

SYNTHETIC DESIGN AND THE ART OF VIRTUAL REALITY IN THEATRE AND FILM PRODUCTIONS

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Abstract

Productions, whether for the theatre or film, anchor on the use of space which is the platform for expression and communication, through creative imitation and imagination. By implication, what this means is that space, whether natural or artificial influences the production design. However, in more recent times, occasioned by technological breakthrough, another kind of space has been identified in the performative medium. This new found space is known as Virtual Reality. This article delves into the field of Virtual Reality (VR), a current trend in audiovisual design for the entertainment industry and is therefore designed to examine the synergetic relationships between synthetic design and the art of Virtual Reality and how they influence modern design in both theatre and film productions. This paper is of the view that Virtual Reality, as an operational phrase in modern and post-modern theatre and film, has become a veritable means of realizing scenes (synthetic), occasioned through the introduction of computer and other hi-technological equipment. The paper therefore concludes that in this era of sophistication, and experimentation, designers should go beyond the ordinary in designing for productions. The full immersive potentials of this technology should be explored.

Keywords: Synthetic design, VR, production design, VEs, Performative medium

Introduction

Theatre is illusionistic and although most people will argue that not all theatres pursue illusionistic staging techniques, but in most cases, everything about performance, whether for the stage or film, is a formulated event, packaged to inform and educate the audience while entertaining them in the process. Illusionism itself implies the use of artistic techniques (as perspective or shading) to create the illusion of reality especially in a work of art. The concepts of illusionism and Virtual Reality as used in the entertainment industry share similar characteristics which work on the psyche of the audience.

Historically, the origin of the term Virtual Reality can be traced back to the French playwright, poet, actor and director, Antonin Artaud. In his seminal book entitled *The Theatre and its Double*, he described theatre as a virtual reality in which, in Erik Davis's words, "characters, objects, and images take on the phantasmagoric force of alchemy's visionary internal dramas" (45). Artaud (49) claims that:

The perpetual allusion to the materials and the principles of the theatre found in almost all alchemical books should be understood as the expression of an identity existing between the world in which we the characters, images, and in a general way all that constitutes the virtual reality of the theatre develops, and the purely fictitious and illusory world in which the symbols of alchemy are evolved.

This partly tallies with the views of Martin and Pascal when they write that:

the theatre often aims to carry the audience in various periods and/or locations to provide perceptions of stories. Technically, one can notice that, during the shows, general lights are switched off and the scene is strongly illuminated in order to increase the immersion of the audience. (<http://iparla.inria.fr/publications/2003/HGO3/clowns.pdf>.)

In other words, the audiences enjoy the performance only when their disbelief is suspended. During this 'enjoyment', space, whether natural or artificial plays significant roles and becomes the platform for the release of theatrical and filmic expression. Design for these spaces, especially the artificial one which is the focus of this paper, falls within the range of visual or space arts; and it is defined as the harmonious composition or juxtaposition of diverse elements in space, according to certain principles to communicate and entertain+ (Nwadiuwe 421). In fact, the design for these artificial spaces contributes to the aesthetic experience embedded in these performances.

All through the ages, spaces, both natural and reformulated have been utilized in both the theatre and film productions. But Iwu contends that:

There is need to recognize another kind of space beyond the ones mentioned above. The word space has crept into the performance world especially since the advent of computer and the development of hi-tech lighting technology, it is popularly known as virtual reality. (4)

This study is aimed at finding meaning and correlation between synthetic design and the art of Virtual Reality on one hand and how they influence modern day theatrical and film practice. This is borne out of the fact that modern technology has revolutionalized communication and the way people do things, and these have in turn influenced both theatre and film productions.

Definition of Concepts

The word synthetic connotes artificiality. It is also in consonance with fake, mock, imitation, faux, put on and insincere while Virtual Reality is synonymous with simulated reality, computer simulation, cyberspace, computer modeling, and computer graphics. Many scholars in their different definitions of Virtual Reality affirm that Virtual Reality is a simulated space. In other words, it is a near reality. Warren Robbinett in his work Synthetic Experience: A Proposed Taxonomy says that the term Virtual Reality (VR) is

used by many different people with many different meanings. To some people VR may mean a specific collection of technologies that is a Head Mounted Display, Glove Input Device and Audio; some other people stretch the term to include conventional books, movies or pure fantasy and imagination (16). But in the context of this discussion, Virtual Reality can be defined to be a form of human-computer interaction in which real or imaginary environment is simulated and user interact with and manipulate that world. Users travel within the simulated world by moving where they want to be, and interact with things in that world by grasping and manipulating simulated objects. In the most successful virtual environments, users feel that they are truly present in the simulated world and that their experience in the virtual world matches what they would experience in the environment being simulated. This is the technique of immersion. Therefore, Virtual Reality is:

Something visibly real in a fictive three-dimensional spatio-temporal occupation. Spatio-temporal refers to time and space in unison. And in this context, it means the designing and arrangement of images to form a required design pattern in a production process after which it is rendered and experienced on the spur of the moment or in real time. (Orisaremi 105)

From the foregoing therefore, it will be right to say that Virtual Reality basically means 'near-reality' and equally deals with superficiality which is intended to create believable pictures that arouse imagination and feeds the senses. On the other hand, synthetic design connotes artificiality; a phrase coined to further show its correlation with Virtual Reality.

Synthetic Design and Virtual Reality/Space in Theatre and Film

Virtual Reality is an operational living phrase in modern and post-modern theatre and film and as a matter of fact, it has become a veritable means of realizing scenes in both the theatre and film world occasioned by the introduction of computer and other hi-technological equipment. Reaney posits that the theatre is the original Virtual Reality machine in which the audience visits an imaginary world that is both immersive and interactive even before the most powerful computers were designed (www.ukans.edu/armreanty/reaney/numerique). This researcher is in total agreement with this postulation. In practical terms, what this implies is that the actions and inactions in the theatre are mere fabrications that are designed to resemble the real world. The scenario is slightly different in the area of film in the sense that film production is the telling of stories through moving images. It is a means of expression and it communicates. As a matter of fact, VR is a very common theme in science fiction movies where it is often used in such a way as to turn the fantastical into something that seems totally real. Space in this context becomes a generated background and the platform for the release of the filmic expression through creative

imitation and imagination, done specifically in the studio using sophisticated equipment+(Ekweariri 103).

Virtual space creation comes through the manipulative function of lights and colour to graphically produce architecture or sculptural images. In a similar development, most current Virtual Reality environments are primarily visual experiences, displayed either on a computer screen or through special or stereoscopic displays:

But some simulations include additional sensory information, such as sound through speakers or headphones. Some advanced haptic systems now include tactile information, generally known as force feedback, in medical and gaming applications. Users can interact with a virtual environment or a virtual artifact (VA) either through the use of standard input devices such as a keyboard and mouse, or through multimodal devices such as a wired glove, the polhemus boom arm, and omnidirectional treadmill (http://en.wikipedia.org/wiki/virtual_reality).

The simulated environment can be similar to the real world. For example, simulations for pilot or combat training, or it can differ significantly from reality, as in VR games. According to Baudillard:

In simulation, the metalinguistic illusion duplicates and completes the referential illusion (pathetic hallucination of the sign and pathetic hallucination of the real. 'It's a circus', 'It's theatre', 'It's a movie', old adages, old naturalistic denunciation. These sayings are now obsolete. ò the principle of simulation wins out over the reality principle just as over the principle of pleasure. (187-8)

Virtual Reality in a simplified form means simulated reality. In a discourse on the subject, Sheldon Brown states that:

Simulation is a breakdown of the simple one to one relationship between referent and sign, such that the development of power and the discernment of meaning are caught up in a complex relationship where the sign of the real can proceed or interchange with the real itself. This is the representational structure that VR overtly engages. (4)

Similarly, in an experiment carried out by Martin and Pascal in the area of using Virtual Reality for clowns, they state that %bbe classical theatre scenery is replaced by a large-scale screen on which 3D models are displayed in real-time, allowing the clowns and the audience to be immersed in highly interactive virtual environments (VEs)+ (<http://iparla.inria.fr/publications/2003/HGO3/clowns.pdf>).

The applications being developed for Virtual Reality run a wide spectrum from games to architecture to scenic designs. Virtual Reality applications are capable of creating worlds that are similar to the real world with real time control. What is needed is to develop algorithms and software

applications for the generation of virtual environments. However, others Virtual Reality environments provide worlds that, when viewed from an advantageous perspective, are not possible with the real world world far different from anything we have ever directly experienced before. Other terms commonly used to describe Virtual Reality (VR) include 'Synthetic Environment', 'Cyberspace', 'Artificial Reality' and 'Simulator Technology' (Robinett 6).

Furthermore, Virtual Reality is often used to describe a wide variety of applications, commonly associated with its immersive, highly virtual, 3D environments. The development of CAD software, graphics hardware acceleration, head mounted displays; database gloves and miniaturization have helped popularize the concept, Virtual Reality. In the book *The Metaphysics of Virtual Reality*, Michael Heim as quoted by Agbo identifies seven concepts of Virtual Reality: simulation, interaction, artificiality, immersion, telepresence, full-body immersion, and network communication (89). The definition still has a certain futuristic romanticism attached. People often identify Virtual Reality with head mounted displays and data suits. This is captured succinctly by Jill Nelmes when he says that:

Virtual Reality is a computer system whereby the operator or perhaps it would be truer to say the 'experiencer' is in direct communication with the computer via a headset. Three dimensional graphic images are viewed through a visor at the front of the helmet, while stereo sound is experienced via built-in head phones. As the user turns their head to the left or to the right the computer can trace the headset's spatial relationship to the computer via sensor in the helmet. It processes this information and returns modified images to the visor that give the impression that the wearer of the helmet has turned their head within the computer generated three dimensional cyber world. Other spatial information can be collected through the use of data gloves, which incorporate sensors that behave in a manner similar to those within the helmet. Pressure pads within the gloves, linked to the computer enable the user to experience an illusion of picking up and moving virtual objects within this computer generated world. (83)

Although the real potential for the entertainment industry, and particularly the film industry, has yet to be explored+ (Nelmes 84), Virtual Reality (VR) has in no small measure caught the attention of the theatre and film media particularly in the areas of abstract and animated scenic background and artificial environments. Though it is relatively new in the theatre in terms of its practical application, but virtual set for the screen allows for set changes in seconds. This is also in tandem with the views of Orisaremi when, in discussing about the screen, writes that in scene design, the collaborating team will visualize every aspect of the design and perhaps simulated aspects of the performance (107). This automatically aids the

production process during rehearsals.+ There are limitless possibilities with the use of Virtual Reality in theatre and film production especially in the use of interactive performances for the stage. All that is required is the designer's proficiency in the operation and handling of a VR machine. Just as it is used by the weather forecasters' where part of their body, especially their legs will not be seen, so it is with some simulated objects for the film. One of those who had particular interest in Virtual reality is Mark Reaney. One of Reaney's works as presented at CIREN: Art Science Technologies, Paris University, France, in 2000. Of interest in this regard too are the works of R. Adobbati, A. N. Marshal, A. Scholar, S. Tejada, G. A. Kamika, S. Schoffer and C. Sollitto. These researchers worked as a team on Virtual Reality project tagged Game Bots: A 3D Virtual World Testbed, for Multi-agent Research. Their work was presented at the second international workshop on infrastructure for agents, MAS and Scalable, MAS in Montreal Canada. All these are part of the studio make up, made possible through the use of computer. Jean Baudrillard therefore sees more sense in the simulation of an environment than the real one and argues that:

The very definition of the real becomes: that of which it is possible to give an equivalent reproduction. This is contemporaneous with science that postulates that a process can be perfectly reproduced in a set of given conditions, and also with the industrial rationality that postulates a universal system of equivalency (classical representation is not equivalence, it is transcription, interpretation, commentary). At the limit of this process of reproductibility, the real is not only what can be reproduced, but that which is already reproduced. The hyperreal. And so: end of the real, and end of art, by total absorption one into the other? No: hyperrealism is the limit of art, and of the real, by respective exchange, on the level of the simulacrum, of the privileges and the prejudices which are their basis. The hyperreal transcends representation only because it is entirely in simulation. (186)

Fundamentally, the VR has an inbuilt mechanism that allows the designer to go into its fictive or imaginary world to design and build. In this world, entrances, exits and other required images serve real three-dimensional functional purposes through a mediated experience. When the designer, especially the set designer gets immersed in the virtual world to produce suitable scenic images and designs, true to life images are generated which helps authenticate the realistic undertones of the production. Even the nature of realism potentially possible by the lighting designer cannot be quantified. This is because according to Oni in his *Lighting Design and Development of Modern Stage+*, ~~the~~ lighting on the VR is only a soft touch as the VR technology itself is light-based thereby creating subtle images that look solid where none exist+(5). In this scenario, all that the lighting designer does is to design his lights and moves them around until the desired result is achieved. This is a welcome development in the

sense that the nature of our lighting and scenic backgrounds has continually dulled sensibilities and to experiment with this new trend is indeed very laudable and should be seen as the right step in the right direction.

Problems of Implementation

One of the problems militating against the effective operation of this viable alternative to the use of space in film and theatre production is its very expensive nature. Apart from television stations, no theatre or film studio, to a very large extent, can boast of having Virtual Reality equipment. This is partly because of the huge sums of money required to procure them. This has therefore made it the prerogative of the rich in the society, especially, those who can afford the luxury of owning a television house. This singularly, has hampered the effective implementation of its potentials in terms of enhancing stage and film picturization. But if contrasted with the funds being wasted through corruption and in less important ventures in Nigeria today, the facilities for simulation may not cost a fortune as earlier suggested.

Lack of constant power supply has been one of the problems of third world countries; Nigeria inclusive. To work with the VR machine requires light and it is no longer news that the nature of power supply in Nigeria is epileptic. Practically speaking, for Virtual Reality to thrive in our theatres and film studios, the equipment must be powered. The lack of constant power supply makes the machine redundant and inoperative. This has been one of the banes of its full implementation.

Virtual Reality as a concept is a new development in this part of world and resides with the few. Due to its expensive nature, which is further exacerbated with the fact that the knowledge of it is relatively new amongst people, only few people can boast of having a firsthand knowledge of its operations. The potentials have therefore remained largely untapped.

Conclusion

The newness of the art of Virtual Reality, especially in this part of the world in the area of theatre and film production cannot be disputed. However, its potentialities in terms of simulating appropriate scenic environment and simplifying the work of the designer for the stage and film have reached advanced stage in developed countries. The awareness is gradually building up in Nigeria and few designers are experimenting with it. This is a good development considering the fact that the technology and its knowledge are still vague to a larger number of people. Practically speaking, it is very difficult to create a high-fidelity virtual experience, due largely to technical limitations on processing power, image resolution and communication bandwidth. It is however hoped that such limitations will be overcome as processor; image and data communication technologies become more powerful and cost-effective over time.

Moreover, if this new technology is advanced in Nigeria, the illusion of reality, which theatre practice anchors on, will be heightened thereby giving it a new dimension. Similarly, the Nollywood films will benefit from it because the principle of verisimilitude will be improved upon. On the other hand, the designer's technique of designing for performances will advance thereby improving the quality and visual aesthetics of the productions. Since technologies are evolving, designers should evolve with them by adapting new technologies that are relevant to their field. Virtual Reality is one of such technologies that designers are likely to benefit from especially in this era of sophistication and experimentation. They are therefore encouraged to keep themselves abreast with this technology so as to improve the quality of their design and at the same time develop and widen their technical horizon.

Recommendation

There is need to build a Virtual Reality studio in Nigeria, especially in theatres and film villages in order to facilitate the mastery and effective implementation of the technology. This is borne out of the fact that it is only when the equipment is available and proper awareness created that it can be put into proper use, otherwise its knowledge will be theoretically based. Such places like the TINAPA RESORT in Cross River State and other places where there are film studios will be good places to start with.

Considering the technicalities involved, there is the need for proper training of people on the operational values and manipulations of the Virtual Reality machine. Training here should be geared towards developing the otherwise dominant productive energies and potentials of an individual which will be beneficial to both the individual and the society. In the words of Edde, training:

Encapsulates the very extended meaning of training and development of the human resources through organized institutions, lectures, workshops, symposia, conferences or teleconferences, among other talk shops for human exchange of ideas, information.
(60)

Through this process, it will help to simplify its operation and makes it more accessible to the generality of the people.

Designers are encouraged to explore the alternative and limitless dimensions provided by the Virtual Reality space in their stage and film production designs. In advanced countries, the design for production has been digitalized, and if Nigerian designers must compete with their counterpart in other countries, their designs on stage and film must reflect this new technology. The current revolution going on in almost all strata of human endeavour must be replicated in performances.

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