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## Story Telling in Virtual Reality

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## THEY SAID THAT WHEN I WAS BORN I LOOKED JUST LIKE MY MOTHER

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Constructs of family and history are confined within perceptions of memory. Family is often limited to only a few generations, and history is generally seen as only recorded or recordable events. But the use of family and history need not be restricted—their application to other, more unconventional definitions can lead to an expanded understanding of ourselves and our histories. *They said that when I was born I looked just like my mother* is an installation that deals with these ideas and the application of the terms “family” and “history” to evolutionary processes. Comprised of film, video and digital prints, this piece divides perceptions of history into four models: physical, actual, fictional and personal. All models are directed to family.

### Physical

Using three 16-mm film projectors, this piece illustrates three specific physical motions that are unique to humans and some non-human primates (Fig. 1). These three motions together form part of what is called brachiation anatomy, a method of hand-over-hand suspensory locomotion shared by the

great apes (chimps, gorillas and orangutans), the lesser apes (gibbons, siamangs) and humans.

On the wall of the installation, in opposite corners of the room, hang two “drawings.” Each is 6 ft square with text concentrated in their centers. These digitally generated pieces appear to be nearly identical, yet are nearly conceptually polarized from one another: they comprise the actual and fictional portions of the four-part model.

### Actual

This piece is a complete listing of the human mitochondrial genome. The inheritance of mitochondrial DNA is maternal, giving it unique importance in the development of molecular-based genealogies.

### Fictional

This piece is also a genealogy, utilizing the Old and New Testaments as sources. The genealogy begins with Adam and is constructed only of names and the words “and” and “begat”; it becomes confusing and unreadable before the end of the first line.

### Personal

The video projection shows my hand writing a journal entry, slowly, one line at a time, to emphasize the process. The entry is about my childhood memories of my mother telling me stories about her family history. The writing of the text is left general and vague, allowing for multiple readings. The story is presented as being genuinely

about family history, when in fact it is an allegory about human origins. The last lines of the text are the most important: “We define ourselves through our histories. We are our histories.” This statement about the importance of history unites the four parts of the installation into one comprehensive piece: the realization of how much of ourselves is based within the past.

## STORY TELLING IN VIRTUAL REALITY

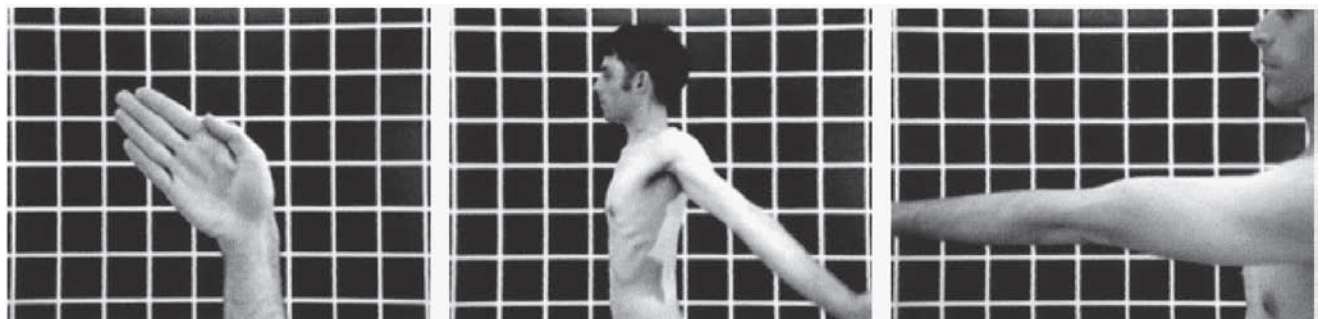
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I have been working as a filmmaker since 1986. As a student of Raul Ruiz at Harvard University, I was introduced to Zbigniew Rybczynski’s HDTV (high-definition television) works, which fuse optical images with virtual environments. Such works helped shape my view that the use of computer technology in the service of cinematic art is an historical and artistic advance analogous to the advent of sound and color in cinema. I see the computer as a tool to build upon the achievements of cinema’s pioneers, in particular Murnau, Dreyer, Bresson and Sokurov.

I set out to realize my vision of this historical progression in the context of

**Fig. 1.** Mike McMillin, *They said that when I was born I looked just like my mother*, installation including film, video and digital prints. The images shown here were shot on video and transferred to 16-mm film: (left) increased medial flexion, (center) 360° rotation of the arm at the shoulder, and (right) 180° extension of the arm at the elbow. (© Mike McMillin)





**Fig. 2.** Hisham Bizri, *Mitologies*, virtual-reality piece created with Joseph Alexander, Alan Cruz, Tomoko Imai, Alan Millman, Dave Pape and Maria Roussos, 1997. This work is loosely based on the Cretan myth of the Minotaur, the Revelation of St. John, Dante's *Inferno*, and Dürer's woodcuts of the Apocalypse. Music from Richard Wagner's *Der Ring des Nibelungen* serves as a structural motif for the unfolding narrative. (© Hisham Bizri)

virtual environments when I arrived at Electronic Visualization Laboratory (EVL) in 1996. EVL's CAVE (C-Automatic Virtual Environment) enabled me to experiment with how the visual language of traditional optical-based cinema could be extended and transformed by using the tools of virtual re-

ality. Specifically, I was concerned with the spatio-temporal, ontological and oneiric possibilities presented by constructing a narrative via the projection of computer-generated moving images as opposed to the use of optically generated moving images. At the spatio-temporal level, the displacement of

**Fig. 3.** Hisham Bizri, *Las Meninas*, virtual-reality piece created with Andrew Johnson and Christina Vasilakis, 1997. The viewer faces a riddle embodied by both the subject matter of the painting itself and by the artist's canvas, which is forever hidden from view. The painting's traditional problem of the nature of representation is highlighted in the virtual environment. (© Hisham Bizri)



cinematic techniques such as montage by the techniques of viewer-directed, real-time navigation and tracking emphasized the spatial and temporal reality of the narrative environment. Such displacement of the language of moving images from its photographic basis frees visual narratives in the medium of VR to seek ontological authenticity not in the nature of photographic reproduction but rather in the phenomenological experience of the viewers. At the same time that the medium of VR thus fosters realistic spatial, temporal and phenomenological reactions to the narrative environment, it retains and extends the oneiric quality of traditional cinema. The context of an intimate, darkened cinema theater is retained in the CAVE projection environment; and, whereas the photographic quality of a film image suggests, however oneiric, a copy of "the real," the images in the virtual environment, as those in a dream, are never more than virtual.

The two VR works I directed at EVL, *Mitologies* (Fig. 2) and *Las Meninas* (Fig. 3), manifest these spatio-temporal, ontological and oneiric concerns within the context of diverse thematic contents. *Mitologies* derives from the Greek word *mitos*: the thread Ariadne gave Theseus to help him find his way out of the Cretan labyrinth. The work is loosely based on the Cretan myth of the Minotaur, the Revelation of St. John, Dante's *Inferno*, and Dürer's woodcuts of the Apocalypse. Music from Richard Wagner's *Der Ring des Nibelungen* serves as a structural motif for the unfolding narrative. The architecture fuses the exterior of a 3D church modeled after a Leonardo da Vinci sketch of a church that was never built with the interior of the Great Mosque of Cordoba. Beneath the church is a maze built as a "rhizome": every path is connected to every other one, with no center and no periphery. As viewers proceed through the maze, they find themselves on paths that lead to medieval curiosity rooms, to rooms populated by statues of Donatello, the iconography of Cesaer Ripa, and so forth.

*Las Meninas*, based on Velázquez's masterpiece, challenges the viewer with its enigmatic subject matter. The viewer faces a riddle embodied by both the subject matter of the painting itself and by the artist's canvas, which is forever hidden from view. The painting's traditional problem of the nature of representation is highlighted in the virtual environment.



**Fig. 4.** Dora Feilane, Bernard Point and Marcel Frémiot, *Synesthésies*, performance of dance, music and painting, 1971. Three artists collaborated for 2 years in the creation of this performance piece. (Photo: Marc Venet)

The inclusion, for example, of live film footage in the work functions at a meta-thematic level to provoke reflection on changing methods of representation. What happens when 2D representation extends into a 3D world, and how does this affect perception? Is the participant able to solve the enigmas in the painting when he/she is able to explore through VR the hidden space, including the space of the previously hidden face of the canvas, or are further questions raised?

Both *Mitologies* and *Las Meninas* thus utilize different thematic structures to extend the possibilities of traditional cinema and to provoke investigation into the transformation of these possibilities by the emergence of a new form of visual environment.

## SYNESTHÉSIES

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*Synesthésies* (Fig. 4) was shown to the public for the first time at the Lucernaire Theater, Paris, in 1971. This dance piece was the culmination of 2 years of research work with painter Bernard Point and composer Marcel Frémiot.

I have always thought that a work of art is a synthesis and that it can only be appreciated with a synthetic mind. For instance, a painting is the synthesis of colors, shapes, the subject and the supporting environment; music is com-

prised of a sound substance, its arrangement and the shape given to the piece; dance consists of a theme, the chosen movements, light and technique. I also think there exists a sort of symbiosis between a work of art and the state of mind of the viewer as he or she contemplates the work: a reciprocity between his or her individual consciousness and the work of art. Moreover, I find myself naturally favoring synthesis over analysis. The project that I proposed to Frémiot and Point was intended to combine both analysis and synthesis.

Over the next 2 years, we would meet for 2 hours each week in my dance studio in Montmartre and collectively attempt to realize the relationships between our three means of expression. Point began by painting colored shapes of his own creation, according to gestalt theory. Next, he displayed each shape to us on an easel. Frémiot responded on a piano or with small percussion instruments. When he was through (I always waited until he was through in order not to be influenced by Frémiot's music), I improvised movements inspired by my observation of Point's colored shapes. At the end of each session, we would each note our results.

Frémiot would play various sounds, which he organized into forms according to Pierre Schaeffer's "morphology of sound objects" [1]. Point and I would respond in turn to the sounds and would write our results down.

It was then my turn to initiate the process. I had done some research and had established a catalog of movements sorted according to their form, their

dynamics and the space they occupied. I performed various movements and my colleagues would respond to the movements, each in their own medium.

After nearly 2 years, we gathered our results and observed a great deal of consistency in the features of the various media that provoked responses in the other media. For instance, wide movements accentuated with wide jumps corresponded to red colors and full sounds; round and slow movements tended towards blue; yellow seemed both to induce and to respond to sharper movements and acute sounds.

We decided to create a piece, *Synesthésies*, to showcase these relationships. We decided on the plot of the ballet and put the work together. Point's paintings were reproduced on slides to allow us to project them over the stage, and Frémiot's music was recorded. I, then, put the dance into shape.

In the performance, I danced to Frémiot's music while slides of Point's paintings were projected over the stage area. My costume was white to allow the projected colors to play over my body as I moved. The dance started on the ground, with the stage shrouded in dark brown. As the piece progressed, the music sustained the interplay of images and dance. Of the three media—music, painting and dance—it was impossible to see which one was leading the other, as they had been conceived together. After dancing through a waving blue image, I ended with an outburst of red-colored jumps and leaps streaked with orange flashes.

*Synesthésies* marked a step in multimedia creation by showcasing an observed and documented set of relationships between movement, sound and color. The audience was then welcome to enter this symbiotic relationship with their own perceptions, either emotional or imaginary. We knew that with *Synesthésies* we had laid real foundations for synesthetic performance art. In addition to a 2-week show at the Lucernaire Theater, *Synesthésies* was also shown during a lecture-debate in Gennevilliers.

## References and Notes

1. See Pierre Schaeffer and Abraham Moles, "Esquisse d'un solfège concret," *À la recherche d'une musique concrète* (Paris: Seuil, 1952). In 1967, Schaeffer released a box of LPs with a booklet in order to offer sound illustrations to the book. See Pierre Schaeffer and Guy Reibel, *Solfège de l'objet sonore* (Paris: Seuil/GRM, 1967). See also Pierre Schaeffer, *Traité des objets musicaux: essai interdisciplinaire* (Paris: Seuil, 1966; enlarged reprint 1977). (Thanks to Carlos Palombini for these citations.)