An emerging digital community: the CD-ROM artists

KRISTINE H. BURNS[1]

Department of Music, Dartmouth College, 6187 Hopkins Center, Hanover, NH 03755, USA
E-mail: kristine.h.burns@dartmouth.edu

Over the past five years, a digital community of CD-ROM artists has begun to emerge. The one element that serves as the common thread to this particular community is that these artists and their works are based on a new musical presentation, one fully tied to a visual element, an interactive, exploratory world that is tailored to the individual user's progress through a finite number of elements. In short, although intermedia works have a long history, now the user may explore at his/her own pace. This unique manner of presentation has emerged into the worlds of art music, underground music, and performance art.

1. INTRODUCTION

Recently, a community of audio/visual artists working in the CD-ROM genre has emerged. Although this is a small community, a definite presence is being felt. The concern of this article is to detail the rather brief historical development of the CD-ROM from an *artistic* point of view, to chronicle the precedence for the genre, and to suggest some possible directions for future developments within this genre.

Until a few years ago, the CD-ROM served as a tool for storage and retrieval of information – system back-up, digital encyclopedias, etc. With the popularity of computer games, the medium moved into bigger, better, faster, and more widespread uses such as *Myst*, *Doom*, and *Marathon*. Because these games were not limited to the space of one or two diskettes, but rather had 650 MB to fill up, users were treated to more and better graphics, as well as expanded sound capabilities.

Within the last few years, university musicians have attempted to use the CD-ROM as a teaching tool. This trend is evidenced by Robert Winter's CD-ROM series. Suddenly, Stravinsky, Mozart and Beethoven have all become digital superstars brought to your very classrooms. Although there have been many educational CD-ROMs, these are not of consequence for this discussion.

Some may still not be aware that there have been a number of *compositions* designed for the medium. These developers and artists, both audio and video, have come from a variety of backgrounds and have a wide range of musical styles and interests. The one element that serves as the common thread in this particular community is that these artists and their works are based on a new musical presentation, one fully tied to a visual element – an interactive, exploratory world that is tailored to the individual user's progress through a finite number of elements. In short, although intermedia works have a long history, now the user may explore at his/her own pace. This unique manner of presentation has emerged into the worlds of art music, underground music, and performance art. Although the contents vary, these art CD-ROMs fall into several easily defined areas, including: (i) the enhanced audio CD, (ii) the audio CD or live performance composition reimagined with visual enhancements, and (iii) the interactive audio/visual composition.

2. CD-ROM EXAMPLES

Morton Subotnick
All My Hummingbirds Have Alibis
(1992, Voyager)

All My Hummingbirds Have Alibis is a presentation of an earlier live-performance composition (from 1991) in CD-ROM format. The original work is scored for flute, 'cello, MIDI piano, MIDI Kat, and computer operator. In this CD-ROM version, there are graphics included with each musical section – single pictures taken from Max Ernst's collage books. Although this CD-ROM is very artistically focused in the musical sense, it is somewhat educational in its visual and organisational presentation of the material.

There are seven parts to the design. 'The Introduction and Credits' presents the background of the composition (i.e. this is one of the three-part trilogy of *Imaginary Ballets*, the other two being *and the butterflies begin to sing* and *A Key to Songs*). 'The Program Notes' covers biographical information on Ernst, Subotnick, and the performers associated with this recording. 'A Composer's View' includes audio snippets of Morton Subotnick talking about his composition from an historical perspective – how he

[1] http://music.dartmouth.edu/~kristine

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viewed the recorded medium, how the audience changes in relation to the CD-ROM. The two more technically oriented sections are 'About the Music' and 'About the Technology'. Both of these sections present the 'how-to's' of interactive performance and MIDI technology.

A recording of the entire composition is presented in the 'All My Hummingbirds Have Alibis' portion. The composition is in seventeen sections, with each providing a set of links to (i) a still picture from the Ernst collage books, (ii) a section of score, or (iii) a narrative about the music.

Also on the CD-ROM is *5 Scenes from an Imaginary Ballet*. This brief work is a reinterpretation of many of the sections from *All My Hummingbirds Have Alibis*; however, this composition was 'the first piece of music composed especially for CD-ROM. Both romantic and cerebral, these five short pieces integrate music with Max Ernst's images and texts, which appear on the screen as the music plays.' (Subotnick 1992). The visual design of both *All My Hummingbirds Have Alibis* and *5 Scenes from an Imaginary Ballet* is dramatic greyscale. The lack of colour may be attributed to the early release date of the CD-ROM; however, the sparseness lends itself well to the composition.

In keeping with the educational idea, Subotnick is currently working on the second in a series of four CD-ROM composition programs designed to teach young children to compose. The first one, *Making Music*, is currently available from Voyager.

The Residents
Freakshow
(1993, Voyager)

Freakshow was developed from an earlier album dating from 1973, and is really a piece *reimagined* for CD-ROM. The CD-ROM was directed by The Residents, and the animation was completed by Jim Ludtke. Because this was an early CD-ROM, the work only allows for 8-bit colour and 8-bit audio.

The underground performance group, The Residents, were founded *c*. 1970 in San Mateo, California, USA. Their experiments with multi-track tape recorders led to many electronic-based singles, as well as EPs and CDs. The group members are unidentifiable and use an eyeball as their icon. They never appear in person, but instead are always costumed with the eyeball symbol.

Freakshow contains seven related stories, each based on a character from a carnival. The CD-ROM is a 'collection of interconnecting stories about the down-and-out inhabitants of a fantasy freak show.' (The Residents 1993). The user is treated to the carnival tents and exhibitions, each more grotesque and absurd than the last. When the carnival barker finally allows the user backstage of the show, one can delve into the carnival wagons. There are pictures, animations, sound effects, and music compositions in each of the wagons. All of these elements tie together to give the user some kind of insight into the hidden lives of the 'freaks'.

When the user reaches the Residents' wagon, a large menacing eyeball wearing a tophat, s/he is treated to a myriad of propaganda. In this wagon, one finds the 'Buy or Die' section of the CD-ROM, where t-shirts, albums, posters, etc. may be purchased. Here the CD-ROM turns away from the art and presents a very commercial environment.

The Residents have released two other CD-ROMs in the past two years: the *Gingerbread Man*, and *A Bad Day at the Midway* (also based on an earlier album), both from Voyager. However, these two CD-ROMs tend to have much less music, concentrating on interactivity and a game-like atmosphere.

EBN – Emergency Broadcast Network
Telecommunication Breakdown
(1995, TVT Records)

Another sub-category within the CD-ROM is the enhanced CD. An enhanced CD started as an audio CD, but also includes several tracks with videos. Sarah McLachlin and the Cranberries, as well as others have released enhanced CDs since 1994. EBN's *Telecommunication Breakdown* contains three video tracks, an interactive video wall, and twenty audio tracks. The CD also comes with a separate Macintosh diskette that includes all the technical information about the CD-ROM and the live performance version of the audio–video material.

EBN is an underground band from the United States that specialises in audio/video performances. Their music is somewhat eclectic, offering everything from sample loops to selections featuring Brian Eno and Bill Laswell. *Telecommunication Breakdown* is an enhanced CD version of a live performance. Along with live electronic music, EBN makes use of analogue and digital video as a part of their regular performance set-up. The synchronisation of events is amazing. The entire performance is controlled by several independent video and audio mixers, each with its own operator. The presentation in this enhanced CD features a set of controls that allows the user to invert the colour pattern, play the video twice as fast, or do both at once.

Many of the current enhanced CDs offer options for the user to 'follow the band' through the virtual cities from the last tour, the only visual content being in this game-like point-and-click environment. Most of these CDs are only offering snippets of video rather than anything that approaches an intermedia

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composition; often, all the music is presented separately in the audio-only portion of the CD. *Telecommunication Breakdown* may not provide the range of interactive options presented in other enhanced CDs, however it does offer an impressive audio/video composition. What this CD lacks in point-and-click architecture, it makes up for in the *artistic* presentation.

Laurie Anderson
Puppet Motel
(1995, Voyager)

Laurie Anderson's *Puppet Motel* is a comprehensive visual and auditory presentation. Hsun-Chien Huang was the visual artist who helped to realise Anderson's musical ideas. With all its interactivity, this CD-ROM borders on a game. However, the stunning images and musical loops offer the user a chance to explore an imaginary motel, complete with *c*. thirty rooms including: the planetarium, the fax room, the love line, an anechoic chamber, and a Green Room. Each time the user boots up, s/he registers by typing his/her name on screen. One of the most interesting aspects to this CD-ROM is that the more you register, the more areas and activities you are able to access. A file that stores user data is written to the hard drive and recalled with each registration under the same name.

When the user first logs on, s/he arrives in the Hall of Time. From here, one may access the rooms in the hotel. Travel is restricted between rooms, but one may leave most rooms through an AC plug. The escape key offers access to the attic where artifacts from all the rooms may be found. Travel through the hotel may also be initiated from the attic.

The design of the CD-ROM is quite dark. Light sources help the user to track entrances and exits between rooms. The mouse cursor will often change shapes or help to direct light sources. There are many interactive activities, including recording and playing back sounds, and surfing the WWW for movies to download. This is a beautiful environment with much activity. However, the CD-ROM tends to be long on game, but a bit short on artistic content.

Kristine H. Burns
Dido and Anaïs
(1995)

Dido and Anaïs, an electronmedia composition, was completed in 1995–6. The work was designed around the specific abilities and limitations of the CD-ROM. *Dido and Anaïs* is divided into six sections, ranging from general information to three electronmedia movements: 'Dido and Anaïs', 'Anaïs', and 'Henry and Anaïs' (figure 1).

The compositional paradigm explores the 'pure' ideal love presented in Henry Purcell's opera, *Dido and Aeneas*, and the 'real' highly sexual love between authors Henry Miller and Anaïs Nin.

Background information on the fundamental 'how-to's' of navigating the environment is presented



Figure 1

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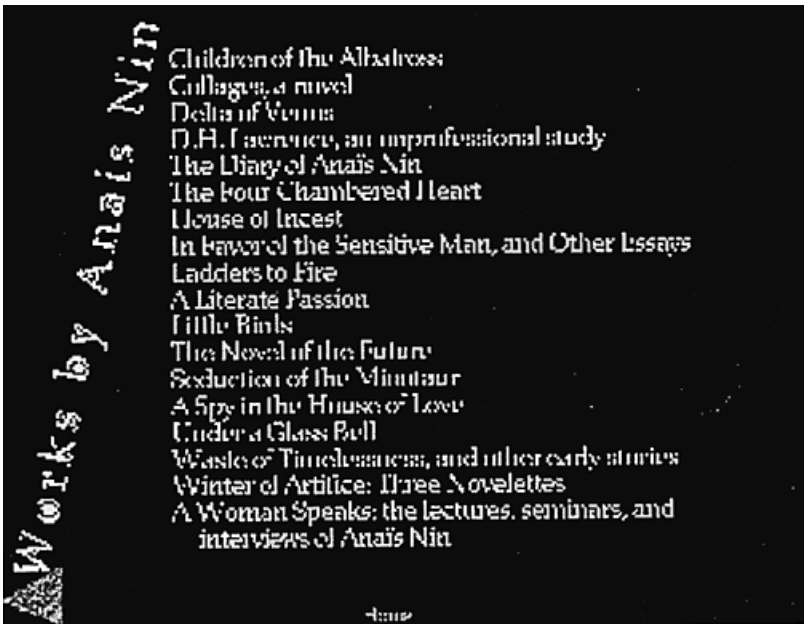


Figure 2

in one section; biographical information is provided in another. Sections three and four introduce the user to the worlds of Henry Miller and Anaïs Nin (figure 2), and the Purcell opera *Dido and Aeneas* (figure 3). These sections contain bio-bibliographical information, as well as incorporating external sound elements for further investigation. The final section of this work contains three video/music compositions. These two-minute movements are based on the play on words and context of the Miller/Nin and the Dido/Aeneas relationships.

The specific compositional idea for the three movements is a linear interpolation between the operatic Dido/Aeneas relationship and Nin/Miller. All compositional elements, both visual and auditory, are based on these relationships. The play on words of Dido and Aeneas vs Dido and Anaïs served as the starting point to draw these relational lines.

The musical grain that was used as the basis of the entire audio portion was taken from a lament in the opera, *Dido and Aeneas* (figure 4). Dido's ground bass aria, 'When I am Laid', serves as the basis for all of the music.

All the visual information stemmed from portraits of Anaïs Nin, Henry Miller, and Kirsten Flagstad (the opera singer who was probably the best-known Dido). The first video uses pictures of Dido (Flagstad) and Anaïs Nin. The second video is solely based on Anaïs Nin, and the third movement contains images of Miller and Nin. This presentation takes the words and meanings of the Lament out of their original intention and throws them into a very real twentieth-century context.

Dido and Anaïs is significant in that the CD-ROM is a composition. That is to say, this work is not merely a list of programme notes, nor is it a game. Instead, this CD-ROM provides a series of movements with accompanying background material to the entire composition. The idea of interactivity, while not integral to the three movements, allows the user to access various areas of information at will. There is no linear progression through this format, as there would be in a more traditional musical work such as an orchestral composition. The user is free to decide the order of events, and then is completely responsible for his/her experience.

CONCLUSION

The single most important characteristic of the CD-ROM is its nonlinear presentation capability. Installation art often forces a single-user paradigm, thus giving each audience member a unique experience. Certainly the recorded medium is interpreted differently by individual attention than a large concert hall forum. Artists, musical and visual, have long been able to provide a series of personal environmental characteristics to the listener/observer. From the early installation and recorded electroacoustic compositions in the 1960s, musicians and visual artists paved the way for more recent interactive systems of performance of the 1980/90s.

Morton Subotnick is credited as being the first composer to design an electronic composition specifically for the recorded medium, *Silver Apples of the Moon* (Subotnick 1967). Beginning in the 1970s,

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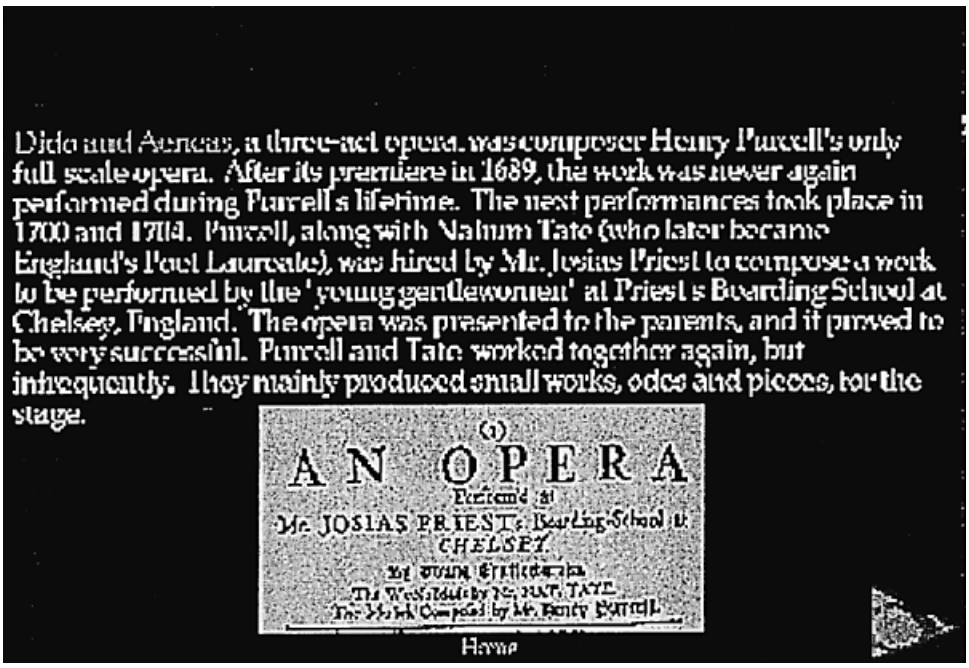


Figure 3

Ron Pellegrino's analogue sound installations were constructed so that the audience was directly responsible for the content of the music. Air current disturbances mapped into rhythmic and dynamic intensity changes. *The Electronic Arts of Sound and Light* (Pellegrino 1983) documented Pellegrino's compositional intentions regarding audience involvement within the context of several of his sound-space installations.

With the arrival of the computer, interactive music performances and interactive installations soon began to provide the user/audience with the ability to make structural choices. This type of performance environment could be shaped according to the desires of the current listener/observer. Installation artists began to allow the audience members to touch and physically move around parts of the artistic space; each tactile object could, in turn, create a change in the visual environment through lighting and even auditory choices. Composers began constructing audio installations in which musical changes would occur as the audience walked through or around the space.

At a recent SEAMUS National Conference (Society of Electro-Acoustic Music in the United States), composer Don Malone (Roosevelt University, Chicago, IL, USA) set up an audio installation in the hallway outside the main concert hall. During intermissions and after concerts, as audience members milled around, they were treated to the beautiful sounds of *LEAP* (Live ElectroAmbient Performance) emanating from a small speaker system hidden from view. Malone employed 'heuristic musing' when he used a motion detector to control aspects of the music, so that the more people were present, the quicker the musical parameters changed, including spatial processing, timbral variations and general rhythmic intensity (Malone 1996).

Installation artist Lynn Lukkas (Minneapolis, MN, USA) often collaborates with a composer to use music within the context of her performance spaces. Audience members are free to walk through the environment and touch various icons which, in turn, produce changes in the audio tracks. She is currently beginning work on a virtual reality project in which a single user/audience member will be placed in a virtual environment and be given the responsibility of both audio and video direction.

The interactive sound and visual arts have had a direct bearing on CD-ROM development. As early as 1992, the ultimate in personal performance interaction was achieved as the audience was able to bring the visual/auditory art to his/her own home. This



Figure 4

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compositional model provides for a completely new manner of organisation – users are free to enter movements, spaces, sound samples, etc., at will. Audio/visual composition may still be presented in a more traditional linear fashion, but side-by-side with this format, the idea of a more open form is available.

The CD-ROM offers an environment with nonlinear presentation and a composition with the ability to change with each use. Of particular interest from the compositional standpoint is that the audience member can view and explore explanatory information prior to experiencing the work. During a more traditional performance of a work, background information would have to be introduced in the form of programme notes, which the audience would have to read before the event or in the dark during the production. With a nonlinear format, the user may access the composition at will, and, thus, there will be no strict path through the work. Instead, the user may step into the composition from any area. This method of listening/observing adds a great deal of flexibility, and may greatly enhance the user's experience and understanding of the piece.

The community of CD-ROM artists has been working to redefine ways in which this medium may be used for a more artistic and personal communication, rather than a merely informational or game-like one. Whether the work be the result of a collaboration or a single artist, the CD-ROM allows for a better integrated audio/video composition with both elements weighing equally and striving for the same artistic goals. Composers and visual artists involved with the production of the CD-ROM work towards a state of *being* art rather than merely discussing it.

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