Visual artists have been using the computer as a tool for many years, either as an aide to make something visible, or as the work in and of itself. CD-ROM, a sound and image based technology, made it possible for them to explore and present creative ideas in a format that (unlike installation, for example) was at the time easily disseminated and exhibited.

Between 1994 and 1996 CD-ROM was undergoing a major breakthrough into the consumer market. The sales figures of CD-ROM drives for home computers had multiplied and their prices had dropped. Simultaneously, the drives were rapidly getting faster, and they were becoming a standard feature of any Power-MAC or multimedia PC. Corresponding to this, the number of CD-ROM titles on the market and under production quickly proliferated.

It wasn't long until independent artists were entering the CD-ROM frontier. As could be suspected, they had diverse backgrounds: visual artists, computer artists, graphic designers, photographers, composers, writers, video-makers, and computer nerds. This diversity is reflected in the range of works from this time period.

The challenges these pioneers faced were numerous. They had to find solutions not only to technical or aesthetic questions, but also to ones that concerned production, distribution and exhibition. Should CD-ROM art start knocking on the doors of the corporate world for production deals, or should it deliberately remain a "cottage" industry? Should it line up with the traditional art world, or look for its identity from elsewhere on the expanding territory of the technoculture? There were other questions: should CD-ROM artworks be distributed through the same channels as for instance games and edutainment, or should alternative channels of distribution be created? Should these works be conceived as mass-distributed consumer goods, or rather as more exclusive and expensive collector's items? Should they be aimed at domestic or public audiences? And, perhaps most importantly: what, if anything, will be "CD-ROM art"?

Those were the pressing questions then, in the heyday of CD-ROM based art. The questions and challenges are much different now, a mere 10 years later, and they concern both the aesthetic "distinctive features of the medium" and the place of the CD-ROM in the framework of the media culture of the 1990's as well as issues of format/hardware obsolescence and capability for playback. In order to read the document file stored on any CD-ROM, we must know what program created the file and if that information is not explicitly stated anywhere, the chances of finding that program are very slim.

As a case study for this, I chose to analyze *BAR-MIN-SKI: Consumer Product* an interactive exploration by pop artist Bill Barminski. It was released in 1994 by De-Lux'O Consumer Productions, a company that was founded in 1992 by Producer & Director Webster Lewin, Multimedia Artist Bill Barminski, and Multimedia Software Designer Jerry Hesketh.

Consumer Product was available initially only for the Macintosh platform. The specifications on the packaging state: " Macintosh LC or better; Single Speed CD-ROM drive (Double Speed Recommended); Four Megabytes of Free RAM; Quicktime™ 1.61 or Better." The *BAR-MIN-SKI* CD-ROM was released in limited editions which could be seen and purchased at an exhibition of the artist's work at the Robert Berman Gallery in Santa Monica, CA. This disc has become a cult classic, and which came packaged "free" with a special $99 can-opener.

Consumer Product eventually secured a distribution arrangement with Distributed Art Publishers, a firm which had relied previously mainly on the printed word. It eventually became available to the general public on a Macintosh and Windows, cross-platform, CD-ROM (US$19.95), but only after it had been exhibited at Museums and Festivals all over the world, and it became popular.

This CD-ROM was created in an attempt to capture both the work and the personality of L.A. visual artist Bill Barminski (originally from Austin, Texas), and is a trip into his weird world. In *Consumer Product,* Barminski looks at society and its consumerism in a satirical way, poking fun at the advertising arena. Although there have been CD-ROM programs on van Gogh and artworks in the Louvre, Barminski may well be the first living (not to mention up-and-coming at the time) artist to chronicle his work for the computer. This format also served to make it easier for people who wouldn't normally come in contact with this sort of art to be exposed to it.

In the form of an interactive shopping mall, it presents the different artistic "goodies" Barminski has created over the years to "honor" the American consumer capitalism – in his own punk-influenced way. The material is rich, including all kinds of images and unexpected surprises. The organization of the work is purposefully "messy": It allows users to go beyond what the standard documentary film or artist's catalog would deliver and comes close to the experience of actually getting to know the artist himself.

After clicking past the opening video, you enter the main screen inhabited by floating illustrations of consumer products. From here you can enter any one of the six sections of the program. A jug called "Image Maze" will take you to a section where you can navigate through a digital art library of about 170 of Barminski's sinister, subversive and humorous paintings that are linked together by theme, or to audio skits. An illustration of a can labeled "Focus on Paintings" will allow you to enter a multimedia art gallery, where a selection of the paintings come to life in a variety of original ways and where you can prepare for a gallery showing. Click on the titles and you see the painting of the book cover and hear a page or two of it dramatized for your listening pleasure. A plastic bottle called "Art-0-RAMA" allows you to go to an art opening, see a painting from start to finish (a type of "time-lapse" paintings) or flip through the artist's

sketchbook, among other things. Deeper in "Art-0-Rama", behind a postcard labeled "Greetings frum Texass", can be found over 500 pages of comic books done by Barminski in the early 8os, such as the underground hit "Tex Hitler, Fascist Gun in the West" comics (including the complete Tex Hitler series, with an essay by Greil Marcus and a documentation about the controversy and debate they raised in his native Texas). Behind a cereal box called "Interviews" you can visit with the artist in his spacious two-car studio. This section will allow you to see an artist at work in his natural environment.

Behind another cereal box labeled "Subvert" can be found an interactive advertising game (or ad-venture) where you become a crazed advertising executive trying to create the perfect billboard for one of two products, the upscale STINKNOT deodorant or the low class BLATTO beer ("Blatto beer, the high class beer for low class people"). The advertisements are created by matching artwork with canned backgrounds and slogans obtained from such strange places as Slogan Babe Magazine and the Home Shopping Network. As you sit in your office, you can always slack off by listening to radio programs like the blow hard conservative "Blimp Rambo Show." you only get to see the finished billboard on your way to the unemployment office after the ad agency has canned you. "In that game, you always get fired, no matter what you do," Barminski said in an interview in *Wired* magazine.

Each of the six sections of this CD-ROM is independent of the others, yet each works to create a desire to seek out more information hidden in other parts of the program, mainly because there is no explanation as to what you will get when you click on something. Within each of those sections, the program also contains numerous video clips, his original music and other audio. There's even a bonus interactive game based on Cyclops Boy--all stored in digital code and available at the click of a mouse. Altogether, there are close to two hours of video and three of audio.

Bar-min-ski: Consumer Product could have been used as a documentation device for all of Barminski's pre-existing work. They could have just filled up a whole disc with paintings and comic books, but they went further than that and made use of the multimedia and the interactive element to make it something better than a coffee table book or a documentary film. In a sense, they merged all those elements together. It combines elements of all the media that has come before, yet fundamentally alters the nature of engagement between the work and its audience in a compelling and affordably produced form of expression.

In combining images of his paintings with animated sketches, interviews with the artist and samples of his source materials, the CD-ROM is not merely additional information but a work of art itself. Need I point out that both Elvis and Hitler are included free?

The CD-ROM's advantages at the onset of the technology, related to its potential for the storage and retrieval of information, that made it possible to bring together video, music, photography, cinema, literature, graphics, games, and merge them into new kinds of configurations, are the greatest disadvantages for a preservationist. Preservation of digital materials has to deal not only with maintenance of the files themselves, but also with ways of keeping them accessible. Either the programs have to be preserved as well and somehow running on new platforms, or the files have to be converted to another format that can be interpreted by new programs. This eventually results in loss of

information, functionality and/or appearance, as there is no assurance that the digital object can be moved indefinitely from one environment to the next, complete and undamaged.

If you took the files out separately and looked at them by themselves, they might be interesting, but they're not cohesive and they're not one unit until they're mediated by the computer. There is so much information stored within each of these disks, with an unlimited array of configurations, that it makes it almost impossible to recreate the original experience in those cases where the work can no longer be accessed as intended.

Such was the case with *Consumer Product.* I performed most of my explorations, in a limited fashion, on a Macintosh OS 8.4 platform, as the OS 10.3.9 would not run the executable file. Even in the older Mac, the interaction was already limited, and although it ran, it did not "feel" or "look" right. As I had nothing on which to base these assumptions on, I can only attribute it to a sense for the piece that I acquired after exploring every folder that contained all files, arranged in a sort of "map" inside the folders of the possible orders they were supposed to follow.

Luckily, all files are still playable, as he saved them in pretty standard formats. Videos are in .Moov format, Images are in .Pict and Sounds are in .Aiff. I did find a series of 8 .Dir files, which as I understand it, are Macromedia Director files, which is a proprietary program that uses embedded files, and is very problematic. Many of the multimedia CD-ROMs that are currently available have been created with Macromedia Director. This authoring tool uses as a metaphor the production of a film. Each project you create can be thought of as a movie, with a cast of characters, a score, a stage where the action takes place, and a director (the author). Each media element that appears in your movie (sound, video, images, text, buttons, and so on) can be thought of as a member of the movie's cast. In Director, the Cast window is where you view the list of media elements that appear in your movie. The score synchronizes the movements of the various media objects, describing the action that happens in the movie. If the authoring tool puts the creator in the place of the director then the finished product is the film itself. It is, however, a metaphor that grants absolute control over the film to the director. The players in this case are objects that give little in the way of interpretation of a scene that is independent to that allotted by the Director. Even animated sequences are "inanimate objects" in this regard. What this means, in short, is that those files, now rendered "inanimate" by the score, are embedded, and can no longer be extracted, as they only exist in relation to their function in the score.

In this particular CD-Rom, what was strange was that these files were located in a subfolder, and, because of their titles, clearly seemed to be associated with that subsection on the CD-ROM only. I did not find any other .Dir files anywhere else, so the assumption that the CD-ROM was created exclusively by Director is one I cannot make. Nevertheless, the physical laying out of the files in order inside the folders are what gives the most clear example of how the program is supposed to function:
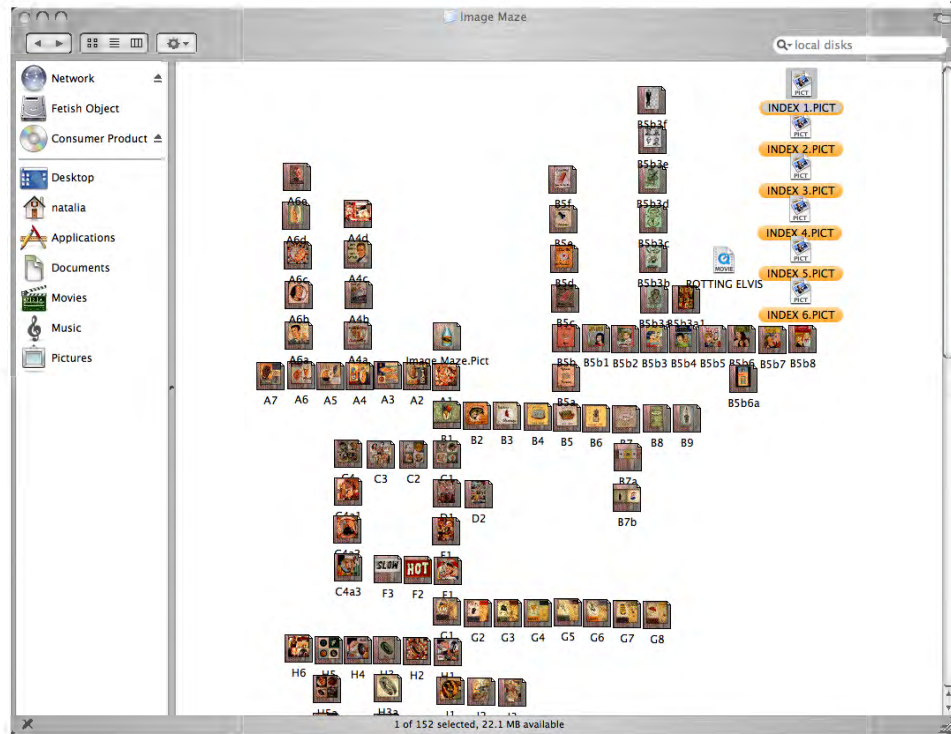
Compared with, for example, the videotape, the CD-ROM clearly offered artists new creative possibilities. With its stop, rewind and forward functions, videotape can be characterized as a linear medium. Although sequences can be repeated and the tape stopped at will, a video program has to be consumed "passively", watching the tape flow in front of one's eyes. It is true that a video of the performance of, say, Barminski's piece, could contain the same mixture of media but a video is intended to be viewed as a linear resource and the addition of commentary and the such like would only serve to disintegrate the subject in question.

The CD-ROM constitutes a very different kind of relationship between the user and the work. Although a linear "movie" mode can be included as one of its options, the user normally triggers reactions by repeatedly "pointing and clicking" certain "hotspots" (marked or hidden) on the screen. These activities are often transposed versions of common daily activities; yet, in the context of the CD-ROM these activities' functionality has been redefined by "sewing" them into the invisible (pre-programmed) "skin" of the virtual worlds one interacts with. In addition to the more prosaic guiding functions they serve, they inform the world of the user's actions, trigger changes and may suddenly transport the user to unexpected realms. The choice to disintegrate and, to a certain extent, where to disintegrate is left to the user of the resource.

How the material is selected, and especially the question of what links to what, and so gathering the chain into a single whole, is what defines the digital resource as a single medium in its own right but also, and more significantly, the digital resource itself becomes part of the history of interpretation of that performance text. Common metaphors for the "conversation" with a CD-ROM work are "traveling" or "navigating" - implying that the user somehow penetrates into the work, choosing his/her own paths from its structure. The basic architectural "grid" (or "flow chart") underlying most CD-

ROM artworks is spatial and conforms to the idea of the hypertext. Within this "architecture" the user has multiple "degrees of freedom" to move both in space and time, because the structure undermines the necessity of continuous linear progression.

The CD-ROM supports a personal and intimate relationship between the user and the work. Although the work can be deliberately programmed to maintain "distance", the user is often persuaded to become a co-protagonist, exploring and sometimes modifying the pre-organized world of the work. The user's decisions enter into a dialogue with those made by the creator, thus producing a dynamic mental exchange. A CD-ROM artwork often encourages a reflective attitude, giving ample time to stop, return, reflect on and modify the experience.

Not that we are likely to experience this for very long, and certainly not in the future. It is my opinion that at this point the CD-ROM format is totally dead. Things are moving as far and fast as they can towards DVD as a new medium to explore. While it obviously doesn't offer the interactivity of CD-ROM, DVD offers a much more stable platform and not nearly as many authoring and compatibility problems. For now, that is, because this is sure to change within the next few years as well.