# Landscape Society: A Study on the Communication Effect of "Humanization Trend" of Video with the Support of Virtual Technology: A Case Study of Arts and Culture Programs

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Abstract: Virtual technology has been developing in recent years, and virtual hosts have appeared in major TV programs. In this paper, from the perspective of media evolution, taking Xiao Yang in Hello Saturday as an example, we use content analysis and questionnaire survey to explore the impact of the degree of interaction between virtual characters and hosts on user experience, and find that the degree of interaction is positively correlated with the degree of discussion, authenticity, satisfaction and virtual host evaluation. This paper is in order to promote the effective integration of virtual characters and real characters in one scene. It provides a reference for the rational allocation and utilization of virtual host resources in the TV industry.
Keywords: humanization trend, media technology, virtual host, program

## 1 Introduction

The popularity of cultural programs has remained high in recent years, with endless discussions among audiences about the presentation of each type of program. We have observed that from the going viral of Chinese Poetry Conference in 2016 and The Reader in 2017, to the emergence of Tang Palace Night Banquet and Man Ting Fang - National Colors in these two years, the center of audience discussion gradually shifts from program copy to stage presentation. With the support of virtual technologies such as AR, XR and AI drawing, cultural programs can give audiences a new audition experience and break the traditional spatial restrictions. However, we found that the presentation of virtual technology in front of the screen is actually not much different from playing background animation. The main reason why people are more interested in virtual technology is not the virtual technology itself, but the interactive communication and control between the virtual content and the host/actor, which makes the virtual character and the real character blend in the same scene. In this regard, we are curious: can the communication between the virtual character and the host enhance the user experience?

## 2 Literature Review

### 2.1 Literature Review of Landscape Society

The term "landscape society" was coined by Guy Debord, and was originally used in the fields of ecology and geography. With the transformation of society, Guy Debord introduced "landscape" into the social sciences to describe and evaluate the mediated society organized by commodities, images, and certain events. Landscape is not an insignificant decoration or supplement attached to the real world, but is the core of the non-reality of the real society. The American scholar Kellner gives a modern meaning to the concept related to landscape, arguing that "landscape" has become a "media spectacle" that makes people lose themselves implicitly. Kellner sees media landscape as a cultural phenomenon, and human guidance determines the positive and negative effects of landscape.

Célia Ladeira-Mota uses mediascape theory to study the phenomenon of corruption, encouraging people to use action to fight against the corrupt landscape created by politicians. Steven Robins focuses on the political phenomenon of apartheid, examining how radicals used the politics of spectacle to mobilize the masses. Paul Alonso, using an atypical presidential campaign as a case study, details the "Bailey spectacle" constructed by campaigners through controversial behaviors and uses it to increase political appeal. Paul Mihailidis and Samantha Viotty study the spectacle phenomenon before and after the 2016 U.S. presidential election, and analyze in detail the landscape phenomenon that led to the polarization of public discourse and opinions, and the proliferation of populist rhetoric through the dissemination of misinformation, the appropriation of portraits, and the involvement of mainstream media.

Chinese scholars have mainly studied media events and media phenomena based on landscape theory, reflecting on the impact of landscape on society, politics, etc., and exploring the relationship between people and media technology. Based on the media landscape perspective, Dang Minghui conducted a textual analysis on the news coverage landscape, technology landscape and event dissolution landscape of international and domestic media in the missing Malaysia Airlines incident, and explored the alienation and empowerment of landscape hegemony on international political communication. Bin Zhang and Yanwen Wu argue that the new media forms driven by the advancement of communication technology have intensified the diffusion and penetration of the landscape. The impact of digital scene communication technology and subcultural forms also reconstructs the real scenario and realizes Debo's strategies of "heterogeneous track" and "drift" against the landscape. Zhu Xujia and Luo Zhendong (2018) use "landscape" to explore the study of Internet celebrities villages.

In summary, scholars at home and abroad have generally been more comprehensive in their research on landscape, focusing on macroscopic examination of phenomena and time in the field of news communication, and there are no articles on the application of virtual technology in video from the social perspective of landscape, so it is impossible to answer the question of whether the interactive behaviors derived from virtual technology can enhance the user experience of viewers.

**2.2 A review of the literature on media evolution**

Evolution, is originally a biological concept. Paul Levinson applied it to the study of media in the field of communication, and inherited and explored McLuhan's theory of media development

in the context of the electric age in the context of the digital age.In 1979, Paul Levenson developed the Theory of the Evolution of Media, the core elements of this theory include "media-remedial", "anthropotropic", and "three stages of media technology ".

He Honghua and Huang Xuejian suggest that virtual reality technology can turn people's imagination of returning to nature into reality, and by extending human senses, people can obtain an unprecedented "immersion", which is very similar to the theory of microhabitat in media evolution. According to Luo, in such a competitive media environment, the only way for the TV media to give full play to its media advantages is to crossbreed and integrate with the Internet and take the initiative to genetically transform itself. Xu Lijun also expressed a similar view, proposing five major directions for the future development of TV media, namely, userization, intelligence, data, openness and co-bioscience. Ma Shuojian points out that the changes in the way human art is received are in line with the humanization trend of media evolution, and believes that the immersive experience people pursue in the future is a sensory reversion to the pre-technological world, which is a new way of receiving art and aesthetic experience for the audience.

Scholars' studies are based on the relationship between media evolution and technological forms, but they lack an in-depth investigation of the media factors that influence the form of film and television art, and some studies fail to point out the problems of film and television art today, which should be combined with media evolution theory to point out the problems and propose development strategies.

### 2.3 A literature review of virtual technologies

Virtual host, is a digital technology processing out through the broadcast, network and other communication media to form an interactive simulation of human image with the audience, although with the functions and roles of the host, but without the real life experience of the real host, this is called virtual host.

In the context of intelligent media, Yu Guoming made a prediction about the three directions in which the media industry can develop in depth in the future. He believes that the media will evolve in the future towards the integration of virtual and real penetration, product services instead of formal media and media symbiosis to create nested platforms. According to Zhang Hongzhong, the development trend of the media industry has gradually changed from "Internet+" to "artificial intelligence+", and Wang Dan and Huang Chuxin's analysis of the current situation and trends of China's new media development suggests that under the influence of artificial intelligence technology, the media industry can improve and optimize its structure, and the information content production process can be gradually automated and virtualized, and the form of content dissemination can be diversified, and the media industry business form will also produce a new transformation. Based on these research findings, the media communication style changes. However, no scholars have focused virtual technology onto the program, so this study aims to explain the connotation of virtual hosts with the perspective of media evolution theory and explore the association between the interactive behavior of virtual hosts and user experience.

# 3 Method

## 3.1 Hypothesis

The application of virtual technology draws the audience's attention, and the virtual characters gives the audience an immersive experience compared to the real person. During the interaction between virtual persons and hosts, the eyeballs effect gives the virtual persons "innate traffic", which enhances the attention of the interaction and brings more discussion, so the researcher proposes the following hypothesis:

H1: The more the virtual character interacts with the host, the more the audience discusses it.

Virtual technology will bring unprecedented realism and immersion. With the help of AI technology, virtual characters can accurately present the real external image, achieve more realistic language, voice and details with the help of natural language processing and voice animation synthesis, and present three-dimensional images with the help of 3D holographic projection technology. With the help of media technology, virtual characters have evolved a "humanization trend", and such human interaction can enhance the audience's sense of reality, so the researcher proposes the following hypothesis:

H2: The more the virtual character interacts with the host, the more realistic the audience will feel.

With technology empowerment, their images and expressions are adjusted and optimized by technology, and their movements, expressions, and mouth patterns are patterned and adjusted to finally get the ability of personalized expression. The smooth interaction between the virtual character and the host complements the content of the program, and also effectively improves the audience's evaluation of the virtual host and the satisfaction of the program, so the researcher proposes the hypothesis:

H3: The more the virtual character interacts with the host, the higher the audience's evaluation of the virtual host.

H4: The more the virtual character interacts with the host, the higher the audience's satisfaction with the program

## 3.2 Methodology

### 3.2.1 Content Analysis Method

To demonstrate the association between the amount of virtual character interaction and the degree of discussion, this study used content analysis to sample the overall population and create a questionnaire.

The research object corresponding to this hypothesis is variety shows. First, we conducted a representative sampling of this type of media and selected Mango TV. It was chosen because of its high influence and the countable number of bullet screens on the online platform, and thus is highly representative. Secondly, the researcher conducted a representative sampling of works

from different media based on the principle of having virtual hosts. A total of 56 episodes of Hello Saturday from January 1, 2021 to February 25, 2023 were finally selected, and the author used a simple random sample to take 20 episodes and compare the segments with virtual hosts in them.

In this study, the variable X virtual character is divided into 3 intervals according to the frequency of interaction with the host, corresponding to X1 high interaction, X2 medium interaction, and X3 low interaction. The discussion degree is equated to the number of bullet screens or comments. The data of relevant variety shows on video sites were obtained by Python technique.

3.2.2 Questionnaire method

Questionnaires are the main method used in this survey to explore the association between virtual technology interaction and audience satisfaction and authenticity. Based on the content analysis, we divided the interaction into different levels and used questionnaires to measure audience satisfaction and authenticity. The researcher designed the questionnaire by combining prior exploratory research and literature, etc., and modified the final questionnaire based on the results after completing the pre-survey. Since the measured variables do not have special requirements for the sample, the researcher used the convenience sampling method, and the collected questionnaires were strictly quality controlled and cleaned and organized, and the final data were imported into SPSS for analysis.

This paper combines the specific characteristics of cultural programs and sets the evaluation of virtual hosts, authenticity and program satisfaction as variables, mainly measuring audience satisfaction through content, format, personnel and production, and audience authenticity through appearance, performance and interaction.

# 4 Results

### 4.1 Sample characterization

In this study, the questionnaires were returned and data organized to obtain a total sample of 279, of which more than 70% were female and 24.73% were male. The majority of the sample had previous exposure to virtual technology, with 217 people, accounting for 77.78%. In terms of exposure channels, most of them learned about virtual technology from online platforms such as Tictok and Weibo and related media reports. From the perspective of viewing experience, only 108 people had previously watched programs with "virtual hosts", accounting for 38.71%, and 60% of them were exposed to it in online variety shows.

### 4.2 The interaction of "virtual host" is directly proportional to the audience discussion

The relationship between the degree of interaction between the virtual characters and the host and the degree of audience discussion was studied using correlation analysis, and the Pearson

correlation coefficient was used to indicate the strength of the relationship, which was dominantly positive with a correlation coefficient of 0.512. The more the virtual characters interacted with the host, the higher the degree of audience discussion, and the hypothesis H1 was supported.

In this study, the content analysis method was used to analyze the clips of Hello Saturday with the presence of virtual hosts, comparing the physical interaction, verbal interaction, the number of interactions with the degree of discussion, etc. The higher the score, the higher the degree of interaction, and the research data are as follows: the average score of physical interaction is 1.85, the average score of verbal interaction is 1.90, the average score of the number of interactions is 3.35 , and the average score of the degree of discussion is 113.91. The average number of discussion degree is 113.91 times. Combined with the above tests, the degree of interaction between the virtual character and the host is positively correlated with the audience's discussion. The more the virtual character interacts with the presenters, the more the audience discusses. Especially at the level of physical interaction, the frequency of discussion is relatively higher when the virtual host looks at, touches or dances with the host on stage, which indicates that the "humanization trend" of the visual dimension is not only limited to the similarity of appearance, but also related to the identity triggered by dynamic behavior.

### 4.3 The degree of interaction of virtual hosts is positively correlated with program satisfaction

The reliability of the scales used in this study was analyzed using the Cronbach's alpha reliability coefficient, measuring the KMO values, and performing the Bartlett's sphericity test, and the following results were obtained. The reliability coefficient for the program experience scale was 0.927, KMO=0.909, chi-squared value of 739.339, p-value less than 0.05. The reliability coefficient of the three scales (image anthropomorphism, persona credibility, and behavioral motivation) of the virtual moderator authenticity scale was 0.666, KMO=0.807, chi-squared value of 328.985, and p-value less than 0.05. The reliability coefficient of persona credibility scale is 0.837, KMO=0.820, chi-square value is 312.574, p-value is less than 0.05. The reliability coefficient of behavioral motivation scale is 0.862, KMO=0.780, chi-square value is 420.871, p-value is less than 0.05. The reliability coefficient of audience evaluation of virtual host scale is 0.898, KMO=0.809, chi-square value is less than 0.05. The reliability coefficient of audience evaluation of virtual host scale is 0.898, KMO=0.809, chi-square value is less than 0.05. The reliability coefficient of the scale is 0.898, KMO=0.809, and the chi-square value is 606.086, p-value is less than 0.05. Therefore, all the scales have good reliability and validity.

Correlation analysis was used to study the correlations between the degree of interaction between virtual characters and hosts and a total of three items: authenticity, virtual host evaluation, and program satisfaction, and the Pearson correlation coefficient was used to indicate the strength of the correlations. The regression analysis showed that the three independent variables had a significant linear relationship with the dependent variable, with regression coefficients of 1.247, 0.399, and 0.668, respectively; the significance was 0.000, and the research hypotheses H2, H3, and H4 were supported.

Nowadays, media landscape has been regarded as a cultural phenomenon, and the deeper the

interaction of virtual hosts is, the more it is conducive to enhancing audience satisfaction with the program. The above study illustrates that: the degree of interaction between the virtual character and the host is a necessary element for the satisfaction of the program and for the virtual host. For related programs, the emergence of virtual hosts has gained a lot of attention. The interaction between the virtual host and the real host brings the audience a more satisfying experience and retains this group of attention. The degree of interaction has a significant impact on the satisfaction of the program. The positive correlation between the level of interaction of virtual hosts and program satisfaction is due to the fact that virtual hosts create an immersive experience for the audience through interaction, which in turn strengthens the audience's recognition of it.

The interactive behavior of the virtual hosts also improves the audience's evaluation of the virtual technology. And the virtual hosts in the more interactive segments are more likely to be accepted by the audience. The level of interaction is significantly correlated with the evaluation of the virtual hosts. On the other hand, 62.37% of the total respondents can accept the presence of virtual hosts in the program, but only 20.43% want virtual hosts in the program, and only 21.50% think that virtual hosts themselves improve the program experience. Therefore, virtual hosts are only in the "being accepted" stage, and there is still a long way to go to be recognized by the public.

### 4.4 The authenticity of virtual hosts is closely related to their level of interaction

The authenticity of virtual hosts is also closely related to their interaction level. In this study, authenticity is divided into three aspects: image anthropomorphism, persona credibility, and behavioral dynamics. The virtual digital person reinforces his or her degree of identity in terms of external similarity through his or her interactive behaviors with the host. Through interaction, they build their unique persona and shape their personality traits and behavioral characteristics. With the interactive behavior itself, the virtual hosts revalidate their ability to interact and to communicate, act and express emotions comfortably. According to the findings of this study, the degree of interaction of virtual hosts is positively correlated with the sense of authenticity. In recent years, virtual hosts have been introduced into variety shows, which have attracted widespread attention during the broadcast of the programs. These virtual hosts are able to embody the main characteristics of the aforementioned virtual digital people through their interactive behaviors and accomplish different scene functions in the programs. Through motion capture system and AR real-time rendering, they can participate in more segments of the recording simultaneously. For example, Xiaoying shapes his lively, outgoing and mischievous persona by playing with memes, singing off-key and dancing with guests, and conveys emotional values to people through subtle changes in expressions, which greatly enhances the sense of authenticity and also achieves the purpose of attracting traffic for the program, in line with the target trend of the program team to seek innovation and change.

### 4.5 Landscape society: from "human form" to "human inner" interaction

Virtual hosts interact with real people through modeling and real-time rendering technologies, moving the technology from the appearance level to the perception and cognition level in the "humanization trend" stage. Human-like characteristics are important factors that trigger spontaneous, unconscious social responses, and they include not only external characteristics such as appearance, voice and behavior, but also internal characteristics such as emotion and personality. "People have always wanted to make machines human, and the idea itself has not changed much; what has changed is the technology behind the idea." But "making machines human" is just to make the technology function in a more acceptable way, with the improvement of modeling and real-time rendering technology, through intelligent synthesis and motion capture, hyper-realistic virtual digital human appearance and speech and action can reach a high degree of simulation. As a virtual host who has been "personified and cultivated", Xiaoyang is significantly better than the previous virtual hosts in terms of anthropomorphizing external features. But the realistic appearance is not its ultimate goal. The purpose of the infinite approach to the texture of the real person is to "restore as much as possible the emotional expression of the real person", and through continuous learning to upgrade the stage skills, gradually form a unique hosting characteristics. The effect of hiding the "human form" and highlighting the "humanity" is even more extreme in the virtual image of "TV Chicken" in another variety show "2060". Among all the virtual anime characters, "TV Chicken" is the only contestant with a "non-human" look, but it has gained the highest popularity because of its lying flat, amusing and optimistic "worker" persona.

## 5 Conclusion

This study investigates the application of virtual technology in variety shows through questionnaires and content analysis with reference to the "humanization trend" theory, trying to answer whether it is the interactive communication and control between the virtual content and the host/actor that makes the virtual character and the real character blend in the same scene. The study found that the higher the level of interaction, the higher the level of discussion, satisfaction and realism and evaluation of the virtual hosts. This is mainly because the "humanization trend" of Xiaoyang is not only in appearance, but also in the stable persona and the fit of this persona with the style of the program. Xiaoyang has fuller interaction with other hosts and guests in the program, and through the motion capture system and AR real-time rendering, she can participate in more segments of the recording simultaneously.

However, the virtual hosts are still not fully accepted by the audience. And the interaction has only increased the recognition to a certain extent. In the answers to the open-ended questions of the questionnaire, there are still people who have a negative attitude towards virtual hosts and believe that they should not appear. What kind of role should virtual hosts play in variety shows, and what kind of relationship should be established with other hosts and guests, are questions that deserve in-depth consideration.

At present, China's virtual digital people are in the development boom, the widespread use of virtual hosts in the media field has become inevitable. Language, action, emotional

interaction is the future development trend. Policy encouragement, technological innovation, industry promotion, etc. are the external driving force for virtual hosts to move forward, while the audience's viewing experience, emotional connection and acceptance are the internal driving force. Only by merging the two forces can the TV industry finally reach a reasonable allocation and optimal use of virtual host resources, as well as the development and deep plowing of more scenes.

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