

## 게임의 공포 유발 요소에 관한 연구 - 카메라 각도와 구도 중심으로

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### Study on fear-inducing factors in game - Focused on the compositions and camera angles

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#### [요 약]

본 연구는 공포 장르 중에서 영화와 게임의 요소 측면에 초점을 맞추고 있다. 공포 영화의 카메라 앵글과 공포 게임의 구도는 사람에게 공포심을 유발할 주요한 요인이다. 본 연구는 4가지 공포요소(감각적 공포요소, 기대적 공포요소, 제한적 공포요소, 수행적 공포요소)를 분석하여 구도와 카메라 앵글의 패턴과 결합해서 분석하였다. 알프레드 히치콕 감독의 영화에 적용한 기법과 게임 구도의 구성 형태는 어떻게 상호 적용되는지 연구하였다. 결론적으로, 플레이어에게 공포심과 몰입도를 더 증가시키는 구도를 제시했다. 즉 대각선 구도, 양대각선 구도, 역삼각 구도는 시각적인 요소와 같이 사용한다면 플레이어에게 몰입도와 공포심을 유발할 수 있다. 향후 게임을 제작할 때 플레이어에게 공포감을 향상시킬 수 있는 구도를 제시하고자 하고 게임을 디자인할 때 공포감과 몰입도를 증가시키는 구도를 활용할 것이다.

#### [Abstract]

This study mainly focused on horror movies and horror games. Camera angles of horror movies and compositions of horror games are main factors that can cause fear in people's minds. Through analyzing four kinds of factors, including sensual, expectant, restrictive and executive fear elements, in horror games, and combining with the patterns of camera angles and film techniques that Alfred Hitchcock applied in his horror movies, this research investigated certain types of compositions and concluded ones that were more effective on growing fear in players' minds and enhancing their involvement. In conclusion, only the combination of factors in horror-game compositions, like diagonal composition, dual-diagonal composition and inverse triangle-line composition, with visual elements enables player's growing sense of fear and the increase in involvement. Therefore, future works should apply more of these fear-inducing compositions.

색인어 : 구도, 카메라 앵글, 영화 기법, 공포 게임, 공포 영화

Key word : Compositions, Camera angles, film techniques, Horror game, Horror movies

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## 1. Introduction

### 1-1 Research Background

Horror genre began from the horror novels prevailing in the Victoria era in England (from the 18<sup>th</sup> to 19<sup>th</sup> centuries), including Gothic novels, and the application of high-tech equipment and special effects in horror movies brought this type of movies to a climax. Especially in 1920s' and 1930s', the influence of expressionist films in Germany and the involvement of American Hollywood formed an unique horror art in style and genre. [Fig.1] shows the history of horror genre from literature to movies, then to the present horror games.



그림 1. 공포 장르의 매체별 발전사

Fig. 1. The development history of horror-type medias

Horror genre developed from the second half century of 1980s', and from then on, lots of scholars began to engage in studying horror art. The organized studies are showed in [Table 1].

표 1. 공포 예술의 선행연구

Table. 1. Relevant researches on horror art

Researchers	Central research points
Barbara Creed 1986	<Horror and the Monstrous feminine : An Imaginary Abjection> He challenged the Freudian theory. Because of the terrible concept for females in human society, maternal images were portrayed to be extremely horrific[1].
Noel Carroll 1990	<The philosophy of Horror : or, Paradoxes of the Heart> He studied the theories of horror art and defined

	its objects—monsters that did not conform to scientific logic. The key points in the spectrum of horror art were mainly known as fear and disgust. And centered on these two factors, he analyzed horror genre[2].
David J.Skal 2005	<The Monster Show: A Cultural History of Horror>, He studied horror movies from the respect of culture history, and thought that horror theme was closely related to the culture in America, considering the horror history that resulted from social political situations—the cold war period and the world wars[3].

Among the above theories, Noel Carroll's theory has a great influence on this study. From Noel Carroll's and Lovecraft's analyses of horror theories, it can be suggested that there are three elements that influence people's fear in [Table 2][4].

표 2. 세 가지 공포 유발 요소

Table 2. Three fear-inducing elements

Element 1	Supernatural and religious reverence.
Element 2	Psychical elements in psychoanalysis.
Element 3	The influence of human ego and the existing cultural scope.

The points of view proposed by Noel Carroll has a profound influence. In terms of expression techniques, horror games have something in common with horror movies. Games that based on horror stories can bring special visual and aural experiences as well as role-playing experiences, which allow players experience their fears in person so that to produce an unique horror aesthetics of game art.

### 1-2 Research purpose

Through conducting case study about horror movies and games, the application of horror compositions from the aspect of camera angle and the similarities and differences of the application patterns of horror elements were analyzed. According to this, certain compositions that could mostly improve the involvement and the sense of tension was figured out. The way how film techniques in horror films caused tension and fear is the objective of this research. And this study also provided suggestions for the application of game compositions and techniques in making horror games.

### 1-3 Methods

The study method of this paper is mainly comparing the horror movie and horror game. The paper chose Resident Evil and Silent Hill, which have both the version of film and game. The reason of choosing these two cases to analyse is firstly for their high popularity. Meanwhile, because of the feature that these two themes have versions in game and movie fields, the

analysis results are more intuitional. This study also contrasted the film techniques that Alfred Hitchcock used in his films with the corresponding parts in the counterpart games.

## II. Principle Argument

### 2-1 General fear and reasons

Fear, happiness and anger are three basic emotions for human beings. The importance of fear is obvious. It is an instinct that helps human avoid dangerous situations consciously [5], namely a special emotional response. According to different emotions, there are inherent fear, acquired fear and fear from unconscious contradictions that can lead to horror feelings. What is horror? We can roughly definite it as a property that can generate fear in people's minds, but why people generate fearful feelings when facing these kinds of things?

Fear elements in human minds can be arrayed in sequence as death, darkness, evil spirits, illnesses, monsters etc. The former ones have a common property, which is out of the capacity of human beings and cannot be taken under control with the single power of an individual. Meanwhile, these elements can be divided into two types—comprehensible elements and incomprehensible ones, and the latter type is more horrific, because unknown usually can cause uneasy mood which then leads to a sense of fear.

In horror art, protagonists are always entirely ignorance about the situation that they are trapped in, which can be described with the classical saying—"I know what you will do, but I'm totally nonplussed about what I will do". This is only a superficial unknown, while in an in-depth unknown world, horror art can reflect multiple unknown things that people can hardly get rid of, like uncharted fields in nature (whether monsters and ghosts exist), unknown things in the universe (whether alien evils exist), uncomprehending psychopathic personalities (how evil a person can become), unknown about life variation (can a man alter into an invisible person or a fly), the unknown about the future and potential danger and so on.

According to the statements above, we can explain most of the expression techniques in horror movies and games. For example, visual horror actually takes advantage of the transgression of people's visual experiences, and creating doubts constantly can cause psychological horror in audiences' minds, thereby resulting in incomprehensible unknown which can generate real fear.

Horror game is a kind of game that aims at inducing

people's inner fear. Analyzing the three fear-inducing elements based on Noel Carroll's theory, it is easy to find out that the characters and backgrounds in horror games do not exist in real world. Horror games can induce players' sense of fear by describing this kind of world. Besides, through designing some everyday subjects in familiar scenes of daily lives, horror games can produce a sense confusion between the reality and the virtual world, so that players may think of some horror stories, images and become nervous. Therefore, horror is a kind of negative emotional reaction resulted from stimulation, thereby causing threatening effects [6].

Additionally, horror is the hottest topic that has been discussed among human-centred subjects [7]. By investigating a series of emotions and reactions, it can be seen that horror is an emotion that is generated when an individual faces menace. For instance, at the presence of a stranger, one may experience sweaty palms, increased heart rate, and sudden depression in oratory skills, which are signs showing that said person is experiencing fear. According to some researches, plenty of scholars think that when fear is induced, heart rate will experience obvious change which shows as a quick rising. Thus, to judge if people is experiencing a fearful emotion, putting gesture reactions aside, heart rate is an important reference factor. Meanwhile, some extrinsic factors can also control gesture reactions, for example, despite of the fear of uncontrollable situation when people encounter danger, they may force themselves to calm down so as to be accessible to gesture-controlling. According to this, a large amount of scholars think that the main physiological criteria to judge whether a person is experiencing fearful emotion is heart rate. Just like the mentality of taking a roller-coaster or drowning, even though our legs are powerless, we will still struggle. However, the senses of tension and fear from inner stimulation cannot be controlled. Hence, to investigate what kind of factors may lead to tension and rising heart rate so as to induce fearful emotion is necessary.

In general, horror always corresponds to the physiological responses. However, the horror mentioned in games includes pleasure experience, and some imaginary fear can be avoided in games. This study mainly concentrated on investigating and analyzing what kinds of factors can bring a sense of tension for players.

### 2-2 Fear-inducing elements and techniques

The relationship of horror films and horror games is becoming more and more tight in these years. In this study, all horror games possess fear points, which refer to the points that make players feel fearful physiologically and mentally when

playing the games. And these points include various horror elements, which can be mainly divided into four types—sensual, expectant, restrictive and executive fear elements[8]. The content of these element types are shown in [Table 3].

표 3. 네 가지 공포 요소

Table. 3. Four elements of fear

Sensual fear elements	Human possesses five types of sensations—vision, touch, smell, taste and auditory sense. Because horror games can only be presented on physical computer screens, the utilizability of touch, smell and taste is limited, while auditory sense and vision become the key points to stimulate fearful emotion.
Expectant fear elements	Everyone has different perceptions to horror and the past horror experience can be stored in people’s subconsciousness. Thus, when similar experiences or images appear in horror games, players will generate expectant fear feelings.
Restrictive fear elements	Restrictions and regulations in horror games may limit players’ fearful experience, for example, the sudden appearance of dialogue boxes and plot videos may diminish their sense of fear more or less.
Executive fear elements	Different from other medias, there are strong interactions in games, so when players are controlling game characters or acting like the characters, they will directly interact with the game, so that they can feel the fear immediately when conducting the game.

The most important part of horror games is to bring real senses of tension and fear to players. Different application patterns of these four elements can cause different experience results. Both games and movies aiming at active selection and enjoyment of the user pursue the immersive state of the user.[9] This study not only investigated game compositions, but also conducted research on visual elements (dense fog, bloodstain and light effect).

This study mainly discussed the relationship between techniques used in horror movies and composition techniques applied in horror games through focusing on technical suspense and Macguffin in Alfred Hitchcock’s films [10].

Suspense refers to a technique that induces people’s suspension and incomprehension and make people to be uneasy by creating an event that is full of suspense and mystery. Macguffin, which is commonly used in the development of theatrical plots in Alfred Hitchcock’s films, it means the items, characters and targets that are crucial to the plot, like an article that is targeted by many characters. The detailed description of an item, a character or a target is not important, and whether the specific explanation in some works is showed or not, as long as it is important to characters and help the story proceed successfully, it can be regarded as

Macguffin. With the existence of such things, audiences will experience the impending plots spontaneously, and what we need to do is to guide their imaginations.

2.3 Camera angle

Camera angle in movies refers to the angle of photography, which is also the specific position of a camera. A single scene can be shot in different angles at the same time. Also, when shooting the same thing, different angles of camera can generate totally different results [11]. We mainly divide camera angles into 4 categories below: eye level angel, low angle, High angel and top angle[12]. Hereinafter, the reference diagram of camera angle in [fig. 2].

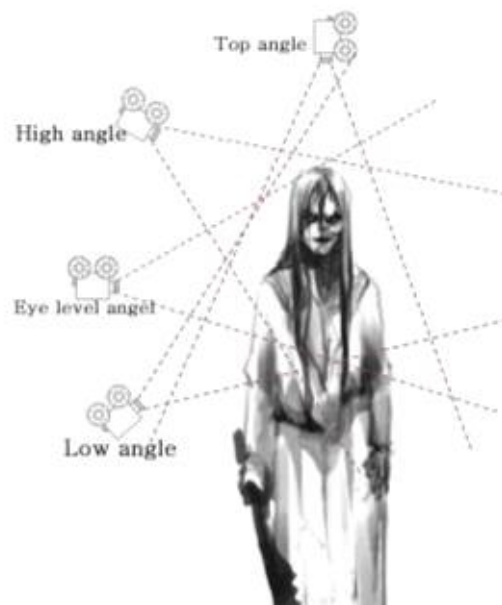


그림 2. 카메라 앵글의 참고도  
Fig. 2. the reference diagram of camera angle

From low angle, the characters of the film are extraordinary, threatening, conquering, frightening, confident or controlling events, which depends on their dramatic environment. The low angle of shooting is often used in the peeping plot, because it is not easy to find the angle that is lower than the sight of people's daily life. Psychologically, the characters will naturally lower their bodies, or hide under the table, under the bed, and cover themselves with obstacles. Because the distance of the peep is relatively close to simulating the visual perception of close distance, so it can give people a strong sense of reality. It is the angle that people rarely experience in real life, so the visual feelings are more exciting, which can stimulate the nervous and excited nerves of the audiences at once.

Eye level angel lens can make people have the feeling of neutrality. Because in most cases, we all look at the world in

this angle. So the flat angle photography does not have any special meanings. In other words, in fact, the flat angle does not allow the audiences to notice the existence of the angle itself.

High angel gives people a very high visual feeling, which is easy to give a relatively weak sense of the audiences. Overlooking the subject will make the subject seem more humbler, troubled, easy to be deceived or weak. The director often shoots the victims of an overlooking angle, in the same way, they also like to shoot the cowards and losers at this angle.

Top angle which is not taken from an individual's angle, but directly from the overlooking angle, so it usually takes some expressive shapes and scenes into a fine picture of composition from the angle that people can't reach at all, turning the space between people and environment into a plane pattern with clear lines, so that the picture has a special appeal and beauty.

From results of research, different positions of camera deliver different emotions to audiences [13]. Low angles give audiences a negative and uncomfortable feeling, and generates concerns. Psychology explains that, when people are looking up to something, they will feel pressure and fear because higher visual position of a certain object will induce fear in the audience. However, eye level angle gives people a peaceful and positive feelings. So, different positions of camera can affect audience's perception towards the theme. In visual art, most of the basic discussions over correlated design composition are rooted in painting art[14]. Thus, the basic principle of composition is balance and stability. Roughly, we classified them into several types as follow[fig. 3].

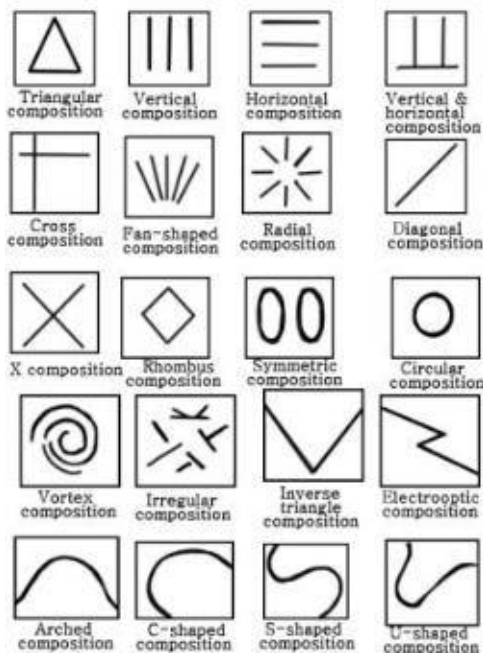


그림 3. 다양한 구도  
Fig. 3. various categories of composition

Simply put, stability is necessary in a scene because visual equilibrium in everyday life is a core aspect of aesthetic appreciation. Generally, there are two types in balanced pattern of manifestation, symmetric style and asymmetric style. And seeking balance and stability in an asymmetric setting is a quite vivid type of composition. In addition, film composition pays great attention to the balance and stability. There are various categories of composition.

#### 2.4 The comparison between horror movies and horror games

A similarity between horror movies and horror games is that they all deliver contents via screen, use visual element, like pictures captured by eyes, and audio element, like background music and effects sound from loudspeaker, to distribute fear. However, there are differences between horror movies and horror games in the application of visual and audio elements. As for movies, audiences watch the story from the perspective of characters in the play, which is also the charm of movie. As players who operate perspectives in games, they play games and make choices like the hero in horror games until the end of the whole game. Although there will be CG animation, clue or plot developing parts when playing, the biggest difference between game and movie is quite stronger interactivity in game. As for movies, audiences follow directors' perspectives to watch the whole story. However, in games, players possess different choices with different developing ways, and experience different pleasures and horrors. In movies, the reactions of characters, lines and actions are all already designed and set. When shooting, the cast crews have tried lots of time to reach satisfying results. Nevertheless, it is different in games. Every player is a unique part of game, operates the action of the protagonist, thinks about and solves problems as they are exactly the protagonist. Therefore, methods differ depending on the person that is playing. Thus, players can participate in the game more directly. The whole game is displayed from the perspective of player, using users' emotional involvement to let them experience the exploration with an endless amount of possibilities.

Analyzing the scene in Alfred Hitchcock's movie *Vertigo* [fig.4][15], eye level angel is applied. The position of camera is actually just the height of normal people's eyes, and double-diagonal composition (X composition) is adopted here. This composition method possesses a strong sense of perspective, and facilitates to guide people's sight from periphery to the center or make the scenery enlarged gradually from the center to periphery. Combining Noel Carroll's theory of 3 elements to create fear, at the focal point of vision in the

whole composition, we will easily be attracted by the character in the middle, and its behaviors will especially catch the attention of viewers. This composition also fully reveals the suspense technique used by Alfred Hitchcock. As shown below, what will the character in middle do sparks the curiosity of the audience. Whether it was Noel Carroll or Alfred Hitchcock, they all thought it was an emotional response from the audiences. Although these emotional reactions were related to the experience of the audiences in expectant fear elements, which was uncertain, but the charm of the suspense was here. The suspense in films and games had the particularity of its media, It also needed to be thought and explored how to induce the generation of suspense, increase the psychological horror of the audiences, and enhance the sense of immersion and attraction.



그림 4. 알프레드 히치콕의 영화 "베르티고"의 한 장면  
Fig. 4. the scene in Alfred Hitchcock's movie *Vertigo*

In game *<Resident Evil>*, the scene "Laser corridor" [fig. 5] may leave a deep impression to lots of audiences, which is one of the most widely discussed scenes. It adopts diagonal composition. This kind of composition focuses on the diagonal, directly uses the length of diagonal in scene and makes accompaniment directly relates to main part as well. The diagonal relationship formed by lines in scene lets the scene generate quite strong movement and show depth effect as well. The perspective can also change the entire thing into diagonal, guiding people's sights to the depth of picture. It easily generates the trend of converging lines, attracting people's sights and achieving the desired effect to highlight the main part.

In this scene, after characters enter the laser corridor, the door of entrance slowly closes, making characters can only stay in the corridor. But at this moment, unordered lasers 'pop up and close to characters in a pretty slow speed. In this process, the suspense generates in players' minds, such as what will happen if I touch lasers, what can I do to avoid lasers and etc. There are also two reasons why lasers close to players

with a slow speed, one is to give enough time for audience to think. Players try to find the solutions in this period of time as far as possible. Another is to put pressure on players, and increase the tension of the whole plot and the atmosphere of fear.



그림 5. <바이오하자드>, "레이저 복도"의 한 장면  
Fig. 5. *<Resident Evil>*, "Laser corridor"

In the game *<Silent Hill>*, double diagonal composition and High angel, are both adopted. Pull up the sights of players, use the adjustment of illumination and focus of light to highlight the center point [fig. 6]. Actually, players can subtly know what will happen later based on the blood on the ground. However, due to the light, people cannot ensure the content inside. Just like the composition in film *Vertigo* directed by Alfred Hitchcock, it guides players sights and also enhances players' involvement and sense of tension by light and shade.



그림 6. <사일런트 힐>의 한 장면  
Fig. 6. The sense of game *<Silent Hill>*

Apart from the suspense technique, Macguffin technique is also applied in Alfred Hitchcock's movies usually, such as the alarm bells in *Silent Hill*. This technique is usually used to promote the development of plot. In game, fear is actually more reflected in the change of light and shade, and the

utilization of lights. Game developers use composition to guide players' sights, and cover players' sight with other means[fig. 7].



그림 7. <사일런트 힐>, 플래시의 마스킹 효과  
Fig. 7. In Silent Hill, the sight masking effect of flashlight

In fact, in game *Silent Hill*, fog is an indispensable concept. Similar to the inhibition brought by the light from flashlight on players' sight, fog shares the same principle, to enhance the atmosphere of fear in game. At the same time, the factors of the form of sight on the background are various. In the majority of time, dirty dust and spotted blood are usually used to make players feel disgusting and uncomfortable in deep mind and also rocket the sense of insecurity of players. This method of giving more concrete real sense via more details is often used in the background of horror games.

According to the theory of Noel Carroll, there is no definition of fear object in a scientific sense. Most fear objects show at the moment when opening doors. It is pretty common to experience scaring scene when changing the sites. On the other hand, importance should be attached to how to avoid using this method abruptly and show "stimulating source" naturally. For instance, a flashlight should not be able to illuminate in an extremely dark area in order to emphasize the darkness.

### III. Conclusion

Through the analysis of camera angles in horror movies, the compositions in horror games, and some techniques and elements in horror production, a study is conducted on how to enhance players' involvements and sense of fear in horror games. On the surface, the camera angle and composition was just where the camera was placed and what angle was taken, but every angle and the change of each angle appeared to be

accidental, but it could have a little ripples in people's hearts. Sometimes these questions were subtle enough that people couldn't perceive it at all, but the subconscious mind kept them thinking at the same time when watching.

As for the utilization of composition, using certain composition, which can guide players' sights, and bring anxiety and depression to players, plays an effective role in enhancing players' involvement and feeling of tension. These compositions are inverse triangle composition, diagonal composition and double-diagonal composition (X composition). Inverse triangle composition gives people a feeling of anxiety and movement. Diagonal composition and double-diagonal composition both guide players' eye sights, which can nicely generate the results needed by suspense technique.

With the constant research on horror films and horror games, we can find that, with the continuous development of science and technology, the operating platform of the game is more and more intelligent, and the picture of the game becomes increasingly real, from the view of the restrictive horror elements of the game, in fact, the horror feelings of the game should be limited or reduced as much as possible, on the contrary, in the reality of the picture, the horror that the player feels can be maximized as much as possible.

There's a very close relationship between camera angle and game composition, We often pay attention to the horror effects of factors such as the role of the monster, the sound effect, and so on, and ignore the potential factors of camera angle and game composition. From my perspective, the guidance of players' sight is the most important part in game composition to increase players' sense of fear and their involvement. Therefore, using inverse triangle composition, diagonal composition and double-diagonal composition (X composition) and combining sight covering method with fog, light and etc. in suspense technique, can effectively increase players' involvement and sense of fear.

These three compositions have strong psychological implications. Inverse triangle composition which can give people a feeling of slightly shaking, it can be a form of outward expansion and explosion, or a strong feeling of instability. The perspective sense of Double-diagonal composition is strong, because the converging point of the line is often in the center of the picture, radiating around, which helps to magnify people's vision. Diagonal composition which is the line structure of the picture is very dynamic, often used in sports, flowing, collapsing, turbulence, instability, tension, danger and so on, which is easy to generate the convergence of lines, attracting people's sight. It uses vision to guide the audience's sight to a

specific object, playing a fixing and guiding role.

With the rapid development of the game industry, game designers will design game composition by referring to the camera angle of some horror movies. In the future development of the game, not only through the horror of the picture, but also through the game composition to improve the player's involvement and sense of fear. In the game production in the future, using the composition can easily generates the trend of converging lines, attracting people's sights. It easier to improve the play's engagement, and at the same time, combining some elements of the horror game, can significantly improve the player's fear. Therefore, future works should apply more of these fear-inducing compositions.

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