On the Transformation of News Media by Virtual Reality Technology (Postprint)

Authors: Lin Maoshen

Date: 2023-10-08T00:00:00+00:00

Abstract

With the continuous advancement of society and the progressive elevation of scientific standards, diverse communication media have emerged in our daily lives. Within the industry, numerous technology professionals have designated 2016 as the inaugural year of virtual reality technology. As virtual reality technology has been gradually and successfully implemented across multiple domains, it has become a ubiquitous catchphrase among news practitioners and internet entrepreneurs. Nevertheless, skepticism persists regarding the nature of virtual reality technology, with many questioning its fundamental identity. While it has been characterized as a computer-generated interactive technology and dismissed as merely an entertainment and gaming tool, from a communication studies perspective, virtual reality technology represents fundamentally a novel form of communication technology. This new communication medium has opened an alternative gateway to the world of communication for humanity—immersive communication. This article conducts an analysis centered on virtual reality technology, examining its applications within the news communication industry, and reveals that virtual reality technology has engendered transformations in both media and information dissemination modalities.

Full Text

A Brief Discussion on How Virtual Reality Technology Transforms News Media

Abstract: With societal progress and continuous advancements in science and technology, various forms of communication media have emerged in our lives. Industry professionals have dubbed 2016 the inaugural year of virtual reality technology, as VR has gradually moved from theory to practice and found application across multiple domains, becoming a mantra among news practitioners and internet entrepreneurs. While people often question what virtual reality technology truly entails—whether it is a computer-generated interactive

technology or merely an entertainment and gaming tool—from a communication studies perspective, VR is fundamentally a new type of communication technology. This novel medium has opened another door to the world of communication: immersive communication. This article analyzes VR technology and investigates its application in the news communication industry, revealing that VR transforms both media and information transmission methods.

Keywords: Virtual Reality Technology; News Media; Transformation

---

Human communication occurs through two primary pathways: face-to-face real-world communication and technology-mediated virtual communication. Historically, human communication activities have always emerged within specific contexts. From a media perspective, virtual reality is essentially composed of numerous existing media forms—including graphics, text, sound, and images—giving VR characteristics of multiple media types. These include transcending temporal and spatial limitations in communication and providing experiential coverage of all sensory systems beyond the capabilities of current media. VR enables audiences to experience news narratives from a first-person perspective, maximizing visual, auditory, and tactile perceptions. Through multi-angle communication studies analysis, we conclude that VR development is intimately connected with information transmission, and VR technology represents not an isolated development but a comprehensive manifestation of integrated communication technologies.

In recent years, VR technology research has become a major focus for scientific professionals. After years of study, VR has achieved breakthrough progress. Over the past two years, it has been applied in medicine, entertainment, aerospace, industry, and other fields, with particularly important transformations in the communication domain. Continuous VR improvements have profoundly impacted news communication media. Below, the author elaborates on VR technology' s meaning and its transformation of news communication.

1. Virtual Reality Technology

Virtual Reality (VR), also known as spiritual environment technology or artificial environment, was first proposed in the mid-1970s. In 1965, Ivan Sutherland, a pioneer in computer graphics, introduced an entirely new graphics display technology in his paper, proposing that observers could directly participate in computer-simulated environments rather than merely "looking at the world through a window" (i.e., through screens). VR technology uses computer technology to generate artificial three-dimensional virtual scenes, specifically integrating computer simulation technology with sensor technology and other interdisciplinary intelligent technologies. By establishing three-dimensional scenes through computers, VR creates immersive experiences that transport participants into virtual worlds, allowing complete immersion in computer-simulated three-dimensional environments. Based on advanced

information technologies such as computer networks and 3D graphics, VR technology continuously evolves. Within these "worlds," visual and auditory effects as well as human thinking can all be realized through VR technology, enhancing human logical thinking and emerging as a novel communication technology.

Currently, numerous technology companies worldwide are conducting VR research, investing substantial capital and recruiting specialized talent. This has led to extremely rapid development in both VR software and hardware. Simultaneously, VR technology has profoundly impacted numerous industries, including the news communication domain—ranging from technological innovation to industrial restructuring.

2. Changes to News Communication Media

As social animals, humans frequently engage in inter-individual communication, which indirectly facilitates media emergence and provides tools for interpersonal communication—one of humanity's original aspirations. With continuous human civilization development, people became dissatisfied with direct oral communication and invented simple media transmission technologies such as writing and drawing. Until the late 1830s, the invention of photography enabled people to record their lives in images [1]. In recent years, with societal development and scientific progress, modern media such as film, television, and computers have emerged successively, allowing people to know what is happening in any corner of the world and to engage in simultaneous communication with nearby and distant groups. However, the proliferation of communication media has not confused our understanding. Through careful study, we find that although communication forms have changed, their manifestations remain at the text, image, and video stages. When VR technology emerged, everything people understood seemed to change. Modern technology employs a completely new and comprehensive approach that stimulates human senses, enabling complete immersion in virtual environments under natural conditions. People can experience scenes firsthand from a first-person perspective without leaving home. Additionally, individuals can conduct comprehensive 360-degree observations to fully understand scenarios. This holds tremendous historical significance for news media. VR technology effectively compensates for news media deficiencies, elevating news communication to a new level through multi-sensory immersive transmission.

Face-to-face communication, as one of the most common communication forms, has many advantages: freedom from channel noise interference, extremely high transmission efficiency, timely and adequate exchange, and immediate information feedback. However, it also has drawbacks: limited transmission scope, strong temporal and spatial constraints, slower transmission speed compared to other modes, and difficulty in large-scale information dissemination [2]. With VR technology emergence, a new communication model—immersive communication—has appeared. This model retains the advantages of face-to-face com-

munication while solving temporal and spatial limitations. Advances in media technology and rapid technological product development have propelled immersive communication forward. Based on widespread big data application, VR technology enables individuals to exist simultaneously in both real and virtual worlds, gradually integrating social living environments and media to constitute the foundational environment for immersive communication. The primary characteristic of immersive communication is deep integration between humans and media. Through "personal participation and being present" experiences, multi-directional interactive communication generates senses of belonging, participation, identification, and aesthetic appreciation. Many experts believe the virtual reality system represents an inevitable result in the historical process of human communication activities. Due to its superiority, it is incomparable to other media. The entirely new communication mode created by VR systems—immersive communication—is gradually extending to various levels of real society, influencing humanity' s accumulated survival experiences over hundreds of thousands of years and current inherent lifestyles in astonishing ways [3].

3. Changes to Information Transmission Modes

VR emergence not only transforms traditional transmission-reception models but also profoundly impacts transmitter and receiver statuses. Previously, audiences always received information in third-person roles; now, they experience information in first-person roles as participants. The VR transmission model emulates the "Shannon-Weaver" communication model. In the process of information traveling from source to receiver through communication channels, information is inevitably affected by noise. VR' s function is to reduce this impact. Through computer intelligent technology, VR achieves scene reproduction, allowing audiences to perceive reality through multiple senses including visual, auditory, and tactile experiences. VR technology breaks through real-world constraints, changing the current situation where traditional and new media lack a sense of presence. In news reporting, although on-site journalists and behind-the-scenes staff have different social backgrounds, statuses, and education levels, they share the same social attributes. Because of this, even when striving for objectivity and fairness, they inevitably bring personal subjective factors into news reporting due to human nature. However, with VR technology, real scenarios can be recreated, enabling audiences to generate new experiences in virtual scenes, form their own unique insights, and obtain the most authentic news materials without being influenced by journalists' reports or their tones of voice. News reporting using VR technology achieves scene reproduction and enhances news authenticity. Simultaneously, in VR mode, the role of news media as "gatekeepers" is weakened, and discourse power shifts to audiences because every audience member witnesses the scene firsthand, making them the most powerful participants in news events who will make their own judgments based on their on-site experiences [4].

With era development, virtual reality technology will undoubtedly bring tremen-

dous changes to our lives. This article primarily studies and analyzes how VR technology transforms news communication, providing detailed examination of its transformative content.

References

[1] Zhang Wenjing. The Impact of Mass Media on Social Security Policy Formulation During the American Muckraking Movement[D]. China University of Mining and Technology, 2016.

[2] Ye Junqiang. A Brief Discussion on How Virtual Reality Technology Transforms News Media[J]. China Newspaper Industry, 2017(17): 74-75.

[3] Yin Xiaofan. Research on WeChat Communication Behavior of Chinese Youth Groups in the New Media Era[D]. Shaanxi Normal University, 2016.

[4] Pang Zhilong. Cultural Identity: A Study on the Communication of Taiwan' s Mazu Culture and Cross-Strait Relations Interaction[D]. Soochow University, 2016.

(Author' s affiliation: Contemporary Guizhou Magazine)

Note: Figure translations are in progress. See original paper for figures.