

# **3D Cinema: A Critical Analysis on the New Perspective of Vision**

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## **Abstract**

3D cinema is experiencing a burst of unmatched popularity since the early 1980's. 3D films became more and more successful throughout the last decade. Nowadays, 3D cinema has become a matter of discussion among peer groups. The study seeks answer to some questions- Do the 3D films overrule 2D films in any of its cinematic experiences? In the communication perspective, what is an audience reception level for 2D and 3D cinemas? This study is an attempt to check the acceptance of three dimensional films and its viability among the audience. This study focus on how 3D can be an option for such stories that need an additional depth to show its tricks & gimmicks as a 'visual experience'.

## **Keywords**

3D cinema, tricks and gimmicks, visual experience

## **Introduction**

3D films have existed in some form since the 1890s, but really weren't viewed widely until the 1950s, when digital technologies were prominently featured in American cinema. 3D experienced a new found popularity in the 1980s and 90s, with new IMAX 3-D presentations and Disney venues. 3D films became more and more successful since 2003. Oscar-winning movie 'Avatar' (2009), Tim Burton's 'Alice in Wonderland' (2010), DreamWorks feature 'How to Train your Dragon' (2010) are some of the movies which encompassed the latest 3D technologies.

## **The new visual culture**

The introduction of digital techniques into film production and cinema exhibition were rapid developments, but techniques like 3D were relatively rare phenomenon and largely experimental practice compared to the recent scenario. The dialectic between established traditions in vision and representation and new technological possibilities are now demands a significant study. The 'vision' is not only a biological process when it consider as a 'visual experience'. Unlike the written word, visual engages our senses in different ways have another language. (Martin Lister, 2003)

In considering the entry of new media technologies into contemporary visual culture, we now need to ask, 'to what extent can dramatic contemporary change in the kinds of visual images we meet and the power we have to see, be accounted for in terms of new technologies? Has the possibility of being immersed in a three-dimensional visual environment in a VR game or 3D IMAX feature, sprung from nowhere? Was it simply born of an unexpected technological event that has cut us loose from the kind of relationship we have historically had with images? Finally, is our consumption of new visual media and use of vision technologies a clear case of a 'new way of seeing' emerging? Could there be a distinct digital visual culture? (Jones, 2010)

It is an exciting time to study stereoscopic vision. A new aesthetic is emerging in which depth narrative and meanings are being replaced. Unlike other studies which focused on the technological aspects of 3D Cinema, its evolution, consumer interests, film output, this study is on the new perspective of vision. This study can serve as a guideline for those who intend to know about the emerging trends in 3D movies.

## **Review of literature**

The literature available on the topic is limited. As 3D movies gained more popularity recently, not many studies have been conducted.

In their study "Depth cues in human visual perception and their realization in 3D displays", Stephan Reichel et al. (2012), discuss the depth cues in the human visual perception for both image quality and visual comfort of direct-view 3D displays. Their analysis focus especially on near-range depth cues, compare visual performance and depth-range capabilities of stereoscopic and holographic displays, and evaluate potential depth limitations of 3D displays from a physiological point of view.

According to 'The Cinema Intelligence Insight', a report by Charollete Jones (2010), 3Dfilm output doubles annually. The report argues following the outstanding success of 3D movies at the global box office. Major studios as well as local/regional producers are increasingly allocating upcoming slates for 3D release. In total, 3D title database counts over 200 titles scheduled for release in

digital 3D, including past releases since 2005 as well as forward schedules to 2012 and beyond.

An editorial titled 'The Future of Cinema' appeared on *The Hindu* in 2010 opined that stereoscopic cinema is in the midst of a strong resurgence. Against six in 2008, by the time an estimated 40 3D films were in various stages of production. In 2009 there were about 1,500 3D-equipped screens in 30 countries, a number that has already quadrupled and is set to grow rapidly. One reason for the excitement about stereoscopic cinema is that it is less vulnerable to the threat of piracy: you need a cinema hall and polarised glasses to enjoy a 3D film. Cameron with 'Avtar' has shown that the leap in technology provides a giant leap in the movie-watching experience.

According to Michael Rosenberg (2010), Professor of Ophthalmology at the University of Chicago Feinberg, 3D movies may cause headaches for people with vision problems, even as minor as a slight muscle imbalance. Rosenberg has warned that in a 3D movie, these people face a new sensory experience that involves them "greater mental effort, which makes it easier to have a headache.

A study titled 'Generation of true 3Dfilms' by Jean-Christophe Nebel (2001), University of Glasgow, tries to define a true 3D film as a film that can be viewed from any point of space. In order to generate true 3D film the 3D-MATIC research laboratory of the University of Glasgow has been developing a capture 3D studio based on photogrammetric technology. The idea is simply to generate 25 photorealistic 3D models of a scene per second of film. After the presentation of the state of the art in the domain the core technology of their dynamic 3D scanner is detailed. Finally first results, based on a 12 camera system, are shown and the potential applications of this new technology for virtually story telling are investigated.

### **Objectives of the study**

- To evaluate the need of 3D for serious genre of films depicting the 'true-life'
- To examine whether 3D creates visual complication and strain for viewers rather than easy conveying
- To find out if 3D can be an option for such stories that needed an additional depth to show its tricks & gimmicks as a 'visual experience'.

### **Methodology**

Survey research method was used in this study considering the objectives and nature of the research work. Sample includes subjects selected on the basis of specific characteristics or qualities and eliminated those who failed to meet these criteria. The researchers thus selected 122 samples. Today the mainstream

commercial cinema primarily considers the interests of the youth. . A self administered questionnaire was distributed among the population of youth those who fulfilled the criteria of the study. Sample from all the 14 districts of Kerala are included in the sample.

## Results

The researchers analyzed the data collected through the survey from 122 respondents in Kerala and expose the findings. Simple percentage method is used for data analysis.

### Intention towards Viewing

According to the data, the youth are more passionate towards the medium of cinema and have purposive approaches that satisfy them. Though it is entertainment value that hold high on demand with 50% of respondents, 20% of them goes for relaxation and 13 %of the respondents watch cinema only to analyse it. While the major population goes for the entertainment itself, there are minor groups including, 4% who go for film to entertain and relax, 8% for entertainment and analyzing, 8% to relax and analyse, and the rest 4% to entertain, relax and analyse. (Table 1)

**Table 1: Classification of viewers based on their intention**

Intention of movie going	Frequency	Percent
A- To entertain	61	50.0
B- To relax	24	19.7
C- To analyse	16	13.1
A & B	5	4.1
A & C	10	8.2
A & C	1	0.8
A, B & C	5	4.1
Total	122	100.0

### Viewer's criteria on movie selection

The study has found that the viewers those who are influenced by the actors tend to be less with a minimum of 5.7%.

But significantly the story of the film still predominates and 59% among the viewers choose a movie on the basis of the story itself. 9% selected direction as the only criteria and those who looks for cinematography is 4%. (Table-2)

**Table 2: Classification of the viewer's criteria on movie selection**

Movie selection criteria	Frequency	Percent
A- Story	72	59.0
B-Direction	11	9.0
C- Actors	7	5.7
D- Cinematography	5	4.1
A & B	5	4.1
A & C	2	1.6
A & D	3	2.5
A & E- Special effects	2	1.6
B & C	4	3.3
C & D	1	0.8
A, B & C	1	0.8
A, B & D	2	1.6
A, B & E	3	2.5
A, C & D	1	0.8
A, D & E	2	1.6
A, B, C, D & E	1	0.8
Total	122	100.0

The viewers who consider the special effects as a criterion for selection imply that the special effects cannot serve any consumable quality to a movie with a poor storyline and script.

### **New digital technology and quality of film**

Technology and the aesthetics will go hand in hand if it is aptly used. It can also improve the overall quality of the film. The study shows that people recognize new technologies as the elements for improvement in quality. 86.9% among the total respondents approves this fact (Table-3).

**Table 3: Opinion about the relationship between new digital technologies and quality of film**

Opinion	Frequency	Percent
Yes	106	86.9
No	16	13.1
Total	122	100.0

### 3D's Addition to a Movie

Being the focus area for the researchers, the audiences' perception on 3D in cinemas is the most important. It has found through this study that reason for high-level acceptance of 3D cinema is its remarkable 'different viewing experience', and 71% among the respondents agree this. The lower value with a minimum of 10% shows 3D has no much considerable contribution to aesthetical value in a film. 19% of the respondents asserted that it is a gimmick. (Table-4)

**Table 4: Opinion about the 3D's addition to a movie**

Addition of 3D to a movie	Frequency	Percent
A- aesthetical value	12	9.8
B- different viewing experience	87	71.3
C- a gimmick	23	18.9
Total	122	100.0

### Preference for 'true-life' movie

Even though the 'immerse feel' with a 3D cinema is close to our real world experience in a biological sense, 3D never opts for 'real-life' cinema. 89% among the respondents does not like to watch a 'real-life' movie in 3D format. (Table-5)

**Table 5: Preference for 'true-life' movie**

Preference for 'true-life' movie	Frequency	Percent
2D	109	89.3
3D	13	10.7
Total	122	100.0

### 3D as an option

Today 3D cannot be considered as mere 'gimmick' as they produce better visual experience compared to earlier days and it can be an option for science-fiction, fantasy genres of films. 82.8% spectators among the respondents agree it (Table:6).

**Table 6: Preference of 3D as an option**

3D can be an option	Frequency	Percent
Yes	101	82.8
No	21	17.2
Total	122	100.0

### Strain and complication in watching 3D movies

As per the data shown in Table 7, for a considerable population (46%) 3D visuals create viewing difficulties and add strain to vision compared to 2D. The majority (53.3%) do not have any difficulties from viewing films in 3D format.

**Table 7: Vision problems from viewing 3D movie**

Viewing strain	Frequency	Percent
Yes	57	46.7
No	65	53.3
Total	122	100.0

Some scientific studies reveal that vision problems may spoilsport in viewing 3D movies. People who have even a small vision misalignment or those don't have equal vision in both eyes may not be able to see 3D images properly.

### Major findings

- Viewers consider 3D in a film as an add-on feature for visual experience.
- Audience does not like to watch a 'real-life' movie in 3D format.
- Viewers want to see films with 'true-life' situations in common 2D format
- 3D has not much considerable contribution to aesthetical value in a film
- The story in a film holds predominance among the other consumable qualities. It attracts the viewers more than the other elements such as direction, cinematography, special effects etc.
- Special effects cannot serve any consumable quality to a movie with poor storyline and script.
- Even though the 'immerse feel' with a 3D cinema is close to our real world experience in a biological sense, 3D never opts for 'real-life' cinema.
- 3D can be an option for science-fiction, fantasy genres of films.

### Conclusion

Today the resurgence of 3D with digital technologies and virtual reality create news and debates. Regardless of the form and ideology, film viewing is at its core a sensuous and visceral experience. The raw and tactile dimensions inherent in cinema and their applications for film as a communication medium and art form are rarely examined in any meaningful way. Researchers believe that the selection of this area of study was apt considering the present day conditions of cinema as art as well as the strongest communication medium.

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