Divine Arcadian Technologies:
A Cycle of Recorded Electronic Musical Works and Exegesis.

By
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Signed,

Scott Simon
Abstract:


By

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The University of Adelaide 2011
Under the Supervision of Stephen Whittington and Charles Bodman Rae.

This portfolio submission realizes the creative theme “Divine Arcadian Technologies” as a cycle of recorded musical works. Accompanying the recording is a written exegesis. The recording is divided into four main sections: Divine Arcadian Technologies 1, 2, 3, and 4. Within each section two or three separate pieces of music are arranged, each with a separate title. In this way Divine Arcadian Technologies 1 comprises two compositions, the titles of which are Battle and Steel Dawn Venus. Divine Arcadian Technologies 2 comprises two compositions, the titles of which are Odyssey and Moonrise Future Primitive. Divine Arcadian Technologies 3 comprises three compositions the titles of which are King of the Seven, Sun Array, and Sun Hymn. Divine Arcadian Technologies 4 comprises three compositions the titles of which are The Spheres, Future Love, and Future Love Rhythms. The length and order of each track as arranged on the CD: 1-Battle (4:58), 2-Steel Dawn Venus (6:29), 3-Odyssey (4:31), 4-Moonrise Future Primitive (6:38), 5-King of the Seven (3:50), 6-Sun Array (8:58), 7-Sun Hymn (4:43), 8-The Spheres (4:55), 9-Future Love (3:57), 10-Future Love Rhythms (2:21).
Total Length: 51 minutes
The methods used in creating these works were varied in nature, but there are some overarching components we can outline here. The genesis of each piece is connected to a title, a set of key words, and a musical plan. The musical plan is a guitar / vocal piece. This piece is then transposed onto synthesisers. Some unquantized vocal and guitar parts remain in the finished works. The mixing process is deemed to be as important as the other stages, and much attention is devoted to engineering the overall texture and ambience of the works.

Accompanying the recordings is an exegesis. The exegesis has two distinct components, the philosophical exegesis and the track plan and analysis. The first component deals with the concept *Divine Arcadian Technologies*. The philosophical unfolding of the idea reflects accurately the artist’s state of mind as he realized the musical component. “Divine Arcadian Technologies” is read as an idea that seeks to reconcile, or synchronise, the beautiful in nature (the Arcadian) with the technology of humanity. This synchronisation is undertaken for more than purely aesthetic reasons, it is taken as an important element of musical practice that a commitment to such a position will inform the gesture of the artist in some fundamental way.
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Divine Arcadian Technologies: A Cycle of Recorded Electronic Musical Works with Exegesis

Introduction

The title of this master's project is *Divine Arcadian Technologies: A Cycle of Recorded Electronic Musical Works with Exegesis*. The main component of the portfolio will consist of a recording of ten electronic musical works arrayed as two pairs and two groups of three. Each of the works will have a title and a set of key words and concepts. Individual pieces will be between 2 and 10 minutes and the total length of the recording will be approximately 51 minutes. It is central to the nature of the project that the music is recorded: the studio is considered to be an instrument in its own right and not just a site of recording the gesture.

Accompanying the recording is an exegesis which explores the conceptual framework of the project (Exegesis section A), as well as a track-by-track description and analysis of the music (Exegesis section B). The analyses in section B will include track plans and instrumentation.

*Divine Arcadian Technologies* is a kind of music that seeks to work within a space that is opposed to instrumental rationality's understanding of the role of technology.¹ More specifically, one might usually understand technology in its relationship to current western configurations as not having a divinely Arcadian telos. Technology has provided the modern western world with the tools to facilitate industrialization and the exploitation of natural resources. At the centre of my work is the concept of a technology that seeks to speak out of a “natural”

¹ “Instrumental rationality” is here defined as the potentiality of harnessing natural laws and manipulating material nature with the knowledge of the natural sciences. Such instrumental forms of rationality do not question environmental or human concerns but are focused only upon the most effective technique. For more complete definitions see for example Internet Encyclopedia of Philosophy “Theodor Adorno”, section 3: Identity Thinking and Instrumental Reason. [http://www.iep.utm.edu/adorno/](http://www.iep.utm.edu/adorno/). See also Habermas, Jurgen. *Technik and Wissenschaft als Ideologie*. Berlin, 1969.
space, be it beautiful or sublime. Can machines speak in a way other than the language of domination of nature? My answer is, yes they can.

Music is connected to technology in fundamental ways, not all of which are necessarily joined to instrumental rationalities goals. The gesture of humanity has a long history of mediation through technology in the broad sense (including tuning and instruments), and in the digital age this is even more emphasised. Modern technology is however not a value free set of tools – the rise of the machine is connected to the mastery of nature. The incursion of the machine into the musical gesture is one that slowly transforms that gesture in a way that is not necessarily free of instrumental rationality. Certainly all musical gestures are mediated via technology just as all gestures are “natural” in the broad sense – what is at issue in this thesis is the working with a concept of technology that is in harmony with an “Arcadian” goal.

Adorno writes this on the question of technology and nature: “In technique, violence towards nature is not reflected through artistic portrayal, but it is immediately apparent. It could be transformed only by a reorientation of technical forces of production that would direct these forces not only according to desired aims but equally according to the nature that is to be formed.”

In order to work within the tension (or reconciliation) between machine and nature I must have a musical practice that will allow the right elements to appear in the compositions. In order to facilitate this I create first on the guitar and then transpose the human gestures into the quantized digital world. I also allow untreated guitar and vocals to remain in my final mixes highlighting an interesting tension between the translated human gesture and the more exact digital rhythms. I search for the right sounds and rhythms, digital and human, to create

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a fusion of technology and human expression that seeks emotive / Arcadian / mythical spaces.

The actual practice of composing music is for some artists a non-conceptual one, and indeed music is often understood to be the vehicle of truths beyond the scope of conceptuality. The question of where philosophy stands in relation to the artwork is a complex one that will be considered in relation to the musical practice of this project. The music takes off from the conceptual element but its line of flight is musical: music and concept are not related in the same way as blueprint to structure but they are nevertheless related. The concept and philosophy are inspiring muses to the musical journey, and they also bear witness to the processes that have gone on in the mind of the composer during the gestation of the pieces. How do the two components, musical practice and conceptual theme, fit together? Answering this question became an element of the thinking through of the project’s theme.

The task I engage with in the first part of the exegesis is to plot the philosophical development of my theme by following the various strategies and paths that occurred to me while the music was in production. The creative theme Divine Arcadian Technologies can be read as a provocative title – an inspiring but vague concept. In dealing with it personally, as a part of a musical practice, I had occasion to think about it extensively. The theme was turned this way and that, and various ideas came and went, some more persistent and compelling than others.

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In presenting one avenue through this network I am articulating one point of entry into the music. The path that is here presented is quite philosophical but that is an accurate reflection of the artist’s mind as the compositions were worked upon.
Exegesis Section A: Exploration of the Conceptual Theme Divine Arcadian Technologies

i. Introduction.

Gadamer notes that the artistic production of the present (modern / post-modern age) is marked by the fact that we live in a fractured world. His meaning is directed at the concept of myth within art and the secularization of that art. 4 We have lost in the modern age the monocultural frames of reference, and art has divorced itself from its sacral and courtly genesis. 5 Consider this in relation to music. Music in many of its modern forms is connected to the entertainment industry or, in another related form, is considered to be expressive of autonomous subjects. 6 The sacred tones of ritual and the ancient idea of music as connected to the cosmos through a chain of being are modes that are de-emphasised in modern Western conceptions. 7

Yet even in the modern secular societies of the West, art and music retain an irreducible aura: the ideal of the “beautiful” in art is a resonant concept within Western art and culture. 8 Gadamer writes on the connection of beauty (in art) to “truth” in his work The Relevance of the Beautiful. Beautiful art is the bridge that leads us to “truth”. Beauty gives us the feeling that the truth is not far away and

5 For descriptions of the divorce of art from sacral and courtly institutions as art becomes “autonomous” see Burger, Peter. The Theory of the Avant-Garde, Minnesota, 1984, p.27.
6 On the question of music as self-expression there are many entry points. See for example descriptions of Absolute music and the Romantic conceptions of the expression of the self. For discussion on this topic see Dalhaus, Carl, The Ideal of Absolute Music, Chicago, 1989, p.79.
7 Pythagoras was an important adherent to the idea that music was connected to the orbit of heavenly bodies and was able to cure the sick and do other feats depending upon the type of music played. Plato also wrote upon music and the synchronising of the orbits of the soul to the harmony of the musical expression. For a discussion upon these points see, Gioia, Ted, Healing Songs, Durham, 2006, pp. 92-93.
8 See for example the many treatises on Aesthetics in which the concept of the beautiful is subjected to scrutiny, a famous example being Immanuel Kant’s Critique of Judgement.
inaccessible, but available even in the disorder of everyday life as we know it. “The beautiful bridges the chasm between the ideal and the real”.9

Further: art is the interplay between revealing and concealing (within a work’s revealing or showing is contained a world that is sheltered and protected by that work).10 Beautiful art is a signal of some deep and profound concealing / sheltering of important truth / progressive content. But what is contained at the heart of this “truth”? Is it a discrete rational idea that we could render as language? Gadamer writes,

Art is only encountered in a form that resists pure conceptualization. Great art shakes us because we are always unprepared and defenceless when exposed to the overpowering impact of a compelling work. Thus the essence of the symbolic lies precisely in the fact that it is not related to an ultimate meaning that could be recuperated in intellectual terms. The symbol preserves its meaning within itself.11

This group of introductory points raise the issue of the relationship between concept and artwork. How does a concept become a piece of music and what is the meaning that is sheltered within that music?

The present thesis is a cycle of musical works that have a creative theme: Divine Arcadian Technologies. A research question is formulated: How can I explore this creative theme with electronic music? This question immediately leads to further questions: How can one realise a concept within music? How does the conceptual object make the leap into music? What does the conceptual theme mean to the artist?

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10 Ibid., pp. 33-34.
11 Ibid., pp. 37
These questions arise naturally in relation to the practice of making musical works with a creative theme. In order to make use of such a theme, be it a myth or a narrative, or something simple like a title, one must at some level translate thought into practice. A translation which will be considered to be ‘inspirational’ in the sense that no listener or viewer will be able to reverse the process and find an exact conceptual moment at the heart of the work. Thus we begin with a conception – a myth or a narrative or a poem – and we move into a realm that leaves behind the concept for ‘feeling’ and the affective body.\textsuperscript{12} We approach the limit of the intelligible – or the unsayable within the gesture.\textsuperscript{13}

Somehow artists have always managed to imbue their music with narrative or mythical elements. It is also true that music and art are fundamentally irreducible to concepts. The meaning of a string of words is not the same as the meaning of a piece of music. It is important to note that the word ‘true’ denotes entirely different things in rational thought and music. Truth can be the flash of group understanding, or empowerment of the individual, or progression of the spirit, or truth as the unification of a group within the now secularized / fractured horizon of modern life. This kind of “truth” is revealed through aesthetic or human experience. Such truth content is recognised as such but does not have a reducible rational core which one might translate into language.

The present project deals precisely with the configuration of a truth or meaning that is musical or aesthetic, but which arises from a conceptual narrative. In giving thought to these philosophical problems the creative theme will develop some deeper resonance. This will be instructive for those who will listen to the works, as it will reveal the kind of thought and inspiration that were (are) behind

\textsuperscript{12} On the topic of the language of feeling see Bowie, Andrew. \textit{Music, Philosophy, and Modernity}, Cambridge, 2007, p. 169. Bowie is discussing the question of music in Feuerbach as the language of feeling, or the feeling that communicates itself.

\textsuperscript{13} Discussed with reference to Gadamer in Clark, Timothy. \textit{The Poetics of Singularity}, Edinburgh, 2005.
the music. Throughout the time I have been working on this project, philosophical ideas arising from the main title have been developing. Some are abstract and provide a window into areas that are not so obviously practice oriented, whereas other concepts reveal quite specific practical and formal elements of composition and musical practice. In making explicit this element of the process of creation I add a dimension to the understanding of the work itself and attempt to “read” my musical practice.

Is the philosophical impetus the entire inspiration? No. Can the works be reduced to the philosophical resonance that starts with the concept “Divine Arcadian Technologies”? No. As we have noted with Gadamer: “the symbol preserves its meaning within itself”.14 The music shelters many “truths” within its form. However, as the process begins in the conceptual realm (as an idea) we can make clear how the idea flowered into a philosophical whole that was involved with the practice: an articulation of one level of the structure.

ii. Myth and Meaning in Music

In relation to Stockhausen’s Gesang Der Junglinge Trevor Wishart notes:

…(t)he mediation between these two sound types (the singer and electronic tones) suggests some kind of mediation between individual human expression and something much more abstract and distant from human expression, a sonic metaphor for Stockhausen’s continuing religious preoccupation...he is creating a metaphorical landscape.15

Wishart here delineates two things I would like to draw attention to. The first is the important notion of a mediation between individual human expression (gesture) and the more “abstract” electronic world, and the second is the

articulating of this relationship as a sonic metaphor or landscape. This configuration was very useful to me in opening up a line of questioning that allowed entry into various philosophical areas. In some ways I have appropriated creatively this configuration: Wishart’s emphasis is on the space that Stockhausen is realising with the boy’s voice changing its position through reverb and equalisation and the juxtaposition of this voice with the electronic tones. I am interested here not so much in the spatialization of the gesture, but the gesture itself in combination with the electronic and a corresponding connection to metaphor or concept.

In the present thesis the tension between the electronic and the human / “natural” are central: the concept Divine Arcadian Technologies is geared precisely towards this tension. To realise this theme I will make use of various musical strategies - both digitally precise (quantized programming) and reflective of my bodily gesture (guitar and vocalisations) – and organise them around the concept. The unquantized musical gesture (guitar / vocalisations) will represent symbolically the Arcadian within the machine. Such a creative license will also extend to an aesthetic that renders the electronic tones of the synthesiser as relating to the “traditional” sounds of vocal and guitar in a meaningful way.16

The word “Arcadian” is to be read in the present context as signifying the “idyllically natural”. It is also noteworthy that Arcadia was the wilderness within which Pan ruled in ancient mythology. A wilderness has its terrifying and epic vistas as well as its lyrical passages. This fact appeals to an aesthetic within which “Arcadia” is seen to represent more than a merely human configuration: the Arcadian as unrepressed nature rolling to its own hidden purposes.

16 Certainly the guitar is no less technological on some levels than a synthesizer. However as a symbol with which meaning can be generated the distinction is useful.
In the modern age of computer driven music and exact quantization / sampling / digital processing, the question of human expression is still relevant. The gesture of the human can be made to conform to the precision of the digital clock and the human voice can be tuned artificially with auto-tuning software. In this manner, and in other ways not addressed here, mathematical elements – the basis of digital audio – influence and channel the musical production of people. Certainly computer music (programmed music) is a more rationalised mathematical form of musical practice than less mediated practices (example: singing). However: technology mediates and permeates all “natural” and “original” gestures. We are only speaking here of points along the same line. It is important however to stress that when digital quantization is added to electronic synthesis music takes on a geometrical precision.\textsuperscript{17}

Is music enhanced or degraded by these developments of digital audio? This question concerns the validity of the current trends in music and it is largely one of perspective. It is important to note, however, that people still spend many hours a day practising on traditional instruments, a fact that is evidence of a belief that computer programming cannot replace gestural human expression (mediated through an instrument or in the case of the voice through the system of harmony) but is perceived as an accompaniment or addition to it. To acquire the skill of an instrument and to work with that instrument involves a precision of coordination in opposition to a precision of mind that some forms of programming embody.

The musical component of the present work makes use of digital technology but seeks to retain the individual gesture of the artist within the more precise

\textsuperscript{17} I will not enter into the discussion of the distinction between the mechanical production of tone versus the synthesizer’s oscillator. The present discussion is confined to the quantized and computer coded gesture. Certainly a case can be made for the idea that synthesis that utilizes voltage controlled oscillators or sampled base tones is a more mediated form of expression than banging a drum or singing. However it is also the case that expression can be built upon many foundations including synthesized tones as they are triggered by a keyboard (for example). It is of course a perception that synthesized sounds are precisely “synthesized” and as such can be utilized as belonging symbolically to a machine-like domain.
frameworks of digitally quantized compositions. In keeping with the “tension” between the Arcadian and the machine that this project occupies, the unquantized guitar and vocal passages act as a symbolic element. This dialogue between the human gesture and the digital clock takes place within a critique of instrumental rationality. It is an ideal dialogue that seeks to release the idea of an “Arcadian” or creative technology as symbolised musically by the expressive gesture of the artist in harmonious combination with the digital exactness of the machine. Certainly this dialogue is not to be read as “pure” human expression (symbolizing the Arcadian) versus machine expression – the “Arcadian” can exist within digitally clocked programmed music or within “free” expressive gestures – all musical gesture is mediated to some degree by technology or cultural systems. This does not detract from the usefulness of the distinction between the human / natural and the machine in the artist's compositional process. Wishart (quoted above) describes the tension between human expression and the more distant “abstract” electronic tones and the meaning that is generated by such within Stockhausen’s piece. Such a tension is also realised in a slightly different way within the juxtapositions of guitar and vocals with digitally clocked soundscapes. The meaning that is generated by this dialogue can be understood most effectively when one puts it in the context of one of the pieces of music: Steel Dawn Venus. The guitar work within that piece seems to drift away in a quite organic fashion from the beat and then slowly drift back into alignment – such subtle timing changes are the forte of expressive bodies. Quantization would entirely destroy such effects. The digital framework seems to move with the timing of the guitar and their relationship is built upon a tension and resolution of tension within the slight timing changes. In simple form this oscillation is generating a dialogue between human expression and digital precision. Such a

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18 This opens up various avenues of theory which we cannot pursue in this context. The question of how a gesture “means” something, the question of mental gestures and the relationship of mental gesture to composition and the performance of electroacoustic music. For a discussion concerning these points see Iazetta, Fernando. Meaning in Music Gesture. Paper to the “International Association for Semiotic Studies VI International Congress”, Mexico, 1997.
dialogue makes sense within a project that seeks a mythical union of the Arcadian with the technological.

The expressive bodily gesture generates meaning just as the programmed gesture generates a different meaning. Both play a role in generating a relationship between the music and the main conceptual theme of this project. In writing an exegesis of this type I engage in a sort of modern mythology which seeks to “flesh out” the musical composition with a text. In this way the Arcadian potential of the digital realm itself is prefigured. Certainly the expressiveness of the guitar is one strategy that we can make use of to symbolise a union of Arcadian and machine, but the very text itself is a strategy that seeks entry for such a union. Our text is seeking a way into the gesture – both quantized and free – of the artist.

Levi-Strauss wrote on the relationship between music and concept, and music and second-order meaning. In his work *The Naked Man* he notes that music has taken over from myth and religion as that area that holds the sacred within it.\(^\text{19}\) This shift of focus is referencing, primarily, the shift from a pre-enlightenment model of being in the world to a more secular one. It is the narrative of disenchantment and the question of modernity. Specifically we are looking at the manner in which music inhabits a space of meaning without being reducible to a simple rational core. The telling of myth (the ancient tribal narration) or the sacred ritual - often accompanied by sacred tones or rhythms - were creative of just such irreducible forms of “meaning”. The tribal man when involved in the telling of myth “sinks into a strange universe and time” that cannot be understood as merely the meaning of the words.\(^\text{20}\) Gesture, tone, ritual movements, rhythmic elements, and rational content, combine to create a bridge between the audience


and the narrator, and this communication is understood to touch upon a “truth” that goes beyond the meaning of the words themselves. Music has taken on this mythical role for modern man:

Music has its being in me, and I listen to myself through it. Thus the myth and the musical work are like conductors of an orchestra, whose audience become the silent performers.21

So the musical work has a meaning that strikes a chord across the chasm, and yet the meaning is one that is “untranslatable”.22 Music is understood by the majority of people to have some meaning in it, some emotional or secret meaning of affects or feeling.23 The actual creating of such meaning is given to few artists. Levi-Strauss maintains that only a very small number of people are capable of formulating a meaning within music (that is, composing a piece with a precise second order meaning) and it is therefore the “supreme mystery of the science of man”.24 The fact that we are dealing with an interactive nexus between artist and audience in which the artist must stamp his will upon the elements in a way that strikes the right chord to the listener shows that the process is complex. Individual expression and mythical meaning reveal themselves in the same work, and this leads one into further connections. Artists take hold of various elements within the nexus of thought and experience and, even while being immersed in culture and conceptual thought, fuse it with the material they work with in a harmonious expression – and many do so in an instinctive play-oriented manner. Beautiful art is the manipulation of many elements to make a skilful congruent expression within an object, an expression that goes beyond the material itself in that the play of the artist is informed by: a) thought (conceptualization) b) skill/training of the body c) experience d) a connection to the world as a natural

22 Ibid., p.18.
23 It is certainly contentious in exactly what way meaning is contained within music but the fact that it can create emotional responses is usually accepted. For discussion on the emotive content of music see for example: Budd, Malcom. *Music and Emotion: The Philosophical Theories*, London, 1992.
body. The gesture of the artist is seemingly effortless, without thought as it were, and yet each gesture can contain within it the idea that is being realised and this secret logic of the concept and of lived experience can perhaps “mark” the gestures with a trace. Many elements can make their way through the gesture – the mystical artist might say that “spirit” and sacred powers (gods or nature) are sheltered within individual expression. Nietzsche called the Dionysian in creation that instinctive following of nature’s forces that allow beauty to appear. The “Dionysian ecstasies” connect the artist to the world and the world works through him / her – the artist as conduit. We might modify this and posit that the play of natural creative forces must encounter an equally strong creative soul, the artist, in order that these forces be realised as art. And while we might not take the positivist line that “to be beautiful everything must be intelligible”, we might see conceptual thought as part of the nexus that reaches into the gesture of the artist.  

One can see where this line of thinking leads. Depending upon where you take a reading from, the “concept” (conceptual thought) has a very small part in musical creation which can be viewed as a free Dionysian act, or, the concept when viewed as part of the mind and spirit of the performer / composer, converges with the practice in a fundamental way.

The many intersecting world views and tribal or cultural memories (including philosophy) reveal themselves as moments within the musical event, and the artist who understands this best offers this experience to the audience who also offer alternatives and additional elements – an intersecting and evolving pattern of meaning that is not quantifiable. This semi-mystical equation is only understood as an experience and as a practice: that is to say, the physicality, the visceral nature of the play that is involved in music escapes reduction precisely

because it is “exterior” in the sense that the creation of music requires actual sonorous bodies and the manipulation of these bodies by hands, fingers, or the training of the throat and lungs. This training of the body is directly connected to creating and dwelling upon consonant vibration. In this sense we see that the mathematical principles, ratios of consonance, are realised as physical elements of play. The beautiful (in art) bridges the chasm between the ideal and the real, and this, in a more specific sense, is exactly what is at stake in music production. Thought becomes physical play, and mathematics can be felt rather than understood:

The joy of music is ...the soul's delight in being invited, for once, to recognise itself in the body.27

Adorno extends this idea by noting that music is “a defense against paranoia, because it allows the subject or audience to get beyond themselves and into an affective world that is objectively manifested via the music, rather than being located inside the subject.”28 We might feel joy or a freedom from alienation in the affective world that music creates, a world that is a space of shared meaning between audience and performer and that offers glimpses of the past and the future, of utopia and destruction, and secret worlds unseen but nevertheless still compelling and half glimpsed through the work. Furthermore there is the Dionysian element to music: its truth addresses the body, and the body sometimes seeks to lead the mind.29

It is part of the nature of music that it escapes from the internal and seeks a more exterior symbol. This exteriority ties into its ritualised and sacred connections.

The music as healing or protective force in tribal culture\textsuperscript{30} is directly related to its profoundly localising effect – it dominates the body and mind of the participants and does not allow the evil spirits or forces to inhabit the bodies of the possessed or sick. Even in the ritual of possession - in which a god is said to inhabit the body of the shaman or acolyte - the possession is made possible by the protective force of the music, which both cleanses the body and makes way for the desired entity. The use of music in ritual creates group unity through common bodily activity and the power of the mythical second-order meaning that reaches from another time and strange universe to validate the groups activities. The visceral activities of music making / dancing / singing as holders of the sacred also require the extended space of nature. The mystery of the world and the unknown within it, the affective nexus of nature’s interaction with man, are reached for in the resonance and activity of objects and bodies in the world. Music making has a fundamentally visceral nature that cannot be reduced to conceptual thought, a physicality that seeks meaning, truth, and in the modern era, beauty, through movement and the play of bodies as they are situated \textit{in the world}.

In this section I have followed a line that reveals how a concept, or meaning, is connected to music. A music that seeks to speak through technology, that wishes to retain the Arcadian in the natural, the idyllic, the beautiful, the sublime, is here not negated. The conceptual, and the rational, are given space to appear in the gesture. The philosophical path converges with the musical expression, and the distance that the concept \textit{Divine Arcadian Technologies} travels becomes larger. We began by focussing upon the juxtaposition of the human gesture and electronic tones, in Wishart’s description of Stockhausen, as a metaphor for some religious or spiritual content. Leaving aside the electronic element we took up the

\textsuperscript{30} The discussion that follows concerning tribal culture is indebted to Roger Rouget’s analysis of music in relation to ritual in the work \textit{Music and Trance}. Chicago, 1985.
question of meaning itself within expression. This illuminates how the creative theme will articulate itself as music. The concept will appear in the gestures of the music, as will the philosophy that accompanies this concept. Certainly not in a programmatic fashion but as part of the nexus that informs the artist’s work. An exegesis of this type must not only uncover the gestation of the concept in the artist’s mind but also delineate spaces of possible practice – music is created within the world and is subject to the play of signs and language. As such the signs that are presented with the compositions seek certain commitments and preclude others. If through the music this text uncovers new meaning for the artist and the listener then it will be successful.

iii. Divine Arcadian Technologies

The concept *Divine Arcadian Technologies* seems on first encounter to contain within itself some antithetical elements. At the level of creation, i.e. the creation of electronic music, it might simply be taken to refer to a use of technology to create organic and natural-sounding music. The idea of a music that seeks Arcadian beauty within the machine is, in itself, contentious. As a more general concept a “divine Arcadian technology” could refer to a turn towards technologies that are aesthetic and creative of new systems of bio-diversity. This ambiguity is by no means unwelcome to the project. One could even add more meanings over these first two. One could understand the theme as a reference to mythological Arcadia and Greek gods. The word “divine” can be understood as god-like or beautiful – both make sense within the terms of the concept. The titles of the individual musical works also make explicit reference to the Gods and Goddesses of the past (c.f. *Steel Dawn Venus*) and the key words to each track contain many more examples of this, including Greek and Egyptian deities. Meanings proliferate when one is dealing with such a theme, and as a muse to a musical practice the theme of this project is closer to poetry than science. Rather
than trying to pin down the exact sense of *Divine Arcadian Technologies* I prefer
to see it as a guide. To reify it and fix it under a scientific gaze would see it
crumble to dust as a useful muse. This is not to deny our philosophical path - the
concept must be allowed to develop its logic, but at the same time the mystery of
the words must be allowed to remain even as we articulate a quite strict
engagement.

The Arcadian (idyllically natural) world and the modern technological world have
a long history of antipathy. Technology, in its instrumental form, is perceived by
some theories of Enlightenment as a structure that is concerned with the
domination of nature. This theory of domination describes humanity as breaking
down the fearful and mysterious and dangerous in nature into the useful and
consumable. Adorno and Horkheimer write in their analysis of modern culture
*Dialectic of Enlightenment*:

> At the turning points of Western civilization, from the transition to Olympian religion up to the
Renaissance, Reformation, and bourgeois atheism, whenever new nations and classes more
firmly repressed myth, the fear of uncomprehended, threatening nature, the consequence of its
very materialization and objectification, was reduced to animistic superstition, and the
subjugation of nature was made the absolute purpose of life within and without.31

And further along in the same work:

> The absurdity of a state of affairs in which the enforced power of the system over men grows
with every step that takes it out of the power of nature, denounces the rationality of the rational
society as obsolete.32

In these excerpts we see that the dialectic of Enlightenment is caught up in the domination of nature – within and without. The fear of the power of nature, its perceived threat as the true God of human being, is the impetus for a rationalised cognition that seeks to dis-enchant life. Also illuminated here is the fact that this “rationality” is in fact based upon metaphysical assumptions that remain unquestioned. Where is it proved that the radical unbalancing of the natural system through industry and technology do not disrupt subtle programs within nature that are required for human happiness / love / progress / etc.? This is an aspect of the irrational “rational” society that is perhaps being questioned in our world today.  

A technology that seeks a way forward without the domination and exploitation of nature as its primary rationale, is in some ways a return to earlier conceptions of technology. Heidegger in his essay *The Question of Technology* seeks some kind of path toward a technology that has not divorced itself completely from the aesthetic. That essay questions an earlier Greek notion of technology and finds in it clues as to what such a science / technology might look like in the future.

For the present project we are speaking with a more utopian, muse-like tone. A technology of the idylically natural might be understood as one in which domination of nature shares time with a technology of creation. A use of technology to create new bio-diverse systems and environments that set free the critical elements of nature that are slowly being eroded by a blind economic model based only on exploitation and domination. Progressive technologies would perhaps be geared towards creating environments within which human

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33 This line of thought emerges from a philosophy that seeks an understanding of animals and eco-systems as having some intrinsic worth beyond that which humanity ascribes and perceives within them. In this it has some similarities to the “Deep Ecology” movement. The interconnectedness of all elements within the ecosphere is itself not completely quantifiable and the influences and consequences of humanity’s exploitative activities are wide ranging and often hidden. For a detailed discussion of this topic see Bender, Frederic L., *The Culture of Extinction: Toward a Philosophy of Deep Ecology*, New York, 2003.

beings could be connected to progress, but in a way that always kept an eye upon the aesthetics of our world. As we have noted, there is no proof that the machine that we call the world is not one in which systems are dependent upon each other to function correctly. It is not clear that the system (nature’s system) still works in exactly the same way when we completely unbalance it.\[35\] This is the metaphysical and irrational core of industrialised Western societies: the unquestioned assumption that our eco-systems can be completely unbalanced and reoriented through industry and technology and yet still provide the correct elements for the spiritual progress of humanity.

The music that is connected to this philosophical discussion, the music of *Divine Arcadian Technologies*, is a music that will make use of technology but will seek a way into “natural” and mythical areas. The language of machines has been a language of domination, and that can become part of the tone of a computer-based music.\[36\] To create the kind of electronic music that seeks the beautiful in the Arcadian / natural sphere I make use of a philosophy that envisions a technology that seeks harmonisation with nature. The concept *Divine Arcadian Technologies* is a commitment to a music that is both technological and centred in the beauty of nature. More broadly, the music offered here does not make itself available as a soundtrack to the industrial wasteland, even though, paradoxically in one sense, it makes use of the instruments of technology.

In relation to these problems I have found it a fruitful path to consider the tensions that were encountered between the ancient Greek model of music and an emerging renaissance practice. Vincenzo Galilei and the Florentine Camerata were interested in the problem of technology and nature. One of the main


\[36\] This is an assessment that is based upon aesthetic principles but it also has ramifications for the history of music. On the related topic of the machine aesthetic becoming part of music composition (in the 19th century) see Schafer, R. Murray. *The Tuning of the World*. New York, 1977, pp. 110-13.
concerns Galilei voiced was connected to the rise of polyphony. The ancients were said to have some kind of monodic power invested in them through music, a music that through its exact use of mathematical ratios connected them to the world and the cosmos. The tuning of the ancients was based upon the circle of fifths (the Pythagorean ratios which did not include thirds as consonant), and did not allow for harmonic modulation between keys: it was monodic in terms of instruments, with harmonies perhaps sung in accompaniment. The rise of polyphonic music in the renaissance was viewed by some as a blending of many contrary voices, and with the advent of various tempered tunings this blending was potentially disastrous. The free modulation from one key to the next – an important component of polyphonic music - also brings with it, necessarily, some kind of rationalised temperament (well or equal). In equal temperament only the octaves are absolutely true – every other interval is slightly out. The ear makes allowances for this – but perhaps this retuning of the world via man’s own compass leads one away from the pure tonal characteristics of the ancient Greek model. This at least was the fear of the Camerata. The early opera’s were all pastorals about music itself – an attempt to regain the pure harmonic realm that had been lost, and a blueprint for future music. Interestingly Galilei did not advocate a return to monodic music but instead polyphony was subjected to scrutiny.\(^\text{37}\) In a series of experiments he shows that in the actual world the ideals that Pythagoras and the ancients were looking for never exist. This is because music is connected to a body of matter and is never just ideal numbers. Even computers cannot keep two notes in perfect consonance.\(^\text{38}\) The conclusion that Galilei reaches is that one can still find a new golden age of music using modern

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\(^{37}\) Actually Galilei held slightly contradictory views. Galilei seems to have defended both positions at various times (progressive polyphony and pure monody), but certainly he believed that polyphony was only supported by some tempering of the Pythagorean scale and that the “purity” of the tempered scale was acceptable. Daniel K. L Chua discusses this in his essay Vincenzo Galilei, Modernity and the Division of Nature. Reproduced in Music Theory and Natural Order from the Renaissance to the Early Twentieth Century. Clark, Suzannah and Rehding, Alexander eds., Cambridge, 2001, pp. 23-24.

\(^{38}\) La Monte Young does various experiments and pieces concerned with this and his work shows that there is no such thing as a “beat free” interval. See Charles Curtis, Notes on the Work: Butterfly for La Monte Young, http://www.diapasongallery.org/archive/2005/05-10.html.
tunings and instruments because the connection to the cosmos is still open. No tuning is free from distortion hence distortion is a fact of reality – reality is never precise in the way mathematics is. Within every geometric perfection as realised in nature (snowflakes, flowers, planets, orbits) there is the distortion of the actual as the universal laws are embodied. This conclusion allows for a slight deformation of the mathematical ratios of consonance in the practical creation of the music of the spheres.

Modern technology need not be the cold antithesis of a balanced eco-system, but can be viewed as a refining of the tools with which to move forward with such. To create beauty that is still resonant with an Arcadian nature is not closed to digital audio and processing, just as technological progress, in the broader sense, is not necessarily tied to industrial wastelands. The most degraded eco-system or unbalanced “nature” is still a natural realm, just as computer code is as “natural” as the singing voice, but for the purpose of this project I use a philosophical voice that speaks the language of a world in which an Arcadian form of nature is synchronised with humanity’s goals.39

*Divine Arcadian Technologies* is expanded here into a philosophical muse for the artist’s musical practice. In this sense what has been written here is only the beginning of the concept’s narrative: the individual track names and titles, the key words of the same, all of these reorient the main theme. The words themselves are resonant with meanings that escape the confines of this exegesis. “Divine” can mean beautiful but it also has connections to the god-like. When it is put in conjunction with words like “arcadia” one immediately thinks of mythology, of the gods and goddesses of the ancients, and the archetypes that evolve from these deities. *Divine Arcadian Technologies* begins to take on a new

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series of meanings that enhance or enlarge this introduction. It is music that will take up this expanded sense in the present case. The concept and its exegesis are not meant to strongly curtail the musical practice, but rather to open up a field of play. This field of play begins philosophically and ends with new connections that are barely outlined, connections that can reveal themselves within the terrain of the musical offerings. This extended poetic or mythical element in which the words sink into a world beyond precise formula is not denied. This logic is necessary in that music must break off from the theoretical at some point and move into areas that rational language cannot take hold of.

In what respect is the philosophical gesture, as opposed to the purely poetic or inspirational text, required? Why not remain exclusively with the undeveloped concept that signifies possible trajectories, albeit darkly? Besides the logistics connected to a project of this kind, the answer lies in the fact that Music must have a commitment to some position. The artist as s/he is revealed by beautiful instrumental music is hidden. If one wants to understand the artist a document like this must be relevant and, above all, not superficial. When one is confronted by various artworks the answer as to their meaning is that there is no meaning, and the artist reveals nothing about the personal experience of creation – *L’art pour l’art*. This may also have some radical or meaningful content, but other more engaged works seek some relationship to the artist and the society.

Instrumental music has, if it is of a skilful and beautiful type, the power to sway people over to its cause. But what precisely is that cause? Perhaps with instrumental music, and even with simple vocal music, the cause, or to put it more precisely, the shape of the artist, remain a mystery. In a context such as a university thesis the conceptual element is present for the listener. To do the music justice as a complex of meaning, one must represent, even if only in one dimension, the mind that accompanies the musical production.
Lastly we might wonder if the beauty of music – its sufficient cause – is predicated upon a connection to a diverse and flourishing eco-system. Thus the development of this project’s particular theme with its emphasis upon the unity of Arcadian nature and technology (and the corresponding critique of a domination model) is not incidental to the music but part of a necessary process experienced by the artist. In order to feel free within more abstract musical realms the present thesis has also been party to a movement that always seeks to ally itself with a freedom of nature from purely instrumental ends. The ends of nature (“nature” to be understood here in an Arcadian or richly diverse form) in harmony with the ends of humanity is the basis of the practice here.
Exegesis Section B: Track Plans and Analyses to Accompany CD.

i. Introduction

This section deals with the compositions in a track by track manner. How are the compositions built up and developed, and how have they been realised, technically and aesthetically?

In creating/recording the compositions I use a combination of processed and more natural elements. Every piece begins its life as something worked out on the guitar. This may be a fragment of melody or it may be a complete song. Usually a combination of recorded and written notes are used to build things up in the early stages. With a click track or a simple drum beat, parts and melodies (guitar and vocal) are recorded into a DAW. These are combined and auditioned in a search for the most interesting and fruitful directions. I have found that as a general rule in music production that it is best to be flexible concerning the manner in which one moves from the early writing stages of a piece into the more complete stages. Because this project is concerned with the recording of the works, the engineering and balance of the work become important. The recording process, the layering and processing of the channels, plays a role in the musical direction of each piece. Once an interesting electronic soundscape has been built up, I then use vocals or guitar parts in an unquantized form with a single take (per section), adding the mediated human gesture to the digitally quantized productions. In this way the compositions go through various phases and forms, as melodies and sounds are tested.

A variety of software synthesisers and sample synthesisers are used including, Camel Audio Alchemy, Dcam Synth Squad, Waldorf Largo, Lennar Digital Sylenth. The hardware synthesisers used include, Studio Electronics SE 1,
Access Virus TI Snow, Devilfish mod Roland TB 303, and Waldorf Pulse. The software synthesesers and samplers that come with Logic and Pro-Tools are also used (Ultrabeat, EXS 24, Boom, Xpand, Vacuum). A vacuum-tube based outboard compressor (Sebatron designed VEQC-2000) is used to process various elements. I have found that tube emulation is useful but does not quite capture the resonance and depth of the real thing. The guitar parts are one take only and do not have any quantizing or tempo manipulation added to them.

Three guitars are used in the recordings: Fender Stratocaster, Ibanez Artist, Peavey Predator. The vocals are natural and no auto-tuning has been used. No drum loops have been used (besides ones that have been manufactured by the artist).

The CD is divided into 10 tracks. These represent three compositional pairs and one triptych and they are arranged under the headings Divine Arcadian Technologies 1-4. This being the case, Divine Arcadian Technologies 1 has two tracks (a pair), Battle and Steel Dawn Venus. This pattern is repeated for Divine Arcadian Technologies 2. Divine Arcadian Technologies 3 and 4 comprise three tracks each (Divine Arcadian Technologies hereafter represented as “DAT”). The individual CD tracks all have a separate title and a complete list of the names and the order that they appear on the CD is contained on the track listing page. The tracks have been arranged hierarchically. In DAT 1 Battle is the prelude to the main piece Steel Dawn Venus. In DAT 2 Odyssey is the prelude to Moonrise Future Primitive. In DAT 3 King of the Seven is the prelude to Sun Array and Sun Hymn. In DAT 4 The Spheres is the prelude to the main track Future Love.

Future Love Rhythms is the afterword. Each track has a set of key words and concepts detailed in the analyses below. The key words are an extension of the title and were used as an inspirational departure point.
It is important to make a note here about the discourse both in the philosophical exegesis and the track analysis, and its relation to the music. The music was given a creative theme that was developed philosophically in the first section of the exegesis. Added to this we have the individual titles of each piece of music and a set of key words that were present during the creation of the pieces. This adds up to a quite weighty discursive component to the musical practice. It is vital to stress at this point that the process of creation was wholly devoid of overt programmatic articulation: the text was not “illustrated” by the music. The music was built up, composed, recorded and engineered with an eye always upon the aesthetic of the pieces: beauty (or in some cases a more extreme sublimity) and resonance being the main guidelines. In the analysis that follows I have read back into the works and found some links between the concepts and the music: this is of interest to the reader and the listener and adds a dimension to the experience. The music is quite capable of standing alone and being enjoyed without reference to the concepts, key words, and philosophical musings that have been here supplied. That being said there is of course some relationship between the concepts and the music. The development of the creative theme as a philosophical exegesis is a representation of the thought processes at work within the musical gestures, and the analysis of the individual tracks provided below is a continuation of this. The track analyses here do oscillate between the technically factual and the more conceptually subjective, but this is the nature of music itself. If one takes the analyses as a “reading” and not as a program, one will find them helpful in understanding the recordings and the artist.
ii. Individual Track Analyses

a. Divine Arcadian Technologies 1

**CD track 1: Battle**

*Divine Arcadian Technologies 1 (DAT 1)* is broken into two parts (*Battle* and *Steel Dawn Venus*) but there is a central component to both. The Arpeggio that plays a central role in CD track 2 (*Steel Dawn Venus*) is the same arpeggio that was used to build a more abstract, insect-like sound in CD track 1 (*Battle*). The arpeggio was sampled and then triggered from the software *Alchemy* (Camel Audio). This software allowed me to completely reorient the arpeggio with tuning and processing, making it into the sound of bees or insects (signified as “c1 bees” on the track plan). Using two distinct waveforms (Saw and Pulse variation) the sequencer of *Alchemy* is engaged in 16 steps. This smooths out the melody of the original file (the sequencer is being triggered by the original rhythm of the notes but the pitch is discarded or altered). The main pitch-tune knob of the two waveforms are set to different octaves (the Saw wave is much higher than the Pulse). Using the “morph x-y” knob in *Alchemy*, a function that allows a smooth morphing from one wave to the next much like an intelligent crossfader, I morph between the higher and lower waveform. This morphing only engages with the waves themselves, therefore delay or filter effects, which were applied in the performance section of *Alchemy*, are applied equally to the two waveforms and their various morphed stages. The morphing between the waves has the effect of changing pitch, as one sound slowly give way to the other and the pitch is ramped up or down depending on the direction one turns the knob: a simple process with the effective outcome of creating a rising tension as the Pulse wave’s pitch moves upward towards the Saw wave’s higher setting. Underneath

40 *Alchemy* does not merely crossfade from one sound to the next but it smoothly adjusts the attack time. See *Alchemy* manual p.59 for more information ([http://www.camelaudio.com/alchemymanual/](http://www.camelaudio.com/alchemymanual/)).
this main sound is another sound (see track plan “c2 insect”), a sound that is lightly mixed underneath this main sound. C2 appears when c1 gets filtered down enough. C2 was also created with Alchemy, but it utilises a standard sound (a mix of two saw waves with a pulse wave) triggered by an arpeggio. The imagery of the sounds in combination has an aesthetic that recalls some kind of deep space scenario. As to the significance of the title Battle, it is perhaps to be discerned within the tension of the main sound and its eventual - victorious - resolution as it returns from its journey into the higher realms. Battle functions as the prelude to Steel Dawn Venus.
Track Plan: Battle

Tempo: 138 BPM
Duration: 4:38

1. c1 bees
2. c2 insect
3. c3 low bass
4. c4 kore
5. c5
6. c6
7. c7
**Instrumentation: Battle**

<table>
<thead>
<tr>
<th>Channel</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1: bees</td>
<td>Camel Audio <em>Alchemy</em> sample synth (Sawtooth and Pulse wave variation with pitch morphing applied)</td>
</tr>
<tr>
<td>C2: insect</td>
<td>Camel Audio <em>Alchemy</em> sample synth (Sawtooth and Pulse wave mix)</td>
</tr>
<tr>
<td>C3: low bass</td>
<td>Recorded from Studio Electronics SE1 analog synthesiser</td>
</tr>
<tr>
<td>C4: kore</td>
<td>Native Instruments <em>Kore Player</em> (virtual analog sawtooth wave)</td>
</tr>
</tbody>
</table>
CD track 2: Steel Dawn Venus

_Steel Dawn Venus_ is the main composition of DAT 1. _Steel Dawn Venus_ was written first as a bass-line and an arpeggio. A vocal part was sung over the top. The original versions contained this vocal and an unadorned arpeggio and bass-line. The strings, which are now a central component, were not part of the original version. The strings came as a solution to various problems that seemed to be inherent in the work. Although the arpeggio was chordal in nature and resolved through various changes (A minor, G, Gmaj 7, A minor, D) it did not seem to contain enough vertical depth, harmonically speaking, and I set about reorganising the parts. The original vocal was dispensed with and I experimented with various chordal pads / strings to reinforce the harmonics of the arpeggio (pad 1 and 2 on track sheet [channels 2 and 3]). The pads I eventually used were programmed upon software synthesisers _Alchemy_ and _Xpand_. The _Alchemy_ pad is the main one that starts at bar 33 and extends to bar 140. I also slowed the arpeggio down to half-speed which seemed better – later I connected a sequencer’s arpeggiator to the half-speed version and this added some 16th notes to the 8th note pattern (n.b. the notation contains the unsequenced form of the arpeggio which is still viable musically but is not identical to the recording). I was searching for a kind of shimmer to appear in the work, and when I listen now I have a definite sensation of light shimmering upon water. The strings seem to represent a temporal movement through a deep sea and the arpeggio a shimmering motion within or upon water. The new vocal which was transposed onto a software synthesiser (_Sylenth_ [Lennar Digital]) was a very simple phrase. The notation of this part is rendered as “little phrase” on figure 2.1. When I listen to this phrase, which repeats with minor variations throughout the first section, I recall Proust’s description of the “little phrase” that was a part of Vinteuil’s composition.\(^{41}\) My own little phrase begins its life in the piece by changing its constitution a couple of times, reforming itself as though searching for the right fit.

When the main arpeggio comes in at bar 65 (green “A” on the track plan) the little phrase settles into the “right” mode and changes only slightly from thereon.

The track moves through a complex harmonic structure that changes once before the major turn at bar 145 (4:10). The harmonic structure of c3 (the Alchemy pad) in the first part changes once, a change that seems to signify movement through a different, slightly darker, ocean for eight measures (bars 120-128 at track plan green “B”). Specifically the c3 string changes insofar as the progression (Am G Gmaj7 Am D) changes to Am Dm C D giving a more chromatic and unsettled feel to the harmonic architecture and creating a sense of movement (figure 2.2 shows notation of the chord progression in relation to the arpeggio). The second section (beginning at the green “C” on the track plan), after bar 145, is a guitar improvisation over the now single A note bass. New atmospheric elements enter in this section, created in a separate Pro-Tools session signified as “c7” on the track plan.

In some sense this track has a feeling of “water” and it is then a landscape in more than the purely metaphorical sense. In the earlier philosophical readings of this thesis I was researching the question of sonic landscape (Trevor Wishart), and I feel that this has remained within the realisation of the work. The fusing of the electronic tones with the movement through water is consonant with the main creative theme. Steel Dawn Venus and Battle have as their key words: Sea, Dolphin, Venus, Birth, Cycle, Mars, Purity, Machine, Insect, Saturn. These words stood as part of the nexus behind the creation of the two works in DAT 1 and in some way they play a role now in the listening.

42 For descriptions of “metaphorical landscapes” in music, see Wishart, Trevor, On Sonic Art, Kingston, 1985, p. 88.
### Track Plan: Steel Dawn Venus

<table>
<thead>
<tr>
<th>Bar</th>
<th>1</th>
<th>9</th>
<th>17</th>
<th>33</th>
<th>49</th>
<th>65</th>
<th>81</th>
<th>97</th>
<th>113</th>
<th>129</th>
<th>145</th>
</tr>
</thead>
<tbody>
<tr>
<td>c1 little phrase</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>c2 pad 1</td>
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<tr>
<td>c3 pad 2</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>c4 arpeggio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>c5 bass</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c6 drums</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Etc.</td>
<td></td>
</tr>
<tr>
<td>c7 part 2 (g)</td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

Tempo: 138 BPM  
Duration: 6:29

Etc.

Guitar improv.
**Instrumentation and Technical Notes: Steel Dawn Venus**

<table>
<thead>
<tr>
<th>Channel</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1: Little Phrase</td>
<td><em>Sylenth</em> Softsynth (Lennar Digital). I created an audio file in Logic which was split onto two channels in Pro Tools. The main file was compressed and limited and the second instance was equalised (bottom end attenuated, some mids and highs boosted with Waves C4). These two parts were then mixed together (double tracked).</td>
</tr>
<tr>
<td>C2: Pad 1</td>
<td><em>Xpand</em> Softsynth pad.</td>
</tr>
<tr>
<td>C4: arpeggio</td>
<td>Digidesign <em>Vacuum</em> softsynth. Strongly limited (Waves L1), and double tracked in Pro Tools.</td>
</tr>
<tr>
<td>C5: bass</td>
<td>Cypher softsynth (Dcam) Double tracked in Pro Tools and heavily compressed with Waves <em>Renaissance</em> compressor.</td>
</tr>
<tr>
<td>C6: drums</td>
<td>Created with <em>Ultrabeat</em> (Logic) Boom (Digidesign) and <em>Xpand</em>. The rhythm was played in with a drum pad and then produced. The kick drum is a mix of three different compressed kick drums. The snare is a combination of compressed original sample with a bussed compressed signal on the frequency specific compressor (Waves C1). The bussed signal has the compressor set to “sidechain” in the monitor section which only allows the compressed frequency to appear and has the effect of adding “air” to the snare without muddying it.</td>
</tr>
<tr>
<td>C7: part 2 (g)</td>
<td>Guitar improvisation captured by 2 instances of Digidesign <em>Eleven</em> Plug-in. I usually set two or three instances of this software for guitar parts, some moderately compressed with <em>Renaissance Axx</em>. The two instances of <em>Eleven</em> are set to different settings - with some experimentation an interesting and full guitar tone can be achieved.</td>
</tr>
</tbody>
</table>

**Additional Notes:** Session done in two Pro Tools files, one for drums one for the synthesisers. The drum file was then imported into the main file and limited upwards with L2. Whole session done under Waves L1 on the main stereo output.
Figure 2.2

c1 little phrase

c3 pad2

c4 arpeggio

c5 bass

bass drum

snare drum
Figure 2.2 (cont.)

c1 little phrase

c3 pad2

c4 arpeggio

c1 little phrase

c3 pad2

c4 arpeggio
Figure 2.2 (cont.)
b. Divine Arcadian Technologies 2

CD track 3: Odyssey

CD track 3, Odyssey, is to be considered as two distinct sections (section 1 is signified on the track plan as an orange “1”, section 2 begins at the orange “2”). The actual difference between section 1 and 2 is, in terms of harmonic content, small. There is however quite a difference in texture and atmosphere. The first section is very regimented and machine like, and the various musical parts move through a complex counterpoint of four and sometimes five voices. The sounds are not based upon nature and they have a strong, almost harsh tone. This effect gives one the impression of a machine that is moving through various stages gaining new voices and parts here and there and assimilating them to the whole. The first section ends at bar 85 (2.29), and at this point the music seems to reach a conclusion of a sort. In moving beyond this resolution the second section (orange “2” on the track plan) begins with a longer more organic sound making an appearance: a string / pad (track plan “c8 alchemy od”). This series of strings has the effect of calming down the frenetic machine-based pace with its longer, legato forms. And yet out of this more ambient feeling the digital element begins to push its way back in – this time however it does not seem to draw things to itself so powerfully – elements enter and recall the earlier melodies but they do so now in an attenuated and more organic, almost whispered fashion. To my mind the second section (track plan “B”) begins to sound less like music and instead recalls to the mind a landscape. Out of this landscape a harsh digital element, a hangover from the first section, appears and then begins wandering through, searching in an almost melancholy way for a lost coherence. The more minimal nature is offset by a filtering of the spectrum which adds harmonic depth. The track was created as recorded improvisations on the guitar that were transposed onto the various synthesisers. In the recording process I used Airwindow’s software processing plug-ins, including Classic Channel to emulate Neve, SSL,
and API mixing desks. For fuller details on processing see “instrumentation and technical notes: Odyssey”.

Track plan “x1-x5” designates various different drum permutations (from single kick (x1) to single hi hat (x2) to full drum kit (x3) and other variations of these). Odyssey’s key words are: Robot, Interface, Human.

*Odyssey* functions as the prelude to *Moonrise Future Primitive*
Instrumentation and Technical Notes: Odyssey

<table>
<thead>
<tr>
<th>Channel</th>
<th>Instrument</th>
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</thead>
<tbody>
<tr>
<td>C1: bass amber</td>
<td>DCAM Amber softsynth. Recorded in Logic with Classic Channel (Airwindows) plug-in set to “Neve” (12%). Audio then double tracked in Pro Tools with L1 on one channel. <em>Amber</em> is modelled on 70’s ensemble synths and I have utilised the monophonic bass element only.</td>
</tr>
<tr>
<td>C2: cypher 1</td>
<td>DCAM Cypher softsynth. Recorded through Airwindow’s Grind Amp and Stereo Chorus in Logic. Then double tracked in Pro Tools. <em>Cypher</em> is a modelled three oscillator analog FM synth.</td>
</tr>
<tr>
<td>C3: strobe od</td>
<td>DCAM Strobe softsynth. Set to sawtooth wave with one voice. Recorded through Airwindow’s Big Amp and Pressure (amp modeller and compressor respectively) in Logic. Then double tracked in Pro Tools with more compression and limiting.</td>
</tr>
<tr>
<td>C3.1</td>
<td>Reconfigured synthesiser and processing settings for part two of track (Dcam Strobe).</td>
</tr>
<tr>
<td>C4: harmony</td>
<td>Same setting as c3 but playing some counterpoint harmonies.</td>
</tr>
<tr>
<td>C4.1</td>
<td>Reconfigured synthesiser and processing settings for part two of track.</td>
</tr>
<tr>
<td>C5: guitar</td>
<td>Peavey Predator Guitar recorded in Logic with Waves GTR and then compressed in Pro Tools</td>
</tr>
<tr>
<td>C6: drums</td>
<td>Played in with Korg drum pad. Compressed Ultrabeat kick sample with Bombfactory compressor at extreme setting and added uncompressed Boom kick underneath for low end.</td>
</tr>
<tr>
<td>C7: sylenth od</td>
<td>Lennar Digital Sylenth softsynth. Set to a “Q pulse” waveform with 8 voices. Bussed in logic to an Amp modeller (GTR) and chorus (Airwindows). Mixed in Pro Tools double tracked with compression.</td>
</tr>
<tr>
<td>C8: alchemy od</td>
<td>Camel Audio Alchemy. String patch.</td>
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</tbody>
</table>
Additional Notes: the entire Pro Tools mix session was done under Waves L1.
CD track 4: Moonrise Future Primitive

The basic premise of *Moonrise Future Primitive* (MFP) is simple. The piece is divided into three parts: a thesis, an antithesis, and a sublation or resolution at a higher level (represented as 1, 2, and 3 on the track plan). The first part of *Moonrise* is connected most strongly to the image of a city. It is a futuristic city and it is not necessarily a negative image that speaks from the music. True, it is regimented and to some extent robotic, but the parts are deceptively consonant, and at a certain point the robotic elements reach a critical mass which allows the musical whole to subsume and efface the more mechanical elements. At bar 25 (0.41) a new sound enters which has a slightly different quality to the elements that went before (track plan “c7 amber”). It heralds a change at bar 33 (1.23), a change that make the individual instruments mesh together and become a musically coherent whole. The sound itself (“c7 amber”), considered tonally, is more organic and analog than the other elements. Created with Dcam’s *Amber* synth using tuned formants, it was processed with a valve compressor (Sebatron veqc-2000). It is schematised on the track plan as “c7 amber”, and the pattern is notated on figure 4.1. The resulting sound is more pronounced than the other sounds and yet has, paradoxically, a more smooth and natural envelope. Thus it sounds less harsh but more pronounced than the parts around it. In some ways the textures surrounding c7 have a quite nasty and biting quality and as c7 enters it seems to usher these other elements into a new less hostile relationship. This is reinforced by the major change at bar 33. At this point there is a sudden change of intensity as if a previously dark and indistinct landscape that had been forming itself slowly and subliminally is illuminated by lightning. The musical elements form themselves into a starkly sculptured whole that is now harmonically complex and the passage acquires a vertical depth that was lacking before. This is, metaphorically, the city reaching an important plateau, and within

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43 The beauty of DCAM’s Amber is that one can take the key of the composition and tune the formants of a sound to the main frequencies of that key, thus emphasising the tonic or the fifth etc. Originally designed to simulate the frequency response of stringed instruments it works well as a creative tool.
its realisation one can discern triumphant fanfares and tonal colours. An example of the harmonic content in this section is provided by notation in figure 4.3 (bars 54-57).

The next change occurs at bar 65 (1:51) and moves the listener from the city into the sacred tones of the tribal (this is the beginning of section “2” on the track plan). This is the antithesis of our thesis (the city) and it recalls the wilderness of a primitive world with some natural ambience, and wind and storms, also apparent. This description is, naturally, only aesthetic: the musical logic of the parts continue into this “primitive” section, and this logic of the musical whole steers the music away from any naive landscape painting onto a coherently evolving musical path. The melodic and tonal characteristics of this section are more suffused and attenuated and the joining of the melodies to the forms are more abstractly realised – tonal depth and weight seem to divorce themselves from the harmonic content – a content which is nevertheless present. The listener must now pick the melodies and harmonies out of a more diffused wash of sounds, and at some points it seems as if a melody, like an eagle, is riding the crest of primitive storms. Camel Audio Alchemy was used to simulate a low undulating digeridoo in this section. In actual fact this sound is a drum loop slowed down and modulated to create an organic but rhythmic part. To create this sound the procedure was as follows: a) load a loop into Alchemy, b) set the “source a stretch knob” to 0, c) create a new LFO with a “ramp up” shape and assign it to the “position” parameter, d) adjust the lfo rate to the length of the sample (in this case 4 beats). This procedure then allows you to change the tempo of samples to fit them with any BPM. The side effect of this procedure utilised in MFP is that the pitch of the sample can be altered without changing the speed. Alchemy can produce very useable, artefact-free, results with this kind of

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44 For more information see the Camel Audio Alchemy manual p. 45 which deals with a similar procedure but only in terms of tempo matching.
procedure. The result is the low undulating sound that forms the backbone of part 2 (“c18 alchemy l” on the track plan).

The last section is the resolution of our thesis and antithesis (represented as “3” in the track plan). The beginning of this section is a retraction into a very simple melodic pattern being modulated by a four note bass. On the track plan these elements are named “bass 2” and “endtheme”, and enter the piece after bar 100 (see figure 4.2 for notation of this pattern). This pattern is simple and rudimentary but resonant for the listener, and one might imagine a machine searching for pathways into the rich world of natural systems, slowly feeling its way. At bars 116-120 there is a moment of clarity (trackplan “B”) as various elements combine to sing over the simple modulation, the most prominent being “midtheme”. Almost with the feeling of a final cadence one is left to wonder at where one can move to from here. In fact this secondary cadence acts as a focus for the latter development of this section in which the emphasis of the piece moves into the bass. What was a simple bass line now becomes modulated by melodic and pattern based movement, slowly changing our original understanding of what the simple pattern is capable of. Staying true to its form the simple pattern is enriched upon all sides in a sort of slowly mounting wave of bass. Out of this “wave of bass”, which seems at first chaotic, a new logic seems destined to emerge and with its emergence one can see the fundamental pattern underneath changing slightly too. From bar 132 to bar 156 this bass movement has the effect of prolonging the need for resolution as we “tread time” along with music. As bar 156 is approached the listener now feels that this is the end cadence as the harmonic structures converge upon one point inexorably, and this feeling is reinforced by a focussed drum fill. Out of this cadence the track reduces once again to the simple pattern with some changed characteristics: the bass has become deeper (trackplan “C”) and more ominous and the modulated synth pattern (track plan “endtheme”) is now subject to periodic envelope manipulation.
that reorganises the rhythm (envelope manipulation courtesy of Fabfilter *Timeless*
plug-in). Add to this a new pad that has been present but hidden and some harp
like melodies that fall softly like rain (track plan “c15” and “c16”) and one is
confronted with a sleek organic whole that has a slightly sensuous feel. At bar
173 a guitar cadenza (trackplan “D”) enters and unites the various elements
under the melody that was introduced in variation at bar 116 with the “midtheme”.
With this cadenza a resolution is reached and the music now becomes pared
back, simplified and sculptural, but still retaining the focus of the listener.
The key words for Moonrise Future Primitive: City, Sea, Star, Cloud, Scorpio,
Artemis, Selene, Bast, Forest, Eagle.
### Instrumentation and Technical Notes: Moonrise Future Primitive

<table>
<thead>
<tr>
<th>Channel</th>
<th>Instrument</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2:</td>
<td>Waldorf Largo softsynth.</td>
<td>Two instances of Largo running through Clip Distortion, Channel eq, Multipressor, and Compressor in Logic. Recorded and compressed again while mixing in Pro Tools.</td>
</tr>
<tr>
<td>C4:</td>
<td>Waldorf Largo softsynth.</td>
<td>Recorded through Clip Distortion.</td>
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<tr>
<td>C5:</td>
<td>Waldorf Largo softsynth set to percussive envelope.</td>
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<tr>
<td>C6:</td>
<td>Xpand softsynth.</td>
<td>Printed with reverb and delay (Waves Supertaps and Trueverb)</td>
</tr>
<tr>
<td>C7:</td>
<td>Dcam Amber softsynth.</td>
<td>Recorded through Sebatron hardware valve compressor (Veqc 2000). Tuned formants utilised (see notes).</td>
</tr>
<tr>
<td>C8:</td>
<td>Logic EXS 24 (square wave)</td>
<td></td>
</tr>
<tr>
<td>C9:</td>
<td>Native Instruments Kore Player</td>
<td>Brass Samples.</td>
</tr>
<tr>
<td>C10:</td>
<td>Logic EXS 24 (sampled analog set to play octaves). Double tracked through equalisation to sculpt the sound and make it cut more. Two eq settings were utilised on the same audio file on separate channels. EQ applied via sidechain compression set to “monitor”. The “EQ” was pure compressed signal which was then mixed with original file. This gave some high frequency edge to the sound and allowed it to stand out in the overall mix.</td>
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<tr>
<td>C11:</td>
<td>Sine wave (Alchemy) and in bars 32 to 64 reinforced with Xpand square wave.</td>
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<tr>
<td>C12:</td>
<td>Logic EXS 24 (sampled analog set to play octaves)</td>
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</tbody>
</table>
C13: guitar rev  Native Instruments Kore Player. Guitar samples heavily processed with reverb.

C14: low horn  Native Instruments Kore Player. Brass samples.

C15: guitar  Ibanez Artist am 205 guitar recorded though Waves GTR solo and Digidesign Eleven.

C16: nylon  Native Instruments Kore Player. Guitar sample.

C17: drums  Various Sampled Kick drums (combination of three), snare drums (Ultrabeat and EXS 24) also combination of three. Distortion and compression added to all. Produced in separate Pro Tools Session into which main audio file was imported.

C18: alchemy I  Alchemy synth processed drum loop. See track analysis for detailed description of processing.

Additional Notes: All the parts were recorded first in Logic except for c6 and c11 bars 32-64 which were recorded in Pro Tools. All files were then imported into Pro Tools and mixed on the Control 24. Two separate Pro Tools sessions were used. Session 1 was for drums, guitars, and the atmospherics from bars 64 to 100. Session 2 was for the rest of the parts. Both sessions mixed under Waves L1.
Figure 4.1
Figure 4.2
c. Divine Arcadian Technologies 3

CD track 5: King of the Seven
The title of track 5 *King of the Seven* is a reference to the sun. The sun was known as “king of the seven” in the renaissance (primarily by alchemists),
and taking this phrase as my starting point I composed a simple piece that comprises an E7 chord split into seven channels (each note of the chord representing a planet). One note of the chord per channel, and various different synthesisers used to create the whole. Each note changes itself with an inner logic not wholly connected to the structure of the chord, that is to say, the filters, the envelopes, the amplitude, the resonance – all of these parameters change independently and thus the chord as a whole takes on a deep and quite rich feel. It is worth observing here that a simple chord can be made quite aesthetically engaging by changing the texture and movement of individual notes through filtering and envelope modulation. This idea – not a new idea – highlights the musical possibilities that are inherent in simple harmonic configurations when combined with complex filtering and envelope manipulation.

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45 The Sun was also equated with the heart and with gold.
Track Plan: King of the Seven

- Tempo: 130 BPM
- Duration: 3:22

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**Instrumentation and Technical Notes: King of the Seven**

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<thead>
<tr>
<th>Channel</th>
<th>Instrument</th>
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</thead>
<tbody>
<tr>
<td>C1: alchemy k</td>
<td>Camel Audio <em>Alchemy</em>. Triangle and Pulse wave with LFO and manual automation of filter and pitch.</td>
</tr>
<tr>
<td>C2: amber k</td>
<td>Dcam <em>Amber</em>. Ensemble strings emulation with 1970's chorus emulation. Formant tuning applied to various frequencies (strongest boost at 296 HZ.)</td>
</tr>
<tr>
<td>C3: sylenth k</td>
<td>Lennar Digital <em>Sylenth</em>. Four part mix of Saw waves and white noise. Phasing, reverb, delay, and compression added from software's internal effects. Manual automation of various parameters, and mixing automation applied (filtering).</td>
</tr>
<tr>
<td>C4: virus a</td>
<td>Access <em>Virus TI Snow</em></td>
</tr>
<tr>
<td>C5: virus b</td>
<td>Access <em>Virus TI Snow</em></td>
</tr>
<tr>
<td>C6: virus c</td>
<td>Access <em>Virus TI Snow</em></td>
</tr>
<tr>
<td>C7: virus d</td>
<td>Access <em>Virus TI Snow</em></td>
</tr>
<tr>
<td>C8: vocal</td>
<td>Recorded vocal with Rode <em>NTV 1</em>. Various effects and filtering added post-recording. Flanging, keyed-gating, and reverb.</td>
</tr>
</tbody>
</table>
CD track 6: Sun Array

While working on Sun Array I tried to focus upon “solar” attributes and instrumentation. I had in the back of my mind always the normative criterion of an “Orphic hymn” and as such various attempts came and went, not measuring up to the ideal. The ideal in this case can be traced to various ideas, perhaps most obviously the connection of Apollo with the lyre and the emphasis of various philosophers on the importance of the voice in combination with the lyre / guitar. Such an emphasis can be seen in Pythagoras and also, in direct connection to an Orphic hymn to the sun, in Ficino. Marsilio Ficino writes upon Apollo, “the leader of the muses”,

Phoebus (Apollo) brings us principally two things in particular, namely light and the lyre....(you must) everywhere temper the vital power of the sun to your use, and in the night recalling the sun by fire, meanwhile not forgetting the lute and song.\(^\text{46}\)

Ficino was also influenced by the Hermetica and the notion there of creating ensouled statues with the use of heavenly melody. This however is directly connected to idolatory and the heretical use of demons through magic, and thus Ficino was reticent about the details and the extent of his belief.\(^\text{47}\) It is an element of Renaissance philosophy that each planet had a demon guardian that could be utilised by various practices. There is strong evidence that Ficino sang hymns in praise of the sun (containing a Greek orphic text) and that the hymns were connected to a ritual that had an altar and various symbolic artefacts.\(^\text{48}\) A pupil of Ficino, Diacceto, lists various artefacts that one would use in direct relation to an altar, including laurel, myrrh, frankincense, heliotrope, a talisman with the image of the sun in chrysolite. There are numerous combinations of symbols and symbolic gestures that one could utilise to pay homage to the sun,

\(^{48}\) Ibid., pp. 30-35.
the most important element in the present context being the hymn sung upon the lyre or lute.49

These elements entered my own work in relation to the sun as a conceptual seed. Keeping within the spirit of the sun’s sphere I sang with the guitar though one section of the piece. As a kind of symbolic gesture towards the tension between machine and nature, the vocal is unprocessed (no compression / delay / reverb / EQ). This section beginning at bar 81 (2:27) marks a change from the earlier sections. Let us designate this section the “chorus” even though it only occurs fully once (track plan “A”). The chorus will be understood to designate bars 80-116 (2:27-3:33). The vocal and guitar melody that enter at bar 93 are a reference to a melody that was introduced in the very first bars of the piece, i.e this melody is a variation of that original part (bars 1-16). The chordal structure of the two instances of this melody are quite different. Also the melody has been embellished somewhat through guitar ornament in the chorus. This embellishment however does not touch the final cadential turn, but the turn is marked by different harmonic elements within the two instances. The melody is notated in its pure form in bars 1-16 of instrument “amber sun” on Figure 6.1.

The music that plays between the two instances of this melodic phrase (from bars 16-80) is an extended meditation that establishes the main sound, a crystalline arpeggio recorded from the Access Virus. The sound is very simple, being a sine / pulse wave mix (see instrumentation “c4 arpeggio 1”). This main arpeggio moves through various chordal elements comprised of 2 instruments, Access Virus and DCAM Amber soft synth. No bassline is apparent except for the chords themselves which sometimes extend into a low range. The chord progression begins at bar 17 (0.29) following on from the main themes first variation, and runs

E B7 C#m E B F#m C#m E. This section (Bars 16-24) is a bridge to a new more slowly paced section (24-80) the chords of which are slightly more complex and run at half-speed. Within this long section there is also a change of sound from bars 24-32 and 32-80 insofar as the chordal work is taken over by another instrument (One is the Virus [“Chords 1” in the score] and the other is DCAM Amber softsynth [“c2 Chords 2” in the score]). The first instrument (Chords 1) drops back to playing root notes and simpler harmonic devices, while the instrument designated as “Chords 2” takes on the main chordal work. As an example of the increased complexity it can be noted that Chords 1 contains some fuller 9th and augmented chords (for example Bm7aug5 and F#9 at bar 40). This richer harmonic structure supports, in this area, only the arpeggio (the arpeggio and the chords are the only melodic content that is present in this section). The arpeggio does however deviate from its purely chordal roots and take on some scalar elements.

Once the arpeggio focuses itself into the chords that are needed to support the return of the main melodic theme (at bar 81), the track becomes much more lively, with a bassline bringing a more purposeful and ecstatic atmosphere. The structure of this “chorus” is somewhat eccentric being three sections of twelve bars each. The chorus is connected strongly to the number three and as such is markedly different in feel to the preceding passages. It should be noted here that the twelve bar structure of the chorus has the effect of realigning the original melodic line which was spread over 16 bars (the first 16 bars of the track). This realignment was accomplished as an improvisation (on guitar) of the original melody to fit the twelve bar format of the chorus.

Once we move out of this chorus we retain the vocal harmonisations for two bars and then they lapse. In their place a quite low frequency string / pad enters with an ominous, dissonant feel. This dissonance continues throughout this bridge
section. The arpeggio which is moving through various stages in relation to the bassline, including a counterpoint bass of two voices beginning at bar 125 seems to take on a more sculptured and textured feel. I feel that this new more textual feel is engendered by the dissonant elements contained within the harmonies. The dissonance has, in this instance, the effect of sculpting the sounds into shapes in opposition to their purely diatonic movement. Bars 124 -144 (see “B” on track plan) seem to articulate this best, and the images recalled there seem to conjur plantlife that waxes under the sun in all its mutation. The main vehicle that drives this change is c9, an evolving string sound, with longer sustained notes that modulate the more staccato arpeggio of c4.

Track plan “C” designates a twelve bar section in which the arpeggio is filtered down, the chordal structure (of the arpeggio) changes to a modulated Ab7 chord. Track Plan “D” From bar 157 to the break at 173 the bass (“c1 bass snow”) becomes monophonic playing only a C# under the arpeggio. This creates a rising tension which is heightened by the chordal progression at 169 (“c2 chords 1”) and then resolved into the four bar break.

Track plan “E” designates a break for four bars. Only c1 and c3 continue through break.

Track plan “F” designates the “end theme” in which a new melody takes over from bar 189 to the end. The “end theme” begins to get filtered out and a pad created in *Alchemy* enters at bar 249 through to end at bar 293. The “endtheme” so-called is one simple melodic line that changes slowly from bar 249 – 293. The end theme represents a change from the themes and variations that have gone before. At this point in the piece the composer anticipated the listener requiring a change from the give and take of theme and variation, the end theme provides a new texture and a new interest.
## Instrumentation and Technical Notes: Sun Array

<table>
<thead>
<tr>
<th>Channel</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1: bass snow</td>
<td><strong>Access Virus TI Snow.</strong> Pulse wave.</td>
</tr>
<tr>
<td>C2: chords 1</td>
<td><strong>Access Virus TI Snow.</strong> The chords of c2 “chords 1” in track plan are filtered (HPF) and thus highly attenuated for the first 16 bars. Wavetable with sine wave.</td>
</tr>
<tr>
<td>C3: amber sun</td>
<td><strong>DCAM Amber</strong> softsynth. The horn section (created in Amber) at the very beginning of the track was processed in a separate Pro Tools session and imported in (first 16 bars of recording: “c3 amber sun” on the track plan). In the separate session the original synth sound was multi-tracked and detuned to give more character, then bounced down and compressed in the main Pro Tools session. From bar 16 on the sound was double tracked and compressed with Waves C4 set on an extreme setting to cut out bottom end.</td>
</tr>
<tr>
<td>C4: arpeggio 1</td>
<td><strong>Access Virus TI Snow.</strong> Sine wave / Pulse wave mix with distortion added. Limited strongly with L1. Attached to this file in Pro Tools was another instance of the arpeggio created with DCAM Cypher.</td>
</tr>
<tr>
<td>C5: chords 2</td>
<td><strong>Access Virus TI Snow.</strong> Wavetable pad.</td>
</tr>
<tr>
<td>C6: guitar</td>
<td><strong>Fender Stratocaster.</strong> Recorded through two instances of Digidesign Eleven plug in with Avalon pre-amp.</td>
</tr>
<tr>
<td>C7: vocals</td>
<td><strong>Rode NTV 1</strong> microphone. Recorded vocal with no compression in through the Control 24 console. L1 over whole session (master buss) was the only dynamics applied.</td>
</tr>
<tr>
<td>C8: drums</td>
<td><strong>Plasticlicks</strong> sound library D16 group. Some compression but not extreme. Single instances of every sound, no double tracking. Some audio manipulation to create the panning off hi-hats in last section - specifically Digidesign delay, Waves MetaFlanger, and some stereo imaging work with panning and filtering.</td>
</tr>
<tr>
<td>C9: strings 1</td>
<td><strong>Xpand</strong> softsynth. String sound.</td>
</tr>
</tbody>
</table>
Additional Notes: I had a *Renaissance* compressor and an L1 over the Stereo output of the main Pro Tools Session (main session had all channels except c6-c9). The compressor was set very low compression ratio (less than 2:1, with slow attack time).

C8 (Drums), c9 (vocals), c6 (guitar), and c9 (strings) were all added over the top of the bounced down file in a new session. This required some back and forth mixing, but I find this a very useful way to work (using multiple Pro Tools sessions to realise one piece). I sometimes have up to 6 sessions going (2 or 3 Logic and 2 or 3 Protools sessions). Each session has an L1 over the stereo master but only one session has a compressor over the stereo master.
Figure 6.1
Figure 6.1 (cont.)
CD Track 7: Sun Hymn

Sun Hymn arose out of an attempt to deal with a few of the tasks that Sun Array made apparent. More precisely a melody from within Sun Array was the starting point. Somewhere along the way Sun Hymn was hijacked by the interesting rhythms that were being generated. In its finished form it is quite abstract, its focus being mostly the drums and the processing of these drums (the title seems now to be somewhat ironic insofar as there is very little one could call “hymn-like” within the piece).

Sun Array and Sun Hymn are both attempts to deal with the same set of musical problems and they utilise the same key words. The fact that they end up in quite different realms is testament to the fact that music has its own logic that concepts only touch briefly. Although the melody and chord progression arose from Sun Array’s seed this does nothing to diminish the piece, and indeed the more dynamic and laissez-faire feel of Sun Hymn works strongly in its favour. The melody was subsumed by the percussion and plays only a minor role in the finished work (some elements of this melody are still apparent albeit in filtered form in “c7 virus s2” from bar 121). The key words for Sun Hymn and Sun Array are: Harp, Lyre, Apollo, Ra, Precision, Sword, Mercury, Water, Sun.

Track Plan “A”: signifies a break in the drums and the entry of bass.
Track Plan “B”: Funky drums and bass section combined with snippets of audio cut from various synth sources.
Track Plan: Sun Hymn

Tempo: 130 BPM  
Duration: 4:43

Bar 1

1. c1 sylenth bass
2. c2 funky perc
3. c3 virus s1
4. c4 dcam funk
5. c5 logic s1
6. c6 drums
7. c7 virus s2
8. c8 piano
9. c9 alchemy stab
10. c10 string s1
11. c11 cut up

A break

B funky section
**Instrumentation and Technical Notes: Sun Hymn**

<table>
<thead>
<tr>
<th>Channel</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1:</td>
<td>sylenth bass</td>
</tr>
<tr>
<td>C2:</td>
<td>funky perc.</td>
</tr>
<tr>
<td>C3:</td>
<td>virus s1</td>
</tr>
<tr>
<td>C4:</td>
<td>dcam funk</td>
</tr>
<tr>
<td>C5:</td>
<td>logic s1</td>
</tr>
<tr>
<td>C6:</td>
<td>drums</td>
</tr>
<tr>
<td>C7:</td>
<td>virus s2</td>
</tr>
<tr>
<td>C8:</td>
<td>piano</td>
</tr>
<tr>
<td>C9:</td>
<td>alchemy stab</td>
</tr>
<tr>
<td>C10:</td>
<td>string s1</td>
</tr>
</tbody>
</table>

**Additional notes:** the track was built up with automation of various plug-ins in Pro-Tools to create a sound that keeps shifting. The main focus is the drums and the interest is created by doing multiple passes of recorded automation.
d. Divine Arcadian Technologies 4

CD track 8: The Spheres

*The Spheres* arose from a slightly different working process, and this gives the work a singular character. Utilizing a more DJ oriented aesthetic, the parts of the track were a combination of different elements that were tempo warped and mixed together in Ableton Live. The feel of the piece has a more robotic and industrial feel in the first 32 bars. It almost has the sound of a computer game, complete with the sound effects of digital motion and rebounding missiles or game artefacts. Once this pattern has been established a new element enters (“c2 kepler” on the track plan). This sound, built up in a separate file and then imported to Ableton, is a moving pad that twists and turns, changing constantly. The sound itself, on first encounter, is quite industrial or metallic, but it could also be the movement of some large body – and indeed it is created with the idea of a kind of music of the spheres. I imagined Kepler’s music of the planets in celestial harmony as the starting point for the programming. Whilst working upon this sound I also had occasion to think of many natural objects and vistas, both celestial and Arcadian. I was attempting to imbue my digital pad with an Arcadian element, and I literally conjured these objects in my mind’s eye as I manipulated the automation and envelope of the sound. Whether this comes across in the work or not is difficult to say. It is however pertinent to this project insofar as the musical gesture was tempered with thought processes in which natural beauty were uppermost. How much of the artist’s thought is retained in the digitally mediated musical gesture? With traditional instruments it is notoriously difficult to perceive the mind of the artist, and with electronic music one must posit that the same is true. Nevertheless something remains of this thought experiment within the twists and turns of c2, and that is perhaps one of the interesting elements of the unfolding of music as expression in general.
Track Plan “A” designates a crescendo of drums created by automating reverb and delay plug-ins in Pro Tools.
Track Plan: The Spheres

Tempo: 138 BPM  Duration: 4:55

Bar 1 9 17 33 49 65 81 97 113 129 145 165 170

- c1 kepler
- c2 beat 1
- c3 low kick
- c4 amber s
- c5 vacuum stab
- c6 drum loop

A
Instrumentation and Technical Notes: The Spheres

<table>
<thead>
<tr>
<th>Channel</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1: kepler</td>
<td>Camel Audio <em>Alchemy</em> and Access <em>Virus</em> pads mixed together. <em>Alchemy</em> pad is a combination of a Saw wave and piece of factory audio <em>Dark Space</em>-C2. <em>Virus</em> part is 4 discrete channels: 1) 2 oscillators set to pulsewave with a band pass filter, 2) 1 oscillator with classic DCO setting (sine/saw mix), 3) 1 oscillator set on spectral wave (wave 42), 4) 2 oscillators set to sawtooth.</td>
</tr>
<tr>
<td>C2: beat 1</td>
<td>Various electro sounds / samples were used to build up the main loop. Compressed heavily with Waves C4. Most of the elements were double tracked in Pro Tools (a track with C4 and a track with an EQ, compressor, and L2). The loop was created and then duplicated on a different channel with a compressor added. The two files were then mixed together.</td>
</tr>
<tr>
<td>C3: low kick</td>
<td>A combination of various kick drums. The main low drum is a sample from a techno record (artist’s own recording). Distortion and bit-crushing were added to provide cutting edge (harmonically speaking).</td>
</tr>
<tr>
<td>C4: amber s</td>
<td>Dcam <em>Amber</em> software synth.</td>
</tr>
<tr>
<td>C5: vacuum stab</td>
<td>Digidesign <em>Vacuum</em> software synth. Analog wave emulation with distortion.</td>
</tr>
<tr>
<td>C6: drum loop</td>
<td>Drum loop programmed with Korg <em>Drum Pad</em> and compressed with Sebatron valve compressor.</td>
</tr>
</tbody>
</table>
**CD track 9: Future Love**

*Future Love* was created from recordings and written parts for guitar and voice. The key words for *Future Love* are: Robot, Blue, Birds, Speed, Starlight, Tigers, Man, Woman, Moth, Earth. *Future Love* is a very simple track with a programmed electro beat and guitars. One basic synthesiser arpeggio winds its way through the whole piece. The bass underneath changes, and the melodies come and go, but there are no substantial changes to the main arpeggio. This piece is perhaps the most traditional of the series, and it represents a return to a “traditional” instrument (Electric guitar). It is interesting to hear the layers of the guitar as they sit one upon the other: the harmony of the strings in relation to one another is quite different to the harmony of synthesisers in the same relations. This may be no more than the fact that guitars are omnipresent in popular music allowing the ear to identify the chords more easily.

The melody is broken into 4 distinct parts, represented on the track plan as “c3 guitar fl1” through to “c6 guitar fl 4”. Underneath all the guitar melodies the arpeggio (“c7 arpeggio”) remains constant. It changes only once when it moves from the *Amber* synthesiser onto the *Virus* at bar 81 (“c9 virus arp”).

Track plan “A” represents the bass changing its form to mimic the main arpeggio (c7).

**CD Track 10: Future Love Rhythms**

Track 10 started its life as the drum file for *Future Love* (track 9) but it was superseded by another file. There was something interesting about FLR and I continued to work on it. I decided that it might make an interesting end to the cycle, its low bass and strong imagery of shapes within space lifted it above a simple rhythm. It is no more than a brief and powerful abstract object within space, closing the cycle that began with *Battle*. Surveying the entire set of tracks
I felt the need for some heavy weight – sonically speaking – as a coda. *FLR* contains the deepest frequencies of the cycle, and fits that end position.
**Instrumentation and Technical Notes: Future Love**

<table>
<thead>
<tr>
<th>Channel</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1: bass 1</td>
<td>Digidesign <em>Xpand</em> Synthesiser. Bass guitar emulation. Compressed with two compressors: Digidesign <em>Compressor / Expander</em>, and <em>Waves C4</em>.</td>
</tr>
<tr>
<td>C2: bass 2</td>
<td>Digidesign <em>Xpand</em> Synthesiser (Same as above different midi pattern).</td>
</tr>
<tr>
<td>C3: guitar fl 1</td>
<td>Fender <em>Stratocaster</em> recorded through Laney <em>TFX 200</em> Amplifier with two microphones (Rode <em>NTV 1</em> and Shure <em>sm58</em>).</td>
</tr>
<tr>
<td>C4: guitar fl 2</td>
<td>Fender <em>Stratocaster</em> (as above)</td>
</tr>
<tr>
<td>C5: guitar fl 3</td>
<td>Fender <em>Stratocaster</em> (as above)</td>
</tr>
<tr>
<td>C6: guitar fl 3</td>
<td>Fender <em>Stratocaster</em> (as above with the addition of another track recorded through Digidesign <em>Eleven</em>).</td>
</tr>
<tr>
<td>C7: arpeggio</td>
<td>Dcam <em>Amber</em> Softsynth</td>
</tr>
<tr>
<td>C8: drums</td>
<td>Drums a combination of Logic <em>Ultrabeat</em> samples and D16 <em>Plasticlicks</em>. Double tracked in Pro Tools with L1 on 1 channel and <em>Renaissance</em> compressor on the other. Drums were built up in a separated file and imported to main file.</td>
</tr>
<tr>
<td>C9: virus arp</td>
<td><em>Access</em> <em>TI Snow</em>.</td>
</tr>
<tr>
<td>Bar</td>
<td>1</td>
</tr>
<tr>
<td>-----</td>
<td>---</td>
</tr>
<tr>
<td>c1 drums flr</td>
<td></td>
</tr>
<tr>
<td>c2 se1 flr</td>
<td></td>
</tr>
<tr>
<td>c3 access flr</td>
<td></td>
</tr>
<tr>
<td>c4 vacuum flr</td>
<td></td>
</tr>
<tr>
<td>c5 access2 flr</td>
<td></td>
</tr>
</tbody>
</table>
### Instrumentation and Technical Notes: Future Love Rhythms

<table>
<thead>
<tr>
<th>Channel</th>
<th>Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1: drums flr</td>
<td>Heavily layered kick drums and snares. Compressed individually and layered with EQ added (Waves Jack Puig EQ)</td>
</tr>
<tr>
<td>C2: se1 flr</td>
<td>Studio Electronics SE 1 very low analog waves: recorded to audio and compressed with Waves software.</td>
</tr>
<tr>
<td>C5: access2 flr</td>
<td>Access TI Snow. Random manipulations of Snow's onboard effects and filters recorded down to Pro Tools audio to create the effect of 3-D shapes in space.</td>
</tr>
</tbody>
</table>
Track Listing for CD

CD Track 1: Battle
CD Track 2: Steel Dawn Venus
CD Track 3: Odyssey
CD Track 4: Moonrise Future Primitive
CD Track 5: King of the Seven
CD Track 6: Sun Array
CD Track 7: Sun Hymn
CD Track 8: The Spheres
CD Track 9: Future Love
CD Track 10: Future Love Rhythms

Tracks 2, 4, 7, and 10 mastered for CD by Roger Seibel at SAE Mastering, Phoenix, Arizona.
Tracks 1, 3, 5, 6, 8, and 9 mastered for CD by Scott Simon at EMU studios, Adelaide, South Australia.
Bibliography


