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Collective intelligence semiotics in the *Stranger Things* series

Semiótica de la inteligencia colectiva en la serie Stranger Things DOI: https://doi.org/10.32870/cys.v2021.7825 ARANTXA VIZCAÍNO-VERDÚ 1

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This study analyzes the Netflix's original series, *Stranger Things*, as an emerging collective intelligence concept. For this purpose, we conducted a semiotic analysis through three inductive and interpretative stages: using the Transmedia Intertextual System, identifying pre-existing references, and analyzing reactions in the fandom universe. The research found the production as a transmedia intertextual masterpiece that points towards an emphasized canonization of the media-nostalgic content and a sequential performance of the collective cultural memory.

KEYWORDS: Collective intelligence, transmedia storytelling, intertextuality, fandom, cultural memory.

El presente estudio analiza la serie original de Netflix, Stranger Things, como constructo de inteligencia colectiva emergente. Para ello, desarrollamos un análisis semiótico mediante tres fases inductivas e interpretativas: aplicación del Sistema Intertextual Transmedia, identificación de referencias preexistentes y análisis de reacciones en el universo fandom. El trabajo descubre la producción como una obra intertextual transmedia maestra que apunta hacia una asombrosa canonización del producto mediático-nostálgico y a una consecuente ejecución de la memoria cultural colectiva.

PALABRAS CLAVE: Inteligencia colectiva, narrativas transmedia, intertextualidad, fandom, memoria cultural.

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INTRODUCTION

The increasing interest toward vesteryear's cultural products has led to a retro worship trend spreading to audiovisual platforms such as Netflix, an online streaming service that includes media phenomena such as Stranger Things, where references to feature movies, video games, music, series and comics from the 1980s have excited users from all over the world. This sci-fi and thriller series with three seasons broadcasted to date has become an academic target for study from the industry-nostalgia perspective as a restorative fandom product that romanticizes the past into a seductive retreat out of the inherently less desired present (Butler, 2017; McCarthy, 2019). Some studies have classified it as a hyper-postmodernist example of an intertextual cross-referential spread between television, literature, movie and geek culture (Hassler-Forest, 2020; Mollet, 2019), and others analyze it as a linguistic topic (Ruiz-San-Miguel & Pérez-Fernández, 2019). Such has been the impact of the streaming series that, beyond the scientific field, it has generated an emotional hysteria among fans around the world due to the first trailer of the second season premiere at the San Diego Comic-Con in 2017. An audiovisual work that featured in its composition one of the songs whose music video had revolutionized the history of the music industry (Reuters staff, 2009), Michael Jackson's "Thriller".

In this context, the entertainment industry has been placed within its most passionate followers through an approach that assumes the narrative spreading in different digital environments. Accordingly, consumers adopt a proactive and prosumer role in its expansion (Pérez-Rodríguez et al., 2019; Scolari, 2013), whereby the series exposes and consolidates the idea of collective intelligence through referential contributions to other media texts (intertextualities) (Lévy, 1997; Pereira et al., 2019). This means that collective intelligence starts from a set of individual understandings to build the community knowledge (Norris, 2020; Sánchez-Verá, 2014).

Accordingly, the current study conceives *Stranger Things* as a media flowing production, as indicated by Guarinos and Cobo-Durán (2020), basing its cultural plot on intertextuality through a dialogic intertextuality and a communitarian skill to recreate the real-fictional universe. Thus, we aim to analyze the intertextual spreading of this

streaming media series through the conception of collective intelligence, starting from the semiotic-interpretative image and digital interaction analysis.

Collective intelligence in cultural convergence

The coordination of commercial strategies, grassroots practices, and multimedia influences have enabled a kind of cultural convergence which is defined as an alignment between technologies, industries, markets, and audiences (Atay, 2019). Due to the media channels growth and the increasing ubiquity of devices and telecommunication systems, currently the followers of the entertainment industry are no longer facing a unidirectional and vertical influence, but a cultural and participatory system focused on individual and collaborative decisions (Jenkins et al., 2015). In addition to this affective economy, where the commercial factor plays a leading role (Alcalá-Mellado & Ruiz-Martín, 2016), we find the collective intelligence concept (Peters, 2019; Williams-Woolley et al., 2010).

Collective intelligence is described as a shared, renewed and universally coordinated set of ideas in real time, leading an effective skill development. In other words, knowledge is part of humanity insofar as no one knows everything, but everyone knows something. It is a reflection of learning to know each other, to think and grow together as a community, so as to reactivate existing social disparities (Sanchez-Vera, 2014; Passig & Zoref, 2020). Following this line, Lévy (1997) understood collective intelligence from an ethical and economic perspective (based on human groups constituted by initiative, imagination and logical and intellectual competitiveness), a political approach (in the distinction of ideal-types, families, clans, tribes, organic groups, institutions and revolutionary masses that obey rules, follow traditions and respect codes), and technological-aesthetic (especially in the case of somatic and media information) from a sort of engineered social relationship. In the face of the communication networks and messages flowing in cyberspace, collective intelligence has become a cybercultural mode where languages, timelines, democracies, literature, music and art emerge and change the original methods for the creation and dissemination of human knowledge.

This discursive communication process has shaped the proliferation of studies about transmedia storytelling which since its origins has led to multiple approaches, theoretical and methodological possibilities for research (Corona-Rodríguez, 2016). This is an idea translated into the process of spreading information through multiple channels in order to create a diversified storytelling experience among the fan community (Javanshir et al., 2020; Jenkins, 2008).

In this sense, the new online communities are built as *Homo Fabulators* in a way that, as Scolari (2013) pointed out, humans are attracted to listen to, watch or live stories in a framework of endoculturation (Harris, 2001). Moreover, the *Stranger Things* fandom has grown on the basis of this continuing popular interest in telling, appropriating and sharing content. This is a complex universe that has been deeply structured and disseminated by its fans, and that is conceived around hierarchies, conventions and canonization practices of the eighties (Thompson, 1998).

Semiotics of discourse, image and transmedia intertextuality

The study of intertextuality (Fontanille, 2016; Marinkovich, 1998) was introduced in mass communication studies and specifically from the expression of discourse analysis as a communication research of elements for the integrated language conception. This field of analysis, which in its origins was essentially concerned with text and the linguistic structure of supra-oratorial levels, is now extended to several disciplines: psychology, anthropology, sociology and communication (Molitor & Ritter, 2020).

Kristeva (1967) first referred to intertextuality as the inclusion of a preconceived text into others with the aim of performing meaningful events. Barthes (1970) clarified later that this influence had nothing to do with the idea of source, as every text comprises an intertext at different levels, where each one is embedded in a moderately recognizable mode (Witte, 1992). Consequently, to conceive a text as such, it necessarily involves intertextuality. It will always depend on the relationship with others and, therefore, on the subjectivity of the sender and receiver, since they express and perceive a set of meanings mediated by beliefs, cultural understandings, among other thought patterns (Baitjín, 1986;

Ross, 2020). Furthermore, according to Genette's hypotext-hypertext (1989), the term is understood not only as the relationship between two objects (in this case, a pre-existing cultural series-product), but also as a dialogue between pieces from different disciplines that stimulate the identification of contexts and the "transmediation" of the story. Thus, intertextuality is constituted by the collection of different levels of references: the study of the text itself (metatextuality), the relationships between one text and others (intertextuality), and the description of symbols from other areas (extratextuality) (Milán, 2016).

As a result of the combination of collective intelligence and intertextuality, a meaningful appropriation was found for the conception of cultural reality (Peirce, 1974), dealing with the semiotics of the image. It is a research method that pays special attention to visual communication procedures for the understanding of social expression and worldview (Karam, 2004; Sanchis et al., 2020). In this environment of collective and cultural memory in the preservation, dissemination and creation of visual texts to make sense of chaos (Ricaurte-Quijano, 2014), an additional stage is taken for the analysis of media texts: transmedia intertextuality (Ricaurte-Quijano, 2014).

The research on Kinder's Ninja Turtles (1991) identified intertextual elements referring to the names of the characters and their connection with Renaissance artists: Donatello, Michelangelo, Raphael and Leonardo, introducing and spreading the fictional universe in a symbiotic harmony of cultural references (Montoya & Arango, 2015). This story spreading through different verbal, iconic, audiovisual and interactive systems of meaning in productions of the broadcast industry (series, movies, etc.) (Marino, 2018), has been translated to serial titles of international fame such as *Stranger Things*. In this case, the intertext of the eighties is presented as a cultural anthropological frame of reference, which allows users to recognize stories, determine atmospheres and enrich meanings (Arias-Orozco & Ramírez-Guerrero, 2019). Considering the collective and diversified nature of the transmedia canon, as well as the semiotics of visual and cultural consumption, we introduce a qualitative study on the framework that constitutes a transmedia intertextual system applied to a media text of worldwide impact (Montoya et al., 2013).

MATERIALS AND METHOD

Objectives

The study aims to contribute to the knowledge of the collective intelligence through a semiotic perspective based on one of Netflix's successful series: *Stranger Things*. The main objective was to analyze the intertextual spreading of the series using collective intelligence, with a nostalgic-cultural basis around the theoretical understanding of Lévy (1997) and Thompson (1998). The research questions driving the analysis from this semiotic perspective were:

- a) Does the *Stranger Things* series portray a cultural product built through transmedia intertextual networks?
- b) What intertextual references are found throughout the three seasons?
- c) Is the intertextual spread of the series completed with other cultural products such as the teaser of the second season based on Michael Jackson's "Thriller" music video?

Methodology

Addressing the above questions, we conducted an exploratory, descriptive and qualitative study through interpretative semiotics of digital interactions (Dondero, 2019; Matus, 2018; Scolari, 2004). Thus, we conceived a methodological approach to identify contextual embedding dynamics simplified by user recognition (Eco, 1984, 1979), as well as to determine priorities for future research and theoretical principles (Hernández-Sampieri et al., 2007). In this sense, we based the study on the enactive cognition of Varela et al. (1997), whereby the experience itself is not attached to an epiphenomenon without explaining interest, but to the full presence and open awareness for the reflection of what has been experienced.

First research stage. We started the study with a referential review corresponding to the first research question: *Stranger Things* as an intertextual-transmedia masterpiece on the basis of its three seasons (released on July 15th, 2016, October 27th, 2017, and July 4th, 2019, respectively). For this purpose, we performed the Scolari's (2004)

semiotic Human-Computer Interaction (HCI) model, whereby the empirical user (in this case the researchers), became involved in the interaction proposal (the series), accepting the communicative exchange agreement. That is, entering into the grammar of the universe itself (spectator, player, reader of the series), manipulating the devices that discover it in order to face the conceptual representation of the series.

Second research stage. For the second question, we did not limit ourselves to the identification and cross-referencing of audiovisual content from the entire series, but also carried out a review of usergenerated content on YouTube to support the results. The choice of this audiovisual platform stems from its relevance in terms of interaction and collective creativity in the promotion of mediated senses, discourses and ideologies by the fiction industry (Sánchez-Olmos & Hidalgo-Marí, 2016; Vizcaíno-Verdú et al., 2020).

We performed a content analysis following the capture and collection of data units (Krippendorff, 2012): 1) Season; 2) Reference (visual description); 3) Chapter and minute; 4) Original text (to which pre-existing media product the scene refers); 5) Industry (cinema, board games, comics, literature, music, advertising, television or video games).

The samples for this second stage consisted of 1 310 minutes of Netflix viewing (25 chapters from the first, second and third seasons), and 36 YouTube videos focused on the exposure of intertextualities in the series. The last one was selected based on the search "Easter eggs Stranger Things 1 / 2 / 3" on YouTube. The terminology *easter egg* refers in pop culture and fandom to elements introduced unexpectedly and intentionally by the creators of audiovisual productions to be identified and related by viewers regarding other texts or meta-texts (Lachonis & Johnston, 2008). The inclusion criteria for the second sample answered to: 1) Identification of the number of easter eggs analyzed in the title, caption or thumbnail image of the video; 2) Direct reference to one of the *Stranger Things* seasons. In this way, the randomness, comparativeness and complementarity of intertextualities between the perspective and experience of the researchers and among the fandom community was guaranteed. The total sample consisted for

the first season ("Easter eggs Stranger Things 1") of 12 videos and 345 references; the second season ("Easter eggs Stranger Things 2") of 12 videos and 497 references); and the third season ("Easter eggs Stranger Things 3") of 12 videos and 385 references.

Third research stage. Related to the third objective, describing the experiences of the study individuals through their perspectives, language and expressions (Hernández-Sampieri et al., 2007), we carried out a semiotic content analysis of the image. From a sample delimited by non-probabilistic sample-by-convenience techniques on the YouTube media platform, we collected 100 of the most viewed videos through the terms "Stranger Things season 2 trailer comic with reaction" as search criteria, referring to the reactions to the release of the first trailer of the second season at the Comic-Con San Diego, held between July 20th and 23th, 2017 (Comic-Con International, 2017). This population's limitation was due to the fact that, on the platform, the videos filtered by views are introduced in the first ranking places.

These videos allowed us to delve into the behavior of users when watching the trailer for the first time, and to identify and interpret through the researchers' experimental grounds, and through their gestures and/or comments, the intertextualities identification, such as the background musical composition played throughout the promotional product (Michael Jackson's "Thriller"). Thus, we defined three categories: 1) Recognizes "Thriller" or not; 2) Recognizes other intertextualities or not; 3) Comments (observations and/or expressions made by the users on additional texts).

RESULTS

Literature review of the transmedia intertextual system in Stranger Things

Stranger Things is an original series written and directed by brothers Matt and Ross Duffer and distributed by Netflix. The series is conceived as a tribute to science fiction and horror of the eighties, as they describe

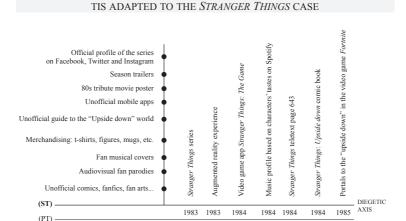
on their official website.⁴ Some of its most repeated references correspond to productions by film director Steven Spielberg or horror writer Stephen King, revealing a combination of intertextualities from the media and cultural universe: board games, video games, movie scenes, advertising posters, music, books, etc.

This framework has led to a fictional growth of *Stranger Things* after the success of the first season, taking the production into other paths that have enabled fans to visit Hawkins (the small town in which the story unfolds), and to speculate, discover and be inspired by the plot and its characters. Following the scheme of the Transmedia Intertextual System (TIS), whose matrix includes both transmedia and paratextual content (Montoya et al., 2013), the different products published or broadcast by the company and by the fans have been placed to the spreading of the storyline.

As the authors indicated, this structure is comprised of two axes: 1) The horizontal, focused on the diegetic scope that spreads the story through different media (transmedia); 2) And the vertical (or paratextual), referred to the non-amplifying storytelling (intertextuality). Additionally, two factors arise in this process: story time (ST) and production time (PT). The first places us in the time in which the story is set, and the second places us in the launching of each performance, unrelated to the main storytelling (Montoya & Arango, 2015). Regarding the ST, the format always starts from zero as a departure variable (year zero in the serialized production), as shown in Figure 1.

The matrix enabled us to compare the content included as story amplifiers (such as the video game, the comic book, the virtual reality experience at Will Byer's house, the musical profile of the characters on Spotify, the teletext pages and the portals in the *Fortnite* video game), with those that did not show an expansive anatomy based on the original story. For example, the official accounts of the series on social media or merchandising (action figures, mugs, t-shirts, etc.). Together, these experiences and the resulting content created by unofficial sources, supported a preliminary approach to identify *Stranger Things* as an intertextual transmedia production.

⁴ See https://bit.ly/355fZ63



2016 2016 2017

2017 2017

2018 2019

FIGURE 1

Source: The authors based on Montoya et al. (2013).

In fact, the referential methodology used by Netflix in the audiovisual series has been found extended to other media environments such as *Stranger Things: The Game*, the video game for Android and iOS in retro format and released between the first and second season, where we observed a wide eighties movie poster (*Star Wars* (1977; 1980; 1983), *E.T.* (1982), *Ghostbusters* (1984), *Jaws* (1975), *The Thing* (1982), etc.), recognizable arcade machines such as *Dragon's Lair* or *Polybius*, red balloons like those from Stephen King's *It* (1986) in the sewers, etc. (Figure 2).

Based on this, an aesthetic and visual platform inspired by the eighties was created, which allowed its players to explore every corner of the audiovisual scenography. In addition, and given its release before the second season, many sections addressed information that was unknown to viewers. For example, the participation of a new character (Max), who could not be played with until the launch of the series on October 27th.





Source: Stranger Things: The Game (2017).

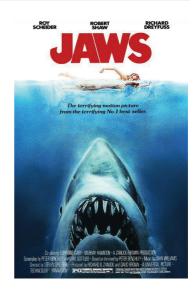
Similarly, on September 26th, 2019, a comic book in Spanish, *Stranger Things: El otro lado (Stranger Things: Upside down)*, by Jody Houser, Stefano Martino, Keith Champagne, Lauren Affe and Nate Piekos, was released by Norma Editorial. A parallel story that chronicles the details faced by Will Byers in the first season, unknown to the viewer during the broadcast of the first season.⁵

On a promotional level, the official *Stranger Things* Twitter account published before and during the premiere of the second season, a series of posters based on the aesthetics of feature films from the eighties, such as: *Jaws* (1975), *Nightmare on Elm Street* (1984), *Firestarter* (1984), *Evil Dead* (1981), *Pursued* (1987), *Alien* (1979), *Stand by me* (1986) and *The Goonies* (1985).

⁵ See https://bit.ly/2HDMDTt

FIGURE 3
FILM REFERENCES IN *Stranger Things* posters from the official series Twitter account and imdb





Source: Stranger Things official Twitter account (2017).

Within the series' intertextualities, music played such an important role involved in the story and the plot timing. Its inclusion at diegetic and extradiegetic level drove the fan to the immersion and comprehension of the story, even being in some cases part of the script. Some of the eighties compositions heard in *Stranger Things* are *Should I Stay or Should I Go* by The Clash (1982); *Atmosphere* by Joy Division (1980); *This is Radio Clash* by The Clash (1981); *Runaway* by Bon Jovi (1984); and *Every breath you take* by The Police (1983), among others. These are all songs that had great impact at the moment, and that were used throughout the series and trailers.

Streaming intertextualities

In the analysis process of digital interaction between user-image, different fields of intertextuality were found: 1) In the script itself; 2) In

the scenography and/or costumes; 3) In the diegetic and extradiegetic music; 4) As product placement (appearance of a product/service/brand within audiovisual content (Seoane et al., 2015)). This stage revealed a considerable amount of references to pre-existing cultural contents. Some of the most used ones refer to movies (59%), books (9%), music (9%), advertising (7%), comics (6%), television (5%), board games (3%) and video games (2%).

In sum, 31 references were located in the first season, 29 in the second and 30 in the last one: 90 references. In this compilation, intertextualities referred to cultural products such as *E.T.*, *Poltergeist*, *Halloween*, *Evil Dead*, *Star Wars*, *Jaws*, *Rambo*, *The Thing*, *The Shining*, *Alien*, *It*, *Terminator*, *Ghostbusters*, *Gremlins*, among others, were identified. We also noted references to *X-Men* comics, video games and board games such as *Pac-Man*, *Dungeons and Dragons*, and advertisements for Coca-Cola, cereals, male aesthetic products, among others.⁶

FIGURE 4
INTERTEXTUAL REFERENCES FROM THE BOARD GAME
DUNGEONS AND DRAGONS, AND THE MOVIES GHOSTBUSTERS AND
HALLOWEEN (FROM LEFT TO RIGHT)



Source: Screenshot of Stranger Things seasons 2 and 3.

During the analysis, references were visibly evidenced (Figure 5). This screening criterion is based around the fact that, in many cases, the references may turn out to be mere conjecture by the viewer. In fact, these were completed with the 36 YouTube videos and the 1 227 references identified by the fandom collective, avoiding duplications

Table 1 available at https://doi.org/10.6084/m9.figshare.9918458.v1

and suppositions. That is, the interpretative and semiotic analysis verified a total of 90 visible intertextualities, compared to the 1 227 recognized by the youtuber community.

FIGURE 5 STAR WARS AESTHETIC INTERTEXTUAL REFERENCE IN CHAPTER 1, SEASON 3 OF STRANGER THINGS



Source: Screenshot of Stranger Things season 3.

User reactions on YouTube

Regarding the third research question, we analyzed 100 videos through three data units that enable the monitoring of users' non-verbal reactions and comments to the trailer of the second season on YouTube. Of the total sample, 76% of users recognized the musical composition "Thriller" by Michael Jackson.

In this case, we collected comments related to the users' type of reaction to each video, including the following patterns:

- They mention "Thriller" or Michael Jackson.
- They hum the song or reproduce the laughter of the omniscient storyteller of "Thriller".

See data and comments in the appendix at https://doi.org/10.6084/ m9.figshare.7213088.v1

- They jump, smile and/or laugh.
- They follow the rhythm of the music.
- They perform the choreographed steps of the music video.

Just 24% of the users did not react to this song, because in some cases they focused exclusively on visual aspects. It is also worth mentioning the recognition of other intertextualities. In this sense, the percentage of detection involving other cultural texts such as the arcade video game *Dragon's Lair* or children appearing in costume dressed as the *Ghostbusters* actors is equal, with 50% of users recognizing one or some of these references, and another half not recognizing them. Cross-referencing the data, we found that 73% had indeed noticed some reference and 37% had not.

Ultimately, "Thriller" has been described as an essentially identifiable product with respect to other visual references, suggesting a conclusive value in terms of collective fandom intelligence between visible and audible aspects.

CONCLUSIONS

Stranger Things, as suggested by Butler (2017), McCarthy (2019), Hassler-Forest (2020) and Mollet (2019), proposes a new media-cultural and intertextual disruption whose analysis releases the meanings and stigmas from postmodern conception to lean on its fans' reading and interpretation (Calabrese, 1994). Upon cultural grounds distributed by the entertainment industry during the 1980s (Albarello & Mihal, 2018), we found a universe informed by seeing, appreciating, spectating and understanding in community previously designated by Thompson (1998), and reinforced by the nostalgic passion of yesterday by Proctor (2017) and Hills (2015).

The inductive and interpretative reasoning carried out in the present study, from a semiotic perspective in media environments, suggests new challenges for collective intelligence (Lévy, 1997) in new streaming media works. As we noted, a fandom community has been created around the 1980s that is increasingly flexible and able to recognize references related to pre-existing contents in a process of story "transmediation" (Lévy, 1997).

Considering the first objective addressed through the TIS analysis (Montoya et al., 2013), we understood *Stranger Things* as an intertextual and transmedia piece (Guarinos & Cobo-Durán, 2020; Hassler-Forest, 2020; Mollet, 2019). It is a fictional world that starts from a serialized work on Netflix (nuclear piece), and whose story spreads towards video games, apps, comics, computer programming systems, music platforms, among others (seminal pieces) (Jenkins, 2008; Scolari, 2013). This configuration rediscovers how audiences and the television industry conceive new serial productions, where the media industry defines strategies to broaden the storytelling, this time through by-products that enhance cultural memory, as Ricaurte-Quijano (2014) explained.

The second question, related to the identification of media intertextualities, ascertained a broad collective intelligence by the viewers. This fandom community, through social media such as YouTube, disclosed a large number of hidden references in the three seasons (1 227 in total out of the 90 references identified during the viewing of the three seasons). A significant summary that consolidates the basis for collective conception and competence in the face of media content (Genette, 1989).

According to the last specific objective, we could discern the outstanding ability of the fans to recognize a non-visible (audible) piece of Michael Jackson's "Thriller". As indicated above, a high percentage of the videos presented reactions that revealed, with surprise and satisfaction, the inclusion of this musical score. Gestures, choreographies and expressions highlighted how users are no strangers to cultural symbols, echoing, between the identification of intertextualities in the three seasons and these performances, a new current for the study of semiotic analysis in emerging media contexts. Such a new research trend beyond advertising (He & Shao, 2018), linguistic (Gorlée, 2020), or mass communication (Zhao, 2020) analysis from a semiotic perspective.

From these three insights, we could endorse the presence of a community phenomenon, collectively intelligent and heterogeneous, which is part of the most mediatized cultural productions nowadays: fiction series. We may also understand *Stranger Things* as a masterpiece

of media and intertextual storytelling. This is a concrete example of cultural convergence and media ecology based on nostalgic products (Butler, 2017), which is the basis of today's streaming television industry.

LIMITATIONS AND FUTURE RESEARCH INTERESTS

Despite the fact that the study introduces a unique case study, understanding the limited sample required to explore the transmedia intertextual phenomenon was necessary for the semiotic analysis in the media environment. This approach, however, has been supported by an interpretive-semiotic analysis, completed together with the perception of the fan community in social media.

In this sense, and given the limitations and conclusions derived, we propose the fundamentals of a phenomenon born in the streaming series for the monitoring of other international works. From a semiotic-media perspective, a proposal is formulated to broaden and deepen the new fandom strategies to link information collected in storytelling and audiovisual experiences from the perspective of collective-transmedia intelligence.

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