

Media Convergence: Innovation of Narrative Structure and Audience Experience in Interactive Documentary *The World in Ten Blocks*

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Abstract: Using the interactive documentary *The World in Ten Blocks* as a case study, this paper explores the impact of multimedia digital interactive technology on narrative structure and audience experience from the standpoint of media convergence. The findings indicate that interactive documentaries depart from traditional linear narratives by implementing a “decentralized” structure, thus enabling users to actively control the direction of the narrative and engage in an immersive, game-like experience. However, the integration of digital technology in multimedia renews and reorganizes innovation teams, but also leads to audience confusion due to the abundance of media information and dispersed speech.

Keywords: media convergence; decentralized narrative structure; interactive documentary; digital technology; gamified experience

1. Introduction

In the era of the Internet of Everything, the traditional media circle barriers are gradually dissolved under the strong viscous package of the network, and its business process and organizational framework are reconstructed, showing the trend of vertical development and deep integration. The boundaries of art, as argued by Arthur C. Danto (1998), are expanding, and being deconstructed and constructed. Interactive documentaries, which have grown up in the context of media convergence, have deconstructed the linear single-narrative logic of normal documentaries and tailored to the vogue of “audience-centered” communication focus migration. They have gradually constructed a user-experiential documentary communication model characterized by gamification experience. In the process of establishing relations with the audience, the traditional media has realized the function of the audience as a guide in news and information step by step. This has modified the preceding “information dissemination-oriented” to “audience demand-oriented”, which means the relationship between creators, users, and texts has become closer.

2. Multimedia technology offers users an immersive viewing experience and enhanced autonomy

2.1 Multisensory experience

The vast utility of holographic image technology, stereo environmental sound, and human sensing technology in documentaries has transformed the conventional image movement form, which relied solely on camera movements, screen motions during shooting, and post-editing special treatments. This technological advancement has facilitated the emergence of media as an extension of human perception (Marshall, 1966), capable of offering audiences a multi-directional immersive experience that engages visual, auditory, and tactile senses. Consequently, this immersive viewing experience effectively compensates for the absence of physical presence, overcoming the sense of distance while dissolving traditional documentaries’ tedious and monotonous aspects.

2.2 Audience transition

The use of the word “user” in interactive documentaries is more appropriate than the terms “audience” and “viewer” as it emphasizes the active role of the individual. Unlike the passive role of decoding and receiving information, the term “user” suggests independence and autonomy, highlighting that they are not bound by the linear logic and order of the creator’s thoughts and established materials. Furthermore, the analysis of movies by users based on their personal pursuits and unique cognitive styles can also be seen as an implementation of gamification in interactive documentaries (Ke, 2017).

The World in Ten Blocks, an interactive documentary released in 2015, focuses on the demographically diverse neighborhood of Bloorcourt in Toronto. It presents the stories of ten immigrant shopkeepers in a first-person, subjective, participatory narrative that explores themes of cultural variety and the sacrifices and opportunities that come with immigration. The creators of the documentary employ extensive digital 3D imaging and surround sound to create an immersive atmosphere in the neighborhood, effectively breaking down the barrier between the user and the textual content. Using multimedia materials such as short videos, audio, photos, graphics, and text, the film offers users a plethora of perspectives to explore. Users have the freedom to scroll, click, select, and explore the narrative units as they wish, allowing them to freely control the direction of the narrative and reducing the subjective will of the creators. This incorporation of user agency is a defining feature of interactive documentaries, setting them apart from traditional documentary text narratives (Wang, 2021). By considering the screen as the node and viewing documentaries from the perspective of the experiential process, creators can avoid being guided solely by their demands and interfering excessively with users' logic and behavior.

3. The Changing Narrative Patterns of Documentary Films Driven by Media Convergence

3.1 Multi-branch narrative structure

In the context of media convergence, technologies such as cloud computing and integrated communication have given traditional documentaries the ability to expand their expression form. Traditional documentaries have typically focused on one-way linear propagation with montage narrative ideas, emphasizing artistic reproduction of reality and storytelling. This has led to a relatively closed and fixed vision for the audience. However, with the use of powerful media attributes, such as databases, documentaries now have the potential for hypertext narration and experiential interaction. This means that the performance strategy of documentaries is no longer solely reliant on audio-visual language technology. The “multi-branch” narrative structure allows for personalized convergence selection, which can be seen as a precise push based on the central algorithm. This approach provides story clues while leaving the ending open, reducing the likelihood of homogenized results. The embedded index function of narrative elements breaks away from conventional linear logic, challenging the creator’s sole result-oriented decision-making position. As a result, a clear trend towards “decentralization” can be observed.

The interactive documentary The World in Ten Blocks adopts a string-of-pearls branching narrative structure to complete the narrative of the immigrant story of the Bloorcourt community. It makes use of 3D street photographs to construct the overall spatial layout and units of the 10 immigrant shopkeepers as index factors to connect the main narratives of the Bloorcourt community. In addition, it embeds narrative elements such as dynamic street scenes, simple textual guides and introductions, and video interviews with shopkeepers. Moreover, the documentary includes 14 randomly triggered “points of opportunity” primarily based on hyperlinking technology to furnish users with the community’s historical background.

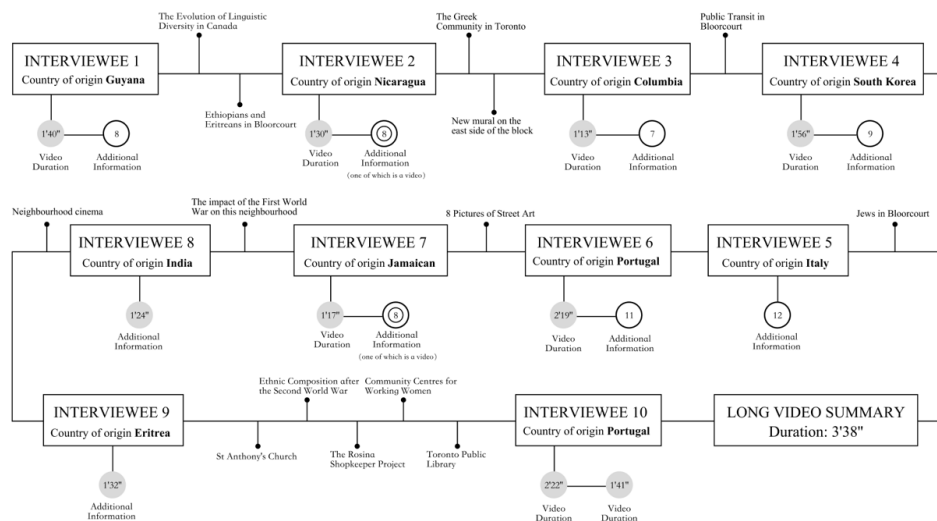


Figure 1 Interactive Narrative Structure of The World in Ten Blocks

3.2 Spatial montage

The study of spatial theory challenges the dominant position of the time factor in narrative theory (Zoran, 1984) and introduces new perspectives to the field of documentary narrative. Regular documentaries typically follow a chronological order in their creation, while interactive documentaries exhibit spatial montage characteristics in their textual narratives. Specifically, interactive documentaries commonly employ the theme coordination method to juxtapose different image elements within the same interactive interface. This method enables the parallel existence of multiple elements and offers users new channels and perspectives for interpretation. For example, in the interactive documentary *The World in Ten Blocks*, images of deceptive characters are juxtaposed with the common theme of demographic diversity and immigration stories. By allowing users to explore freely and break away from a fixed timeline, this design provides alternative perspectives and avoids relying solely on a single video clip as the standard of measurement.

The spatial narrative pattern in *The World in Ten Blocks* employs a visual interface organization that follows a spatial navigation model in two ways: sequential exploration based on the characters' appearances and spatial division based on the geographical location of the neighborhood. This integration of spatial navigation function provides strong support for the narrative pattern, allowing users to acquire information in the virtual space through direction pointing and clear positioning. The documentary enhances the convenience and gamification experience of web page operation through the use of auxiliary functions such as resettable and viewable history. For example, the documentary uses a drawer-based navigation model to maximize the content page and create an immersive experience for the user. As the user explores, a green scrolling progress bar appears on the left side of the page, showing the user's approximate distance to the next shop location. This visual approach allows the user to have a clear understanding of their location and the progression of time. Therefore, the textual content of the interactive documentary incorporates the logic of temporal linearity, leading to the presence of multilevel spatial patterns and multiple narrative paths.

4. The Realistic Problems of Documentary Creation under Media Convergence

4.1 Personnel challenge

As media depth develops, the clear boundaries between industries are blurring, leading to staff restructuring and technological innovation within the creative team. In the production process of interactive documentaries, not only camera language proficient creators but also internet technicians skilled in digital technology are required. Elaine England and Andy Finney (2011) highlight that the core participants of interactive media are mainly programmers, content design and production experts, and interactive content material development experts. It is crucial to master basic web interface development tools, and animation libraries, and cultivate versatile talent, as illustrated by *The World in Ten Blocks*' effective use of JavaScript, audio processing libraries, multimedia application plugins, and CSS.

4.2 Comprehension bias

One distinguishing feature of interactive documentaries from standard documentaries is their use of interactivity for data transmission (Galloway, McAlpine, & Harris, 2007). While these media substances offer diverse perspectives and high audience freedom, they diminish the ability to visually guide viewers. Consequently, there can be a discrepancy between the suggested information and the audience's interpretation. The narrative logic and cinematic questions that creators aim to construct may be misunderstood due to the audience's interest-based character preferences. For instance, in *The World in Ten Blocks*, viewers may become engrossed in exploring Toronto's community architecture model, Bloorcourt's public service system, or the origins of street murals, leading to multidimensional interpretations that distract from the creators' intended themes of immigrant motivation and demographic diversity. Creators, therefore, need to analyze the audience when constructing the text to avoid the challenges of self-regard and understanding deviation.

5. Conclusion

From the perspective of media convergence, documentaries have undergone significant changes in terms of dissemination, text pattern,

format, manufacturing mode, and consumption mode. Regarding dissemination, the use of media has become more diverse, with an increase in the number of computers and multimedia interactive devices. The traditional one-way output of fixed static subtitles has been transformed into a dynamic interactive vision that can be experienced in both directions, creating a more immersive atmosphere. Additionally, the richness of the material for exploring topics and the completeness of the internal logic chain now demand higher requirements in terms of text pattern. The introduction of a multi-branch narrative structure, embedded indexing function, and spatial navigation has injected new vitality into documentaries, providing diverse narrative logic and plot directions, thus extending the gamification experience for users. In terms of manufacturing mode, creators now need multidisciplinary composite competencies and a vision of internet communication, surpassing the limited scope of audio-visual creation. As for consumption mode, users now have enhanced autonomy and can explore content based on their interests, breaking free from the constraints imposed by creators. This shift in consumption also brings about a multi-sensory experience, resembling a game-like immersion, thus indicating a trend towards the integration of film and gaming.

The mode of documentary creation and dissemination needs to be further explored under the influence of media convergence. Integrating gamification design into documentary creation is considered a new expressive approach. However, the technology of virtual digital media not only innovates the way of image expression but also poses challenges such as the misinterpretation of documents and conveyed facts. Consequently, the harmonious development of digital technology and human nature remains an ideal concept that is yet to be realized.

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