

Exploration of Digital Dunhuang Communication Strategy Based on DIMT Model--Taking Dunhuang Flying as an Example

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Abstract. With the advancement of cultural heritage digitization, the dissemination of Dunhuang art is receiving attention from researchers. This study takes Dunhuang Flying Sky as a starting point, categorizes and explains the symbolic element of Dunhuang Flying Sky in the DIMT model with the wisdom of the Fang Dynasty, and explores the construction of the meaning behind it and the dissemination path of the aesthetic core of the traditional art, so as to reveal its rich cultural connotations and symbolic significance. Through the interpretation of this symbolic element, it reveals the values, aesthetic views and humanistic spirit it represents. Explore the adaptability and innovativeness of digital Dunhuang at the level of cultural symbolic expression, provide new ideas for enhancing the influence of China's traditional culture on the international stage, and explore new paths for promoting the inheritance and development of traditional Chinese culture.

Keywords: DIMT Model, Digital Dunhuang, Cultural Inheritance, Meaning Construction

1 Introduction

1.1 Status

Dunhuang Grottoes, as the crystallization of long-term exchanges and integration of various civilizations, is a treasure trove of ancient Chinese civilization and art, which has witnessed the exchanges and intermingling of various civilizations on the ancient Silk Road. In thousands of years, due to natural and man-made factors, this pearl in the world's long river of civilization is being tested. In order to make the Dunhuang caves "youthful", the Dunhuang Academy has launched a national project, "Digital Dunhuang", which aims to utilize computer technology and digital image technology to achieve the permanent preservation of Dunhuang cave artifacts, sustainable use, so that digital technology to make the millennium Dunhuang become "immortal".

1.2 Reflection on the current state of research

After thirty years of development and improvement, "Digital Dunhuang" has become China's premier cultural heritage digitization and protection projects, not only emerged a large number of excellent digital results, but also attracted a large number of scholars competing for research and exploration.

Xia Shengping¹ discussed the composition of information resources in Dunhuang Mogao Grottoes, resource digitization and other multi-level digital resource platform, and how to establish the Dunhuang digital sharing platform and other aspects. Han Chunping² combed through the theoretical research results of Dunhuang digitization from three aspects: digitization of grotto art relics, digitization of documents and summarized the experience to put forward the current relevant doctrinal deficiencies. Wu Jian³ took digital Dunhuang exhibition as an example, explored the innovativeness of cultural heritage digital art, and summarized the achievements of Dunhuang cave digitization in art and technology. Du Ruofei⁴ takes the digital protection of Dunhuang Mogao Grottoes as a research sample, and explores the superiority and necessity of the integration of digital technology and cultural heritage from the strategic perspectives of both science and technology and culture. Fan Jinshi⁵ reviewed the exploration history of Dunhuang grottoes protection, and expressed the prospect of digital exploration under the perspective of the current era of cultural heritage protection. Wang Yi⁶ analyzes the foresight and feasibility of the integration of traditional culture and modern digital technology with the digital protection of Dunhuang Mogao Grottoes as an example.

With the Dunhuang Research Institute and Tencent to jointly create a block-chain-based digital cultural heritage open sharing platform "digital Dunhuang - open material library" landing, the use of DIMT model interpretation behind the symbols of the construction of oriental characteristics to Dunhuang Flying Sky as an entry point for the future of Dunhuang culture and art of innovation and development to provide certain reference.

2 The research object and research method

2.1 Research Method: DIMT Model with Oriental Wisdom

According to the linguist Saussure, every symbol is composed of can refer and referent. Energetic reference is the intermediary used to carry the content, which is expressive level, what we can see and hear⁷. This is a theoretical division, but in actual communication, can refer and referent are like two sides of a coin, which cannot be separated completely. Considering the differences between Chinese and Western cultures, Professor Li Siqiu from the School of Media and International Culture of Zhejiang University, based on the research results of advertising symbols in the marketing communication of Japanese tea drinks⁸, summarized the modern Western semiotics, combined with the wisdom of Oriental communication, and created an Oriental semiotics model with local significance--- DIMT model. DIMT model does not emphasize the

linear combination of symbols, but pays more attention to the integration of the four elements.

Based on this, he proposes that the DIMT model is a theoretical system based on Western semiotics and integrated with Oriental wisdom, also known as the "Words-Image-Idea-Dao" model. It is a system of words, intuitive "images" that change according to the law of Yin-Yang Sphere. Discourse, Image, Meaning & Consciousness, and Tao as the source and highest unity of truth, goodness and beauty. "Tao" as the source of truth, goodness and beauty and the highest unity of truth, goodness and beauty, are the four major elements of the symbolic interpretation model. Chinese people have their own cultural genes and unique thinking patterns, which also make China have different communication concepts from the West. Therefore, communication does not work according to the linear track of a bullet, according to the pattern of the grass is laid to rest to exert influence (Fig 1). In general, the DIMT model is suitable for analyzing the symbolic meanings of various multimedia works, and exploring the communication effects and meanings of the works from the shallowest to the deepest levels.

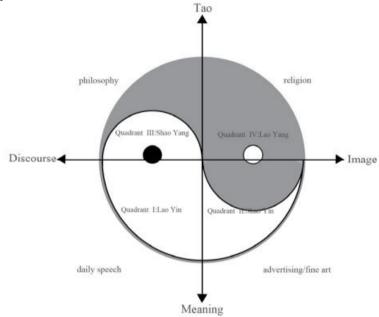


Fig. 1. DIMT Model

2.2 Research Object: Ancient Aesthetic Symbols

In December 2022, Dunhuang Research Institute and Tencent jointly created a blockchain-based digital cultural heritage open sharing platform, "Digital Dunhuang Open Material Library" (hereinafter referred to as Material Library) was officially launched. Based on the research results of Dunhuang studies, the massive resources of the digitization of caves, the library is a pioneering system of authorization of the use of

digital resources of cultural heritage, through the synergistic innovation of resources, technology, and management mode, to provide the public with convenient, intelligent. The material library is put into use to truly realize the interconnection of traditional culture, digital technology and the general public, so that the results of the digitization of Dunhuang cultural relics widely benefit society.

The current application of DIMT mode is mostly in animation, film, documentary and other film and television art analysis, but also used to explore the significance of variety show innovation. There are for the traditional media people's daily new media center and the central network information office mobile network management bureau cooperation "China minute - local chapter" documentary for the construction of the national image⁹, the TV special "follow the great rejuvenation navigator excels" in the red TV special symbols of the use and meaning of the construction of the enlightenment¹⁰, there are also explore the meaning of the domestic animation symbols of the construction of the meaning of the construction with the Chinese science spirit 11. Zhang Xiao¹² combed through the three symbol constructions in music variety arts, summarizing the meaning of the symbol construction system in music variety arts. Through the analysis of TV's virtual image stage program "2060", Shen Jiayue¹³ combed the highlights and innovations of the combination of traditional culture and modern cutting-edge technology, which provides ideas and directions for the creation of future TV programs. Jiao Xiaohong¹⁴ used the DIMT model to analyze the first season of the traditional media cultural program and strength of the country and embodies the position of adherence to Chinese culture.

Ding focuses on the communication model of CCTV live streaming with goods, explores the role of the DIMT model, and affirms that this paradigm has brought about a new paradigm of industry specializationand the healthy development of traditional culture dissemination. Zhang Min¹⁵, on the other hand, takes Anchor Says Lianbao as an example and discusses the current affairs short video communication strategy that the program brings in the second half of the deep integration of media that can be learned from. Li Zelin¹⁶ analyzes the stage programs of large events, categorizes and explains the various symbolic elements of the opening ceremony of the Beijing Winter Olympics, and summarizes the strategies can be borrowed from the opening ceremony of large games in China.

Dunhuang, as the intersection of the Silk Road and one of the important cultural treasures in the Belt and Road, has a unique status in art and culture. However, past research has focused on in-depth study of the field itself, "digital Dunhuang" as a multidisciplinary project, through the interpretation of the law of communication behind the construction of symbols with oriental characteristics, analysis and dynamic use, can provide the interpretation of the dissemination of the eastern culture and development.

3 Dunhuang Innovation Path under the "DIMT" Model

3.1 Dunhuang flying "words"

Since ancient times, people have longed for and fantasized about the distant skies, which has become an ancient and romantic image in the minds of Chinese people. Over the millennia, generations of believers have traveled to Dunhuang to worship the Flying Fairy in front of the wall, and have been captivated by the beauty of the mural art of music and dance.

Dunhuang Flying Sky of the marvelous will be revealed in the murals, reflecting the "painting in the music" of the music aesthetic concept¹⁷. The art of music is an auditory image composed of organized sound, Dunhuang murals are "moving" lines and delicate strokes to reproduce the characteristics of music, so that the silent music to murals as a medium flow in time. This is precisely the "language" of Dunhuang's flying skies, a language that expresses emotions in a way that creates music in paintings.

Dunhuang as a place to be "heard", a wide range of Chinese musical instruments to play music to complement each other, a number of caves around the immortal music. One of the most famous of these is the "Pipa Bouncing" painting in the center of Cave 112 at Mogao Caves (Fig 2), which is well known to the general public. The mural of the Flying Geisha half-naked upper body to raise the foot spinning body, fluttering and flying, the left hand high lute, the right hand back strumming strings. Plump limbs softly stretch, was rounded and undulating outline. The body of the lute is pear-shaped, and the linework is smooth and beautiful, like a tear that slides down from the lowered curtains of the Flying Kabuki's eyes¹⁸.



Fig. 2. Bouncing Pipa, Cave 112, Mogao Cave, Middle Tang Dynasty

Can also see the Yulin Grottoes, Cave 25 on the south wall of a beating waist drums on the image of the flying sky (see Figure 3), and the "playing the pipa" in the picture of the flying sky posture is different, here the music play more robust body type, feet up and stand but steady as a mountain. The powerful arms are naturally unfolded in the air, palms facing each other, and the five fingers are stretched out to strike.



Fig. 3. Close-up of a waist drummer in the south wall of Cave 25, Yulin Cave, Tang Dynasty

Dunhuang Flying Sky's is exactly as mentioned above, in the dynamic lines of the silent painting sound melody, called that immortal music through the millennium through the eyes of time and space to the ears. It is precisely because the music is the language of emotion, so that Dunhuang Flying Sky is really alive in the mural, alive and well playing the melodious music, in the sound of music. The music is the language of emotion, which flows through time, making the Dunhuang Flying Sky truly alive in the frescoes.

3.2 Dunhuang flying "elephant"

For many years, the Dunhuang Research Institute painstakingly researched the "digital Dunhuang" project, it is through computer technology and image digital technology, the Internet platform to make Dunhuang cultural heritage be youthful. The original authenticity of the image of cultural relics can be recorded, and the use of modern technology to do the new wave of "play" to further publicize the historical heritage, melting the obscure traditional culture.

Dunhuang Research Institute and Tencent to create the Dunhuang Mogao Caves official virtual person Gayao is Dunhuang Flying Sky of the "elephant" of the innovation of a major highlight. In the program "Poetry and Painting China" on December 18, 2022 (Fig 4), accompanied by a musical dance in Mogao Cave No. 220 and the reflection of two murals in Mogao Cave No. 112 playing the pipa, Jiaayao came from the paintings and danced with the flying sky in a graceful posture. The combination of technology and art, people enjoy the endless charm of the flying music and dance.



Fig. 4. Jiayao Music and Dance of Poetry and Painting of China

In addition to the stunning appearance of Dunhuang Flying Sky on TV programs, it has also taken on a new light in the realm of gaming. in June 2018, the Dunhuang Academy, together with Tencent, the China Heritage Fund, and the China Dunhuang Cave Conservation and Research Foundation, launched the "Digital Provider Program". King of Glory took the brunt of this program, and cooperated with the Dunhuang Academy to customize the "Meet the Flying Sky" skin for Yang Yuhuan, a character in the game (Fig 5).



Fig. 5. "The glory of the king" Wang Zhaojun "meet fly sky" skin

"Meet Flying Sky" is mainly based on the image of Flying Sky in Dunhuang murals in the Tang Dynasty as a reference object, because the image of Dunhuang Flying Sky in this dynasty entered a mature stage with the high importance of Buddhism, completely free from the shadow of Indian Flying Sky and Flying Sky in the Western region, and fully intermingled with Chinese aesthetics, blending into a gorgeous and feminine Chinese Flying Sky, presenting a unique style of the era. The unique style of the era.

In order to show the image of Flying Sky in this flourishing period, the production team's pursuit of the "elephant" can be described as striving for perfection, mainly in the use of color and clothing and attire on the original appearance of the mural attempts to restore. The image of the Flying Sky at this time with red and other bright colors as the main color, and with ochre, stone green accessories, a small area of cold colors for the large blocks of warm colors to embellish the morevibrant. Slightly different is that, in order to integrate modern aesthetics, the warm colors are extracted from the popular red and orange hues of orange as the main color ¹⁹. This approach combines ancient and modern trends, so that the flying sky in the wall glows with a new light that keeps pace with the times.

The overall costume adopts the design of wearing a crown, collar type celluloid and so on. As we can see from the history, since Feitian itself is a kind of god of lower status, the creation of Feitian in the mural paintings of each regular era would not be restricted like that of Buddha and Bodhisattvas, but more according to the author's preference of aesthetics and the contemporary trend followed by the performance. Therefore, the addition of appropriate modern aesthetic elements, but to make the flying sky of the "elephant" more expression of its unrestrained freedom of aesthetics.

3.3 The "Meaning" of Dunhuang's Flying Sky

Dunhuang culture has developed into a unique traditional culture in China through cultural exchanges and its fusion has been deeply rooted since ancient times, with a complex and diverse symbolic system that is difficult to incorporate, and a mountain of connotations behind it. In order to make the meaning of this culture spread far and wide, the key symbol embodies an indispensable role.

As the most representative symbols extracted from the perspective of individual cultural symbols, American anthropologist Ortner pointed out in the article ²⁰ that the key symbols of a culture deepen the cultural meaning behind the inheritance of the key symbols of a culture by repeating them in cultural behaviors, which is also the key cultural strategy for exporting Dunhuang art.

Today's recreations of the Flying Sky image seem to draw a wide audience, especially in cultural performances, and most modern people who enjoy entertainment show a willingness to enjoy the art of Dunhuang. In the 1920s, Mei Lanfang's famous play "The Heavenly Maiden Scatters Flowers" used the dress of a kabuki bodhisattva on the eaves of the 430 caves in the Song Dynasty to show the beauty of the Chinese style of "Feitian" in the shape of "Dunhuang Heavenly Maiden". Recently, Li Dun, San Bao and Guan Shan, the "Iron Triangle" of Chinese musicals, have joined hands to create the original musical "Flying Sky", which conveys the beauty of Dunhuang, which has existed for thousands of years, to everyone at home and abroad through music.

Regardless of the significance of the flying sky as expressed in each of these literary works, it is not difficult to see the most prominent feature of the flying sky as a key symbol of Dunhuang art, namely inclusiveness. For this reason, in addition to the above song and dance works, many well-known Chinese murals and handicrafts are represented by Feitian. For example, the Flying Sky Award, the highest government award for Chinese TV dramas, and Flying Moutai, a famous Chinese wine. The image of Feitian has even evolved from a key symbol of Dunhuang art to a classic symbol of Chinese culture, expressing our country's spirit of tolerance, openness and freedom.

3.4 The "Way" of Dunhuang Flying Sky

As one of the symbols of Chinese culture, Dunhuang Feitian has been constructing its symbolic meaning from the surface to the inside, from the in-depth excavation of the "meaning" of Dunhuang Feitian to the philosophical discernment of the "Tao", exploring the underlying logic of Dunhuang Feitian's development in all walks of life.

The first is to explore the underlying logic of Dunhuang's flying colors in all walks of life. Philosopher Tang Junyi once pointed out that the flying sky contains the "spirit of the ribbon", which does not rely on wings, but rather on a few colorful ribbons flicked by the wind, so that it can fly without feathers.

In the Beijing Winter Olympics in 2022, the design of the torch, the ski jump and the National Speed Skating Pavilion all incorporate the elements of Dunhuang Flying, taking the free-flowing lines in the design of the shape of the unique Chinese characteristics of the aesthetics of the writing. The space structure of the spiral structure is more in line with the classical Chinese aesthetics principle of "the combination of existence and nothingness, the combination of reality and emptiness" advocated by Lao Zi, the ribbon is stacked upwards with extremely smooth and stretching lines, and there is quite a lot of space left in between the coils.

From this, we can see that the most primitive spirit of classical Chinese aesthetics, i.e. "reality and emptiness", is hidden behind the free artistic image of the flying sky. Zong Baihua, a master of aesthetics, once further pointed out that art comes to life through the combination of reality and emptiness. Back to the flying sky mural itself, the flying sky is in a subordinate position, the bodhisattva or the Buddha will be in the center of the picture, the whole of the flying sky of the virtual set off the Buddha's reality, so the organic combination of the burst of vitality, and the implementation of classical Chinese aesthetics, "the combination of reality and emptiness" principle.

4 Development Strategies for Digital Dunhuang

4.1 Technology and art creation in harmony

The development of digital Dunhuang is a product of the fusion of digital technology and art, the application of new technologies for the expansion of artistic expression provides new possibilities, but also for the protection and inheritance of cultural heritage provides a new way. Through the application of new technological means, such as artificial intelligence and virtual reality, traditional culture is digitally presented and disseminated, while new ways of expression are discovered in the field of digital culture.

The world's first open sharing platform for digital cultural heritage based on blockchain technology - "Digital Dunhuang Open Material Library"- is a noteworthy example of digital application practice. The library contains digitized video images of Dunhuang murals, digitized books, digitized 3D models and other forms of digitized material. These materials have been digitally processed and restored by professionals, and have high definition, high reproduction and high precision, while at the same time both copyright protection and the principle of open sharing, in line with the modern needs of the protection and sharing of digital cultural heritage.

The construction of the Digital Dunhuang Open Material Library provides a wealth of digital cultural resources for cultural research, digital cultural and artistic creation, and education and teaching on a global scale. It is not only a useful attempt to protect digital cultural heritage, but also an important application of digitalization and Internet

technology in the field of culture, and a successful practical experience in which digital technology and art aesthetics are harmoniously intertwined.

4.2 Simplicity against complexity in form and content expression

With the development of digital technology and the Internet, people are exposed to more and more information, and at the same time face the problem of information overload. Using simple shapes and color combinations to express complex concepts or emotions, and concise language to express complex ideas, the principle of simplicity not only improves the efficiency of creation and transmission, but also makes the information easier to understand and assimilate, and enhances the beauty of the form and artistic value.

In the future development strategy of digital Dunhuang, the principle of simplicity is also very important, focusing on the layout, content, multimedia tools, visual effects and operating methods, so that users can more intuitively and vividly understand the characteristics and connotations of cultural heritage. During the display process, the content is streamlined, retaining key information as much as possible and deleting irrelevant content to help users understand the core content of cultural heritage more clearly. Presenting and promoting digital Dunhuang's cultural heritage in a concise manner and with easy-to-understand content, highlighting the key points in a concise manner, making it easier for users to understand and appreciate, and thus promoting the further development of digital Dunhuang.

4.3 Cultural expression strategy of integration and innovation

Integration of innovation that is, in the process of inheritance and innovation of traditional culture, a variety of cultural elements are fused to form a new mode of expression and cultural form, to realize the innovative inheritance and diversified development of digital cultural heritage.

In the digital Dunhuang display, Dunhuang murals can be combined with modern technology to integrate different cultural elements, showing unusual artistic effects and creating new cultural forms. Dunhuang elements are spreading to a variety of digital Dunhuang can reinterpret the traditional Dunhuang artwork, allowing it to resonate with contemporary culture and create a more modern cultural expression.

In addition to cross-disciplinary cooperation, the same industry can invite creators from different cultural backgrounds to engage in cross-cultural creations and exchanges, integrating the artistic expressions of different cultures into the display of digital Dunhuang, and working together to create a more colorful digital cultural heritage.

5 Conclusion

With the advent of the digital era, Dunhuang art has been given the opportunity to show its new face, break through the time and space limitations of traditional culture through digital technology, and disseminate Chinese culture in a form that is enjoyable to the public. As the key symbol of Dunhuang art, Flying Sky, from the aspects of "words", "images", "meaning" and "way", shows the relationship between our traditional culture and the Chinese culture. It shows the consistency of China's traditional culture with the times, and under the linkage of technology and culture, it shows a new posture of more modern aesthetics. Thus, digital Dunhuang is not only about preserving Dunhuang's cultural heritage for thousands of years, but also contains the goal of cultural dissemination of correctness and innovation, so that the art of Dunhuang can be known at the same time as it is "youthful and everlasting".

References

- 1. Xia Shengping. Reflections on the Establishment of Dunhuang Digital Resource Sharing Platform[J]. Silk Road,2016, No.321(08):40-43.
- Han Chunping. Overview of Dunhuang digitization research[J]. Dunhuang Studies Journal, 2009, No.66(04):168-183.
- 3. Wu Jian. New Mode of Digital Art Presentation of Cultural Heritage--Taking Digital Dunhuang Exhibition Concept and Visual Communication as an Example[J]. Art Observation, 2022, No. 326(10):18-22.
- 4. Du Ruofei. Protection and dissemination of China's cultural heritage based on digital technology--Taking Dunhuang Mogao Grottoes as an example[J]. Science and Innovation,2022, No.193(01):114-117. DOI: 10.15913/j.cnki.kjycx.2022.01.036.
- 5. Fan Jinsi. For the long-lasting survival of Dunhuang: The exploration course of Dunhuang cave conservation[J]. Dunhuang Research, 2004(03):5-9+111.
- Wang Yi. Analysis of the integration and development of digital technology and cultural heritage--Taking Dunhuang Mogao Grottoes as an example[J]. Art Education Research, 2021, No. 246(11):68-69.
- Le Meiyun. Revisiting Saussure's Semiotic View of Language--The Nature of Linguistic Symbols[J]. Foreign Languages (Journal of Shanghai International Studies University), 1997(04):6-11.
- 8. Li Sichu. Oriental Wisdom and Symbolic Consumption--Japanese Tea Drink Advertising in the DIMT Model [M]. Hangzhou: Zhejiang University Press, 2003:55-57, 191.
- 9. Meng Yu. Analyzing National Image Promotional Video Based on "DIMT" Mode--Taking "China One Minute--Local Chapter" as an Example[J]. Young Reporter,2019(08): 78-79. DOI: 10.15997/j.cnki.qnjz.2019.08.049.
- 10. SUN Huihui, ZENG Haifang. Symbolic decoding of the red story in the TV special "Following the great rejuvenation navigator excels"-based on the DIMT model of oriental semiotics[J]. Audiovisual,2022(06):3-6. DOI: 10.19395/j.cnki.1674-246x.2022.06.001.
- 11. Zhao XJ, Qin Y, Xie YJ. Research on the dissemination strategy of domestic science fiction animation based on DIMT model[J]. Science and Technology Communication,2022,14(08): 64-67. DOI: 10.16607/j.cnki.1674-6708.2022.08.044.
- 12. Zhang Xiao. Convergence and Divergence: A Study on the Innovation of Music Variety Show Based on the Oriental Semiotics "DIMT" Model[J]. Southeast Communication,2020(10):140-145. DOI: 10.13556/j.cnki.dncb.cn35-1274/j.2020.10.042.
- 13. Jiayue Shen. Virtual image breaks the circle: the innovation of virtual image stage competition program "2060" from DIMT model[J]. New Media Research,2022,8(02):99-103. DOI: 10.16604/j.cnki.issn2096-0360.2022.02.009.

- 14. Jiao Xiaohong. Analyzing the TV Program "The Reader" by the Oriental Semiotics "DIMT" Mode[J]. Journal of Southwest University for Nationalities (Humanities and Social Sciences Edition),2018,39(02):164-168.
- 15. Zhang Min. Analyzing the communication strategy of current affairs short video based on the "DIMT" model--Taking "Anchor Says Link" as an example[J]. Southeast Communication,2020(10):38-41. DOI: 10.13556/j.cnki.dncb.cn35-1274/j.2020.10.013.
- 16. Li Zelin. Research on the Opening Ceremony of Beijing Winter Olympic Games based on DIMT model[J]. Today Media,2022,30(12):113-118.
- 17. Gao Kun, Zheng Ying. Painting Sound with Painting, Writing God with Shape "Music" and "Interpretation" in Dunhuang Flying Sky[J]. Songhai,2022, No.205(05):115-119.
- 18. Anonymity. 2022. Cave 112 of Mogao Caves.from http://www.dha.ac.cn/info/1425/3617.htm
- 19. Anonymity. 2018. Meet the Flying Sky, Yang Yuhuan. from https://pvp \. qq. com/ coming/v2/skins/1019-feitiany.shtml
- ORTNER, S.B. (1973), On Key Symbols. American Anthropologist, 75: 1338-1346. https://doi.org/10.1525/aa.1973.75.5.02a00100

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