

# Research on the Audio-Visual Language of Mobile Short Video Shooting

Qi Yang, Jonghoon Yang

Department of Digital Image, Sangmyung University, Seoul 03016, Korea.

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## Abstract

**This article first introduces the current situation of mobile phone short video shooting, and then analyzes the composition differences of the vertical screen frames in the mobile phone short video shooting, the different techniques used in scenes, the light processing methods, the motion and scheduling during shooting, and the sound processing methods. Finally, it is hoped that these audio-visual language methods unique to mobile phone short videos can in turn promote the development of traditional film and television, thus proposing that mobile phone short videos will continue to move forward on the road of independent art in the future.**

## Keywords

**Audio-Visual Language; Mobile Short Video; Shooting.**

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## 1. Introduction

Currently, cell phones have become an irreplaceable and important medium in human society, and their applications have evolved from simple communication to entertainment, business and office functions. The powerful mobile integration function of cell phones is also gradually integrated into people's daily life. With the popularity of smartphones and the full rollout of 5G networks, the integration of cell phones with many media has led to the rapid development of short videos. Short videos, which came into being in late 2013 in online social platforms, have gradually jumped out of social media use and radiated to mainstream media platforms, and formed a unique industry posture. Short video is a kind of Internet content dissemination method, referring to the video within 5 minutes in length spread on the new Internet media. With the popularity of mobile terminals and the acceleration of the network, short-adaptable-fast large flow dissemination content gradually gains the favor of major platforms, fans and capital such as Tik Tok, Kuaishou and Baidu Video. These short video APP further allows cell phones and short video to be deeply integrated to form a new mobile short video system, thus making us move from the text era, picture era to the video era.

The content production of mobile short video works has changed from the original individual self-presentation of netizens to the professional and narrative personality presentation nowadays, in which the length of works has also extended from less than ten seconds to a few minutes, and the distribution channel of mobile short video has also expanded from the original real-time sharing through social media to mainstream online media platforms. In addition, the consumption scenarios of mobile short video users are more extensive, participatory and interactive than at the beginning.<sup>1</sup> From the existing situation, mobile short video has actually become a new art form separate from movies and short films. However, mobile short video is derived from the art of film and TV series, so its artistic means will firstly inherit these previous ones. Moreover, there are also some unique artistic means and disturbances because of its dissemination channels and length differences. In view of this, this paper focuses on analyzing the basic audio-visual language of mobile short video shooting, hoping to provide some reference to researchers and producers of mobile short video.

## 2. Composition Differences of Portrait Frames

Film frame refers to the ratio of the film image, describing the relationship between the horizontal width and vertical height of the film. Film frame has undergone several transformations in recent decades, from silent frame 1.33:1 to masking wide-screen film frame 1.85:1 and then to anamorphic wide-screen frame 2.35:1. For example, in Jia Zhangke's film *Mountains May Depart*, three film frames of 4:3 (1.37:1), 16:9 (1.85:1) and 21:9 (2.35:1) are used, which tell three stories in 1999 (past), 2014 (present) and 2025 (future) respectively. On the one hand, the change of the frame shows the change of the times, allowing the audience to integrate into the era. On the other hand, it also reflects the change of the frame ratio of the film itself as time goes by. For example, Feng Xiaogang's *I Am Not Madame Bovary* adopts a circular frame to give audience a sense of visual expectation before the film's release. In *I Am Not Madame Bovary*, the circular shots also give audience a sense of peeping, making the audience feel detached from the scene. In terms of the contrast between the "circular" and "quadrate" frames in the film, the former shows the sophistication of society and officialdom, while the latter expresses the stubborn character of the main character Li Xuelian who vows not to give up. Thus, it is clear that the choice of different frames is not simply to give visual novelty, but to serve the content.

As the media of short video is now cell phone, so in addition to the traditional frame ratio, special attention should be paid to the portrait-frame image shooting. Portrait-frame images usually refer to dynamic or still images whose height is greater than their width and are mostly used in paintings and photos. For traditional films, such a ratio is rarely used. A look at the history of film reveals that as early as 1894, Frenchman Etienne-Jules Marey's dynamic image *The Falling Cat* was recognized as the world's first portrait-frame image, and its appearance was only one year away from the creation of film in 1895. Therefore, from a broader perspective, landscape-frame and portrait-frame images were created at almost the same time. The gradual development of film has given rise to a constant stream of commercial value. Besides, the need for commercial benefits of film and the calling for uniform standards for bulky photography equipment and projection apparatus made the landscape-frame image format gradually become the main form of film play. Under the giant screen, the landscape frame is more suitable for the human eye's viewing style, while the equipment and commercial value have hindered the development of portrait-frame images. With the continuous advancement of technology, the popularity of smartphones and the widespread use of mobile network, the viewing and production methods of images have changed, followed by the rise of short videos. Unruly, a British social video marketing agency, conducted a survey on cell phone users, reporting that 53% of cell phone users do not like to turn their phones sideways when watching videos, while 34% of survey respondents said they would lock their phone to a state of portrait screen.<sup>2</sup>

The advent of smartphones and the popularity of mobile networks have brought back the portrait-frame image. The 9:16 format makes it easier for users to hold the phone vertically, making portrait screen a more common ratio for the future development of mobile short video with a rich market potential. Therefore, the composition of portrait screen shooting is worth exploring.

The composition of an image refers to the organic organization and distribution of the object being represented in front of the camera lens and various stylistic elements of photography to form a certain picture form so as to express a specific content and visual aesthetic effect.<sup>3</sup> For mobile short video, composition can be divided into two basic ways of horizontal composition and vertical composition. Generally, there are not many differences between the horizontal composition and the traditional image composition, while the vertical composition requires more in-depth study and is more important for mobile short video shooting. Historically, China pioneered portrait-frame landscape painting composition in the Tang Dynasty, with overlapping compositions to show the profound mood of the mountains. In terms of Western art, from Leonardo da Vinci's oil painting *Mona Lisa*, Raphael's altarpiece *Sistine Madonna* for the church to Rembrandt's *Self-Portrait* and Engel's oil painting *Spring*, the composition with the figure as the core reflects the aesthetics of the figure, indicating that the portrait frame has a long history in composition. Also, the portrait-frame image of

film focuses not only on the manifestation of form, but also on the expression of content, thus achieving the complementarity of content and form.

Vertical line composition is a more effective composition method when shooting in portrait-frame format, which uses the posture of the characters, the light, or the vertical lines of the surrounding scenery, and places these elements in the image, showing a trend from top to bottom or bottom to top. For example, from January 21 to February 3, 2020, director Zhang Yimou and his team launched the Portrait-Frame Aesthetics Microfilm Series, which is divided into four parts of Meet You, Accompany You, Warm You and Thank You, all of which tell stories and small details of ordinary people's lives where the portrait-frame images have excellent presentation in terms of composition. From the image of each story, we can see that director Zhang Yimou placed the story in a modern environment in the form of "up and down", such as "train sleepers", "show windows", "elevators" and the "lifters" used by the "spider man" to clean the glass. Zhang Yimou used the modern environment of people's lives to frame these scenes in the image, and a heart-warming story was perfectly presented in it.

### **3. Different Techniques of Shooting Scale in Mobile Short Video Shooting**

Shooting scales are common units in composition (e.g., close-up, close shot, medium shot, panorama, etc.) that arose from the development of editing systems. The reason why the terms in a shooting scale can tell us approximately how much range is being shot is that these shots are set according to the size of the scene being shot, and their most common use is to describe human body, in which they relate to each other and are in proportion to each other. In traditional films, extreme long shot and panorama are used to produce imposing and stunning images. Because of the limited funds for mobile short video shooting and the short production cycle, the use of extreme panorama with plot and performance is reduced in mobile short video shooting. The large size of the shooting scale will increase the number of elements that need to be controlled in the image, which will lead to an increase in uncertainties, thus increasing the difficulty and cost of production, as well as the cycle of production. In addition, mobile short platforms are generally installed in cell phones and other small mobile terminals, so the performance and details in the extreme panorama are basically difficult to see in such a image. Under such circumstance, the selection and use of shooting scale can be different from the traditional film shooting techniques, in which more small shooting scale and a large number of extreme close-up images can be used to make the image more impactful and make the audience's impression more profound.

Although there are limitations of cell phone shooting on this regard, we can use this to set up the content of the plot because of the ability to enhance the expressiveness and social intimacy of the character's face in medium and close shot and close-up. For example, in the film *Wukong*, the main character, a little boy, falls into the jungle and dreams of his mother drying his tears, while the boy holds the movie tickets in his hand. In the film, the shots of the mother wiping his tears (close shot), the little boy crying (close-up) and the ticket in his hand (close-up) are all shown through close shot and close-ups, with the little boy shedding tears to show us his inner sadness. This strong power of implication is illustrated by blinking, glancing, staring, tears, squinting, anger and all the language of control.

### **4. Light Processing Means of Mobile Short Video Shooting**

For image modeling means, light is the third and the most demanding and difficult stage. For mobile short video shooting, although the current equipment in sensitivity and low illumination level performance has been greatly improved, the use of light is still a bottleneck in mobile short video modeling. The number of lighting equipment, the transportation and use of various types of lighting equipment, specialized staffing, lighting requirements for power supply, and the use of additional equipment such as power generators, makes the expenditure costs increase significantly. In addition, the mobile short video crew's shooting cycle is short. Generally, for the use a short period of time,

the lighting rental is calculated in accordance with the rental price of shooting advertising. If the professional lighting is used, the budget will further increase. However, most mobile short video budget is relatively small, and such high costs can not be afforded. Nowadays, short mobile video photographers generally use professional lighting alternatives for lighting, such as sunlamps, LED lights, energy-saving lamps, etc. Although these alternative light sources can be used for specialized lighting, they still have a large gap in color temperature, strobe, stability and color reproduction compared to professional light sources such as dysprosium lamp, so mobile short video is usually shot by making full use of natural light, and indoor and night scenes are reduced in scene setting, so as to reduce costs while closing the gap with the film.

## 5. Motion and Scheduling Means of Mobile Short Video

Nowadays, the use of motion shooting in film and television is more frequent. Compared to traditional motion shooting, there are many more forms of micro-motion expression. The slow push when shooting figures and the slow move when shooting scenes are relatively new image modeling techniques. Similarly, mobile short video also inherited these motion characteristics at the fastest speed. Since mobile short video is usually shot with a DSLR or cell phone, the miniaturization of equipment has led to more possibilities for the selection of auxiliary equipment for motion shooting. Frankly speaking, as far as the performance of motion modeling is concerned, various types of equipments, such as small orbits, rocker arms, Steadicam have made mobile short video shooting not inferior to traditional film and television and mobile short video makers even use these devices to create some more impressive shots compared to traditional film and television. Therefore, the mobile short video motion shooting not only inherits the essence of film and television, but also makes this form of modeling has a greater development. In fact, it is even influencing the forward movement of film and television, which is a great contribution made by mobile short video.

In a traditional film, i.e. a horizontal composition, when two or more actors are in the frame, it can be done using horizontal scheduling. However, mobile phone short video also has a vertical composition in which two or more characters, or characters who are almost on the same level, are not well depicted. The vertical composition is narrower on both sides, so when placing multiple characters in parallel (i.e. horizontal scheduling) and letting them do horizontal motion from the left or right of the camera frame, if all the actors are framed in full, then it will make the characters smaller and the main character not clear. In such a case, more use of vertical space is needed for the performance, i.e. to bring the actors closer or further away from the shot. In general, vertical character scheduling overcomes the disadvantages brought about by portrait frames, and also reflects the characteristics of vertical frames in the shot.

## 6. Sound Presentation of Mobile Short Video

The Jazz Singer that released in 1927 brought film into the age of sound and gave it a new look, making it a qualitative leap forward and becoming an audio-visual art. Metz once said, "In the complete reproduction process, motion, as a data element, is adjacent to and opposed to the auditory element." Sound is an important part of film art, and the technology of using sound in film has become very mature. There are three main forms of sound recording in film and television. The first form is pre-recording, i.e. recording before shooting the image. The second form is post-recording (post-dubbing, dubbing), i.e. dubbing according to the content of the image after it has been shot. The third type of recording is simultaneous recording, in which the camera shoots the image while the recorder is running simultaneously to record the sound from the image.

The traditional movie viewing mode is dominated by large screens and enclosed spaces in cinemas or playback halls, and basically uses 5.1-sound track or 7.1-sound track sound to play. In the environment of six to eight speakers in the front, back, left and right, the sound can be expressed more accurately and delicately, and the performance at the bass to treble is indulged in, reflecting a more magnificent scene and giving the audience a shock. Unlike traditional films, the finished mobile short

videos are eventually broadcast on cell phone carriers, in which the audience can only watch through the smaller screen of the cell phone. Due to the close distance from the eyes to the cell phone screen, the sound of the video can only be transmitted to the audience through the left and right speaker. In such a viewing method, the way the sound is conveyed is very different from that of a cinema or broadcasting hall, and the sound is broadcasted in a weaker sense of stereo, tending to be "flattening". In this case, only the most "real" sound can better bring the audience into the scene. Therefore, in the creation of mobile short video, more attention is paid to the use of simultaneous sound recording, which can make the actual voice of the characters and environmental sound in the image performance consistent, enhancing the video's sense of reality.

Since most short cell phone videos are shot with DSLRs or cell phones, and for reasons such as financial constraints, the recording are basically done by pre-recording. In addition, since the recording hardware of DSLR and cell phone is not very effective, and good microphones are expensive, many mobile short video producers have troublesome problems in handling the sound. Typically, the audience will be disturbed when watching the video on cell phone, so the sound should be relatively simple, and the dialogue should be processed in the form of single person talking more often, reducing the situation of multiple people talking at the same time. As the broadcast platform of mobile short video is not a professional cinema, ordinary stereo sound has been able to meet the basic needs of the audience, so the producers of mobile short video put more energy into the processing of music and sound effects, using beautiful music and exaggerated sound effects to attract the attention of the audience, which is also an important artistic processing method of mobile short video.

## 7. Conclusion

With the continuous development of the 5G network, the application scope of mobile short video has been significantly expanded, and its influence on people has been gradually strengthened on this basis. In this context, the various audio-visual languages of mobile short videos have developed their own characteristics based on the inheritance and development of traditional films and televisions. Although there are some problems due to the length, funding and equipment, mobile short videos also have their own unique audio-visual language tools, which in turn promote the development of traditional films and televisions. There are many experimental audio-visual language tools that can be used in mobile phone short videos, providing basic research for the further development of film and television art, and better promoting the development of the film and television industry. It is foreseeable that the future of mobile short video will continue to move forward on the road of independent art.

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