

***ILLUMINATES: ABSTRACT ANIMATION  
THROUGH PROJECTION MAPPING***

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## **ABSTRACT**

illuminates is a video mapping installation that explores the aesthetic of abstract animation. The animation projects and maps onto 24 pieces of white pyramids placed on the wall in a pentagonal arrangement. This project exemplifies my attempt to use technology as a tool for my artistic exploration, to express my thoughts through perceivable qualities of colours, lights, lines, shapes and motion. The animation use non-lyrical music as the storyboard flows.

The inspiration for my project emerged from Khalil Gibran's quote "Trees are poems the earth writes upon the sky. We fell them down and turn them into paper, that we may record our emptiness." The project seeks to address two elements: a harmonious feeling with nature and a sense of destruction of human eagerness in making the earth more vibrant and intense with their superficial needs.

illuminates is driven by my fascination with geometric forms and the partnership of audio and visual phenomena, all of which have often triggered the presence of beauty in my inner and the outer world. I believe the use of projection mapping technique extends its presence through physical space.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background Study

Today, the advent of digital technologies has provided the animators/ artists to create and mold the parameters of image and sound in imagined and imagined ways (McDonnell, 2007). The ever-evolving of modern art and the rapid evolution of technology in softwares/ and hardwares has enabled animators, artists and audio-visual enthusiast expanding their arts to new dimensions and perspectives to creative medium such as projection mapping.

The thesis project is an attempt to produce a body of work that will potentially form the basis of an installation or exhibition by fusing technology and arts. The motivation in creating this project is inspired by music, the complexity of nature, a fascination towards geometric forms, the endless digital possibilities and subtlety of fine art.

### 1.2 Objective

The aim of the thesis project is to explore the media aesthetic elements to create an abstract animation through the art of projection mapping. It attempts to investigate how these two subjects can be interlinked in creating self - expressive art form. The project hopes to explore the expressive potentials of media art form that is highly technical.

### 1.3 Significant of Research

This research is to identify the media aesthetic elements in creating a successful abstract animation and the art of projection mapping. By undertaking the thesis project, the researcher

sought to produce an expressive art form by fusing both aesthetic and technological potential through abstract animation and projection mapping.

#### **1.4 Methodology**

I began researching on selected works from visual artists who focus on projection mapping and case studies on selected abstract animations for better understanding of its' aesthetic. Reading on themes related to media aesthetic elements, the art of projection mapping and its' techniques will also inform the work. My research is largely based on animation shorts from the selected artists which I obtained online. The development of the process of animation to projection stage is documented in still photographs.

#### **1.5 Thesis outline**

The first chapter highlights the introduction of the whole thesis. Chapter two discuss on the overview of abstract animation, media aesthetic elements and the art projection mapping. It highlights on the use of digital technologies as an art medium. This is followed by case studies on visual artists' work that focuses in projection mapping and abstract animation. The question on how do we explore the expressive aspects in creating an expressive art form that is highly technical is answered based on other researches to thesis issue. Chapter three emphasize on the attempt to translate my thoughts into the language of abstract animation in creating the expressive art form. It highlights on its conceptual framework and the technical workflow of the thesis project to achieve its goal. Chapter five discuss and conclude the whole thesis project.

# CHAPTER TWO

## RESEARCH BACKGROUND

*(Review of Literatures and Relevant Artists/ Artworks)*

### 2.1 Animation

Animation is known as continuous movement of objects created by a series of still images. It is a process of setting inanimate objects in motion. It is a display of different images in a series in the form of 2D or 3D, arranged to create the illusion of movement.

One of the most apt definitions of animation has come from Norman McLaren, the influential founder of the animation department at the National Film Board of Canada. He stated:

Animation is not the art that move but the art of movements that are drawn; what happens between each frame is much more important than what exists in each frame; Animation is therefore the art of manipulating the invisible interstices that lie between the frames.

(Furniss,1998).

Animation is a vehicle that has come to describe the possibilities available to moving cultures of images in any style, context or technique and perhaps most importantly in a range of disciplines. It has become a rich and increasingly popular mode of communication. It is due to the convenient way to express moving visual images. It can represent dynamic concepts, and it can make information/ message more attractive and engaging (Davis and Landay, 2005).

Animation is commonly associated with the making of cartoons, both 2-Dimensional and 3-Dimensional. The first animation films date back as early as 1910 (Taylor-Turner, 2009).



Since then, numerous animation films have been released expanding into more complex films. Notable animation films include Disney's *Beauty and the Beast*, *Aladdin*, and *Lion King* (fully animated films), *Who Framed Roger Rabbit* and *Space Jam* (live action/animation), and *Toy Story* (first full length 3D animated film).

Today, animation is used for everything ranging from a flip-book to even a motion picture. The digital revolution has brought major changes in animation practices that require a breadth of different skills. Technology has enabled the animators to establish new forms of visualisation and imaginary entities become reality due to the evolutions of motion picture.

## **2.1 Experimental Animation**

Experimental animation has largely been cast as non-linear, non-objective abstract work, engaging with formalist, issues concerning colour, shape and line for its own sake. With the digital shift, different perspectives on the experimental have emerged as a result of artists, animators, film-makers and creative practitioners often using the same tools to create work for different contexts and purposes. All modes of expression - from classical narrative to anti-narrative - have been re-explored, freshened and re-subjected to experimental approaches (Wells and Hardstaff 2008: p9). This has led to the growth of independent and adventurous animators and artist who are interested in personal expression and who regard animation as an ever-evolving art form. This enables them to extend and reflect their own unique artistic visions, skills and techniques.

## 2.2 Abstract Animation

According to Terri Dentry, an animation producer from Australia, in his article on abstract animation; Animation is a visual technique that creates the illusion of motion. Abstract animation is the conceptualization of pulling the inner meaning out which often refer as “moving art” (Dentri, 2009).

Abstract animation is a sub genre of experimental animation as many of these animations are experimental perhaps in theory unusual technique. Abstract animation is often referred as non-narrative visual/ sound experiences with no story and no acting. They rely on the unique qualities of motion, rhythm, light and composition in creating emotional experiences. The language of abstract animation is not a narrative construction but a composition similar to a music score. The pertinent factor is the intent of the artist and the resultant content. However, for the viewer who has little to no encounter with abstract animation, these moving images can be initially disconcerting and hard to understand. It is often meant for the viewer to feel and experience its' content rather than to understand its' meaning. Think about music. It can be considered the most abstract of the arts. Having its own structure, melody and rhythm, these sounds are not representational but rather there are composed to create an aural experience (Taylor-Turner, 2009).

Pamela Taylor Turner explains the language of abstract animation in unique way:

The language of abstract animation, for the practitioner or enthusiast, is like discussing why one eats chocolate or why we stand at the edge of the ocean, experiencing the sensation of the sand being sucked out from under our feet by the pull of the receding wave. Or why we listening to a beautiful melody can create such stirring response. These experiences stand for themselves and need no explanation.

(Taylor-Turner, 2009).

The use of abstract animation enables the expression of content and meaning that is not possible within the narrative and representational animation. It is an exploration of the inner world that is either from imaginations or experiences. The meaning/ message of abstract animation are often indirect, but need to be experienced. The magical about abstract animation is they let the audience experience all kinds of emotions driven from the visual and sound of the moving abstract imagery.

Abstract animation is often associated with the presence of music which the music itself is an abstracted form of expression. Abstract animation refers to show abstract forms with music to allow and influence the audience to interpret with their own storyline, message and meaning. The earlier exploration of this moving abstract imagery with the presence of music has formed the basis for what abstract animation is today (Moritz, 1991).

Animation shares many formal qualities of modern abstract painting. As renounced by Walther Ruttmann (1887-1941), a German film director his abstract painting of still images in favour of animating abstract imagery that could develop in space as well as time, which he saw it as the art form of the future (Moritz,1991). The only difference is time; motion and sound extend the possibilities of abstract expression. The colour is also different as the images made with projected light, or the electronic light of a video monitor, and not the pigments of paint.

### **2.3 Abstract Animation as an Expressive Art Form**

According to Oxford Advanced Learner's Dictionary, 1999, expressive means showing or able to show one's feelings or thoughts. Expressive art form is a way of expressing one's emotions or thoughts into something visible as such language, acting, visual or music that is

characteristic of a particular person or a group of people. Being expressive is close related to human's emotion. According to Oxford Dictionary online, emotion means instinctive feeling as distinguished from reasoning or knowledge. As noted in the AnxietyZone.com, emotion is the language of a person's internal state of being, normally based in or tied to their internal sensory feeling. Love, hate, courage, fear, and sadness can all be described in both psychological and physiological terms.

Abstract animation can be referred as a form destined to be defined ultimately not by formal conditions; a frame-by-frame manipulation of materials in the creation of representational motion but by the animator's or artist's context and condition of expression (Wells and Hardstaff, 2008). As close as one can interpret that facial and body expressions and movements reflected the inner feelings and emotions, and so the motions in animation. Different kind of motion can interpret different meaning. Therefore, abstract animation is as subjective as any other art forms. Art itself is subjective and yet it requires some amount of extremely loosely defined objectivity as all art is not necessarily good or tasteful for any times. But then something as subtle as art cannot be defined, even loosely as noted by Kireet Khurana, a conceptualiser and director in his article 'The Changing Aesthetic in Animation'.

Abstract or pre-representative paintings and drawings can be, and often are, more expressive of inner feeling than are representative products because the very process of representation involves a conscious awareness of outside stimuli rather than a direct expression of self...artistic abstraction...some of their essential aspects can be explained only if one remembers that art is not the hobby of making reproductions, a game quite independent of other aims and needs, but is rather the expression at an attitude toward life and an indispensable tool in dealing the tasks of life.

(Arnheim 1966: p340)

By analysing these information, we can referred the animators and artist make fully utilise of abstract animation as an interrogative tool of continuity in translating or to adapt ideas/thoughts to the visual practice chosen as the mediator of creative expression. Animation knowingly considered to operate as a particularly effective tool in the translation and adaptation of other art forms and idioms. It extracts the essential meanings and effects of other disciplines and advances them through motion-driven visualisation. Abstract animation helps to self-consciously reveal the movement in static forms; the purpose and function of movements in motion forms; and the emotive and philosophical underpinning in text-based arts (Wells and Hardstaff 2008: p154).

The ability to deconstruct a movement and reassemble it in a new or convincing way is the animator's territory. Many artists have realised their visions using animation as a means to externalise their inner thoughts and unique points of view. Animation gives the viewer the opportunity to gaze at a frozen moment of thought and to experience another person's rhythms.

Christine Panushka, 1997

In an era of 'expanded cinema' or the 'manipulated moving image', animating remains a traditional art in a progressive context. Animators/ artists re-engage with history in attempt to liberate themselves from the styles and contexts that inform dominant practice. In the process, they have to re-think and re-imagine their art through its formalist roots and language. Animators/ artist exploring new ways and revisiting the constituent tools of expression in moving image forms to express their vision (Wells and Hardstaff 2008: p114).

Animation represents a particular opportunity to both records the act of creative practice and to represent the act of creative practice. The execution of animation in any technique essentially mediates the technical memory embedded in the creative consciousness and the body itself. The content of the work may also act as a direct expression of memory, by

operating as a representation of fantasy, feeling, recollection, preoccupation. Animation can capture inner states of consciousness and the physical ways in which they are expressed.

Meaning and expression of a pictorial object become manifest only to the the extent that the representation consists of forms which are well defined with regard to their shape, proportion, direction and colour. This is particularly relevant in view of the traditional theory, which derived expression from what the observer knows, by past experience, about the psychological or physical state of the objects represented (Arnheim 1966: p37).

#### **2.4 The Aesthetic of Abstract Animation**

According to Oxford Advanced Learner's Dictionary, 1999, aesthetic means being concerned with the beauty and the appreciation of beauty: appreciating beauty and beautiful things; it also means a set of principles influence artistic style or taste; the branch of philosophy dealing with the principles of beauty and artistic taste (Oxford Dictionary, 1999).

David Oreilly, an Irish film maker stress on the importance of aesthetics in animation production in his essay 'Basic Animation Aesthetic';

The importance of animation aesthetics is such a subtle yet vitally important one. It might seem superficial to discuss these things, especially because cinema is so much more to do with content and story than a pure aesthetic experience, but nonetheless the visual nature of animation calls for debate on the subject. There is a continuous raft of animation, both commercial and independent, which looks the same, and I don't believe it has to be so. The more we think about the subject the more playful and interesting computer animation becomes, the medium feels to me like a recently opened Pandora's Box which is still being examined, understood and tamed.

(Oreilly, 2012).

'Aesthetics' is defined as refined, tasteful, and artistic. But what is tasteful, refined and artistic? Is it not a set of our own personal opinions, prejudices, biases, cultures and environment which dictate, define and with passage of time, redefine this enigmatic word? What is tasteful today was not yesterday and may not be tomorrow (Wells and Hardstaff, 2008).

In the context of media history, it could be suggested that abstract animation language is an aesthetic system that is evolving into new media genres. Abstract animation refers to an aesthetic tenet of animation which sees animation as consisting of lines, shapes and colours, abstract forms to be manipulated by the animator at will. The organised pattern of shapes and colours, which in any work of art is the main carrier of the meaning and expression conveyed to the viewer. (Arnheim, 1966). Despite the ever-increasing technology and techniques in producing animation, animators is still in charge of making aesthetics decisions, but it can't solely rely on instinct when framing a shot but must acquire the knowledge and the skill to apply a regular basis of aesthetics elements that translate significant ideas into maximally effective messages (Zettl, 2005). Aesthetics in animation, as in any other art form, kept on changing with the times. By understanding the elements of media aesthetic, the animators will have little trouble deciding whether the effects were intentionally or out of ignorance. The aesthetic elements were used to direct people's perception into whatever meaning or message the animators want to convey. The animators also have to continuously observe the interesting recurrent and concurrent patterns. However, it is impossible to define aesthetics in abstract animation as it difficult to define in any other art form. Invariably, the animator's personal beliefs, personality and biases creep into his animation. Abstract animations, to a large extent, are a personal statement made by the maker.

### 2.4.1 Elements of Media Aesthetics

Based on the book of *Sight Sound Motion: Applied Media Aesthetics* written by Herbert Zettl; they are many elements in media aesthetics. I chose to focus on five elements that will form my attempt to create an expressive abstract animation. The elements are color, lights, sound, motion and timing.

#### Colour

Colour adds a new dimension to every art form. It brings information to the meaning of the the art itself. The coloured light at a rock concert incites intense and high energy to the music even higher. Colour energy refers to the relative aesthetic impact a colour has on us, which depends on the hue, saturation, brightness, the volume of the colour area and contrast between foreground and background. Of these variables, saturation is the most influential in determining colour energy.

The basic aesthetics perception factors are three major attributes of the colour as well as compatible colours. They are hue, saturation and brightness. Hue describes the colours itself, for example whether an object is red, blue, yellow and green. Saturation describes the colour and richness and strength. Brightness indicates the reflected amount of light, or how light or dark a colour would appear in a black-and-white photograph. Brightness is measured by the grayscale.

Colour is one of our most potent generators of emotion, evoking powerful reaction by bypassing the '*intelligent brain*' and heading straight to the '*primitive brain*' where those strong emotional reactions originate.

(C. Budny, 2003)



Analyse these information, it is clear that colours can influence our feelings. We perceive some colours and warm, others as cold. Different colours portray different meaning and emotion to human's feeling. It can have a deep effect on how we feel both mentally and physically (Nicholson, 2002). According to Bellatoni, an expert in the effects of color on behavior, colours can be an incredibly powerful tool for filmmakers/artists, it can influence how audiences feel, act and evoking powerful reaction and can be used to enhance visuals mood (Bellatoni, 2005).

## **Light**

Light is essential to life and necessary for most things to grow. It is the key element of visual perception, and it orients us in space and time. It also affects our emotions. Lights are the agent that makes things visible. Lighting is deliberate control of light and shadows. The basic purpose of lighting is to manipulate and articulate our perception of the environment. It can also establish an aesthetic context for our experiences, a frame work that directs our feeling about a certain event. Lighting helps us, or makes us see and feel in a specific way. Through lighting we can articulate our outer space/time environment and our inner environment and it has powerful effects to our emotions. Both functions depend to a great extent on the proper control of shadows.

In animation, without any shadows, we perceive only the basic contour of an object. But the true spatial nature of the object and its location relative to its environment remain ambiguous. As soon as we attached a shadow with bright light source, we perceive the object in a three-dimensional form. Our task is to make thing appear believable and real to audience.

(Wells and Hardstaff 2008: p. 22)

The aesthetic principles of lighting to show what an object looks like, what texture it has, and where it is located in space and time. It plays a vital role in defining the look of a scene. Specific inner orientation functions of lighting are; establishing mood and atmosphere. In animation, film or any any other art form, lighting is treated as dramatic agents. The light is used directly as an aesthetic intensifier. The areas that need special attention when dealing with light are the nature of light, lighting purposes and functions, the nature of shadows, and the outer and inner orientation functions of lighting. Through the presence of light we get an impression of depth, movement, and shading in animation. Thus, effect the viewer's emotion.

## **Sound**

Sound in various manifestations (dialogue, music, sound effects and the like) is an integral part of video and film. It is a pivotal media aesthetic element which can affect the final significance of abstract animations. It represents the all-important fifth dimension in the total field of applied media aesthetics. Sound is as influential as visual to the abstract animations content and message. Essentially, it is indispensable to any animation or film communication.

Music and other nonliteral sounds, such as electronic hisses can provide or increase the aesthetic energy of a scene. Cartoons for example rely heavily on music and sound effects as an energy source. Our emotion or internal energy is just easily expressed or supplemented by music. Literal sound is referential. It conveys specific meaning and refers to the sound-originating source. Literal or diegetic, sounds can be source-connected (we see on-screen what is making the sound) or source-disconnected (we see something else on-screen while hearing the sound.) it is used to supplement the scene.

One of the most important structural functions of sound in abstract animation is to supplement the rhythm of the shot sequence or supplement the rhythm of the entire visual vector structure. The rhythm of the sound track can run parallel as a counterpoint to the animation rhythm.

According to Zettl, music can be literal or nonliteral, depending on the visual context. It is one of the most efficient aesthetic elements to create a specific mood or describe an internal condition. Music and nonliteral sounds are often used to provide additional energy for a scene. Music was part of the essence of life and attempted to balance science with aesthetics by elevating the status of the computer as a viable artistic medium to achieve correlation between musical composition and abstract animation. The non-representational nature of music is mirrored and enhanced the visuals that also expresses and appeal to human emotions (McDonnell, 2007). The immediate way in which sound affects our emotion is a perfect tool for establishing or supplementing the energy of the abstract animation.

## **Motion**

According to Jon Krasner, the author of *'Motion Graphic Design: Applied History and Aesthetics'* motion is a universal language. The method chosen to move an element across the screen can enhance its meaning. For example a line of text that animate slowly across the frame while fading up from black might imbue it with a sense of mystery and calmness. He adds, the motion itself can be the message. It is essential to understand how motion can be used as a great expressive element in abstract animation. Motion is a powerful tool to evoke responses from the viewers. Different phase of motion portray different meaning and moods. For example a massive and fast motion of objects in animation may arouse a strong feeling to

the audience. The meaning of motion in animation relies on conventions and artistic techniques.

Animation is the art of creating movement, generally employing inanimate objects but sometimes through the use of live figures whose movements are posed on a frame-by-frame basis. The characteristics of created movements can vary significantly: an object can move fluidly and rhythmically; in short incremental bursts; slowly and hesitantly or in a multitude of other ways that all suggest meaning to the viewer.

(Furniss , 1998).

## **Timing**

Timing is the control and the manipulation of time and motion. Structuring the time is pivotal in abstract animation as it gives meaning to the movement of subject/object literally. As explained by Jon Krasner in his media aesthetic book, there are two types of subjective time which are pace and rhythm. Pace referred as perceived speed of an event segment, for example the slow pace of a drama and the exceptionally fast pace of a musical. Rhythm referred to the flow within and among the event segments. It is determined by the pace of the individual segments and how they relate to one another and it provides the underlying beat of the abstract animation piece.

Timing is categorized into pace, tempo, rate and ryhthm which refer as subjective time. Pace refers to the perceived speed of the overall event, tempo and rate refer to the perceived duration of the individual event sections, and rhythm refers to the flow within and among event segments. In media practice, there are limits to pace and rhythm.

(Zettl, 2011).

Timing is more dependent on feeling than measurement. An animator need to approach the control the pace and rhythm using intuition rather than logic. For example slow motion of an objects in animation will potray different message than the accelerated motion. Structuring of the motion field, the control of pace and rhythm requires animators's sensitivity and experience. Establishing timing is high on the list of priorities of animators. If the visuals cuts do not establish an obvious rhythm, a rhythmic sound track will provide the neccessary beat. It allows the animators to be expressive in controling and manipulating the timing of a certain motion (Zettle, 2007).

## **2.5 Projection Mapping**

Over the past decade, the growth of digital technologies plays a vital role to create computer-based artworks to display. Digital installations, branches of video arts, are started to apply not only on a flat screen but also on public spaces. These kind installations are called 'Projection Mapping'.

(Ekim, 2011).

Projection mapping also known as video mapping is a newest projection technology. It has a unique ability to deal with physical space and digital content in a way that is compelling in visual culture. Often display at events such as concerts, installation arts, exhibition, campaigns, launching, fashion shows, music festivals, and usually in conjunction with other performing arts. Projection mapping are performed live as well as prerecorded, also called as real-time. Artist used the technique to project animation or audio-visual content onto any structured physical objects. These objects may be a simple geometric sculpture, buildings or even complex architecture. Essentially, the idea of projection mapping is to create a physical illusion of images and turn almost any surface into a dynamic video display by integrating

audio-visual elements. ( Ekim, 2011). French visual artist Joanie Lemerrier briefly explains that 'the basic idea of project mapping is to send light really precisely on to objects. It is almost the opposite of projecting a video onto a flat rectangular screen'. He adds, 'the great thing about project mapping is the artist can use any object or any surface; projection mapping can be done on to architecture and building, to sculpture, to paintings and to almost any different structures'. As projection mapping being part of a merger between media and architecture, it gives space a meaning that can be experience by the audience.

### **2.5.1 Techniques of Projection Mapping**

According to Jean Michel Verbeeck, the artist or visual enthusiast needs to have certain skills to be able to create a projection mapping. They should have good knowledge of animation and video. Having visual-spatial intelligent is also necessary if the artist wants to make their own physical sculpture. He adds, the most important is to be up to date with all the available softwares related to projection mapping.

It requires the artist to understand the technical parts of beaming the audio-visual images onto 3 dimensional objects. The moving images need to be adjust and mask perfectly to follow the shaped of the target objects. The result can be dynamic, effective, eye catching as the audio-visual images are no longer a flat on the wall but becomes an object in spatial area. It can also be referred as animated sculpture. It often relates in adding to add extra dimensions, optical illusions, and notions of movement onto static objects as well as to play with the audience perception.(Ekim, 2011). Projection mapping uses specialised software and other technologies as tools to warp and blend projected images to fit perfectly on any shape such as physical sculpture and architecture.

## 2.5.2 Digital Technology and Art

Advances in digital technologies are having undeniable (inevitable) influence on contemporary arts and culture. The world wide web (internet) has not only emerged as an Advanced Mass Communication tool of the 21st Century but also has emerged as a new tool for contemporary artists thus enabling an expansion in the limits of creativity and progression of new forms of authentic expression.

(Ekim, 2011).

There is no question the digital technology has given the artists' new ways to create music, animation, paintings, sculpture and illustration and new whole ways of stimulating people's senses. Computer technologies can be regarded as a complementary tool for artists in creating new form and remarkable artwork. Projection Mapping is one of the creative outcomes of what technology has enabled in the 21st Century. Projection mapping is often referred to as an exciting contemporary artwork where its' production is provided by the collaboration of arts and technology.

...Artist are revisiting the constituent tools of expression in moving image forms to express their vision...By reengaging with technologies and established grammars of expression, there are always provocative ideas that can be readdressed through new technologies and grammars of expression, which can then emerge from cross-disciplinary practices.

(Wells and hardstaff 2008: p118)

The use of digital technologies has create new spaces for the artist to experiment with new style and techniques that goes beyond boundaries in producing new relevant and timely digital art. In recent years, the advancements in digital technology have exerted influence over subsequent generations of animators and digital artist. (Wells and Hardstaff 2008: p120).

### **2.5.3 The Role of Music in Projection Mapping**

It is amazing how the computer has become an instrument for forging music and image connections in creating music inter-related with active colour and visuals. Though the language of complementary is still under-examined and experimental but the visual music practise of today is diverse and wide-ranging. The technical innovation in softwares/hardwares is thus providing the means to begin a fine art for eye and ear. (McDonnell, 2007). Through projection mapping, sound and image connections not only constitute animation's core language, but it has increasingly sought another dimension in its presence through space.

The non-representational nature of music and its emotional expression is mirrored in the non-representational nature of the resulting imagery that also expresses and appeals to emotions. By exploring the visual with musical thinking, artists create new visual forms, new patterns, and new relationships between visual elements. Abstract painters such as Wassily Kandinsky (1879-1940), Paul Klee (1879-1940) and Roy De Maistre (1894-1968) worked with music concepts and idea, translating them into their own ideas and principles for artistic practice.

(Mcdonnell, 2007.)

In order to create a succesful abstract animation or projection mapping, every animator or artist must think about the nature of sound, and its' relation to the timing of the action. According to digital artist/composer Brian Evans in many senses, the crucial relationship between animation and sound remains relatively unexplored and in some ways undervalued. It is essential to understand the importance of the relationship between sound and abstract image.(Wells and Hardstaff 2008: p120). Projection mapping offered opportunities for animators/artist to continue this exploration, as music and image making technologies began