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Research on Three Construction Methods of Electronic Game Virtual Identity Under Biaxial Operation

Taking "Chinese Paladin: Sword and Fairy", "World of Warcraft" and "Overwatch" as Examples

Qiwumian Lv
The College of Literature and Journalism
Sichuan University
Chengdu, China

***Abstract*—With the development of video games, the virtual avatar of video game players has become an important research topic. This paper will study the virtual avatar construction methods in different game eras, and analyze the path and method of virtual avatars built by electronic game players in different eras. The concept of two-axis operation of semiotics is used to explain the virtual avatar construction in different situations.**

Keywords—semiology; electronic game player; virtual identity; construction

I. INTRODUCTION

At the moment, game activities have become an important activity in people's lives. After thousands of years of development and evolution, the game has become an important element in people's lives. In addition to the formal gameplay, gamification elements have become the indispensable elements of people's lives. By the end of 2017, the number of game players in China has reached 442 million, an increase of 24.57 million compared with 2016. [1] At the same time, the number of users to watch the game live reached 224 million, an increase of 77.56 million compared with 2016. [2] Game players and game-related groups are already very large and maintain rapid growth. The "virtual space" created in electronic games has also become an important goal for researchers to study "cyberspace" and people in "cyberspace".

Among the different video games, the virtual world created by electronic games provides players with the opportunity to create their own different virtual avatars. These virtual avatars are created in different ways. Players use avatars to live as "I" in the electronic game world, and have various connections with other players. The research on the virtual avatars of the electronic game world and video game players has become an important topic in the research of electronic games. The establishment of virtual avatars, the interaction between virtualized bodies, and the relationship between virtual avatars and player ontology are important directions for research. This kind of identity research that spans real identity and virtual identity has also been an important direction in electronic game research.

Exploring the different types of electronic games is how to give the identity of the electronic game player and an important prerequisite for in-depth study of the virtual identity of electronic game players. Obtaining identity, creating identity, and giving identity correspond to two important types of ascribed status and achieved status. In many games, the formation of virtual identities is a complete imitation of the process of people's identity formation in reality. But unlike the real identity, the process of virtual identity creation often uses biaxial operation to make the efficiency of identity assignment significantly higher than in reality. Therefore, different identity-giving methods also have huge differences in virtual identity formation efficiency.

II. LITERATURE REVIEW

A. Virtual Identity Construction Research

The research on identity of virtual space has also become a focus of social science research in China and foreign countries. In general, research on identity can be broadly divided into two categories. One is to study how people define themselves; and the other is to study how society and culture shape the self of people. The research on virtual avatars is also a collection of these two directions.

In China and foreign countries, the research on "virtual avatar" mainly covers the research of "virtual avatar" identity, the research of "virtual avatar" construction and the research of "virtual avatar" and virtual society research, some of which are included in the virtual society and "cyberspace" in the study.

[1] China Internet Network Information Center, Statistical Report on the Development of China's Internet. Feb. 2018.

[2] China Internet Network Information Center, Statistical Report on the Development of China's Internet. Feb. 2018.

Social psychologist Sherry Turkle studied the issue of virtual identity in her book "Screen Life: Identity in the Internet Age". In her book, Shirley Turk shows how people's Internet identities change their real life through a large number of case studies, and studies the ways and means by which Internet identities affect people's real life. The research at this stage focuses on the study of cyberspace ontology and people in cyberspace as ontology. [3]

From a macro perspective, Jos de Mul puts forward his views on virtual identity and virtual world in his writings. He believes: "In cyberspace, identity is a virtual construction, because people can't tell what is behind the system that realizes identity with what purpose." [4] Jos De Mul's discussion of virtual identity is diversified. On the one hand, he discusses virtual identity from the technical dimension and the literary dimension. In addition, he not only discusses the problem of cyberspace but also discusses the problem of virtual reality. On this basis, Mul also talks about the issue of virtual identity from the perspective of ontology.

Ben Agger puts forward the significance of the study on virtual identity for sociology and the significance of virtual identity for the study of real society in his book. He believes: "The virtual self is an important text for designing into our rapidly changing society. Solving the problem of virtual self has important significance for contemporary sociology." From this, Ben Agger described and explained the life of people in the virtual world through his research on the virtual self-problems in his writings. And he believes that the interaction in media technology is reshaping people and self. People and self, people and machines, and machines and society form a new theme under the virtual space of the network, and have spawned a community of rich meaning and interactive dialogue. [5] In her book "Virtual Community — Settled in the Frontier of Electronics", Sherry Turkle analyzes the motivations of early virtual community games through ethnographic methods. Turkle named this conclusion: The Second Self. [6]

Chinese research on "virtual self" in virtual space is more extensive, and it is a hot issue in Chinese research. The main direction of research is the study of "virtual self"

Xu Linlin explores the virtual self in cyberspace in her paper "On Virtual Self in Network"[7]. She believes: "The virtual self in the network can be divided into the primary stage and the advanced stage." The virtual self in the primary stage is a virtual self that depends on the network environment with obvious perceptual characteristics, and is greatly influenced by external information and network public opinion in the network, which often can not control themselves. Although the existence of the virtual self can be felt psychologically, it cannot be completely independent, and thus is not an essential self. The virtual self in the advanced stage is formed through reflection and moral improvement, and is a self-conscious self under the control of rationality. And in the article, Xu Linlin deeply explores the formation mechanism of virtual self in the network.

Ma Zhongjun analyzes the research process of "self" and "virtual self" in "The Foundation of Virtualization Survival — The Construction of Virtual Reality and Virtual Self"[8], and explores the problem of "self" construction in virtual space. In his article, he puts forward: "In virtual reality, the self becomes a collection or a system, which is embodied by multiple identities. One of the most important changes is the freedom to choose from the virtual body after breaking free from the real body. This freedom is not only a change in appearance, but also a core of the self. It is the beginning of a series of changes. "

Bu Yanmin discusses the relationship between individuals and individuals under the current new network ecology in "The Shaping of Individuals' Self-images in the Network Ecology from the Perspective of Semiotics", and how does the individual construct the self-image in this interpersonal relationship. The author proposes important ways to shape the self-image: one is the comprehensive change caused by the accumulation of individuals, which makes the self to reflect the signs different from other individuals in the overall construction; the second is the individual's conscious choice to perform; the third is to present and perfect the self in the process of interacting with the symbols of others, and then present them with a perfect self; the fourth is to gradually identify each other in the process of interaction with others.

B. Related Research on the Narrative of Electronic Games

In foreign studies, narrative research on electronic games has diverse perspectives. Foreign studies on the narrative nature of electronic games mainly focus on the question of "whether electronic games can be narrative".

Jesper Juul raises the key to both positive and negative aspects of the question "whether electronic games can be narrative". On the one hand, he believes that electronic games are narrative. Because most of them have their own background stories, that's why electronic games are narrative; but on the other hand, he also lists several reasons why electronic games can not be narrative: first, tradition is made up of movies, novels and comedies. Video games are not a traditional narrative medium; second, the role played by time in the process of electronic games is not consistent with the role played by time in narrative; third, the relationship between readers or viewers in the traditional media and the story world is not the same as the relationship between players and electronic games. Jesper Juul believes that although electronic games and narratives are very close to each other, it does not mean that electronic games can be

[3] (U.S.) Sherry Turkle, Life on the Screen [M]. 2011.

[4] Jos de Mul. "The Game of Life: Narrative and Ludic Identity Formation in Computer Games". Representations of Internarrative Identity, 2015 - Springer

[5] Ben Agger. The Virtual Self: A Contemporary Sociology [M]. Blackwell publishing, 2004.

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[7] Xu Linlin. On Virtual Self in Network [D]. Dalian University of Technology, 2010.

[8] Ma Zhongjun. The Foundation of Virtualization Survival — The Construction of Virtual Reality and Virtual Self [J]. Modern Communication, 2010 (03): 118-121.

narrative. Jesper Juul also exemplifies the conversion relationship between electronic games and movies. He believes that games can never completely restore the narrative of movies. Most of the changes between electronic games and movies are limited to the similarities between the geographical environment and the overall background, and there is no complete story to restore the movie. [9]Gonzalo Frasca studied the narrative of the famous sandbox game "Grand Theft Auto 3" at the time. He believes that although the game's narrative has increased with the level of game design and the complexity of the game system, but limited by the limitations of the game mode, the importance of the goals set in the electronic game is still stronger than the narrative in the story. There is a narrative in electronic games, and the importance of narrative is enhanced, but the goal of electronic games is still the most important attribute of electronic games, and narrative can not destroy the goal of the game. [10]

The research on the narrative nature of electronic games is also a major direction of Chinese electronic game research, and also carries out important research on the aesthetic characteristics of electronic games.

Guan Pingping has done a lot of research on the narrative nature of video games. Guan Pingping is proposing: In today's popular online games, the player enters an interactive world where the same player performs different story processes each time, or different players enter the same interactive story world, but each story is different. And this combination has more and more possibilities with the development of technology and the exploration of the creative team. The world of interactive stories is far more complicated and huge than the story. [11]

III. Virtual Identity Construction in Different Game Modes

A. *Dual-axis Operation of the Electronic Game Identity System*

Jacobson proposed two important dimensions of symbolic text expansion: the combined axis and the aggregated axis. The symbolic text is finally formed by a biaxial operation. In the current electronic game, the player's virtual identity building system is an important embodiment of the biaxial operation. The background, system, story, content, etc. of the game itself constitute the combination axis of the game identity system. The game itself provides optional elements for the player, including: appearance, martial schools, ethnicity, etc., which is the aggregate axis of the game identity construction system. The aggregate axis represents the possibility that the game player will produce different styles in the game. Players create their own virtual identities through a biaxial operation to gain a different gaming experience than others.

B. *Traditional Linear Mode: Obtaining Virtual Identities*

"Chinese Paladin: Sword and Fairy" uses a linear narrative mode. Players can interrupt and repeat game narratives during the narrative. But in this traditional game mode, the aggregated axis of the game identity building system is fixed for each player. There is no way for a player to build their own virtual identity through a biaxial operation. In this mode, the identity building system does not exist.

1) Archiving and reading: spatialization of game time: Linear narrative electronic game players can interrupt the game narrative at anytime, anywhere, through archiving and reading, which is an important feature of linear narrative games. This interruption is "benign" and the player and other factors within the game do not have a negative impact due to this interruption. This kind of narrative mode that can be interrupted at will has become one of the important pleasures of electronic games. Many game designers have also used this interruption to create a tense atmosphere and sublimate the gameplay of this game. Players also continually correct their behavior in the game through archiving and reading. The time of the game coincides with the space inside the game. When the game space disappears, the game world disappears automatically.

2) Acquisition: the virtual identity construction method under linear narrative: In the single-line narrative game mode, the story of the electronic game itself has been preset. The role played by the game player at this time is that the "reader" player opens the "story book" made by the electronic game maker page by page through his own operation in the game. Under such a narrative mode, the game narrative has wholeness, and this kind of integrity is also the process of the meaning of the game. When the game completes the holistic narrative, the meaning of the game will gradually fade. Although the players can experience the story in the game again by playing the game again, in the process of repetition, the meaning of the game is gradually faded. The more the number of repetitions, the more meaningless the game becomes, until the meaning of the game is zeroed for a single player.

In this game mode, the player's virtual identity is actually a virtual identity obtained from the design of the electronic game designers. The virtual identity obtained by electronic game players in "Chinese Paladin: Sword and Fairy" is the protagonist of the game narrative: Li Xiaoyao. ("Fig. 1") From a game design perspective, the game designers perform a biaxial operation instead of the players, thereby building a virtual identity for the players. The virtual identity of the player in the game is actually the result of the biaxial operation obtained from the game designer. The appearance, character, ability, and language of this virtual identity are pre-set by the electronic game maker in the game, and the player has no autonomy over the various behaviors of this virtual avatar.

[9] Jesper Juul. Games telling stories; a brief note on game and narrative [J]. Game Study. 2001. 6.

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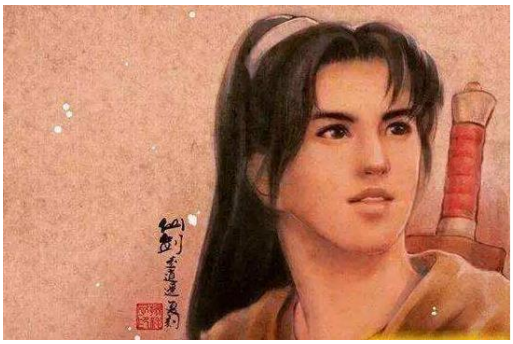

Fig. 1. Li Xiaoyao.

This mode of acquiring virtual identities is the simplest mode in electronic games. In this mode, the electronic game itself does not need an identity building system, and the only thing that needs to do is to build a virtual identity which the player acquires in the beginning of the game. The virtual identity obtained by each player is exactly the same, and the game experience of each player using this virtual identity is exactly the same. The behavior, the language, and the influence on the game's ontology of this virtual identity cannot be controlled by the player. Under this virtual identity, the players operate the virtual identity and play according to the wishes and design of the electronic game designers.

C. MMORPG Mode: Building Virtual Identities

With the development of Internet technology, online games have become a mainstream type of electronic games. Traditional RPG games have also been networked. The most popular game type, Massive Multiplayer Online Role-Playing Game (MMORPG), also came into being.

1) On-line and off-line: two-line flow of game time: Unlike traditional console games, players can't space the game time through archiving and reading. Instead, it is a two-line flow of game time.

The first line is the flow of time in the game world. In many electronic games, although the time in the game mostly follows the natural day and night, the speed of time does not necessarily coincide with the speed of the actual time. In the real day, in the game may be multiple days and nights in the game world. The acceleration of time flow in the game provides players with a way to experience the full game content more quickly. Game designers also use this setting to add special content to day and night, making the players' gaming experience more fun.

The second line is the flow of time in the real world. In an online role-playing game, the game itself provides the player with not only a script, but also a world. Players start and end the game by going online and offline. But unlike the traditional console games, the players' own offline do not represent the timeout in the game world. The time in the game world is still in accordance with the set flow. Oother players continue their own games, and the game space will not be suspended because of the offline of a certain player. This persistent game space is one of the important features of online games, but it also brings an important problem: the rapid depletion of game content. In order to solve this problem, the main method used by game developers is to perform a regular reset according to the actual time. Resetting the content of the game can make the players experience the same game content repeatedly. In order to ensure the playability of the game player, based on the content reset, the game designers will design a reward system that can be repeatedly obtained to encourage the players to repeat the same game behavior. Under such a system, the flow of game time that the player actually experiences is more of a flow of real time, and many games have a reset period of one week of display time. The experience of time flow during the players' game is more about the reset cycle. Only in a few cases will the players experience the flow of time in the game.

2) Construction: the virtual identity construction method of MMORPG games: In the MMORPG mode, the identity construction system of the electronic games can fully function.

Taking "World of Warcraft" as an example, Azeroth is used as the background of the virtual story world of the game. In this virtual world, there are two important camps of Alliance and Horde ("Fig. 2") as opposites. In addition to this camp, there are two enemies that the camp needs to face together, such as the Lich King and the ancient evil spirits. There are different creatures and races in this world: Human, Night Elf, Orc, etc. Different races have different hero occupations: Paladin, Warrior, Hunter, Mage, etc. Different clan's birthplaces and task processes are completely different, and the skills of different heroes and the roles played in teamwork are completely different. These contents constitute the combination axis of the "World of Warcraft". Players can form an aggregated axis by creating a character of their own, including appearance, race, occupation, etc., and become their virtual avatar in the game. Once the players have selected the race and occupation, they can be recognized by other players of the same race through the in-game identification system, and the players' virtual avatar is automatically assigned to the affiliated camp.

Fig. 2. Logos of Horde and Alliance.

After this biaxial operation to build identity is completed, a MMOPRG game needs a system of protocol symbols for further identity operations. Zhao Yiheng explained the statute symbol in "Symbology": "Relying on the relationship between social conventions and symbols, this symbol is called the statute symbol."[12] In general, MMORPG games

[12] Zhao Yiheng. Semiology [M]. Nanjing University Press, 2016.

have a more complex game system that covers all aspects of the real world. The game designers simplify the process of entering the game and participating in the game. Otherwise, it will be a long process, and this process will also make many players have no way to be actually into the game. At the same time, in order to quickly complete the identity from the virtual identity, most game designers will design a set of statute symbols to quickly complete the process. It allows players to quickly participate in the world of the game to play games and experience the fun of the game. In "World of Warcraft", this statute symbol is often produced by the style of equipment worn. For example, the Paladin profession, no matter what camp of the Paladin, their equipment sets are mainly in gold, white, red, purple four colors, with special effects such as flame or light, reflecting the Paladin's "sacred" attributes ("Fig. 3"). By observing the style of the equipment worn by the characters and the races they belong to, the players can quickly complete their identity process, find their own camps, and distinguish the enemy camps. Different statute symbols are continually repeated, subtly becoming the statute symbol recognized by the players in the game, thus quickly completing the process of identity of each player. After completing the identity, the players can fully be into the game to experience the content of the game and interact with other players. The virtuality of the game players built by this model allows the players' identities to be continuous.

In the case of two-line time flow, the players' offline does not mean the disappearance of the virtual identity, and the virtual identity will continue. The players can communicate with other players on other platforms through their virtual identities. In the process of communication, players and players use their own virtual identities. Some players exchange platforms even need to confirm the players' virtual identities to enter this platform to interact with other players. This process is actually a quick completion of the identities of the players through the statute symbols.

Fig. 3. Paladin equipment evolution.

D. Competitive Game Mode: Creating Virtual Identity

1) Victory and defeat: fragmentation of time: The MOBA games represented by games such as "League of Legends" and "Overwatch" ("Fig. 4") are the latest game categories. The emergence of this type fragments the game time.

Taking "Overwatch" ("Fig. 4") as an example, the time for a competition in "Overwatch" is generally around 30 minutes. In this game time, players can experience almost everything set in the game to get a complete gaming experience. This makes the game's overall time fragmented. Compared to the first two types — one needs tens of hours to get a complete gaming experience, and one needs to complete the experience in a periodic iteration — the games in this mode only takes about 30 minutes to get a complete gaming experience.

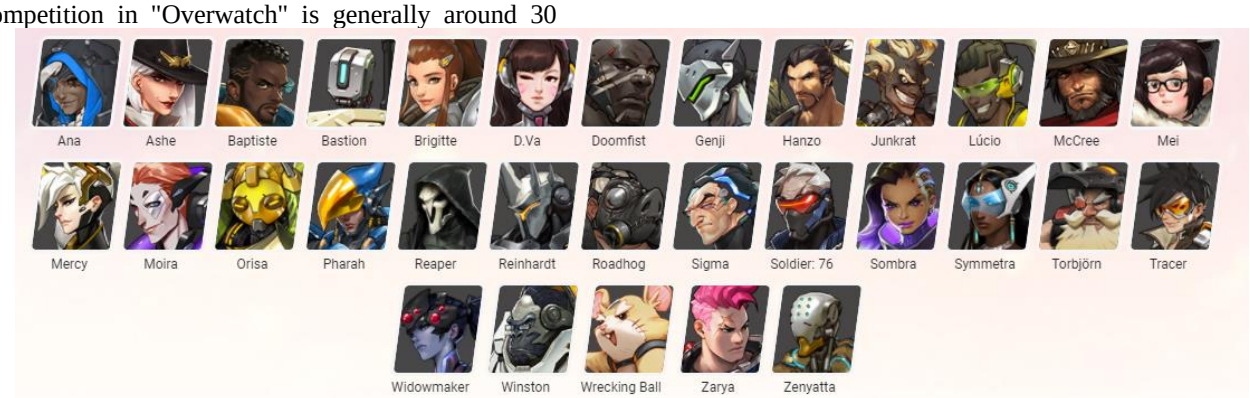

Fig. 4. The "Heroes" can be chosen in the "Overwatch".

2) Creation: the virtual identity construction method of competitive games: In competitive games, the interaction between players and players, although often occurs, is limited by the type of game content. There is no way to get enough interaction through the social platforms within the games. This makes the interaction between this type of game players mainly happen on the social media platforms outside the games. In this mode, the players actually have two virtual identities. And unlike MMORPG games, this dual identity is not consistent.

From the perspective of the identity within the game, in general, the players will choose the heroes that they operate, and enter the game through the heroes as the virtual identities of the game players, participating in the competition in the games. In this case, the biaxial operation is more like the mode of a console linear narrative game. The players don't have the opportunities to create their own special virtual identities. While some games offer some content such as skins that can give the characters chosen by the players some special qualities, this particularity does not affect the process of biaxial operation. The game creators are the main body of the game's biaxial operation in the game. The players' bodies are only to select the characters provided by the game creators. The game creators are the main body of the virtual identity creation of the in-game players. And each player has the same choice rights on this virtual identity. Like the single-line narrative game, the virtual identity in the game will also be lost at the end of each game.

The identities outside the game are the real virtual identities of the game players in the competitive games. But the construction of this kind of virtual identity is special. The combined axis and the aggregated axis within the game do not affect the virtual identities of the players outside the games. Identity construction methods in real life cannot affect the composition of players' virtual identities outside the game. The off-game identity construction model follows a pattern of identity and identity construction in a social interaction. From the point of view of the players themselves, entering the social platforms or forums of certain players, is actually the common identity of the players of the games. Entering a social group of some game can be regarded as automatically completing the process of identity. This process of identity is always there, because if the players do not have the common main identity of the game players, then entering the game group to socialize will lose its meaning. After entrance, the players need to build their own virtual identities in the process of socializing. The aggregated axis of identity construction in this social interaction is derived from the game content and the actual identity. The game content is eternal as part of the combined axis and the real identities are available for the players to choose. The game content is mainly reflected in the competition level of the game. The competition level is also reflected in the understanding and operation of the games. Such identity elements can be embodied in daily social and game activities. The real identity construction on the virtual identity can be chosen by the players themselves. Game level and real identities, including some non-real reality identities, constitute the combined axis of this mode. Players show their level through social and game operations, and purposefully select the elements of real identities to perfect their virtual identities. Such a process is the construction mode of the virtual identity off the game. The two virtual identities generated by these two modes are aggregated to become the virtual identities of the players in the competitive games.

IV. CONCLUSION

In general, the efficiency of virtual identity construction is very different from the efficiency of real identity construction. Different virtual identity construction methods also have obvious efficiency differences. The author believes that there are two main reasons for this gap in construction efficiency: first, the difference in the dominant factors of the identity construction of the biaxial operation; the second is the difference in the game types.

From the perspective of dominant factors, the three dominant subjects mentioned above are: game creators, co-leaders, and players. This change in the dominant subjects is actually a process of virtual identity construction from simple to complex. In the process of biaxial operation, it is actually produced because there are more and more factors that the player can choose for the aggregated axis. As the factors of players to select to constitute the aggregated axis increase, the efficiency of the players' virtual identity formation is affected. In the single-line narrative game, the formation of the players' virtual identities is most efficient, which can be said to be formed at the same time as the game. But relatively, it also disappears the most quickly, and the end of the games declares the disappearance of the existence of the virtual identities. In the MMORPG game, the form of the games has changed. The players' behavior and interaction in the game need to immediately accept the information and immediately feedback, which makes the process of building the virtual identities more complicated and less efficient. In competitive games, players need to gradually complete the biaxial operation of identity construction through a lot of social interaction. This interactive process is a gradual reduction in the efficiency of the players' virtual identity construction. Therefore, in general, game designers and players in order to quickly enter the game and game-related communities, will try to simplify the system of game identity construction, which makes the construction of virtual identity in the games faster than the real identit. And due to the high efficiency of virtual identity formation, the conversion frequency of player virtual identity is also high.

From the difference in the game types, the impact of changes in game types on virtual identity construction is mainly reflected in the social factors in the game content. As console games, there is no need for instant social interaction between players and players in early games. In this case, the players can directly obtain the virtual identities that the games have set, and get the perfect game experience. The players do not have the power and opportunity to create a virtual identity of their own. The online games represented by MMORPG have built a huge world, and the social factors are gradually increasing. This kind of social is provided by the game content and system, and it is also an important way for players to get a better game experience. Players need to

build a virtual identity that belongs to themselves to get a better game experience. In the competitive games, the games do not provide a system for building virtual identities. But because players need to collaborate and confront players, in this process, they need more and more instant socialization than MMORPG games. Social interaction between players becomes an important element in perfecting the game experience outside the game. Players need to socialize to get a better game experience. The games need to complete some unfinished content in the games through social interaction. In general, the number of social factors and the frequency of social frequencies are important factors influencing the composition of players' virtual identities.

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