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DOES IT MATTER TO BE PICTURED FROM BELOW?

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Does the way in which a scene is viewed influence the interpretation of the role of the characters that appear in it, and does narrative context influence sensitivity to camera angle? In the linear conditions of the present study, each of 3 stories consisted of a sequence of 5 pictures. Pictures 2 and 3 introduced the 2 characters with either a high-angle, an eye-level, or a low-angle shot. In the random conditions, the 5 pictures were rearranged into a random order. Immediately after viewing each story, the 2 characters were rated on the 3 factors of Osgood's semantic differential (Evaluation, Potency, & Activation). Thereafter, an acceptable end to each of the 3 stories was to be chosen on a multiple-choice questionnaire. The results show a significant effect of the camera angle on the factor "Potency" under the linear condition: A low-angle shot elicited more potency. In addition, for one of the 3 stories in which the 2 characters were engaged in a common activity (chess playing), there was a significant difference on the choice of the probable ends as a function of camera position: The character, presented with a low-angle shot, was perceived as the winning player.

Introduction

We often get acquainted with people only through what we read, see or hear about them in the media, and not necessarily by means of personal interaction. Based on the available information, a specific impression of these persons is built. In films or photographs, the picture maker controls the manner in which the information is presented and thus influences the viewer's understanding and interpretation of the depicted person. By manipulating the overall compositional arrangement, the lighting, the perspective, and the camera angle, the picture maker sets a particular frame of reference for the spectator (Kraft, 1987).

The physical angle from which a person is represented often forms the dominant formal characteristic of an image, particularly when the angle is extreme. Giannetti (1972) argued that camera angles in visual narratives are comparable to a writer's adjectives in linguistic narratives: They often reflect the author's attitude towards the subject. A slight angle serves as a kind of

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subtle emotional colouring; an extreme angle may convey the major meaning of the image. In this case, the form constitutes the content. A person filmed from a high angle suggests opposite meanings than a shot of the very same person filmed from a low angle.

The number of camera angles is infinite, since there is an infinite number of points in space that the camera might occupy. In practice, mainly three vertical camera positions are distinguished: high angle, eye-level angle, and low angle (Bordwell & Thompson, 2004). In an eye-level angle, the camera is placed at the eye-level of the subject, creating the effect of the observer being on the same level. In case of a high angle, the camera is positioned above the eye-level of the subject, causing the viewer to look down on it. In a low angle finally, the camera is standing under the eye-level of the subject, causing the viewer to look up on it.

There is a sizeable collection of writings available in the aesthetic film literature, discussing the psychological effects of formal photographic and cinematic techniques on the meaning of the message (Andrew, 1976; Balázs, 1970; Bernstein, 1988; Boorstin, 1991; Eisenstein, 1949; Münsterberg, 1970; Thompson, 1993; 1998). According to this literature, high-angle shots reduce the height of the filmed or photographed subject to give the viewer a kind of omnipotence: High angles give the viewer a bird's eye view of things, making him or her feel in control of all the relevant variables of the scene. Low-angle shots have the opposite effect. They increase height, and thus heighten the importance of the subject. The figure looms threatening over the spectator, who is made to feel insecure. A person photographed from below inspires dominance, awe, and respect. For this reason, low angles are often used in propaganda photographs or films, and in scenes depicting heroism. Surprisingly enough, only a few studies have examined empirically how the camera angle in a film or photograph affects viewers' judgments.

Tiemens (1970) examined whether vertical camera angle affects the authority and the credibility of a newsreader. Scores of "communicative ability" and "knowledgeability" for one of the three newscasters in the study were higher in the low-angle treatments than in the high-angle treatments. On the evaluation measures of their "authoritative" and "convincing" nature, however, none of the newsreaders was rated differently. McCain, Chilberg, and Wakshlag (1977) examined the effect of high and low camera angle on a televised speaker's source credibility. There were significant differences between angle treatments for three of the four examined dimensions of source credibility (i.e., Competence, Composure, Sociability, and Dynamism). Only the Dynamism dimension failed to meet significance.

It is typically assumed that when a person is photographed from a low camera angle, such that the viewer seems to be looking up at him or her, judgments tend to be more positive, and this is congruent with untested

notions in the aesthetic film literature (e.g., Giannetti, 1972). In Mandell and Shaw (1973), a fictitious state government appointee in a filmed interview was judged on scales covering the three factors (Evaluation, Potency, and Activation) of the semantic differential (Osgood, Suci, & Tannenbaum, 1957). Potency and Activation were both found to be more important for the low-angle conditions than for the high-angle conditions; Evaluation did not differ significantly for the different angle conditions. In Meridian (1987), the connotative impression that the viewer has of a person was examined as a function of the perspective from which the person was visible on the television screen; no influence of the camera angle on judgments of Evaluation, Potency, and Activation was found.

In Meyers-Levy and Peracchio (1992), product evaluations were most favourable when the objects were photographed from a low camera angle and least favourable when they were shot from a high angle. This was only the case when viewers' motivation to process the depicted information was low. When processing motivation was moderate, eye-level shots produced the most favourable evaluations. Camera angle did not significantly affect viewers' judgments of products when they were highly motivated to process the depicted material in detail. The authors suggested a heuristic processing explanation, formerly stated by Kraft (1987): Camera angle effects on judgments might be due to the use of simple decision rules or heuristics (i.e., objects that we visually look up to are more positive); when people are highly motivated, they form judgments by carefully weighting the perceived true merits of what they have been presented.

In three experiments, Kraft (1987) examined the extent to which manipulations of vertical camera angle can affect viewers' evaluations of characters in a story, viewers' recall of the characters and of the story as a whole, and viewers' recognition memory. Six four-pictures stories depicted each time two characters. Five of the six stories involved two characters performing a relatively common activity; one story involved a person and a central object. The six stories were as follows: "Boxes" (a woman walks down the sidewalk and encounters a pile of boxes), "The Encounter" (two dogs greet each other), "The Smoker" (a woman tells a man to put out his cigarette), "Hitchhiker" (a driver picks up a hitchhiker), "Basketball" (two men play a one-on-one game of basketball), and "The Dented Car" (a man and a woman are involved in a mild car accident).

The first two slides in each story set up the activity, the third slide showed the first character, and the fourth slide showed the second character. In the case of "Boxes", the first character was the pile of boxes and the second character was the woman walking. Each story was then arranged into three different versions, depending on the angles of the third and fourth slides. That is, a particular version was defined according of the vertical camera angle of the first and second

characters in each story. Version 1 presented a low-angle shot of the first character and a high-angle shot of the second character. Version 2 presented both characters in eye-level shots. Version 3 presented a high-angle shot of the first character and a low-angle shot of the second character. Camera angle strongly influenced the perception of the two characters in each story: low angles connoting strength, action, and superiority; eye-level shots connoting parity; and high angles connoting weakness, passivity, and insignificance. Furthermore, changes in camera angle affected viewers' recall of the characters in a story. Recognition memory for camera angle was relatively inaccurate.

Following Kraft (1987), we expected in the present study an effect of camera angle whatever the script content of the story was. To be sure that the effect of camera position goes beyond the specificity of the content from a single story, three stories were used. Each story depicted the interaction between two people, the nature of the interaction (cycling accident, chess playing, and cigarette smoking) being vastly different in the three stories.

According to Kraft (1987, p. 301), one variable that may influence viewers' sensitivity to angle effects is the strength of the narrative context specifying the character relationships and the story lines. According to him, the less narrative information provided by the characters and the plot, the more compositional information will influence viewers' representations of the stories. Thus, with weak narrative plots, the effects of vertical camera angle will be stronger. In the present research, camera position and narrative structure were manipulated. We hypothesised that vertical camera angle will influence judgements of the characters on the three factors of Osgood's semantic differential and will affect the meaning viewers ascribe to the presented pictorial events; however, when the narrative structure of the story is distorted or weakened, effects of camera angle will be stronger.

Method

Participants

Participants were 116 first year students (94 female and 22 male) from the Faculty of Psychology and Educational Sciences at the University of Leuven, Belgium. They all participated on a voluntary basis and had normal or corrected-to-normal vision.

Materials

Three stories were constructed, involving each time two characters performing a common activity: a walking woman and a cycling man bumping

into each other; two men playing chess; and a woman asking a man to put out his cigarette. Each story consisted of five pictures of staged activities. Picture 1 displayed the setting of the activity, Picture 2 showed the first character, Picture 3 presented the second character, and Pictures 4 and 5 showed the interaction between the two characters. Pictures 1, 4, and 5 were all shot at eye-level while Pictures 2 and 3 were shot at three different camera angles: high angle, eye-level, and low angle. The pictures were all taken with a Sony DCR-PC camera. The camera was placed on a tripod at approximately 1.8 m away from the actors, and the vertical angle for the low- and high-angle pictures was approximately 35° off eye-level. Three different shots (high angle, eye-level, and low angle) of each character were taken, and each actor was explicitly instructed to maintain a fixed expression. The same actors appeared in all three versions of each story, and no actor appeared in more than one story.

Each of the stories was arranged into three different versions, depending on the camera angles of Pictures 2 and 3. The High-Low (H-L) version presented a high-angle shot of the first character (Picture 2) and a low-angle shot of the second character (Picture 3). The Eye-Eye (E-E) version presented both characters (Pictures 2 and 3) in eye-level shots, and the Low-High (L-H) version presented a low-angle shot of the first character (Picture 2) and a high-angle shot of the second character (Picture 3). Three more variations of the stories were created by rearranging the pictures of each of the three versions of a story into a random order.

Procedure

The participants were run in six groups. Thus, each group was shown all three scenarios in one of the six versions; in other words, angle version (Low-High, Eye-Eye, and High-Low angle shots) and order (linear vs. random) were between-subjects variables. Order of presentation of the stories within each group was completely counterbalanced across participants.

Participants were instructed to watch the pictures as a function of a subsequent task in which the depicted characters were to be rated. The stories were presented on paper with the five pictures of a story on a single page, one below the other and centred in the middle of the page. Presentation time was self-paced.

After each story was presented, participants rated the characters in each story on 10 seven-point rating scales. The scales were adapted from Osgood's semantic differential (Osgood et al., 1957) and were used for both characters. The scales friendly/unfriendly, happy/sad and good/bad assessed Factor Evaluation; strong/weak, fearless/afraid, tall/short and dominant/submissive were scales measuring Factor Potency; and active/passive, impul-

sive/deliberate, and emotional/unemotional measured the Activation factor. All participants were presented the same randomized sequence of the 10 scales.

After completing the rating task for all three stories, participants had to answer a multiple-choice question for each presented story. For each story, three ideal story lines were constructed: In the Chess story, the best player is the first or second character, or they are both equally good; in the Cigarette story, the smoker will or will not stop smoking (or don't know); and in the Bicycle story, the biker or the walker crashed into the other one (or don't know). The story lines were derived from the predicted effects of the camera angles within the context of a given story. For example in the Chess story, it was predicted that a low-angle camera shot of a player will enhance the impression of more power; he therefore is likely to be considered the best player. Participants had to select one of the three lines.

Results

Factor Evaluation included three scales. For each participant, the values on the three rating scales were averaged. Similarly, Factor Potency included four scales; for each participant, the values on the four rating scales were averaged. Finally, Factor Activation included three scales; the values on the three rating scales were averaged again. The averaged ratings were then subjected to an analysis of variance, including the camera-position groups (L-H, E-E, and H-L) and the linearity of the story (linear vs. random) as the two between-subjects variables and the three scenes, the two actors, and the three semantic differential factors as the three within-subjects variables.

No main effects are significant, except the difference between the three semantic differential factors, $F(2, 220) = 19.61$, $MSE = 0.48$, $p < .0001$, with significantly (Tukey, $p < .05$) a higher average ($M = 4.11$) on the Activation Factor than on the other two factors while the difference between the other two factors is not significant ($M = 3.85$ and 3.95 for Evaluation and Potency, respectively).

In the analysis of variance, the effect of camera position could be masked as the position was counterbalanced across the two actors. That is, when Actor 1 was taken from a high-camera position, Actor 2 was then taken from a low-camera position, and vice versa. Accordingly, a same effect of one of the three camera positions on the two actors (e.g., low camera position on Actor 1 and on Actor 2) implies an interaction between camera position and actors. Camera position was to affect more strongly the meaning viewers ascribe to the presented pictorial events when the narrative structure of the story is disturbed. Therefore, a significant interaction between camera posi-

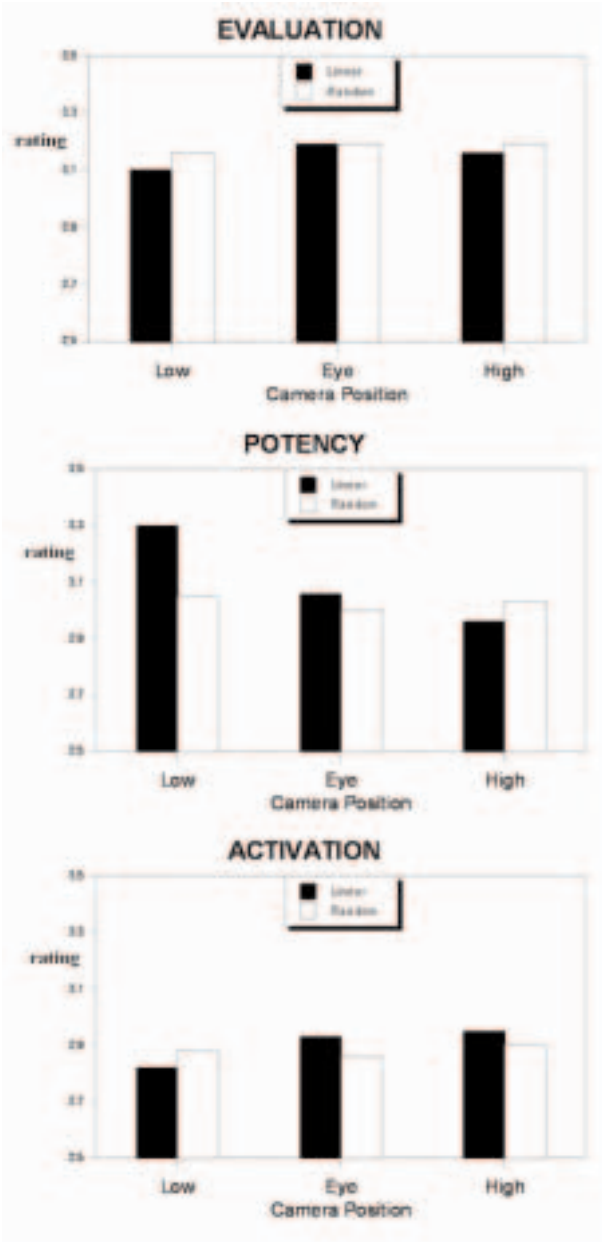

Figure 1.
Averaged rating as a function of camera position (low, eye, and high), semantic differential factor (evaluation, potency, and activation), and story linearity (linear vs. random).

tion, actors, and story linearity was predicted; such an interaction is obtained but it also includes the semantic differentials: $F(2, 220) = 3.78$, $MSE = 0.42$, $p < .006$.

Figure 1 gives the averages which are involved in the significant interaction; the figure combines the rating values of the same camera position of the two actors. From Figure 1, it appears clearly that the interaction between camera position, actors, and story linearity emerges only in the Potency Factor. Also, and contrary to our prediction, camera position affects the ratings more strongly when the story line is not disturbed.

Subsequent analyses, separately for each semantic differential factor and linear vs. random conditions, show that the linear decrease of Potency from low to high camera position is significant when the pictures are presented in linear order, $F(1, 106) = 16.59$, $MSE = 0.42$, $p < .0001$. No other linear trends are significant.

Figure 2 gives the proportion of participants who consider the actor to be guilty (Bicycle scene), to be the best player (Chess scene), and to be willing to stop smoking (Smoking scene), as a function of camera position and presentation conditions. As can be seen, there is not much difference as a function of the camera position within the linear conditions and within the random conditions, with one outstanding exception: When in the linear condition the actor is pictured from below, he is more likely to be considered the best player (.59) than as seen at eye level (.12) or with a high-angle shot (.10), $\chi^2(2, 60) = 21.51$, $p < .01$.

Discussion

Vertical camera angle influences judgments of the characters on the rating scales from Osgood's semantic differential, but this is only for the scales of the Potency factor. It is however not surprising that only this factor is affected by the camera position. The potency associated with the different camera angles is more saliently inferred from the actual visual and spatial relationship between the viewer and the depicted character than the two other factors (Kraft, 1987). In case of a high angle, for example, the camera is positioned above the depicted character causing the viewer to look down on it; in a low angle, the camera is standing under the eye-level of the subject causing the viewer to look up on it. Camera angle thus places either the viewer or the depicted character in a position of visual dominance or potency. This is generally accepted by film theorists (e.g., Giannetti, 1972), and is widely put into practice (Bordwell & Thompson, 2004). Concerning the two other factors, no such straightforward statements can be made, since there is no unequivocal connection among the spatial relation between the viewer and the depict-

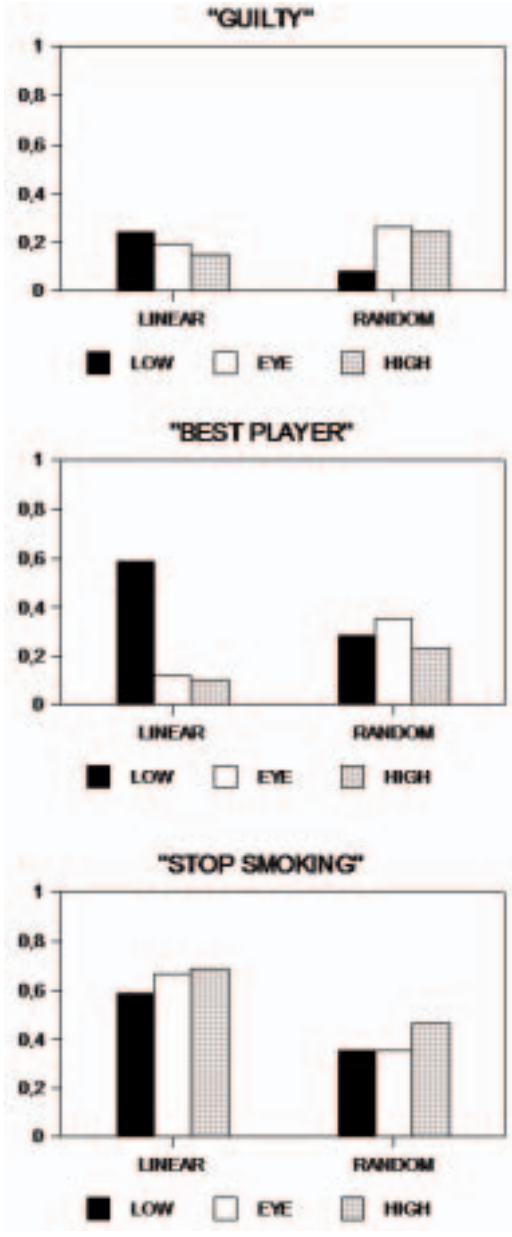

Figure 2.
Proportion of participants who consider the actor to be guilty (bicycle scene), to be the best player (chess scene), and to be willing to stop smoking (smoking scene), as a function of camera position (low, eye, and high) and story linearity (linear vs. random).

ed character on the one hand, and the judgments to be made on the Evaluation and Activation factor on the other hand.

Kraft (1987) hypothesised that the less narrative structure provided, the more compositional information will influence the evaluations of the characters and representations of the stories. We thus predicted the effects of camera angle to be stronger when the pictures of each scenario were presented in random order. This seems not to be the case. In fact, in this condition effects of camera position are not observed: neither on the rating scales nor on the story comprehension. Just as Gestalt psychologists argued that the whole is more and larger than the simple sum of its parts, the picture stories are more than the pictures working independently of one another (Eisenstein, 1949). The evaluation or representation evoked by the combination of the photographs is different than the meaning participants assign to an isolated photograph. When the pictures are not presented as a linear story but in random order, participants base the evaluations of the characters on the single photographs, and not on the role of one character in relation to the other one.

Only for the Chess scenario with a presentation in linear order, there is an influence of vertical camera angle on the meaning viewers ascribe to the event: The player from a low camera angle was judged to be the most skilled chess player. In the Chess scenario, both characters are engaged in the same activity of playing chess. On the photographs each player has made a comparable opening move. So the most salient and distinctive information for the viewers in judging the characters' skills is provided by the camera angle. In the other scenario's, the two characters are not both performing the same action. In the Cigarette scenario, one character is smoking and the other character is asking to put the cigarette off. The answer to the question whether the smoker will extinguish his cigarette can thus be influenced by other elements than camera angle (e.g., is the participant a smoker himself, or is he or she a confirmed non-smoker?). For the accident in the Bicycle scenario, some participants will identify themselves with the cyclist and accuse the pedestrian, while those who usually move walking will favour the pedestrian character.

There may be still other reasons for the absence of effects of the vertical camera angle on the meaning viewers ascribe to the event in the Bicycle and Cigarette scenarios. In the Chess scenario, both characters are depicted in front of a solid white wall, whereas the background consists of an office for the Cigarette scenario, and of a pedestrian area in the Bicycle scenario. Thus, in the Chess scenario, there were no elements in the background that might cancel out the effect of camera angle due to size-constancy (i.e., the tendency for the perceived size of stimuli to remain constant despite objective changes in context and stimulus parameters; see Boring, 1964).

Finally, the difference of camera effects between the Chess scenario on one hand and the Cigarette and Bicycle scenario on the other hand might also

be due to the fact that in the chess scenario both characters are male, while in the other two stories, one character is a male and the other character a woman. So the sex of the characters and thus the traditional sex-roles prototyping cannot influence story representation in the Chess scenario.

The present study represents an empirical demonstration of the effects of vertical camera angle. Future research should further explore the processes involved. For example, it could be useful to assess whether the participants were aware of the camera angle in which the characters were shot. This in combination with questions concerning their perceived relation to the characters could confirm the assumption that meanings associated with the different camera angles are actually derived from the spatial relationship between the viewer and the depicted character. Future research should also further address the influence of narrative structure on effects of camera angle. It could be fruitful to manipulate the strength of narrative context in other ways than administering the pictures in random order. Pictures of characters or objects could be presented in a scenario with no contextual and narrative glue at all, or even in the shape of single shots of characters or objects not embedded in a scenario.

In Experiments 1 and 2 of his four-pictures stories, Kraft (1987) obtained a camera-position effect on the rating scales covering Potency and Activation; no camera-position effect emerged on the rating scales referring to Evaluation. The camera-position effect was restricted to Potency only in the present study. It is hard to speculate about the critical difference between the two studies as there are numerous large procedural differences. However, it is important to emphasise that Kraft predicted an increased sensitivity to camera-position effects in the absence of a narrative structure while the present study demonstrated empirically the opposite.

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