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A Study on the Role and Ethical Dilemma of AIGC in the Digital Preservation of Dialect and Slang Language

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Abstract. As a crucial component of intangible cultural heritage, the digital preservation of dialects and slang confronts substantial challenges while embracing burgeoning opportunities in the context of widespread digital technology application. Studies have revealed that Artificial Intelligence-Generated Content (AIGC) technology has demonstrated tremendous potential in the creation, dissemination, promotion, and digital construction of dialect and slang content. It empowers the development of local digital resource libraries, aids content creation by building intelligent corpora, innovates dissemination via multi-channel matrices and breathes life into dialects and slang, making them really come alive. However, technological intervention simultaneously introduces a series of ethical dilemmas, such as the distortion of local cultures, the ambiguous attribution of copyright, and an unclear definition of responsibility. This paper argues that only through broad public participation and the collaborative governance of multiple stakeholders can the digital civilization and cultural heritage prosper together, ensuring the preservation of dialectal and slang diversity.

Keywords: AIGC, dialect slang, digital preservation, ethical dilemma, cultural diversity

1. Introduction

Under the impact of globalization and modernization, global linguistic diversity is confronting unprecedented challenges. Dialects, as a critical component of this diversity, are facing increasingly precarious survival conditions. As a rapidly developing technology in recent years, AIGC shows exhibits vast potential in the realm of content generation, which can automatically generate various contents such as text, images, audio, video, and so on. As such, integrating AIGC into the digital preservation of dialect and slang is not only a practical imperative but also holds the promise of overcoming limitations inherent in traditional preservation methods. Nevertheless, the convenience and efficiency introduced by technology are accompanied by a new set of challenges: How can the authentic features and intrinsic essence of dialects be safeguarded in the digitization process? How should the ownership and responsibility for digital content dissemination be defined? These questions affect the core objectives of cultural heritage preservation.

Focusing on the theme of the role and ethical dilemmas of AIGC in the digital preservation of dialect and slang, this study systematically examines relevant research on dialect preservation, the

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application of AIGC technology, and cultural heritage ethics both domestically and internationally. It employs case studies, literature reviews, and textual analysis, with representative local practices selected for in-depth investigation. As McLuhan once noted, "New information technology has brought chaos while transforming the existing world landscape" [1], and this study aims to contribute new theoretical insights into the convergence of digital technology and dialect preservation, while providing practical references. It seeks to enable AIGC to become a powerful ally in the protection and inheritance of dialects, enhance cultural identity and community belonging, and promote the sustainable development of cultural diversity.

2. Literature review

Domestic and international scholars widely acknowledge that traditional methods of dialect preservation are encountering significant bottlenecks. Once dialectal expressions vanish, the deep-rooted lifestyles, cognitive patterns, and regional worldviews embedded within them are also lost. Fortunately, various regions in China have undertaken innovative explorations in dialect digitalization. For example, Nanjing has incorporated dialectal elements into online tourism platforms, developing interactive experiences within the context of intelligent cultural tourism. Cangnan in Zhejiang Province has built a dialect database covering multiple dialect zones, including voice, text, and images, and has made this accessible through online platforms [2]. Yunxiao County in Zhangzhou, Fujian, has integrated dialectal slang into traditional cultural education, promoting awareness and engagement through educational programs and cultural tourism. In southern Taiwan, earlier efforts to build dialectal sound archives have resulted in a relatively complete digital corpus documenting pronunciation, vocabulary, grammar, and more, laying a solid foundation for ongoing research and cultural transmission [4].

Progress in AIGC-related research has also been noteworthy. In speech synthesis, AIGC can produce smooth, natural-sounding dialectal speech from a limited number of samples, simulating tonal variations and intonation patterns. Suzhou TV, for instance, launched an AI anchor that delivers news in the Wu dialect; similarly, the Suzhou Museum introduced the WeChat applet "AI Speak Dialect," which narrates the history of artifacts in the local dialect [4]. In textual content creation, AIGC can generate dialect-compliant text based on given topics, styles, and linguistic rules. In July 2025, Yunxiao County's education bureau implemented the "Twenty-Four Solar Terms in the Yunxiao Dialect" program, using AIGC tools to embed Minnan dialect proverbs and nursery rhymes, allowing children to recreate traditional cultural content via AI [5]. Concurrently, scholars have raised concerns about ethical issues linked to AIGC's use in the cultural sector. Wired magazine reported Google's photo recognition system mislabeling Black individuals due to dataset biases. In 2023, three American comic artists filed a class-action lawsuit against Stability AI for copyright infringement related to AI-generated images. Similarly, Wall Street Journal journalist Francisco Marconi questioned OpenAI's use of unlicensed media articles to train its models. These examples highlight ongoing ethical concerns, while empirical research on AIGC's application to dialect digitalization remains relatively scarce, presenting a clear research gap.

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3. Analysis and results

3.1. The role of AIGC in dialect slang preservation

3.1.1. Content generation: enabling dialectal resource creation through AIGC

With its deep learning and generation capability, AIGC can effectively explore the vocabulary system, grammatical rules and phonological features of dialects and automatically generate a large number of text contents that conform to the characteristics of dialects, such as local stories, life dialogues, cultural practices, etc., which greatly enriches the material base for dialect learning and research. On the phonetic front, AIGC enables synthesis of word pronunciation, sentence reading, and context-based dialogues in dialects, particularly benefiting endangered varieties by compensating for limited corpora through model-based sample expansion.

In Cangnan County, Zhejiang Province, for example, on October 26, 2023, the Cangnan Project of Chinese Nursery Rhyme Culture released the Chinese Language and Culture Collection - Cangnan, which systematically collects and arranges a wealth of dialectal text and audio-visual materials. By 2025, the Cangnan County Barbarian Dialect Culture Research and Development Center joined forces with colleges and universities to establish an intelligent corpus of Barbarian Dialect voices, slangs, and local stories relying on the AIGC technology, and plans to develop a Dialect Learning APP to recreate dialect culture and provide more Cangnan materials for Chinese dialect research [6]. In Suzhou, the "Jiangnan Sound for the World to Hear" dialect digitization project, launched in 2023, will gradually build up a database and digitization standard system for Wu dialects through large-scale collection and processing of Wu dialect corpus. By the end of 2025, the project is expected to complete the collection, annotation, synthesis and recognition of Suzhou dialect voice-prints for about 200 people/1000 hours [7]. With the promotion of AI Wu dialect technology by KDDI and other enterprises, the level of automatic synthesis of Suzhou dialect has reached the real flavor of the Wu dialect, and can even be directly used for dubbing short dramas and digital communication. In addition, China Telecom's Artificial Intelligence Research Institute released the "Star" large model and database of ultra-multi-dialect speech recognition in May 2024, covering more than 30 dialects and accumulating more than 300,000 hours of high-quality speech data [8]. These developments illustrate the significant scaling and refinement of dialect corpora under the impetus of AIGC.

3.1.2. Communication promotion: AIGC innovates dialect and slang communication paradigm and constructs multi-communication matrix

AIGC has provided a strong impetus to break through the limitations of the traditional model in the dissemination and promotion of dialect and slang. In the past, the promotion of dialect content was often confined to local radio, dialect troupes or niche circles, with limited scope and single form. Nowadays, AIGC makes the dissemination of dialects realize the transformation from "passive acceptance" to "active creation", from "single channel" to "diversified integration", and gives dialects the ability to be used in a variety of ways. AIGC enables dialect communication to realize the transformation from "passive acceptance" to "active creation" and from "single channel" to "diversified integration", and empowers dialect communication to be more active and creative. For example, AIGC technology can quickly generate dialect emoticons with local characteristics, organically combining regional vocabulary, slang or emoticon images, giving traditional dialects more fun and affinity, and attracting spontaneous dissemination by young groups. In short-form

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video production, AIGC can automatically generate or assist in the creation of dialect short video scripts, and combined with speech synthesis technology, generate original voice-overs, thus giving rise to such programs as "dialect teaching classroom", "dialect funny sitcom", "dialect version of newscast", "dialect version of newscast", "dialect version of newscast", "dialect version of newscast", and so on. This has given rise to diverse content forms such as "dialect teaching class", "dialect funny sitcom", "dialect version of news broadcast", etc., which better meets the needs of audiences of different ages and interests. 2024, CCTV Guangxin's AI dialect short video "Taste of the Countryside" was created for CCTV to automatically generate four dialect versions of the food documentary in Cantonese, Minnan and Chaoshan through the AIGC technology. When introducing traditional food such as Chaoshan kuey teow, the AI not only uses SD models to restore the details of the handmade process, but also outputs explanatory phrases with strong local characteristics through dialectal speech synthesis technology. For example, the Chaoshanese people call the steamed rice cake "kuey teow", which harmonizes with "over" and implies a high level of success.

These innovative forms of communication have greatly enhanced the attractiveness of the dialect, effectively expanded its scope of communication, and built a multi-channel, all-around, multi-dimensional communication matrix, allowing the dialect to be integrated into people's daily lives in a more proactive and flexible way, and promoting the widespread recognition of the local language and culture.

3.1.3. Digital construction support: AIGC drives scene reconstruction and builds an immersive experience carrier

As mentioned above, AIGC has shown great help in content generation and dissemination and promotion, and has also subconsciously realized the in-depth reshaping of application scenarios at the level of digital construction. In the extension of sound space, AIGC is able to carry out high-precision processing and diversified expansion of collected dialect speech, simulating the communication environment of dialects in different times and scenes.

In terms of visual image reshaping, AIGC can generate visual elements matching the dialect scene according to the cultural connotation and local characteristics of the dialect, and deeply integrate them with the dialect speech to create a three-dimensional experience combining audio and visual. For example, the award-winning work "AI Poetry and Dialect" of CCTF analyzes the dialect culture and poetry of eight regions in the Yangtze River Basin with the help of AIGC, and then uses AIGC painting tools such as Stable Diffusion and Midjourney to draw visual effects, and then ultimately generates poems read aloud in dialect with the help of AIGC to recreate the culture of the Yangtze River Basin.

In terms of memory simulation, AIGC can combine with local historical stories and folklore, and utilize virtual reality (VR) or augmented reality (AR) technology to build an immersive dialect memory situation [9], where users can travel to a specific historical scene, and engage in dialect dialogues with virtual characters to deeply feel the historical memories and cultural atmosphere carried by the dialect. The user travels to a specific historical scene and converses with virtual characters in dialect to deeply feel the historical memory and cultural atmosphere carried by the dialect. In Suzhou, Jiangsu Province, for example, the "Echo - AI Dialect Art Exhibition" held on August 19, 2023, with the help of digital technology and AI creation, deconstructed the traditional garden space into an immersive scene of human and AI kunqu duets; in September 2024, the AI public welfare short film "Gusu Zu Jie - Flowering Ruiyao" was online, with the background of Suzhou at the end of the Ming Dynasty, combined with AI-synthesized suzhou dialect dubbing.

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Combined with AI-synthesized Suzhou dialect dubbing, it vividly displays a picture of local wedding customs three hundred years ago. These immersive experience carriers constructed with AIGC's participation have greatly improved the display effect of dialect culture and the user's sense of participation, opening up a new path for the innovative application of dialect in intelligent cultural tourism.

3.2. Ethical dilemma of AIGC in dialect slang protection

3.2.1. Risk of local culture distortion

What needs to be highly alerted is that if the corpus AIGC relies on in the training process itself has limitations or biases, the dialect content it generates is very prone to inaccurate or even incorrect expressions. At present, there are already a large number of AI-generated content in the processing of dialect slang, only stay in the form of language surface imitation, in the long run, may lead to the cultural connotation is misinterpreted or simplified, dilution and destruction of the unique local cultural values carried by the dialect, so that in the process of digital inheritance gradually lost its "soul". The short video platform launched the "AI Huangmei opera cover" function, for example, users can upload songs in Mandarin, the platform automatically generates a version of Huangmei opera singing. However, in the actual generation process, such as the traditional "flat words", "fire work" and other panels have been uniformly processed as fast-paced electronic music, and the iconic trailing voice, vibrato and other vocal characteristics are also difficult to restore. 2025 relevant research shows that the 18 to 25 year olds believe that "AI Huangmei Opera" is the most popular form of opera singing. In 2025, the relevant research shows that 37% of the 18-25 year olds believe that "AI Huangmei Opera is more authentic", and the artistic value of traditional opera is facing a crisis of intergenerational disconnection [10].

A similar phenomenon also occurs in the field of dialect song generation.2024 In 2024, a music platform launched an "AI dialect song generator", which automatically converts Mandarin lyrics into a dialect version when users enter them. However, the generated Cantonese lyrics cut out the unique meaning of "drinking tea" as a social ritual in the Cantonese tea culture; and the Chaoshan lyrics even mechanically translated the traditional Teochew opera lyrics "wishing to get a person of one's own heart" into "wanting a person of one's own heart", which is a profoundly emotive and emotional translation of "wishing to get a person of one's own heart". "This technical treatment leads to the rough dismemberment of the deeper connotations of the local culture by the algorithm [11].

3.2.2. Fuzzy copyright attribution for corpus generation

AIGC relies on a large number of raw corpora as a training base in the process of generating dialect content. These corpora come from a wide range of sources, including oral records, dialect books, audio and video materials, etc., many of which involve copyright issues. However, the lack of clear legal definition makes it difficult to clarify the ownership of the original corpus, and there is also a major controversy over the copyright ownership of the new content generated by AIGC: should it belong to the developer of the technology, to the provider of the original corpus, or to the actual operator who creates the content using AIGC? The existing legal system and industry standards have not yet formed a unified standard.

Taking the world's first case of AIGC in the field of "Ultraman Case" as an example, Guangzhou Internet Court held that the generative AI service provider should take certain technical measures to avoid generating images that are substantially similar to the works of the right holder. At the same

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time, the AIGC platform should exercise reasonable care, including the establishment of a complaint reporting mechanism, the prompting of potential risks, and prominent labeling. In the end, the court ruled that the AI platform operated by the defendant had infringed the reproduction and adaptation rights enjoyed by the plaintiff in respect of the Ultraman work in question in the course of providing the AIGC service, and demanded it to pay a reasonable compensation of RMB 10,000 yuan. This ambiguity in copyright attribution may lead to a series of disputes, which will not only hinder the promotion of the application of AIGC in dialect protection, but may also harm the legitimate rights and interests of dialect holders.

3.2.3. Ambiguous definition of ethical responsibility

The issue of copyright attribution mentioned above naturally triggers thoughts on the definition of "responsible party", and it is often difficult to clarify the attribution of responsibility for AIGC-generated content once it involves cultural distortion, copyright infringement or dissemination of undesirable information. Due to the autonomy and non-traceability of the AIGC generation process, there is often a shifting of responsibilities among the technology developers, platform operators and content users, making it difficult for the victims to seek reasonable compensation and relief, and bringing serious challenges to the governance of the industry.

Actual cases are endless. For example, a platform launched the "AI version of Zhang Guorong voice package", which was urgently taken down and apologized for "consuming the deceased" after triggering public controversy. Similarly, 2025 network hot rumor "Gu Tianle for gambling game endorsement" video, in fact, fraud gangs use AIGC editing, dubbing and forged, Gu Tianle himself had to publicly refute rumors. Fraudsters also often use AI voice synthesis technology combined with dialect features to accurately cheat. In Huangshi, an old man was posing as a grandson phone cheated away 20,000 yuan, Canadian criminals using AI synthesis technology in three days to defraud at least eight victims, the amount of money involved in the case of about one million yuan. Another "Dao Lang music concert" false propaganda borrow star heat and wrong dialect pronunciation to attract traffic, 2024 on the network, a large number of "Lei Jun AI dubbing" video appeared with vulgar words, resulting in many netizens said "switching to every software is being Lei always chasing scolding" [12], to Lei Jun's own reputation has a negative impact.

4. Discussion

4.1. Analysis of AIGC's role in relation to ethical dilemmas: ethical concerns under technological empowerment

McLuhan, a representative of the media environment school, pointed out that "the medium is an extension of the human being" [13], and the transformation of the media form also gave birth to the birth and evolution of new human behavioral modes. The role played by AIGC in the preservation and inheritance of dialect and slang has the interactive characteristics of the new media, which enhances the sense of human-computer interaction, and builds up a bridge between physical and cognitive interactions. In terms of content generation, it breaks through the efficiency limitations of manual creation, and can rapidly generate massive dialect materials, extending human creative ability; in terms of communication promotion, it innovates the forms and channels of communication, extending human communication and dissemination ability; in terms of digital construction, it expands the possibilities of scene simulation and experience creation, extending human perception and construction ability. Under the perspective of technological determinism,

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AIGC promotes the change of dialect and slang protection media, realizing the transformation of dialect from "passive retention" to "active dissemination".

However, this kind of empowerment also brings new ethical concerns: the deviation of cultural interpretation in the process of AIGC content generation may lead to the distortion of dialect culture; secondly, the solidification and amplification of established values by algorithmic models may easily form the "hegemony of viewpoints", which affects the diversified expression of dialect culture. At present, relevant ethical norms and system construction often lag behind the pace of technology application, and the problems of copyright attribution and ethical responsibility of AIGC-generated content are endless, which becomes a real obstacle to the healthy application of AIGC in dialect protection. Only by synchronizing technological innovation and ethical governance can the effective digital protection of dialect slang be realized.

4.2. Negative effects of technology application: entertainment tendency and deep dissolution

American scholar Neil Bozeman mentions in Entertainment to Death that "all public discourse appears more and more in the form of entertainment day by day and becomes a cultural spirit." [14] The increasing appearance of public discourse in the form of entertainment will ultimately make the whole society become the "appendage of entertainment". Cases have shown that when AIGC produces dialect short videos or emoticons, in order to pursue traffic and users' attention, it may intentionally amplify the witty and funny elements in the dialect, or even distort the original meaning and the use of the dialect for the sake of entertainment effect, so that the serious historical memories, profound cultural connotations, and complex emotional expressions carried by the dialect are watered down, and only the superficial entertainment symbols are left.

In the communication environment dominated by information flow, it is difficult for users to filter valuable cultural information, and on the contrary, it will dilute the core cultural value of dialects and slang, and may even expand the scope of information pollution. When the algorithm is more inclined to recommend those "light contents" that are easy to disseminate and can quickly trigger an emotional response, and require users' in-depth understanding and experience, the lower dissemination efficiency will be marginalized. Over time, the users' knowledge of the essence of dialect culture is getting shallower and shallower, and dialect slang is gradually degraded from a living fossil of regional culture to a fragment of cultural symbols in the flow of information, and its core value is continuously dissolved in over-exposure and shallow consumption, which is worthy of rethinking.

4.3. "Participation is protection": from cultural consumers to co-creators

The theory of "participatory culture" put forward by Henry Jenkins emphasizes that media consumers are transformed into active content producers through interactive practices, and ultimately form a network of meaning shared by the community. Participatory culture is an important cultural form in the digital era, the core of which lies in the fact that ordinary users are no longer passive recipients of information, but "producers and consumers" who actively participate in the creation, dissemination and re-creation of content [15]. In this cultural ecology, creative expression presents the characteristics of openness, collaboration and decentralization, which profoundly changes the logic of cultural production in the traditional media era. In the context of the deep coupling of algorithmic society and digital media, "participatory culture" has transcended the category of "fan text reproduction" defined by Henry Jenkins in the early days, and has evolved into

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a new cultural production paradigm in which collective wisdom and individual creativity are intertwined under the mediation of technology.

This theory has been vividly interpreted in the field of dialect and slang protection with the empowerment of AIGC, which greatly reduces the threshold for ordinary people to participate in dialect content production and dissemination, and can create universal dialect mobile platforms, small programs, etc., encouraging users to upload dialect materials and participate in dialect content creation, so that the public can be transformed from cultural consumers to producers, forming a pattern of universal participation in the protection of the dialect, and creating immersive dialect Cultural experience programs, cultural tourism empowerment, and realize the paradigm shift from "media consumption" to "media co-creation" [16].

5. Conclusion

It is undeniable that the rapid development of AIGC has brought unprecedented opportunities for the digital preservation of dialect and slang, and allowed dialect and slang to enter the public's field of vision in a more vivid and diverse form. However, this paper has also warned that the ethical challenges brought by the technology are also becoming more and more prominent, and in the future, only with the joint participation of the whole society, AIGC can really become a powerful assistant in guarding dialect slang, and promote the living inheritance of intangible cultural heritage and the co-prosperity and co-birth of digital civilization. Of course, this study still has some limitations. There are differences in phonetics, vocabulary and cultural connotations among different dialects, so it is difficult to apply the results of this study to all local dialects; due to the limitations of the research cycle and the timeliness of the technological development, there may be a certain lag in analyzing the ethical dilemmas of AIGC in this study. In the future, we will continue to pay attention to the development of AIGC technology, expand the coverage of dialect types and regions, and carry out multi-dimensional and multi-case comparative analysis.

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