composer to write a piece for solo clarinet – a suggestion that appealed to Messiaen because he'd long regarded the clarinet as the ideal instrument for imitating birdsong. Shortly after, in these same forests, the three friends were taken prisoner by German soldiers and marched to Nancy. As a result, the first run through of *Abîme des oiseaux* took place in a field near that town.

It comes as no surprise to learn that, for Messiaen, the shimmering stained glass of Chartres Cathedral became, from his student days onwards, a life-long source of inspiration. It was a place were he could fully indulge the sensory impact of his sound-colour world. I've no doubt that, even at the beginning of his career as a composer, the celestial palette of colours he experienced at Chartres was already clearly established in his imagination. Probably, it helped to keep him going when he was suffering the extreme deprivations of prison life.

In my visual interpretation of *Abîme des oiseaux,* all the colours and patterns are derived from a single rose window at Chartres Cathedral. It was only after completing my piece of Visual Music that I came across Messiaen's Preface to *Colours de la cité celeste* – a piece written, in 1964, over 20 years after *Abîme des oiseaux*. At this time the composer overtly declared that its form was entirely dependent on colour: "……*like the rose window of a cathedral with its flamboyant and invisible colours"* – a description which, as it happens, aptly describes my visual interpretation of *Abîme des oiseaux.*



It's this explicit reference to *the rose window's flamboyant and invisible colours* that offers, I think, an endorsement of my own source of imagery for *Abîme des oiseaux,* But how has this happened? Why have I chosen just this one window as my own source of visual inspiration when, in fact, I had so many other sources to choose from? I can see now that it was Messiaen's synaesthetic skills that made my choice inevitable; it was his ability to accurately transmute a wide range of celestial colours into audible sound combinations that enabled me to see what was in his mind's eye.



Presentation / Performance locations:

2015: UVM (Understanding Visual Music), Brasilia.
GIVING VISUAL FORM TO ABÎME DES OISEAUX

https://youtu.be/cfVGnPnLddM Performance only

2016: V&A Digital Futures and EVA, London.
REVEALING THE COLOURS OF THE APOCALYPSE

OLIVIER MESSIAEN'S ESOTERIC WORLD OF SOUND AND COLOUR

https://youtu.be/nlJ4FX_wKeM

RAGATIME: GLIMPSES OF AKBAR'S COURT AT FATEHPUR SIKRI (synopsis)

A fascination with the ghost City of Fatehpur Sikri, 40 miles from Agra in North India, has stayed with me ever since I first visited the site in the 1980s. As the centre of the Mughal Empire for a brief period in the 16th century, the City was remarkable for its architecture, art and music. Emperor Akbar established not only an atelier of artists to record every aspect of court life but, also, gathered together musicians from every corner of North India. 'Ragatime' gives me an opportunity to celebrate these cultural achievements. It takes the form of Visual Music; I perform Ragatime live to recreate both the sights and sounds of court life at Fatehpur Sikri

During his reign at Fatehpur Sikri, Akbar ordered, for his own delight, regular performances of Hindustani classical music. So as to better understand the complexities of Indian *ragas* (modal systems of Indian classical music), he himself had undergone some training as a vocalist – enough to develop an an-depth appreciation of the skills of the 30 or so classical musicians he retained at his court. Of these, Mian Tansen, who remains famous to this day, was the Emperor's favourite musician.

We owe our detailed knowledge of Akbar's achievements to a contemporary biography, *Ain-i-Akbari* written, in Persian, by his friend Abul Fazi. As the Emperor was dyslexic and largely illiterate, he placed considerable emphasis on the illustrations included in both the books he commissioned (eg his biography) and those he had read to him. As a result, Indian Miniatures of this period provide a fascinating insight into the life and times of Fatehpur Sikri.

Pandit Ravi Shankar has explained that the Sanskrit saying – 'Ranjayathi iti Ragah'- means *that which colours the mind is a raga.* For this to happen, *its effect must be created not only through the notes and embellishments, but also by the presentation of the specific emotion or mood characteristic of each raga.* Unlike Western music, nothing is written down, although improvised interpretations must take account of the raga's ascending – descending structure and the melodic pattern that characterises a particular raga. I demonstrate how this is achieved with reference to Raga Bilaskhani Todi, composed by Tansen's son who first performed it at his father's funeral.

Historical records of Akbar's 18 year reign in Fatehpur Sikri fail to adequately explain the sudden departure of his court in 1588. But recent research has shown that, at the time, a pattern of severe weather was responsible for a period of famine and resulting economic depression. The conclusion must be that Akbar was defeated by a manifestation of the Little Ice Age.

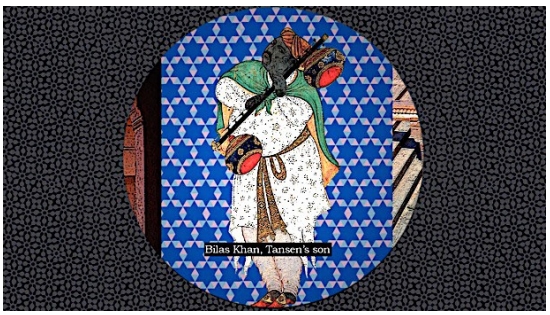
Presentation / Performance locations

2017: EVA (Electronic Visualisation and the Arts), London.
RAGATIME: GLIMPSES OF AKBAR'S COURT AT FATEHPUR SIKRI

2017: Balance-Unbalance, A Sense of Place, Plymouth, UK
RAGATIME: THE SHORT-LIVED ASCENDENCY OF FATEHPUR SIKRI

2017; Intetain, Madeira, Portugal
RAGATIME: AN EXPLORATION OF THE INDIAN EXPERIENCE OF RAGA PERFORMANCE

Performance time: 13 minutes

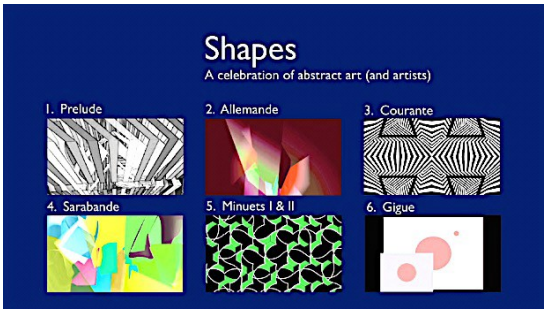


https://youtu.be/_roo4n7bLHc Performance only

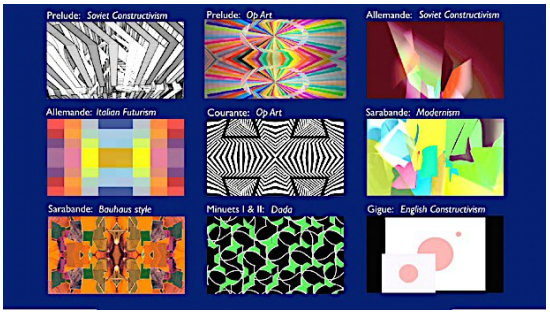
‘SHAPES’: CREATING DIGITAL SIMULACRA OF ABSTRACT ART (synopsis)

Presentation + performance time: 21 minutes

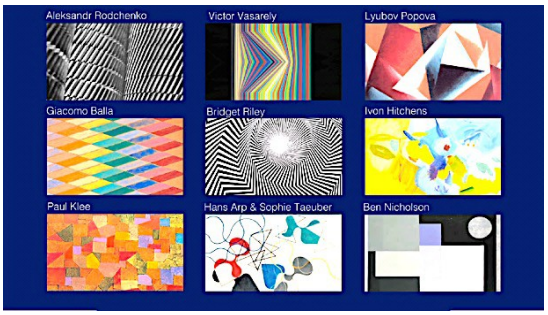
I perform **SHAPES** as a piece of Visual Music. It’s based on a transcription of J S Bach’s first Cello Suite for solo clarinet. The Suite’s six movements provide opportunities for expressing the intrinsic relationship that exists between music and abstract imagery.



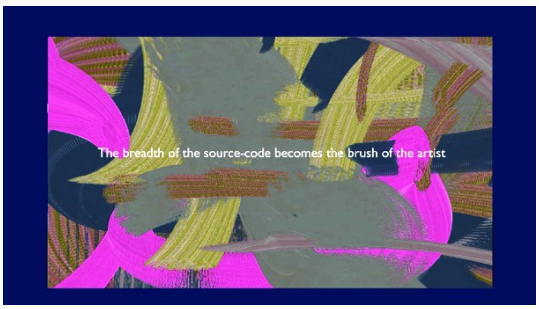
Within the constantly shifting patterns of SHAPES, it’s possible to discern, once or twice in each movement, certain images that resemble, sometimes closely, a particular type of abstract art. There appear to be more common denominators than I would have expected between the computer images I’ve generated and the abstract works of nine artists. Admittedly, in choosing my examples from both sources, digital and non-digital, I’ve needed to comb through many possibilities and reject most of them. But, the fact remains that, against the odds, I’ve found some remarkable simulacra.



I’m drawn to the idea that common denominators between abstract art and computer art occur because they share the same geometry. There are many forms of geometry from Euclidian onwards but it is *projective geometry* which describes the way objects look rather than the way they are. It originated directly from the concerns of artists and, apart from defining the rules of perspective, it provides the mathematical means of defining the co-ordinates of shapes moving in space. This is how I produce my imagery, which leads me to the conclusion that the geometric principles underlying abstract art and computer art are common to both.



It’s the way of applying these geometric principles that creates the differences. Now, available methods of application have literally burst through the canvas to reach completely new territories. The computational opportunities on offer far exceed the range of expression available to my nine chosen abstract artists. Just think where they might have ventured if they’d had access to today’s digital technology? – a question I posed in a recent paper with the title: “The breadth of the source-code becomes the brush of the artist”.



My chosen artists might have dismissed new technology out of hand, but I think this outcome would have been unlikely. Almost certainly they would have realised its potential for unleashing a new power of creativity and expression. In saying this I’m not intending to diminish in any way the inventiveness of what they achieved with more limited tools. They’re the ones who conjured up memorable images; my digital procedures have succeeded merely in isolating a set of imitations. Nevertheless, in making SHAPES I’ve become fascinated by a process that has enabled me to forge links between various art forms – not least music, of course, because, after all, it was Bach’s Cello Suite that provided the initial inspiration for the project.

Presentation / Performance Locations:

2016: CARU (Arts re Search Conference) Oxford, UK — https://youtu.be/QmTmITn2b3o

2016: Brighton Digital Festival, UK — https://youtu.be/YTQ1wWS7EIg

2016: Punto y Raya Festival, Karlsruhe, Germany — https://youtu.be/AyyykMSS7jA
ALLEMANDE FOR PUNTO Y RAYA

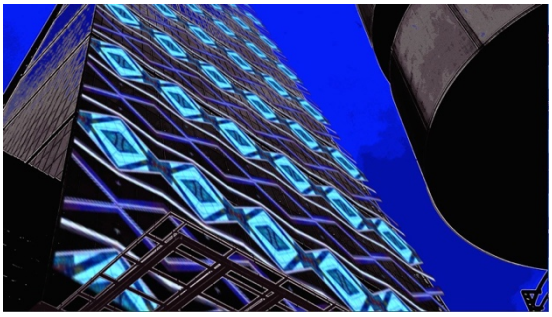
CITIRAMA: WHERE THE PATTERNS OF ARCHITECTURE JOIN THE RHYTHMS OF MUSIC
(synopsis)

Presentation + performance time: 13 minutes

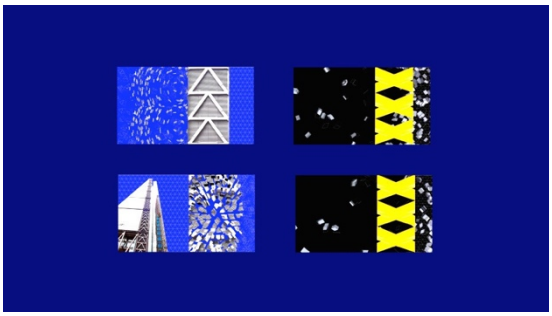
Citirama is an experimental performance where the patterns of architecture join the rhythms of music in mutual celebration. The inspiration for creating this piece of Visual Music was one particular building in the City of London - the Leadenhall Bulding, colloquially known as 'the cheesegrater'. I knew from my first visit onwards that its very individual form of visual expression would offer a rich source of pattern-making material; the workings of the building are not hidden but, instead, they become the means of expressing its nature and function. It invites people inside rather than presenting a closed façade to the world.

So what are the patterns manifest in the cheesegrater? First and foremost, what I've found is a series of *leitmotifs.* (I'm making use of the musical connotations of this term quite deliberately.) Sometimes these are small details and at other times they are whole elevations or complete spaces. But always they serve to capture a design language that produces architecture of exceptional quality. A complementary musical language is provided by the rhythmic patterns of Richard Rodney Bennett's Sonata for Solo Clarinet. The result is a piece of Visual Music that demonstrates a close interchange between architecture and music.

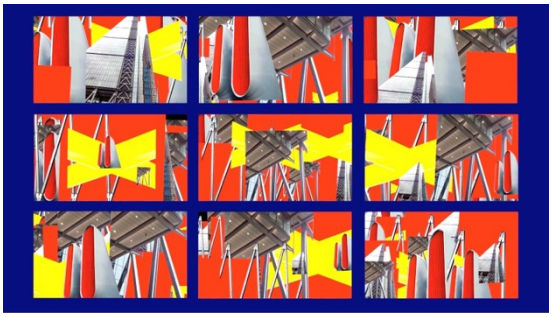
My realisation of the first movement introduces a set of repeat patterns, all derived from my *leitmotifs.* Each pattern is continually changing and evolving. And it's in this form that I project my patterns on to the slanting façade of the 'cheesegrater'. If this sort of display was to happen in reality, it would be the largest light show in town – if not the world. What a sight that would be. But, for the present, at least, it must remain a computer simulation.



In the second movement, I create a series of reverse explosions; fragmented components of my *leitmotifs* gradually come together or spin apart to reveal the architectural elements from which they're derived.



In the last movement, I confound the eye with a series of quick-change *collages.* It's the most rhythmic of my three movements with each *collage* revealing a different arrangement of my *leitmotifs.* Overall, in Citirama, I've produced an ordering of images that has taken flight into realm of fantasy, where the rhythms of music join the patterns of architecture to celebrate the qualities of an exceptional building. I see Citirama as an experimental performance which has begun to reveal a new type of relationship between music and architecture – no longer frozen but, instead, constantly moving and inventive.



Presentation / Performance locations

2016 Brighton Digital Festival
CITIRAMA

2017 Melbourne International Animation Festival
CITIRAMA

2017 Intetain, Madeira, Portugal
CITIRAMA

https://youtu.be/OWwgWj_hROE