Las Meninas: Narrative Illusions in Virtual Reality

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Abstract
Las Meninas is a virtual reality artwork based on the painting of the same name by the Spanish painter Diego Velazquez. Created for the CAVE-Automatic Virtual Environment, *Las Meninas* is fused with narrative illusions as the audience explores the enigmas inherant in the painting by exploring the physical and mental space of the painting.

1. Introduction

The quintessential rule of art is its ability to suspend disbelief and create *illusion*. Through convincing representation, the illusion in art manifests itself, forcing the audience to become psychologically involved.*Las Meninas* involves the audience in a psychological narrative imagined as a complex web of signs. The audience confronts a narrative thread which can be deciphered at multiple levels of meaning. Each deciphered thread embodies a network of signs leading to other signs. If the audience fails in their initial task they confront another set of signs to choose from which will lead to other sets. The audience's psychological inquiry into the narrative and their attempt to decipher its cryptograms places emphasis on the audiences *reactions* to the virtual world and not the virtual world itself.

For the work to function at the psychological level and achieve the illusion in art, the audience must *believe* in the nature of representation the virtual world portrays which is created as a set of *essential relationships* through convincing representation. The primary concern of *Las Meninas* in VR is focused upon the mechanism of certain effects and not their causes. That is to say, the audience explores relationships rather than individual elements.

2. Narrative Illusions

Las Meninas, or *The Maids of Honor*, (1656) as shown

Figure 1: *Las Meninas painted by Diego Velazquez in 1656*

in Figure 1 by the great Spanish painter Diego Velazquez, challenges the viewer with its allegorical subject matter and enigmatic mise-en-scene [3, 4]. From the outset the viewer confronts the artist's canvas which is forever hidden from view. The viewer desires to see what is hidden and at the same time witnesses a mise-en-scene which carries within itself multiple allegorical meanings: the pictures decorating the walls of the room in Velazquez's composition - subjects from Ovid's *Metamorphoses* painted by Mazo after the originals by Rubens [1]; specifically, the two pictures hanging high on the rear wall, over the mirror, *Pallas and Arachne* and *Apollo and Pan*; the mirror in the black frame at the back of the room which reflects the half-length figures of King Philip IV and Queen Mariana under a red curtain but nothing else; the mysterious light shining in from the upper right side of the room; the magical stillness of the room and the people in it, as if photographed, forcing the viewer to believe himself to be actively present at the scene; the painter himself whose "dark form and lit-up face represent the visible and the invisible" [?]; the lame devil, Jose Nieto, standing in the background holding an open door; the imaginary space lying out of the picture frame where Velazquez, the Infanta, her maid, the girl dwarf, and Jose Neito are looking, each from a different point, at the sovereigns, who are in theory standing next to the viewer; and so forth.

The allegorical subject matter and enigmatic mise-en-scene work together in Velazquez's painting to *dramatize* the *inner focal point* of the realm of the painting and the *outer focal point* of the realm of reality - the viewer's position. The viewer is at once *seeing* and *being seen*. He constantly oscillates between *objective realism* and *subjective* paradoxes arising from the emblematic interpretations which the overall mise-en-scene lends itself to. Vision is longer fixed on a single vanishing point, but is now *dispersed* over multiple planes of form, function, and subjective meaning. The painting raises questions about the nature of representation and subjectivity in a unique way rarely matched in the history of visual art.

In the CAVE [2], the painting of *Las Meninas* becomes the virtual reality of *Las Meninas*. The viewer is able not only to explore certain problems pertaining to the nature of representation and subjectivity, but also face further enigmas. The ten foot tall painting, which matches the size of one of the CAVE's large projection screens, becomes an immersive environment where several people can experience the work simultaneously, as shown in Figure 2. The theoretical questions the painting raises become tangible and empirical once placed within the boundaries of VR. In other words, the painting's fixed and traditional nature of representation and subjectivity take on a dy-

Figure 2: *Las Meninas in the CAVE virtual reality theater*

namic and physical aspects once the center of vision is *dispersed* in the medium of VR.

Las Meninas in VR approaches the question of representation and subjectivity from various angles. The frame of reference consists of four points. First, the fusion of optical and virtual images. Second, the creation of multiple guides - both visual and aural. Third, the creation of a "total environment" and the double articulation of time. Fourth, the dramatic shift from the formalistic to the psychological.

2.1. Fusion of optical and virtual images

Las Meninas starts when the rear door of Velazquez's studio, a three-dimensional computer-generated image, opens to let an optically reproduced avatar playing the role of the painter himself, enter the empty space which is computer-generated. From the start the viewer experiences a *narrative tension* arising from an immediate oscillation between the world of the *real*, optics, and that of the *imaginary*, virtual environment. This narrative tension is characterized by the viewer's ability to *see* something as both real and imaginary simultaneously. He believes that what he sees belongs to the laws of optics, but at the same time existing within the laws of virtual environment. The implications for narrative are immense. The viewer believes that what he sees is real and concrete, however, the world is virtual and artificial, it is aesthetically constructed.

Another instant in *Las Meninas* where the fusion of the optical and the virtual take place is towards the

end of the narrative. After the viewer leaves the world of the 17th century, Velazquez and the fugues of J. S. Bach, they enter the world of the 20th century to witness studies by Picasso of *Las Meninas*, his *Guernica*, the serial music of Ligeti and Schnittke, but above all the viewer encounters television sets suspended in mid-air. The sets show archival film footage of Hitler and Franco, and of Chaplin in his film *The Great Dictator*. Here again, the inclusion of optically-generated images with virtual environment functions at a meta-thematic level to provoke reflections on the changing methods of representation and subjectivity.

2.2. Visual and aural guides

Las Meninas incorporates multiple visual and aural guides. The first guide is the disembodied voice of the narrator who narrates the historical, political, and aesthetic cryptograms embodied in the painting. Later the Infanta Margarita acts as a three-dimensional guide, leading the viewers from their static perspective, into the painting and allowing them to move about the space freely. At first, the infanta seems to be an alias of the invisible narrator, but when the viewer is given freedom of movement, the narrator suspends his narration, and the Infanta resumes her place in the scene. Another guide steps into the narrative. This guide is a person standing with the viewing audience in the CAVE who then takes on the responsiblity to guide the viewers through the rest of the narrative.

This method of using a guide familiar with the story is inspired from Japanese Kabuki theater, a highly stylized and somewhat overwrought dramatic form derived from the feudal Tokugawa period (1603-1867). In Kabuki theater, there is a benshi, or actor, who stands at the side of the stage and narrates the action for the audience (a method later used in early Japanese silent cinema).

In *Las Meninas,* the benshi, or guide, fulfills a double function. He either navigates the audience throughout the rest of the narrative, and/or narrates and sometimes reflects upon the various cryptograms. The audience can interrupt the benshi and raise further question, doubts, comments, and objections. This helps create a dialogue between the benshi and the audience, and also among the audience themselves, a property possible because of the social nature of VR in the CAVE. Different benshi have different styles, so the nature of the presentation changes with the benshi and with the different audiences.

2.3. total environment **and the double articulation of time**

After the optical Velazquez takes his place in the empty virtual studio the viewer *paints* the rest of the painting, the Infanta Margaritta and her entourage, using the wand in the CAVE like a paint brush. It is with such interactivity that the viewer is able to create a balance between what is presented in front of him, the phenomenon, or his present reality, and his own manipulation of it in VR. This double articulation of time, that is, time that already exists in the phenomenon and its manipulation by the viewer, gives the viewer the feeling that the reality presented in the CAVE is not only representational but also ontological and subjective. The phenomenon passing in time can now be interrupted, accelerated, decelerated, moved both backwards and forwards, and completed or left as is. The virtual environment becomes a *total environment* in which the viewer is both an extension and a determining factor of the environment.

2.4. Dramatic shift from the formalistic to the psychological

Las Meninas is staged in such a way that there is a dramatic shift from the formalistic to the psychological. Not only does the work invent passageways, towers, three-dimensional tryptiches, non-Euclidean spaces, telescopes, transparent surfaces, and television sets, but it also provides them with a history in order to connect them with the narrative and give them meaning. The sets are created in order to *act*. Whether baroque, modern, or abstract, the sets embody the ideals and emotions of their specific historical period. The viewer has the choice to navigate and interact with various historical periods, from the 17th to the 20th century, which embody specific sets and music reflecting their historical, political, and aesthetic specificities. The psychological factor here plays a major role. Not only does the viewer experience a specific *sensation* arising from the specific formalistic set and music, but also his mental act of perception becomes based purely on unconscious inferences he makes as he navigates and interacts with various sets in different periods.

3. Conclusions

Illusion in art is a complex topic and each era has its own limitations and paradigms when rendering reality. When we look at Egyptian art, for example, we read it as a brilliant signaling system of code, and not as a literal representation of reality. But is this the way the Egyptians themselves saw their art? The Greeks created the three-tone code for modeling in light and

shade which remains fundamental to all later development of Western art. As inheritors of that tradition and inventors of VR artworks, it is important to invent a *language* which defines the way our new tools of production operate and shape the future of art. In VR, it seems that few works try to systemically formulate an artistic position and find ways to create a language of art whose essential function is the manifestation of the illusion in art.

In *Las Meninas* the audience not only witnesses the faithful and convincing representation of a visual experience through, but also the faithful construction and orchestration of a relational model in which the interplay of image and sound trigger in the audience a stimulation to bring about a *second reality*. This second reality originates in the audience's conscious and unconscious *reaction* to the virtual world and not in the virtual world itself.

Acknowledgements

References

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