Understanding *danmu*: interaction, learning and multimodality in fan video comments

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Abstract

When watching television, many people use social media to share real-time opinions and feelings. The mediated co-viewing is widely studied under the name of "second screen" or "social TV". In Japan and China, a technology integrates social media—the comments section—into the video screen, creating an unprecedented form of participation called *danmu* or *danmaku* ("barrage"). This research aims to describe the characteristics of this emergent discursive genre. Using content and discourse analysis, we analyzed *danmu* from 1) a television series and 2) a thread of "funny *danmu*" from popular video sharing sites. The results revealed that users showed diverse interests (plot, language, culture), appropriated multimodal resources (color, position, symbols) to make fun, while constructing meaning using unconventional discursive strategies. The study indicates the potential of *danmu* as a space for informal learning, semiotic creativity, and (para)social interaction, and calls for future research into video sharing practices beyond YouTube.

Resumen

Cuando ven la televisión, muchas personas usan las redes sociales para compartir opiniones y emociones en tiempo real. La co-visualización mediada se estudia ampliamente bajo la denominación de “segunda pantalla” o “televisión social”. En Japón y China, una reciente tecnología permite incrustar las redes sociales (la sección de comentarios) dinámicamente en las secuencias del video, creando una forma de participación sin precedentes llamada *danmu* o *danmaku* (“barrera de fuego”). Este trabajo se propone describir las características de este género discurso emergente. Utilizando el análisis del contenido y del discurso, analizamos *danmu* de: 1) una serie de televisión, y 2) un hilo de “*danmu* graciosos” de sitios populares de repositorios de videos. Nuestros resultados revelan que los usuarios tienen diversos intereses (trama, lenguaje, cultura), se apropian de recursos multimodales (color, posición, símbolos) para hacer humor y construyen significados usando estrategias discursivas originales. Este estudio muestra el potencial del *danmu* como un espacio para el aprendizaje informal, la creatividad semiótica y la interacción (para)social, además de motivar futuras investigaciones sobre las prácticas de compartir videos más allá de YouTube.

Resum

Quan veuen la televisió, moltes persones fan servir les xarxes socials per compartir opinions i emocions en temps real. La covisualització mediada s'estudia àmpliament sota la denominació de "segona pantalla" o "televisió social". Al Japó i a la Xina, una tecnologia recent permet incrustar les xarxes socials (la secció de comentaris) dinàmicament a les seqüències de vídeo, creant una forma de participació sense precedents anomenada danmu o danmaku ("barrera de foc"). Aquest treball es proposa descriure les característiques d'aquest gènere discursiu emergent. Utilitzant l'anàlisi del contingut i del discurs, estudiem danmu de: 1) una sèrie de televisió, i 2) un fil de "danmu graciosos" de llocs populars de repositoris de vídeos. Els nostres resultats revelen que els usuaris tenen diversos interessos (trama, llenguatge, cultura), s'apropien dels recursos multimodals (color, posició, símbols) per fer humor i construeixen significats utilitzant estratègies discursives originals. Aquest estudi mostra el potencial del danmu com a espai per a l'aprenentatge informal, la creativitat semiòtica i la interacció (para)social, a més de motivar futures investigacions sobre les pràctiques de compartir vídeos més enllà de YouTube.

List of original publications

CHAPTER 2

Zhang, L. T., & Cassany, D. (2019). El fenómeno «danmu» y la participación mediática: Comprensión intercultural y aprendizaje de lenguas a través de «El Ministerio del Tiempo» [The "danmu" phenomenon and media participation: intercultural understanding and language learning through "The Ministry of Time"]. *Comunicar, 27*(58), 19-29. https://doi.org/10.3916/C58-2019-02

CHAPTER 3

Zhang, L. T., & Cassany, D. (2019). 'Is it always so fast?': Chinese perceptions of Spanish through *danmu* video comments. *Spanish in Context, 16*(2), 217–242. https://doi.org/10.1075/sic.00035.zha

CHAPTER 4

Zhang, L. T., & Cassany, D. (2019). 'The murderer is him ✓': multimodal humor in *danmu* video comments. *Internet Pragmatics, 3*(1). Advance online publication.
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CHAPTER 5

Zhang, L. T., & Cassany, D. (in press). Language play through multimodality: color, position, symbol, and shape in *danmu*-mediated communication. In G. Parodi (Ed.), *Multimodality: From corpus to cognition*. London, England: Bloomsbury.

CHAPTER 6

Zhang, L. T., & Cassany, D. (under review). Making sense of *danmu*: coherence in massive anonymous chats on Bilibili.com. *Discourse studies*.

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1. INTRODUCTION

1.1 Motivation

Being a fan I learnt a lot. In my childhood and adolescence, I was a fan of the Japanese *anime*. I consumed so many animated series that, when I first visited Japan with my family, I used basic Japanese to communicate with hotel receptionists. Both my parents and me were stunned. In 2013, I was a sophomore in Spanish Philology in Beijing. To improve my Spanish, I started watching *Gran Hotel*. I finished the first two seasons—subtitled by altruist Chinese fans—but the third season was yet to come. Impatient, I binge-watched the original third season and managed to make sense of most dialogues. A couple of months later, I landed at Barcelona-El Prat airport for the first time. Since then I have had little problem in understanding Spaniards' notoriously rapid speech. As a token of my gratitude, I paid a visit to the Palacio de Magdalena in Santander, where the series was shot.

It was during my master studies that I decided to take a serious look at being fans. I majored in Discourse Analysis, with a special focus on learning and communication. In a course called *Instrucció de Llengües*, given by my future supervisor, I came to know fan studies, affinity space and participatory culture. From there, I developed a master thesis on a subject with personal significance—fansubbing.

The research was ethnographic: I joined (after a test) and worked with a Chinese fansub group which subtitles Hispanic series and films.

Their cooperative-like organization and management skills (L. Zhang & Cassany, 2016) struck me, and their ingenious transcription and translation strategies (L. Zhang & Cassany, 2019b) made me ever more fascinated by the fan community.

Time passed and I was in my first year of PhD. Busy with turning my master thesis into journal articles, I did not have much time for the PhD research plan. One November night, after a long day of work, I opened the browser to watch a series to relax. I was following a popular series called *El Ministerio del Tiempo*, and had finished the first season downloaded from a fansub group's forum. Lazy to do it again for the second season, I searched online and was surprised to discover the series shared on a Chinese fan site—Bilibili.com—where I used to visit for fan-made videos of secret passions.

That night I was at the fourth episode of the second season, which features Napoleon in a Spanish convent. During dinner, the emperor became emotional about his wife Josefina, whose translation by fansubbers (约瑟芬; *yuesefen*) sounds like a man. Several comments immediately emerged on the screen (a special commentary system on Bilibili, see Figure 1): 1. "*Yuesefen*, the translator doesn't know the history very well." 2. "Queen *Yuesefen*……" 3. "*Yuesefen* is a French name, which in Spanish seems to be written as *Josefina*, transliterated as *Hesaifeina*."

Figure 1. Screenshot of *El Ministerio del Tiempo*, S02E04 on Bilibili

I was intrigued. I did not pay much attention to the comments—people seemed less expressive well into the second season—but my instinct told me what I just saw was something more than a trivia fact. I localized the first season on Bilibili and began rewatching the very first episode. As I perused the flying texts on the screen (known as *danmu*), I realized the breadth and depth of the discussions on details otherwise easily ignored. Anonymous commenters were outspoken in criticizing the amateur translation, but also in remarking on the society, culture and customs shown in the series. Thanks to their participation, the series was fun and engaging, even when nothing relevant happens. In comparison, my old way of downloading and swallowing the whole series seemed somehow boring and lonely.

Rather than looking for a thesis topic, I believe that in my case the topic came to find me. In the next meeting with Daniel, I showed him some screenshots and contextualized the practice. Since then we had

made every effort to comprehend *danmu*, its usage, function and potentiality. In the following thesis, we will explain how we navigated through different disciplines and brought together several emergent research focuses, but being a fan is the beginning of everything.

Luckily, being a fan I was not alone. Within the research group I met passionate and professional researchers interested in multilingual fandoms. We applied New Literacy Studies—a less common approach in fan studies—and documented creative ways of learning through fansubbing, fandubbing, video games, fanfiction and scanlation (scan and translate *manga*). I also expanded my research to Spanish fansubbers and fandubbers. Our main research output is listed below:

1. We concluded the DEFANDOM project (*Fandom in the Spanish Youth*, 2016-2018, funded by Centro Reina Sofía sobre Adolescencia y Juventud) and published the final report online (Cassany et al., 2019).
2. We contributed to the competitive project ICUDEL (*Digital Identities and Cultures in Language Education*, 2015-2017, funded by Ministerio de Economía y Competitividad), and are currently working on the project FORVID (*Video as a language learning format in and outside schools*, 2019-2021, funded by Ministerio de Ciencia, Innovación y Universidades).
3. We published an article in a competitive journal (Vazquez-Calvo, Zhang, Pascual, & Cassany, 2019) and two book

chapters (Cassany, Vazquez-Calvo, Shafirova, & Zhang, in press, Vazquez-Calvo, Shafirova, Zhang, & Cassany, 2019).

The above projects offered me incomparable training and learning opportunities. Through working with senior researchers and excellent peers, I learnt to move beyond the border of linguistics, to incorporate interdisciplinary and up-to-date theories and methodologies, and to design and conduct research in a gender-sensitive and ethical way. All the gains in parallel enriched my PhD investigation.

1.2 Research background

1.2.1 A brief history of danmu

Towards the end of 2006, a Japanese video sharing service called Nico Nico Douga ("Smiley Smiley Video", abbreviated as "Niconico" or "Nicodou") went online. In just over a year, Niconico became "the fifth-biggest online time-suck in Japan, with users spending more than 12 million hours on the site each month (Katayama, 2008)". In 2014, its owner Dwango merged with one of Japan's leading media company Kadokawa. Today Niconico is the most visited native video portal in Japan, owning more than 75 million registered users (Kadokawa, 2019).

Two factors, among others, accounted for its success. First, Niconico plays an important role in the *otaku* culture in Japan, i.e. the fandom

around *manga* (comic), *anime* and games. A large amount of user-generated contents—known as *doujin*—constitute the foundation of the website. Most *doujin* are based on existing works, however, some fan works are so popular that they become the new "original", inspiring other amateur creators whose works could again become "originals" for future copies. This phenomena is known as "N-level creations" (Hamano, 2008; Nakajima, 2019), where some successful "originals" (e.g., songs of the virtual idol Hatsune Miku; Yamada, 2017) are officially recognized and used for commercial purposes.

The second factor and the most defining and innovative feature of Niconico is, without doubt, its commenting system. Unlike YouTube, where viewers' comments belong to a designated area below the video, the コメント or *komento* ("comments") on Niconico are embedded in the video and superimposed on the video frame, scrolling across the screen from right to left. Tomohito Kinose, a board member from Niwango (the subsidiary of Dwango that created Niconico), explained why Niconico is so appealing for Japanese users:

> "In American movie theaters, everyone laughs out loud when they're excited, […] You never see that in Japan — you'd probably get punched if you made a sound. But if there were a keyboard next to each movie seat that made comments show up onscreen, people would be typing like crazy (Katayama, 2008)."

In some cases, the video triggers so many comments that render the screen temporally invisible (on the left of Figure 2). Japanese users call this phenomenon 弾幕 or *danmaku*, a military term meaning

“bullet curtain” or “barrage” (“a concentrated artillery bombardment over a wide area”; *New Oxford American Dictionary*). In the *otaku* culture, *danmaku* also refers to a genre of shooting games (known as “bullet hell”) characterized by a high density of enemy fire (on the right of Figure 2).

Figure 2. Screenshot of a Niconico video with *danmaku* (left) and a *danmaku* game (right)

In Spring of 2008, a newly-created Chinese video sharing site called AcFun (an abbreviation of anime, comic and fun) first imitated Niconico’s commentary system. AcFun quickly attracted many enthusiasts of Japanese anime, comic, game and light novel (referred to as ACGN among Chinese). AcFun also introduced many *doujin* practices and related terminology from Niconico, e.g., *uploader* for content creator and sharer, and 弹幕 or *danmu* for *danmaku*—which now refers to both the general commentary system and each comment. However, frequent server problems and a lack of proper operation also made AcFun vulnerable to criticism.

In June of 2009, a devoted fan and uploader from AcFun, named Yi Xu, created Mikufans, which in his words would be the "backyard garden" of AcFun. Nevertheless, as history proves, Mikufans—which was later renamed Bilibili (from a popular anime character nicknamed as Biri-Biri)—became the most successful *danmu*-themed video sharing site in China. In 2018, Bilibili made its debut on the Nasdaq Stock Market, with around ninety million visitors per month (Bilibili, 2019), mostly aged under 30 (R. Chen, 2018). In contrast, AcFun was once forced to close in 2018 and now acquired by the video sharing app Kuaishou, the main competitor of TikTok.

As *danmu* gained popularity in China, many platforms incorporated the overlaid-comments function to their services. The pioneers were audiovisual content providers, including mainstream video sharing sites (So, 2017), video streaming sites (Figure 3; Xinru Chen & Chen 2019; G. Zhang, 2019; J. Zhou, Zhou, Ding, & Wang, 2019) and movie theatres (Figure 4; Dwyer, 2017a). Recently, some mobile apps also allow users to insert *danmu* while listening to audiobooks (*Ximalaya*), reading comic (*Kuaikanmanhua*) or viewing short news videos (*Toutiao*).

Finally, online education is another promising industry for *danmu* implementation. Students benefit from watching lectures on Bilibili (Lin, Huang, & Cordie, 2018), engaging in time-line anchored discussions (inspired in *danmu*) in Massive Open Online Courses (MOOCs) (Yue Chen, Gao, Yuan, & Tang, 2019), and interacting with teachers in class through Rain Classroom, a teaching tool developed by Tsinghua University (Wang, 2017).

Figure 3. Danmu-enabled live streaming videos on Xiongmao (top-right) and Kuaishou (bottom-right), in comparison to Western platforms like Twitch.tv (top-left) and Facebook Live (bottom-left), where comments are left out of the screen (Xinru Chen, & Chen, 2019, p. 3).

Figure 4. *Danmu* screening of Tiny Times (2014) with the audience texting comments through their mobile phones (Dwyer, 2017b)

Why is *danmu* not popular in the Western world? Or rather, what elements in Chinese and Japanese cultures possibly fostered the unique commenting style? The linguistic and aesthetic differences may provide some insights. Chinese characters—also extensively used in Japanese—are logograms, while the Latin alphabet consists of phonograms. A logogram represents a word or a phrase, while a

phonogram represents a speech sound. According to previous research (Lü & Zhang, 1999; Tan, Spinks, Eden, Perfetti, & Siok, 2005), logograph writing is more visual, efficient in communication, and favors rapid reading comprehension. As each *danmu* comment stays on the screen only ephemerally, skimming and scanning are crucial techniques to enjoy *danmu*.

Grammatically, Mandarin Chinese also differs from European languages in the lack of inflection. Chinese speakers do not conjugate verbs (certain particles are used to mark tenses and aspects) or follow subject-verb agreement. Reading in Chinese is more inferential, while grammatical cohesion is substituted by context or pragmatics coherence (see Chapter 6). Applying these features to *danmu*, we may understand why the superimposed text on the video image adapts to Chinese users' communication habit.

In terms of aesthetics, Xu (2016) evoked the parallelism between *danmu* and *tihuashi* (a traditional Chinese art of inscribing poems onto paintings as commentary) or scroll painting (where the viewer's perspective shifts as the scroll is unfolded). Similarly, Xiqing Zheng (2016, p. 330) recalled the pre-modern practice of Chinese literati annotating Confucian canon and classic texts (the "collection of comments" is published with notes and comments from different commentators along original lines).

Analyzing Niconico, Bachmann (2008b) compared the comments to Japanese television, where programs are overlaid with edited texts, a trend popularized since the 1980s. Moreover, Bachmann

(2008a) and Nozawa (2012) noted the implicit norm of anonymity in Japanese online communication, from 2channel to Niconico. In contrast, Western platforms (Google, YouTube and Amazon) prefer transparency and full-screen aesthetics (Steinburg, 2017, p. 105). Thus, Western audience may find the intrusion of *danmu* on the screen "disturbing and unwelcomed", while its multilingual content (e.g., on YouTube) "hard to understand and separate (Jung, 2018)".

1.2.2 Danmu as a research subject

Recent years witnessed an exponential growth of *danmu* research. When I drafted my PhD research plan in early 2017, my references on *danmu* were mostly written in Chinese, especially master theses addressing *danmu* as a youth subculture (J. Yao, 2016; J. Wu, 2016; Y. Zhou, 2015). However, as of early 2020, I already collected more *danmu* studies (journal articles, book chapters, PhD theses) published in the past three years than all those published before 2017. Scholars from different disciplines (information studies, cultural and media studies, linguistics) all demonstrated interest towards *danmu*. An increasing amount of studies are also being published in English.

Due to the nature of this thesis (a thesis by publication), not all related research was included in time or described with detail in the articles (e.g., Yang, 2019, 2020; Pérez-González, 2019; see Chapter 7). Nevertheless, *danmu* has undoubtedly raised strong interest among academics. What follows is a personal account of the most relevant

studies, categorized into two main research focuses. The aim is to help the reader form a preliminary understanding of the *danmu* genre and its characteristics.

The first research focus is users' participation and motivation. The Japanese sociologist Hamano Satoshi was among the first and few to study Nico Nico Douga as early as 2008. He theorized participation on Niconico as "pseudo-synchronous" (擬似同期; *giji dōki*). The concept of pseudo-synchronicity was introduced in English by Johnson (2013) and became a key concept for posterior research (Li, 2017; X. Zheng, 2016).

To explain this concept, first we need to make clear that *danmu* comments are actually asynchronous. However, the interface creates an illusion that comments were sent in real-time. The following scenario helps illustrate the paradox:

On January 1st, 2019, user A sent a *danmu* comment saying "haha" while watching a comedy show. The text appears instantly, at 1m 10s of the video, and travels left across the screen within three seconds. The text is locked to this time frame, so that all subsequent viewers will see this message between 1m 10s and 1m 13s.

User B, who viewed the video a month later, responded to "haha" saying "not so funny". User C, who viewed the video a year later, also responded "why?". The last two comments follow closely the

earliest comment (Figure 5). With the real sending time and authorship hidden, the conversation seems simultaneous.

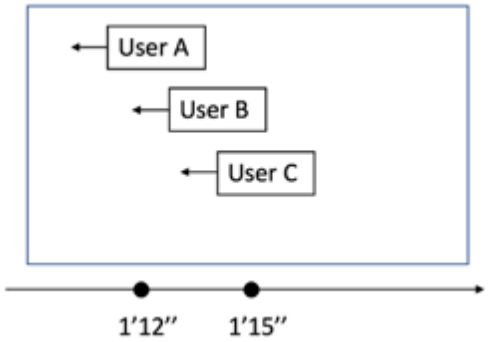

Figure 5. Pseudo-synchronous conversation in *danmu*

The pseudo-synchronous and anonymous environment provides unprecedented opportunities for participation. Synced to the video's timeline, *danmu* comments allow users to share instant reactions and interpretations. The "virtual liveness" is like a concert or festival distributed on social media, which can always be re-experienced after the fact (Johnson, 2013, p. 301). Since comments are constantly being updated by others, users are willing to revisit the video. The popular claim is that *danmu* are much more interesting than the video itself: "When you watch the movies, you will cry; but when you watch with *danmu*, you will laugh to death." "Without *danmu*, one movie; With *danmu*, another movie (So, 2017, p. 48)."

Meanwhile, media researchers have gathered empirical data (surveys, interviews, focus group) to reveal users' motivations for watching *danmu* videos (W. Chen, 2015; Yue Chen et al., 2017; Guo,

2015; Xie, He, & Feng, 2014). Based on the Uses and Gratifications Theory, Yue Chen et al. (2017) found *danmu* videos satisfy audience's: 1) utilitarian needs, including learning and seeking information; 2) hedonic needs, including entertainment, passing time, escaping from reality and relaxation; and 3) social needs, including seeking company, belonging to a community and the need of self-expression.

The second research focus is the *danmu* community and its distinctive practices. Yi Chen, Cao and Wang (2013) coined the term 弹幕族 (*danmuzu*, "the *danmu* clan") to describe active uploaders or heavy consumers of *danmu* videos. The authors distinguished two levels in the *danmu* clan. First, to become a member of the clan, the user has to understand and use appropriately a subcultural jargon, which would be indecipherable for outsiders (Yi Zhang, 2017). Moreover, to earn recognition in the clan, the user needs to assume the role of an uploader that curates, shares or creates fandom-related content (less popular series/movies, funny videos, remix, spoofs). Successful *danmu* videos can make the uploader an "influencer" among fans.

Niconico and Bilibili are the most representative fields to localize the *danmu* clan (Xiyuan Chen, 2014; Johnson 2013; Nakajima, 2019; X. Zheng, 2016). On Niconico, users developed a sophisticated language style of spoken and informal registers, filled with abbreviations, slang, and linguistic play of orthography and typography. On Bilibili, users cannot create *danmu* until having

passed a membership exam to “level up” (Figure 6). The exam tests not only knowledge on popular fandoms, but also specialized vocabulary, practices and etiquette. By controlling the access to the *danmu* community, Bilibili further marks the distinction between members and outsiders.

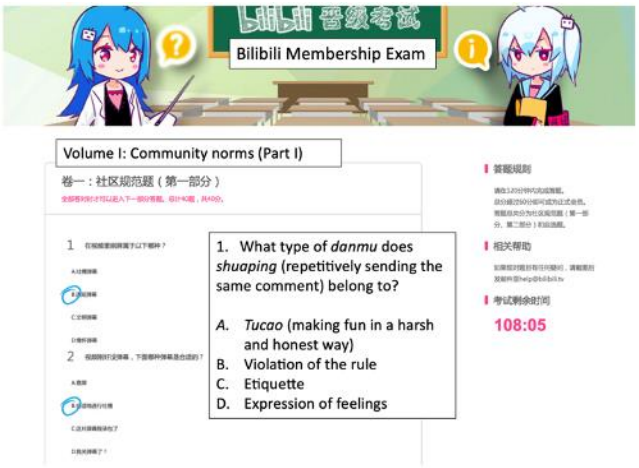

Figure 6. Annotated screenshot of the exam on Bilibili (accessed May 24, 2018)

Finally, as Bilibili extends its services to the general audience (live broadcasting, mobile games) and diversifies its content, the platform shows potential to become an (alternative) public space (Z. Chen, 2018; Gu, 2017; Yin & Fung, 2017; Zhu, 2017; Q. Wu, Sang, Zhang, & Huang, 2018). On one hand, anonymous participants feel safe to debate topics normally silenced or stereotyped in society. On the other hand, official politics (e.g., the Communist Youth League of China) joined Bilibili and adopted *danmu* videos to interact with fans. Additionally, since January of 2019, all *danmu* are censored in real-

time to ensure a healthy environment (China Netcasting Service Association, 2019).

1.3 Research questions and chapters overview

This investigation raises the following general research questions:

RQ1: What do *danmu* users talk about?

RQ2: How do *danmu* users appropriate technological affordances?

RQ3: How do *danmu* users construct meaning?

The research questions emerged alongside a personal journey of discovery of *danmu*. First of all, in line with my research on fansubbing (Vazquez-Calvo et al., 2019; L. Zhang, 2016; L. Zhang & Cassany, 2016, 2019b), I adopted a sociocultural and ethnographic view of the *danmu* clan and its language use. Using my account on Bilibili—registered in 2015 for passive viewing only—I took the entrance exam and became a member in February, 2017. I practiced sending *danmu* and uploaded videos unrelated to this research. Although I did not conduct a systematic observation of Bilibili, I followed closely the platform (updates, politics, featured content) and news about *danmu* on Chinese social media (Weibo, Wechat and Zhihu).

In the first stage of investigation (2017–2018), I was interested in the most evident aspect of *danmu*—the content (RQ1). Relating to my previous research interest, i.e. fan culture and informal learning, I framed RQ1 in a popular Spanish television series (*El Ministerio del Tiempo*, MdT) on Bilibili. Until then, few studies had looked into *danmu* videos in languages other than Chinese, English or Japanese. Most scholars were also unconcerned with *danmu* discussions related to foreign language and culture. To fill this gap, the first two articles (Chapter 2 and 3) adopted a sociolinguistic and intercultural focus, revealing reactions of the Chinese "ministéricos" (MdT fans) and their discussions towards the media representation of Spain.

In the second stage of investigation (2018–2019), I extended my PhD research plan and delved further into the *danmu* interface (RQ2). As an ethnographer, I was often impressed with *danmu* that creatively played with the system affordances (color, position). Some scholars noted the semiotic creativity on Niconico (Johnson, 2013; Nozawa, 2012) and Bilibili (Gu, 2017; Yi Zhang, 2017). However, no studies had yet systematically documented the affordances of the technology across *danmu*-enabled platforms. To this end, the third and fourth articles (Chapter 4 and 5) analyzed the most creative and funny *danmu* selected by users, showcasing the meaning making potential of the interface.

Finally, in the third stage of investigation (2019–2020), I made my way to the most difficult and essential aspect of *danmu*—the construction of meaning (RQ3). It had long been a mystery if and how people managed to understand each other in *danmu*-mediated

interaction. The environment does not seem to facilitate sustained interaction (no authorship, frequent updates, animated texts). Nevertheless, as findings from the first two stages suggested, users actively engaged in diverse discussions and made fun with multimodal resources. To comprehend this process, the fifth article (Chapter 6) set out to explore the discursive procedures to construct meaning in *danmu*.

1.4 Terminology

Throughout literature, scholars have adopted different terms to introduce the novel commentary system into English. The terminological differences are not conflictive, however, they do pose certain difficulty when searching for related research. Generally speaking, there are four strategies of naming:

1. *Using the Japanese term danmaku* (e.g., Yue Chen et al., 2017; Li, 2017). Initially referring to an overwhelming wave of comments on Niconico (see Chapter 1.2.1), *danmaku* has extended its meaning, with the arrival of the technology in China, to describe the comments in general. Under this premise, although focusing on Chinese video sharing sites, many scholars adopted *danmaku* "to acknowledge the origin of this feature (Yang, 2019, p. 3)."
2. *Using the Chinese term danmu* (e.g., Hsiao, 2015; Pérez-González, 2019; Xu, 2016). *Danmu*, as written in pinyin, is

extensively used in China as both an adjective ("*danmu* comments", "*danmu* video sharing sites", "*danmu* films") and a noun ("send *danmu*").

3. *Translating to English*, including "barrage subtitles (e.g., Nakajima, 2019; X. Zheng, 2016)" or "bullet comments/screens (e.g., Cao, 2019; Dwyer, 2017a)". The translation can also appear as an alternative for *danmaku* or *danmu*.
4. *Coining a term*, such as "collaborative video annotation (Howard, 2012)" or "time-sync comments (Lv, Xu, Chen, Liu, & Zheng, 2016)". This strategy is most common in information studies concerning the application of the technology for commercial or educational purposes.

Different from my initial PhD research plan—which adopted *danmaku*—the current investigation has consistently adopted *danmu*. The terminological change was due to both semantic and social reasons. First, a careful review of literature gave me more insights into the semantic development of *danmaku*. While the meaning expanded in Chinese—under the term *danmu*—, *danmaku* is not generalized in Japanese and inapplicable to a commenting culture outside Niconico (Johnson, 2013; Steinberg, 2017). Therefore, *danmaku* would seem foreign to both Chinese readership and most Japanese readership (except for *otakus* or Niconico fans).

Second, as I began collecting data on Bilibili, I realized the magnitude and particularities of *danmu* practices in China, as

introduced previously. As recognition of the context and language of the study, *danmu* is a more appropriate choice.

As to translations of *danmu*, I consider "bullet comments" more accurate than "barrage subtitles", because: 1) "subtitles" relate to another active area of research (audiovisual translation); and 2) not all comments can lead to a barrage effect. Nevertheless, I would prefer to use "bullet comments" as a complementary explanation (as well as terms coined by information scientists), while keeping *danmu* as a keyword to facilitate the search for relevant literature.

Zhang, L. T., & Cassany, D. (2019). El fenómeno «danmu» y la participación mediática: Comprensión intercultural y aprendizaje de lenguas a través de «El Ministerio del Tiempo» [The "danmu" phenomenon and media participation: intercultural understanding and language learning through "The Ministry of Time"]. *Comunicar*, *27*(58), 19-29. https://doi.org/10.3916/C58-2019-02 (SSCI Q1; Scopus Q1)

We published the first article in the special issue *Aprendizaje y medios digitales. Formas emergentes de participación y transformación social* [Digital media and learning. Emergent forms of participation and social transformation]. We came to know the journal *Comunicar* through a colleague's work (Torrego González & Gutiérrez Martín, 2016) and saw the call for papers that matched our research interests. Our manuscript was evaluated by seven reviewers whose average score was 39 out of 50. According to the editor, only 5.58% of all received manuscripts (251) were accepted. We attended to all their requirements (propose a new title, demonstrate reliability of the coding, clarify culture-specific analysis), and soon received the final acceptance. A table of the publication process follows:

First submission	2018-05-13
Response	2018-08-02 Accepted with minor revisions
Second submission	2018-08-20
Preprint	2018-11-15
Final Publication	2019-01-01
Citation (Google Scholar)	13 (accessed 21/04/2020)

Table 1. Publication process

Finally, since we wrote the article in Spanish, the journal—which uses a bilingual format—recommended a Spanish translator to us. She translated the manuscript into English with our verification.

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El fenómeno «danmu» y la participación mediática: Comprensión intercultural y aprendizaje de lenguas a través de «El Ministerio del Tiempo»

The 'danmu' phenomenon and media participation: Intercultural understanding and language learning through 'The Ministry of Time'

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RESUMEN

Mientras la investigación sobre las plataformas multimedia occidentales, como YouTube, es prolífica e interdisciplinaria, los portales asiáticos siguen siendo desconocidos. El presente trabajo explora este campo analizando los usos juveniles e interculturales de un sistema de visualización popular en Japón y China, conocido como «danmaku» o «danmu». Esta tecnología inserta comentarios dinámicos y contextualizados sobre un fotograma, con varias posibilidades tipográficas. Partiendo de un corpus de 1.590 comentarios sobre «El Ministerio del Tiempo», recogidos de una plataforma de «fandom» con millones de seguidores, este artículo analiza los temas que despiertan más interés entre los fans chinos. El análisis de contenido, que incorpora técnicas de «coding and counting» de las categorías con más intervenciones (n>16), se combina con un análisis del discurso multimodal (serie de TV, plataforma asiática y comentarios de usuarios). Los resultados muestran que los espectadores se interesan por el género cinematográfico (viaje del tiempo), los personajes, la trama, determinados contenidos socioculturales y la lengua española. Sus discusiones abordan cuestiones de interculturalidad, algunas cuestiones que son tabú en China y la cultura «fandom» en Asia. El estudio ilustra las potencialidades de participación, comunicación y aprendizaje en las redes sociales asiáticas, y supone una aportación interesante e innovadora al campo de la alfabetización mediática y digital, con varias sugerencias para fomentar la competencia intercultural con el uso de la cultura popular.

ABSTRACT

While research on Western multimedia platforms, such as YouTube, is prolific and interdisciplinary, Asian portals remain unknown. We explore this field by analyzing the juvenile and intercultural uses of a popular visualization system in Japan and China, known as "danmaku" or "danmu". This technology inserts dynamic and contextualized comments on a photogram, with several typographical possibilities. Based on a corpus of 1,590 comments on "The Ministry of Time," collected from a fandom platform with millions of users, we analyzed the topics that arouse the most interest among Chinese fans. We combine content analysis, which incorporates coding and counting techniques of the categories with the most interventions (n>16), with multimodal discourse analysis (TV series, Asian platform and user comments). Results show that the viewers are most interested in the film genre (time travel), the characters, the plot, certain sociocultural contents, and the Spanish language. Their discussions address issues of interculturality, some topics that are taboo in China and the fandom culture in Asia. Our study illustrates the potential of participation, communication, and learning in Asian social media, and constitutes an interesting and innovative contribution to the field of media and digital literacy, with various suggestions to promote intercultural competence with the use of popular culture.

PALABRAS CLAVE | KEYWORDS

Redes sociales, medios audiovisuales, audiencia, cultura participativa, construcción de conocimiento, interculturalidad, aprendizaje informal, análisis de discurso.

Social networks, audiovisual media, audience, participatory culture, knowledge building, interculturality, informal learning, discourse analysis.

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1. Introducción

1.1. «Danmu / danmaku» y la cultura participativa

Mientras la audiencia occidental accede a una creciente producción de vídeo con YouTube, en Asia Oriental está emergiendo otra manera de visualizar contenido, denominada «danmu», que utiliza un sistema de anotación colaborativa de vídeos (Howard, 2012). Esta tecnología permite que los espectadores publiquen comentarios sobre fotogramas determinados, en una barra de texto que recorre la pantalla de derecha a izquierda (Figura 1). Cada comentario se sincroniza y graba con la imagen para visualizaciones posteriores, de modo que un usuario puede leer y responder los comentarios previos, conformando un tipo de chat contextualizado en el propio fotograma. Así las audiencias pueden ver sus vídeos favoritos mientras leen, escriben e intercambian sus opiniones en una misma pantalla, en un chat instantáneo, contextualizado y dinámico.

Se lanzó por primera vez esta tecnología en 2007 en Nico Douga (que significa «Smiley Video»), una plataforma audiovisual japonesa popular entre los otakus (fans del anime y manga). Se adoptó el término militar «弹幕» («danmaku»: cortina de fuego) para denominarla creativamente, porque a veces un número excesivo de comentarios cubre la pantalla hasta impedir verla con facilidad (Figura 1). Después de llegar a China en 2008, el término «danmu» (traducción del original japonés) se ha popularizado para referirse al sistema y a cada comentario. Actualmente casi todos los portales de vídeo en China han incorporado esta aplicación; incluso los cines transmiten en la pantalla grande vía wifi los comentarios enviados desde los móviles de los espectadores. La afición por esta tecnología es tan grande que muchos usuarios prefieren ver los vídeos con danmu en vez de la visualización tradicional, sin danmu (Chen, Gao, & Rau, 2017).

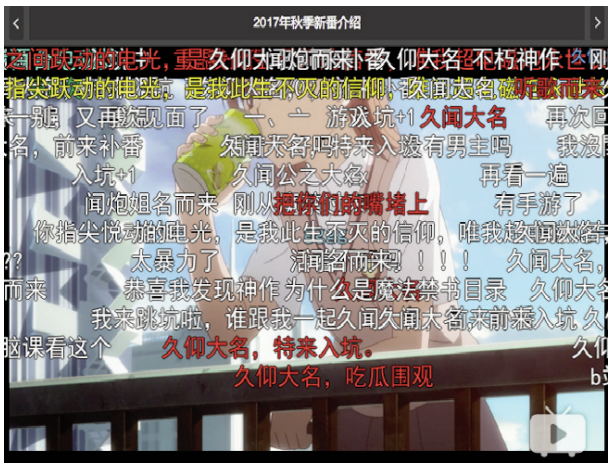


Figura 1. Fotograma de anime con danmu.

Danmu constituye un ejemplo novedoso e ilustrativo de la cultura participativa (Jenkins, 2006), en la que los jóvenes asumen un rol proactivo reescribiendo y transformando el producto audiovisual de manera pública, creativa y poderosa. Los comentarios tienen varias funciones: 1) Acompañar al espectador para que tenga una sensación «pseudo-sincrónica» (Johnson, 2013) de estar interactuando en tiempo real con otros fans; 2) Aportar información sobre el contenido del vídeo (ejemplo: nombre de la música de fondo y de los actores, antecedentes históricos, etc.); 3) Entretener con mensajes humorísticos, como quejas, parodias y correcciones (Hsiao, 2015); y 4) expresar las opiniones juveniles con la creación de contenido subcultural que contribuye una auténtica subcultura de resistencia y confrontación al «mainstream» (Zheng, 2016). En el contexto chino, se ha analizado la novedad que supone el danmu respecto a los medios de comunicación tradicionales (Zhang, Chang, & Chen, 2014) y se ha descrito el surgimiento de «la comunidad danmu». En este contexto, destacan los estudios para comprenderla desde la perspectiva subcultural (Chen, Cao, & Wang, 2013), la gamificación (Xie, He, & Feng, 2014) o la interacción para-social (Ma & Ge, 2014).

Finalmente, recordemos que en las plataformas de danmu coexiste otra práctica de la cultura colaborativa: los subtituladores amateurs o «fansubbers», que traducen y suben las series de televisión y películas al sitio web (Zhang & Cassany, 2016). Así, los fans chinos leen y publican danmu sobre fotogramas a los que previamente otro grupo de fans han añadido subtítulos y traducciones amateurs (ver subtítulos bilingües en figuras 3-5). Gee (2005) denomina estas afiliaciones «espacios de afinidad», porque permiten a los usuarios conectarse, interactuar y compartir su contenido en una comunidad de aprendizaje informal, autogestionada y multimodal (Jenkins, Clinton, Purushotma, Robison, & Weigel, 2009). Varios estudios recientes confirman el potencial que tiene la subtitulación amateur («fansubbing») para el aprendizaje lingüístico y la formación de traductores profesionales (Orrego-Carmona, 2014), pero todavía no hay investigación sobre el potencial de aprendizaje de la práctica interactiva con danmu. En este artículo abordamos este asunto con un estudio sobre los danmu publicados por jóvenes seguidores chinos de «El Ministerio del Tiempo», serie española subtitulada por «fansubbers» y difundida en una de las plataformas más visitadas de danmu en China.

1.2. «El Ministerio del Tiempo» y los «ministéricos»

«El Ministerio del Tiempo» («MdT» en adelante), de Pablo y Javier Olivares (Televisión Española, 2015-2017) es una serie de ciencia ficción que narra los viajes en el tiempo de varios funcionarios españoles con el fin de preservar la historia. Ha tenido un gran éxito de crítica, hasta considerarla la mejor serie española de la historia («El País», 2017), y ha conseguido crear la primera «fanbase» española con un nivel de desarrollo equivalente al de otras ficciones internacionales (Torregrosa-Carmona & Rodríguez-Gómez, 2017).

Según Rey (2015), esta serie constituye un ítem cultural y un fenómeno social, más allá de un simple producto audiovisual. Propone un género original (el viaje en el tiempo) que facilita las ucronías o historias alternativas, con tramas creativas (Rueda-Laffond & Coronado-Ruiz, 2016) y frecuentes referencias culturales e históricas, además de guiños de complicidad dirigidos al público culto. Sin embargo, estos autores también observan que mientras las tramas representan y refuerzan la identidad nacional española, se limitan a convocar imaginarios tradicionales (Las Meninas, El Acueducto de Segovia, etc.) y figuras académicas (Lope de Vega, Lazarillo, Lorca, etc.), con una visión simplificada, idealizada y conservadora del pasado.

> El artículo aborda dos cuestiones actuales y sin investigación previa: 1) Las posibilidades formativas de la tecnología «danmu» / «danmaku» (desconocida en Europa), que permite comentar y compartir una serie escribiendo y leyendo de manera dinámica en los mismos fotogramas; 2) La recepción que hacen los fans chinos de «El Ministerio del Tiempo», en una plataforma de «fandom» con millones de seguidores, bajo la censura oficial y con el propósito de aprender lengua y cultura españolas.

Por otro lado, los «ministéricos» o fans de la serie son los protagonistas reales del impacto social que ha tenido la misma en varios espacios físicos y digitales (Scolari & Estables, 2017). Las comunidades de fans organizaron «quedadas ministéricas» en los escenarios de rodaje, publicaron numerosos «fan works» («fanfic», «fanart», «gif», etc.) y crearon varias narrativas transmedia (Berlanga, Arjona, & Merino, 2018; Jenkins, 2003) para expandir y complementar la producción oficial; incluso lanzaron campañas para conseguir que se renovara la serie. Según Estables y Guerrero-Pico (2017), muchos fans no castellanoparlantes se convirtieron en «ministéricos» para aprender el idioma y para seguir sus atractivas narrativas de viajes en el tiempo. La principal manifestación de los fans ocurre en Twitter durante la emisión de algunos capítulos, con más de 50.000 tuits y varios «hashtags» entre los «trending topics» del momento (Torregrosa-Carmona & Rodríguez-Gómez, 2017).

Muchos espectadores usaron una segunda pantalla (móvil, tablet o portátil) para compartir sus emociones y opiniones sobre lo que estaban viendo, dando lugar a la emergencia de una «televisión social», que enriquece la experiencia audiovisual con la ayuda de redes sociales (Rodríguez-Mateos & Hernández-Pérez, 2015).

Esta repercusión social coincide con nuestro interés por investigar la recepción de esta serie en China, donde el hispanismo se está desarrollando con fuerza (Lu, 2008) con una cifra creciente de jóvenes aprendices de español. En este marco audiovisual y dentro de los estudios sobre cultura participativa y «fandom», nos formulamos dos preguntas de investigación:

1) Qué cuestiones (conocimientos, actitudes y prácticas) despiertan mayor interés entre los «ministéricos» chinos y por qué interesan.

2) Cómo utilizan los fans chinos las potencialidades de la tecnología danmu para aprender sobre lengua y cultura española.

Creemos que «MdT» representa un caso ideal de estudio, puesto que: 1) Triunfa en el «fandom» internacional con los universos transmediáticos; 2) Evoca reacciones sobre la representación mediática de un país lejano lingüística y socioculturalmente; 3) Sirve de material didáctico en la enseñanza literaria (Ruiz-Bañuls & Gómez-Trigueros, 2017) e interdisciplinar (Rovira-Collado, Llorens-García, & Fernández-Tarí, 2016).

2. Material y métodos

2.1. Contexto

Los datos analizados provienen de Bilibili.com, una plataforma china creada en 2009 e inspirada en el prototipo japonés de comentarios (Figura 2). Cualquiera puede acceder a la misma y ver contenidos, pero para publicar danmu hay que superar un test de 100 preguntas sobre «fandom» y normas de ciberetiqueta (evitar anuncios, spoilers, ataques personales). Bilibili ofrece anime, comic y videojuego, además de series y programas de televisión, películas, videoclips de música y moda. También facilita la interacción entre sus miembros y promueve que los fans muestren su talento haciendo «fan art», editando «fan videos» o jugando a los juegos. En marzo de 2017 había 100 millones de miembros activos, con un 75% de menores de 25 años (https://bit.ly/2xMpAyy).

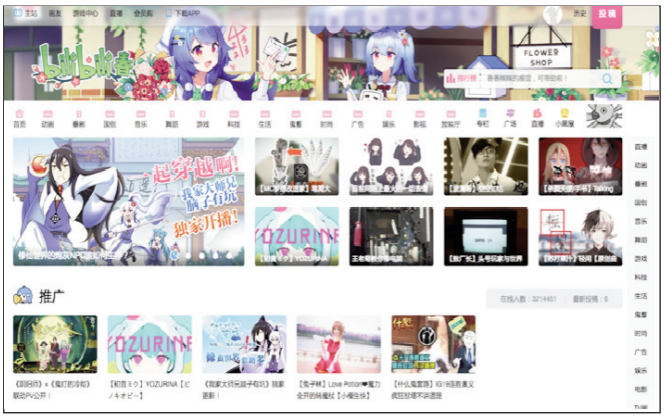


Figura 2. Página principal de Bilibili.

La figura 3 muestra el entorno interactivo que ofrece Bilibili a sus usuarios. Incluye un reproductor multimedia, con un espacio textual debajo y un panel de control multifuncional. Los espectadores pueden saber cuántas personas están viendo el vídeo en tiempo real, el historial de mensajes (columna derecha) o los danmu publicados, pero estos son siempre anónimos. También pueden personalizar su experiencia de visualización, ajustando la cantidad, la transparencia y la velocidad de los mensajes, filtrándolos según palabra clave, u ocultándolos para reducir la distracción visual. También hay una sección separada de comentarios, con mucha menos participación (Wu, Sang, Zhang, & Huang, 2018), que no hemos considerado.

Figura 3. Fansub de «El Ministerio del Tiempo» en Bilibili.

2.2. Corpus

Usando etiquetas como «español» y «series de televisión», hallamos los productos hispanos de Bilibili, como «Ángel o Demonio», «El Tiempo entre costuras» o «Isabel», entre otros. El más popular quizás sea «Gran Hotel», con casi un millón de visualizaciones. Para «MdT» hallamos las dos primeras temporadas, además del programa de making of «Los Archivos del Ministerio», tráileres, entrevistas a actores, etc. Todos los contenidos son «fansub»; ejemplo: subtitulados por fans; incluso hallamos dos versiones paralelas de la serie, producidas por distintas comunidades de fansub. Ambas incorporan subtítulos en formato bilingüe chino y español e incorporan decenas de miles de danmu.

Para nuestro análisis, elegimos el episodio piloto de 70 minutos, estrenado en España en febrero de 2015 y subido a Bilibili en septiembre del mismo año. Es una muestra representativa, dado que el capítulo 1º suele atraer a una audiencia superior y más heterogénea, más allá del mundo hispánico. Pese a que surgieron posteriormente otras ocho publicaciones del mismo capítulo, con diferente traducción y resolución (alta o baja) y alrededor de 1.000 danmu para cada uno, nuestro estudio se centró en la primera publicación, que es la que contiene más danmu (1.590).

Recogimos los danmu de esta publicación poco después del 15-7-2017, cuando se cerraron oficialmente los contenidos extranjeros en Bilibili por causa de la censura política china. Recuperamos los comentarios en los códigos fuente de la web con el programa «jiji» (jijidown.com), una potente herramienta diseñada por fans y para fans, que permite descargar vídeos y danmu para recrear la visualización fuera de línea. Cabe mencionar que los datos recogidos forman parte de un corpus más amplio de la tesis doctoral de la autora, que tiene como objetivo investigar el

rol de danmu en la comprensión lingüística y el entendimiento cultural. El hecho de que los datos que analizamos ya no sean públicos no afecta los resultados o el interés de este trabajo, que recrea una tecnología usada en muchas otras series y contextos.

2.3. Metodología

Para analizar los danmu, combinamos el análisis del contenido y el del discurso. En primer lugar, con el método de «coding and counting» clasificamos el corpus total de danmu por temas y seleccionamos de manera cuantitativa los más representativos de los intereses y reacciones de los espectadores. En segundo lugar, procedimos a analizar esta selección de manera global (comentario dentro del fotograma, en el contexto de la serie y de la plataforma fan) con el aparato teórico del Análisis del Discurso mediado por Ordenador (Herring, 2004), caracterizado por su enfoque lingüístico y por la adopción de los métodos del Análisis del Discurso para estudiar las interacciones en la Red. Esta combinación permite conocer no solo los temas emergentes y su relación estadística, sino también los fenómenos latentes detrás del discurso digital (ideología, cultura, entre otros).

El primer paso del análisis fue identificar los temas más referidos entre los fans chinos. Para ello, visualizamos tres veces el corpus en dos semanas, identificando las intervenciones que aluden al mismo tema. Establecimos un criterio provisional de inclusión: si constituyen más de 1% de los 1.590 danmu que hemos recogido (i.e. n>16), tomamos un ítem de análisis y lo registramos para la codificación. Para comprobar la confiabilidad de la técnica, realizamos un estudio piloto centrado en los primeros 15 minutos del capítulo, que dio lugar a cuatro temas diferentes con más de 16 danmu (productos similares, actores principales, aprendizaje y habla).

Aplicamos el mismo método de muestreo para el resto del corpus y obtuvimos una totalidad de 15 temas con 550 danmu (desconocemos el número de participantes porque son anónimos); descartamos 1.040 danmu no representativos, que trataban de cuestiones que no merecían más de 16 comentarios. Algunos de los 550 danmu seleccionados coinciden en fotogramas determinados, comentando el contenido del mismo (ej. una conversación); otros se dispersan a lo largo del episodio y se actualizan con algún estímulo visual (ej. un actor), pero se relacionan temáticamente y los hemos contado conjuntamente. Puesto que los danmu originales usan el chino, con algunas interferencias del español (ej. nombre de personajes), traducimos a esta lengua los danmu seleccionados. La primera autora es usuaria de danmu y seguidora de más vídeos en la plataforma, por lo que está familiarizada con el registro propio del chino usado en este contexto. En caso de dudas, se consultaron los diccionarios especializados, ejemplo: Moegirlpedia (una enciclopedia en línea que recopila y presenta los conocimientos del «fandom» chino y japonés). Para verificar la calidad de traducción, una traductora español-chino revisó los danmu citados.

Clasificamos los 550 danmu y los 15 temas en cinco categorías de manera inductiva (Tabla 1). Nuestro análisis se inspiró en el trabajo de Torrego y Gutiérrez (2016) sobre los tuits de jóvenes publicados durante el visionado de dos películas. Para reducir la subjetividad, la primera autora se encargó de codificar y traducir los fragmentos problemáticos para discutirlos con el segundo autor. La codificación se realizó tres veces hasta llegar al acuerdo entre

Tabla 1. Lista de 15 temas agrupados en 5 categorías

Categorías	Temas	Núm. de danmu	Citas
Género cinematográfico (viaje del tiempo)	Productos similares	63	«No puedo resistir este tema»
	Móvil	42	
	Puertas del tiempo	34	
Personajes	Aspecto físico	40	«Aquí aparece el protagonista de «Isabel» jajaja»
	Confusión de rostros	38	
Acontecimientos de la trama	Tampones	54	«Lo de lesbiana está muy bien»
	Romance	36	
	Sexo	50	
Contenido sociocultural	Velázquez	46	«El cuadro de Velázquez!!!!!!! »
	Saludos	34	
	Crisis	17	
	Estereotipo	22	
	Fútbol	21	
Lengua española	Aprendizaje	35	«Hablan tan rápido…»
	Habla	18	
Total		550	

los dos investigadores. Abajo ejemplificamos las categorías con citas representativas y explicamos los conocimientos, actitudes y prácticas sociales que se presuponen sobre la realidad proyectada, así como las diferencias que causan estas impresiones u opiniones. En algunos casos ilustramos el caso comentado con un extracto de las secuencias clave, con nuestra traducción.

3. Análisis y resultados

Las categorías con más danmu aluden al contenido sociocultural de la serie y a los acontecimientos de la trama, con el mismo número de comentarios (140 de los 1.590 danmu; 8,8%). Sigue la categoría referida al género cinematográfico con 139 danmu (8,7%). Con menos participaciones hallamos los personajes, con 78 mensajes (4,9%), y la referida a la lengua española, con 53 mensajes (3,3%).

3.1. Género cinematográfico

El género cinematográfico ha captado el interés de muchos espectadores y aficionados al viaje a través del tiempo. Asocian la serie con productos similares, como «Doctor Who» y su spin-off «Torchwood», «Warehouse 13», entre otros, y videojuegos y webserials (literatura disponible solo en la Red) de la ciencia ficción histórica. Emplean emoticones orientales como «QAQ» (llorando), «_(:3 ∠)_» (tendido en el suelo) y «◟(▔▽▔)◞» cuando recuerdan los argumentos relacionados. Esta discusión contiene 63 danmu, y es el tema más popular del corpus.

La audiencia también muestra curiosidad por el uso de los artefactos relacionados con el viaje, como el móvil (42 comentarios) y las puertas de tiempo (34 comentarios). Hay preguntas sobre la red telefónica, con mensajes como «¿incluso la señal del móvil puede viajar en el tiempo? ¿Qué tecnología pirata es esta» y «A mi entender, la señal ha viajado con la persona, así que se puede usar el móvil». También cuestiona la lógica de las puertas, como «Sí, poder volver al pasado significa poder ir al futuro, por lo que la serie tiene un error», incluso empleando vocabulario especializado: «Tiempo y historia son nada más que un tipo de vibraciones de materia, con un variador de frecuencia se puede viajar como uno quiera».

Mientras tanto, otros fans adoptan una actitud más abierta («Si ya puedes viajar deja de preocuparte por los detalles»), y se divierten imaginando («Abrid la puerta y encontradme, que os he esperado tanto tiempo, por qué no venís» '= =', emoji asiático que denota decepción) o recontextualizando la aventura en la historia china: «Acaso abrís la puerta y llegáis a la época del Cuarto Príncipe, jajaja». El Cuarto Príncipe, o Yongzheng, es uno de los emperadores de la última dinastía de China, y protagonista de varias adaptaciones televisivas populares incluidas una sobre el viaje de tiempo.

Extracto 1. 0:33:49-0:34:18
(1) 留过学的就是没有底线
«Los que habéis estudiado en el extranjero, claro que no tenéis límites»
(2) 左边直男癌吗请问关留学什么事了？？
«El machista de la izquierda, ¿se puede saber qué tiene que ver con estudiar en el extranjero??»
(3) 哈哈哈，没想到能看见活的"老古董"
«Jajaja, no imaginaba ver una «antigüedad» viva»
(4) 什么叫没有底线？你觉得月经是很羞耻的事情吗？
«¿Qué significa no tener límites? ¿Crees que la menstruación es algo muy vergonzoso?»
(5) 女性一个月要经历一次的事情，比受伤普遍多了，有什么不可以谈论的
«Es una cosa que experimentan las mujeres cada mes, mucho más frecuente que herirse, ¿por qué no se puede hablar de ella?»

Figura 4. Escena de tampón.

3.2. Personajes

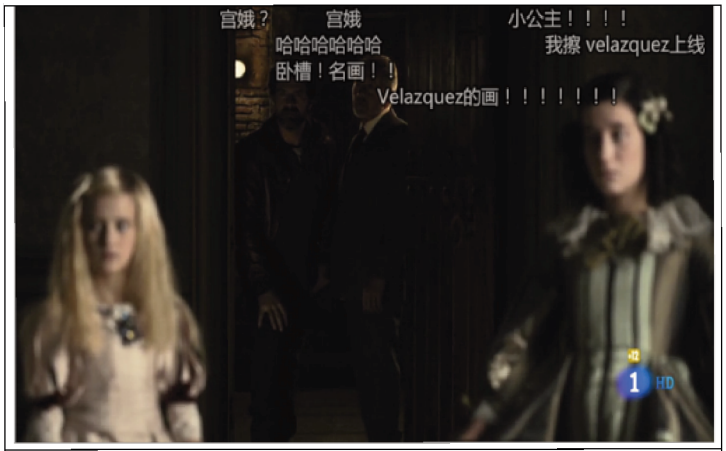
Respecto a las referencias a los personajes, 40 comentarios se centran en el aspecto físico de los actores principales. Muchos reconocen a los mismos actores de «Isabel» y «Ángel o Demonio» y comparan su apariencia entre series; por ejemplo, «El tío ni ha cambiado el corte de pelo…» y «Ni se ha cortado la barba. Quizá le filmaron las dos obras a la vez y usaron los fondos para beber». Notemos que en China, por su gran tamaño y producción cinematográfica, es infrecuente que un mismo actor repita en series de este tipo. La comparación incluso se extiende a algunos estereotipos: «El protagonista tiene una cara estadounidense», «Pero si es la barba prototípica española» y «Debería decir que muchos estadounidenses tienen una cara española».

Por otro lado, para la otra mitad de espectadores (38 danmu), las caras son parecidas, lo cual provoca confusión

y dificulta entender la trama. Así, cuando el protagonista vuelve al pasado para revivir con su mujer, un danmu pregunta «¿Pero descubre que había sido la víctima del adulterio?» y otros comentaristas le corrigen y le acusan de «ceguera de rostros». Dicho término procede del «fandom» chino y se refiere a los efectos que provoca el consumo de mucho anime, en el que los personajes suelen tener una misma base facial y se distinguen solo por el vestuario y el pelo.

3.3. Trama

Algunos acontecimientos concretos de la trama han motivado numerosas intervenciones. La subcategoría con 54 danmu, la segunda más elevada, es una discusión acalorada sobre un tampón actual que se muestra a la protagonista del siglo XIX (Figura 4). Su uso no es común en China, y es todavía menos probable que aparezca en televisión, por lo que muchos comentadores aportan aclaraciones, contando su experiencia y comparando diferentes productos de higiene femenina. Mientras tanto, otros espectadores consideran esta mención «incomprensible» e incluso «horrible», lo cual causa un fuerte desagrado y provoca las críticas (Extracto 1).



Extracto 2. 0:21:07-0:21:28
(1) 宫娥？
«¿Las Meninas?»
(2) 卧槽！ 名画！！
«¡Joder! ¡Cuadro famoso!!»
(3) Velazquez 的画！！！！！！
«¡Cuadro de Velazquez!!!!!!»
(4) 啊啊啊啊啊！！！！ las minas
«¡Ahhhhh!!!! las minas»
(5) 他俩居然正好在画最后门口画家的自画像位置
«Vaya los dos justo están al fondo del cuadro, donde el autorretrato del pintor»
(6) 那个不是画师把自己手画进去的作品么？
«¿Esa no será la obra en la que el pintor dibujó su propia mano?»

Figura 5. Escena de Las Meninas.

De modo similar, encontramos 31 reacciones ante una escena de sexo y 19 ante un chiste sobre ella. El sexo es un tema tabú en China y suele censurarse en los medios de comunicación, por lo que muchos danmu muestran asombro («Dios mío el giro argumental»), emplean vulgarismos («Joder, ni lo pixela») o intentan distanciarse («Jajajaja actúo como si no entendiera» y «Acaso haya visto algo que no debería ver»). También hay quejas por el contexto personal de visionado, como «Mierda, no llevo auriculares en el metro, y detrás hay gente…» y «La escena de sexo que sucedió ahora me ha dejado mucha vergüenza en la oficina viéndola al mediodía». Al contrario, otros fans expresan su entusiasmo con expresiones propias del «fandom», como «Advertencia de alta energía» y «Bienestar por delante» para avisar unos segundos antes que llega una escena sorprendente y bienvenida en la trama; algunos incluso anuncian «¡El día que podamos ver porno en Bilibili está a la vuelta de la esquina!».

Por último, 36 mensajes se preocupan por el romance entre personajes, algo típico para los fans de otras ficciones. Adivinan quiénes son las «parejas establecidas oficialmente» a partir de detalles en la trama y piden más «episodios acaramelados». La relación más comentada es la lesbiana o su eufemismo «yuri», un vocablo japonés que significa lirio. Este término nació en Japón en los años 70 y ahora se usa de manera generalizada en las comunidades de fans para referirse a las homosexuales femeninas (Zheng, 2016). Aunque algunos comentadores dicen no estar preparados para ver un beso entre dos mujeres, otros llegan a aclarar que «Vengo para ver el lirio» o que se emocionan: «¡Maldita! Déjala a la chica y permíteme a mí».

En la misma línea, también encontramos mensajes como «yoo» o «yooooooooooooooo». Esta exclamación se popularizó gracias a un vídeo de YouTube («Don't Watch An Anime Called Boku»), y se extendió en el «fandom» chino para expresar la emoción de ver escenas homosexuales. Pero algunos lo desconocen y critican su uso, indi-

cando erróneamente que corresponde al pronombre de primera persona: «Madre mía los que dijeron yooooooooo ¿no saben que yo significa mí?».

3.4. Contenido sociocultural

Un grupo numeroso de comentarios va más allá de la trama y reconoce los referentes socioculturales que incorpora la serie, descifrando los guiños para la audiencia. Por ejemplo, cuando dos personajes contemporáneos asisten a la creación de Las Meninas (Figura 5), 16 mensajes identifican que se trata del making of de una obra maestra. Como ilustra el Extracto 2, informan del nombre del cuadro y de su pintor, en chino y en español (con ortografía a veces incorrecta) y aportan datos para comprender el trasfondo histórico. Más adelante aparece Velázquez y surgen 30 mensajes que se ríen de la trama, confirman sus sospechas («Joder, realmente es él»; «He acertado, jajaja») y manifiestan más interés por la serie («Jajajajaja, he decidido ser seguidor de la serie»).

En segundo lugar, los participantes hablan de los españoles y sus costumbres. Las maneras de saludarse en épocas diferentes causan hilaridad (34 danmu), con reacciones diversas como la abreviatura «hhh» (de «hahaha», risa en chino), expresiones propias del «fandom» como «233» (o «233333»; reír a carcajadas) o con ideogramas. Entre estos últimos, algunos indican la etiqueta social correspondiente, como «besamanos», y «beso en la mejilla», y las contrastan con el entorno asiático, que prefiere otro tipo de saludo: «No hay nadie que haga un apretón de manos».

Asimismo, una conversación sobre el supuesto estilo español (–«Pero ¿cuál es el plan?», –«Somos españoles, ¿no? Improvisen») han producido 22 danmu. Aparte de las risas en distintos códigos lingüísticos, unos espectadores se muestran confusos y piden aclaraciones, como «¿Verdad o falso?» o «Jajajaja... ¿Qué coño es esto?»; pero otros fans entienden la ironía y la confirman: «Este sarcasmo es perfecto» y «El carácter nacional español».

Finalmente, los fans también se fijan en la actualidad mencionada en la serie. Por ejemplo, a partir de un titular de periódico «Atleti Campeón», 21 aficionados de fútbol se identifican (ej. «Soy merengue»; «El merengue no te vayas jajaja») con los gritos de ánimo, como «Visca el Barça» y «Aupa Atleti!».

El resto de 17 intervenciones comenta un diálogo entre protagonistas (– «El mundo era nuestro… Ahora… ¿Somos soberanos o rendimos pleitesía a alguien?» – «Sí, al Banco Central Europeo»). Unos fans empatizan con la situación, como «Jajajajajaja, la tristeza de la hegemonía mundial de la vieja gloria», pero hay más mensajes referidos a la crisis económica, como «Jajajajajaja quién os permitió tener tantas deudas» y «Los PIGS, jaja», y recuerdan la actualidad sociopolítica: «Reino Unido ha salido de Europa, jajajaja».

3.5. Lengua española

La última categoría consiste en 53 comentarios relacionados con la lengua. 35 se centran en el aprendizaje de español como lengua extranjera, que constituye un motivo para ver la serie para muchos espectadores. Consideran la serie como «uno de los mejores materiales para aprender español», y es frecuente encontrar mensajes como «He venido para estudiar» o «También repaso el español viendo la serie».

La conversación entre aprendices extraña a otros participantes («Todos los que ven la serie aprenden español. ¿Acaso la serie es tan impopular?»), por lo que muchos señalan que para ellos la lengua es irrelevante, pese a que ahora están más interesados: «Tampoco estudio español y veo la serie española por primera vez, pero ahora me apetece un poco aprender». No obstante, las respuestas que figuran después son negativas: «No lo aprendas, te derrotará»; –«¿Puedo dominar español viendo series?» –«No».

Otro tema lingüístico que despierta curiosidad es el habla (18 comentarios). Mientras algunos se sorprenden por la rapidez de conversación, como «Hostia, esta chica habla, más despacio por favor», otros apuntan la normalidad de la impresión: «La rapidez de la chica es exactamente la de los exámenes de comprensión auditiva» y «Por eso dicen que nunca discutas con una mujer española».

También encontramos una discusión breve en términos gramaticales: –«Vaya, español suena como labulalabulalabula» – «Porque la es la forma femenina del artículo determinado, y todos los verbos terminan en R» -«Porque en español todos los sustantivos deben ir después de el y la, y los objetos directos e indirectos también llevan la».

4. Discusión y conclusiones

Los resultados anteriores responden nuestras dos preguntas de investigación. En primer lugar, lo que interesan más a los «ministéricos» chinos son: 1) Dudas o incomprensiones sobre la serie (trama, actores, referencias culturales); 2) Diferencias interculturales y sociolingüísticas entre España y China (estereotipos, velocidad de habla, tratamientos de cortesía, saludos); 3) Cuestiones tabúes en China como el sexo (escenas eróticas, besarse en público,

homosexualidad), las relaciones de pareja (infidelidades) o determinados productos (tampón). Los intercambios más extensos están provocados por la disensión entre los fans, causando que los danmu se extiendan más allá de los fotogramas correspondientes, lo cual demuestra que el interés por el hilo de los comentarios supera en algunos puntos al de la misma serie.

En segundo lugar, los fans utilizan las potencialidades del danmu para «apropiarse» de la serie, en su entorno propio del «fandom». Con los danmu, interpretan la serie desde su ethos (Jenkins, 2010), ayudan a los fans menos informados (integran a los novatos), enfatizan los puntos de interés para una audiencia joven china, que no ha salido del país y que tiene poca información práctica sobre la vida corriente en España. Aprovechan las posibilidades del comentario situado en cada fotograma y su conocimiento compartido sobre series y «fandom» para crear ironías, opiniones y una subcultura alternativa al «mainstream», evitando la censura.

Escriben en chino coloquial, poco habitual en la comunicación pública, con frases cortas, expresiones vulgares, iconos propios de su «fandom», saltando al español cuando es necesario, reaccionando a una escena o a otro comentario, creando breves intercambios. Usan los danmu como un chat contextualizado, con referencias deícticas al fotograma («Están al fondo del cuadro», «Esa no era la obra») o a otros danmu «El merengue no te vayas») y con otros rasgos propios de la conversación digital cuasi sincrónica (Herring & Androutsopoulos, 2015), como la separación de pares adyacentes, la «addressivity» («el machista de la izquierda»). Sin duda, una particularidad del danmu es que aprovecha la información contextual (fotogramas de la serie) y el contexto compartido (la plataforma fan) para facilitar la formulación de comentarios, que pueden ser mucho más directos, breves y situados.

Una extensa literatura corrobora que el audiovisual subtitulado –series de televisión y películas– favorece el aprendizaje de lenguas extranjeras. Varios trabajos experimentales han indagado en los beneficios que aportan los subtítulos interlingüísticos o estándar, que traducen el original a la lengua materna del espectador, y los intralingüísticos, esto es, transcripciones de la banda sonora original. Nuestro estudio explora un nuevo entorno todavía más complejo de subtítulos bilingües, hechos por fans, y de comentarios libres y dinámicos superpuestos.

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En un contexto multimodal e informal, los jóvenes chinos construyen significados con la representación mediática, confirmando o rechazando sus conocimientos previos y estereotipos sobre España (Nikitina, 2017). No solo «responden a» o «entienden», sino que realizan actividades complejas como comparar e identificar similitudes y diferencias socioculturales, recontextualizar el argumento en China, e incluso construir una inteligencia colectiva sobre la realidad proyectada. Estas prácticas ofrecen buenos ejemplos para fomentar la competencia intercultural (Yang & Fleming, 2013; Benson, 2015). Que los danmu sean anónimos facilita también la colaboración, porque inhibe la responsabilidad de dar respuestas correctas o de preocuparse por la imagen personal ante el grupo.

Más allá de ilustrar las potencialidades de participación, comunicación y aprendizaje, nuestro estudio también supone una aportación interesante e innovadora al campo de la alfabetización mediática y digital. Los productos de la cultura popular, como «El Ministerio del Tiempo», no son simplemente entretenimiento, sino que encarnan culturas, valores y conocimientos compartidos del otro, que elicitan reacciones de los adolescentes (Torrego &

Gutiérrez, 2016; Ugalde, Martínez-de-Morentín, & Medrano, 2017). Como apuntan Tuzel y Hobbs (2017), las redes sociales y otros entornos virtuales facilitan el diálogo intergrupal, que ayuda a cultivar la curiosidad intelectual y a desarrollar una voz cívica junto con el aprendizaje sobre personas y culturas de todo el mundo.

Por último, este trabajo adolece de tres limitaciones. En primer lugar, utiliza un único capítulo de una serie, lo cual es insuficiente para llevar a cabo generalizaciones sobre los usos del danmu, si bien hemos apuntado una función importante, es decir, como espacio de discusión y aprendizaje intercultural y lingüístico. Esperamos contrastar estas observaciones y la categorización realizada de los danmu con trabajos de mayor alcance en el futuro, que permitan comprobar si se repiten temas y categorías (y si este análisis tiene entonces suficiente saturación y validez).

En segundo lugar, como otros trabajos sobre géneros digitales novedosos, corremos el riesgo de inferir subjetivamente el significado de los mensajes cortos, anónimos y de múltiples autores como los danmu. Para comprender de modo émico las prácticas emergentes y colaborativas que desarrollan los jóvenes, esperamos poder triangular nuestra interpretación mediante entrevistas etnográficas a los autores de danmu en Bilibili, estudiando sus puntos de vista y la apropiación que realizan de la tecnología con relación al aprendizaje de la lengua y la cultura. También será sugerente observar si las competencias adquiridas en un contexto de ocio pueden recontextualizarse, ejemplo: ser diseccionadas, enriquecidas y reutilizadas en escenarios auténticos, llegando al aprendizaje «sin costuras» (Wong, Sing-Chai, & Poh-Aw, 2017).

Por otro lado, no hemos abordado los obstáculos que se presentan para poder aprovechar pedagógicamente esta tecnología: 1) El desorden visual que crea para unos usuarios; 2) La actitud de amor-odio de los educadores sobre los medios de masas, la cultura popular, y los medios digitales (Tuzel & Hobbs, 2017); 3) las consecuencias inadvertidas de la globalización mediática (reforzar / romper estereotipos de naciones, destacar la desigualdad social, reproducir el conflicto ideológico) que urgen la participación consciente y reflexiva de los docentes y de otros actores sociales en la alfabetización digital.

Apoyos

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Zhang, L. T., & Cassany, D. (2019). 'Is it always so fast?': Chinese perceptions of Spanish through *danmu* video comments'. *Spanish in Context 16*(2), 217–242. https://doi.org/10.1075/sic.00035.zha (SSCI Q4; Scopus Q1)

We published the second article in *Spanish in Context* (*SiC*), whose thematic focus—sociolinguistics of Spanish—is a central theme in our study. Moreover, in 2017, we submitted a manuscript based on my master thesis to the journal, which was rejected (but finally published as Zhang & Cassany, 2019b). Since then we had been interested in publishing in *SiC*.

We submitted this manuscript in 2018. After six months, we received minor revisions from two reviewers. As suggested, we specified how we dealt with problems during coding (e.g., double-counting, meta-comments), reorganized the table of general results by combining overlapped subcategories, and emphasized the role of *fansubbing* in viewers' comprehension. We received the acceptance of the reviewed manuscript two days later, while the publication was scheduled for another year later. The publication process is detailed below:

First submission	2018-02-06
Response	2018-08-04 Accepted with minor revisions
Second submission	2018-09-16
Final Publication	2019-08-27
Citation (Google Scholar)	4 (accessed 21/04/2020)

Table 2. Publication process

‘Is it always so fast?’

Chinese perceptions of Spanish through *danmu* video comments

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While much research has proved the benefits of subtitled audiovisuals for foreign language learning, few studies address such practices in out-of-classroom settings or focus on Asia-based video-sharing platforms. This study bridges this gap by introducing an increasingly popular viewing-commenting system in Japan and China, known as *danmu* or *danmaku*, which displays viewers’ timeline-synchronized comments on video content. We analyse the metalinguistic comments which entail viewers’ knowledge of the language, their comprehension issues and sociolinguistic attitudes toward its use. Adopting an inductive or data-driven methodology, we extracted and manually coded 390 comments that are related to the Spanish language, Spanish–Chinese translation and learning Spanish. Results show that viewers are mostly interested in linguistic features that differ from Chinese or English (e.g. the complex grammar) and they use *danmu* to access sociolinguistic issues that are central to daily communication such as the fast speech rate, language varieties, and frequent use of vulgarisms.

Keywords: *danmaku*, computer-mediated communication, language learning

1. Introduction

Danmu is a collaborative video annotation system (Howard 2012) first launched by the Japanese ACG (anime, comic, game) video-sharing site *Nico Nico Douga* (“Smiley Smiley Video”) in 2007. Instead of establishing a separate comment section like YouTube, it enables users to overlay text comments on the video image in a horizontal scroll that crosses the screen from right to left (Figure 1). Users send comments asynchronously, but they are embedded in the video and appear at the points of insertion as direct responses to the video content (e.g. plot, character,

https://doi.org/10.1075/sic.00035.zha
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music). Being instant, contextualized and dynamic, the messages involve viewers in an experience similar to an ephemeral chat. Sometimes an excessive quantity of comments even blocks out the actual image, causing a visual effect that resembles *danmaku* ("bullet curtain" in Japanese) as shown in Figure 1.

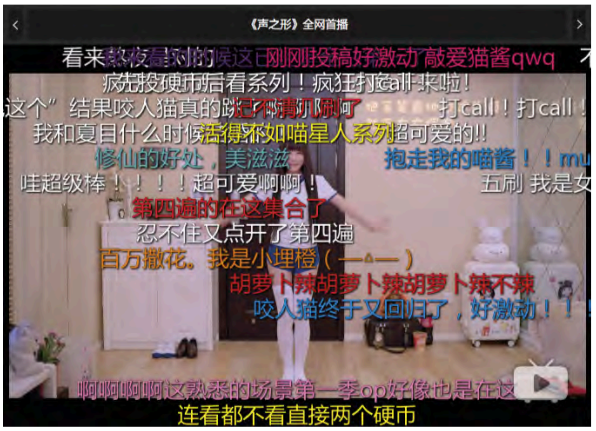

Figure 1. Screenshot of a *danmu* video

After its introduction in China around 2010, the Chinese terms *danmu* (translation of *danmaku*) has been used widely as the name for both the term and each comment that exists very briefly on the screen. This interface has become increasingly popular and has now been adopted by Chinese native ACG video portals and nearly all mainstream video streaming websites. On these platforms viewers enjoy a great variety of global media products ranging from movies and television series to documentaries and university open courses. In such globalized online spaces (Benson and Chik 2011)content is mainly provided by users rather than website owners and the texts that they contain are in many cases transnationally and 'trans-lingually' constructed.

Many of them are voluntarily translated and uploaded by f*ansubbers* (abbreviation for *fan subtitlers*). Under the Chinese government's strong restriction on the import of foreign media products (e.g., sexual scenes and politics-related lines), fansubbers play the crucial role of raw material selector, linguistic translator, and at the same time, cultural introducer (Jenkins 2013). Moreover, a large number of global products represented on a local stage (e.g., China-based multimedia platform) connect typologically distant languages – such as ideograms and the Latin alphabet – and exhibit a miscellany of sociocultural aspects open to audiences' interpretation.

This article centres on the first circumstance, i.e. the metalinguistic discourse that has arisen around the commenting practice. Many scholars have acknowl-

edged that language users, who do not need to be linguists, can easily reflect upon or even assess aspects of language and its use (Barton and Lee 2013). Although there is now some research on *danmu* from a sociolinguistic perspective (Hsiao 2015; Y. Zhang 2017), studies that specifically address language perceptions in intercultural settings are yet to appear.

In particular, we use a dataset comprised of comments from a Spanish television series. Opposed to traditional passive media consumers, users of *danmu* assume an active role appropriating the online space to respond to the media representations of the Spanish language. They talk about linguistic forms, pragmatic usages, accents and even correct the fan-made translation. Unlike English, the shared second language (L2) of the Chinese youth, Spanish remains unfamiliar to most viewers and yet attractive given the rich cultural heritage and business opportunities it implies as well as being instructive to a rapidly growing group of Spanish as a Foreign Language (SFL) learners (Claudio Quiroga 2017). All of these characteristics provide a fertile ground for language-related comments to emerge, which renders the material valuable for further analysis.

The aim of this paper is to investigate how Spanish is perceived and discussed on *danmu* video-sharing sites, which reveals Chinese audience's knowledge on the Spanish language and attitudes towards its usage. These self-generated discourses may moreover index language differences as well as raise meta and cross linguistic awareness. Comparing to analyses on metalinguistic talks on YouTube (Benson and Chan 2010; Benson 2015) and Flickr (Lee 2013), our data addressed a less explored linguistic combination within a unique audiovisual and Chinese-speaking context. We intend to answer the following research questions:

RQ1: What linguistic aspects are mentioned in *danmu* and for what purposes (e.g. entertainment, information seeking, language learning)?
RQ2: What sociolinguistic attitudes are observed concerning the usage of Spanish in audiovisual products?

2. *Danmu* as an emergent Web 2.0 discourse

Danmu can be considered an emergent Web 2.0 discourse, a concept proposed by Herrings (2012) to describe discourse phenomenon that did not exist – or if they did exist, did not rise to the level of public awareness – prior to the era of Web 2.0. While platforms characterized by social interaction and user-generated content flourish, discourse outcomes seem to be shaped to a greater extent by the properties of the medium especially when it comes to multimodal affordances (Herring

and Androutsopoulos 2015). Here we outline the three most relevant aspects of *danmu* commenting to the present study:

1. *Visual interrelation*. Being synchronized and embedded by design, *danmu* and videos co-occur in a patterned way and are interrelated in meaning making by re-creating and reconfiguring the original audiovisual product in a contextually specific and meaningful way. Androutsopoulos (2013) coined the term "participatory spectacle" to refer to this patterned co-occurrence thereby emphasizing the collaborative production and visual character of content in multimodal platforms.
2. *Intertextuality*. The comments gradually layered onto the video gain intertextual interaction when they are displayed simultaneously on the screen, whether they intended a chat or not (Zheng 2016). Under the new aesthetics, the original video serves only as the background while the multi-layered and heteroglossic discourse in the foreground is the main point that attracts viewers' attention.
3. *Anonymity*. Another salient aspect of *danmu* that differs from YouTube lies in the fact that all comments are sent anonymously (even without pseudonyms). As Herrings (2012) noticed, collaborative text production of this sort (e.g., Wikipedia) represents a new kind of online discourse. It is massively multi-authored, yet democratic and anarchic prompting contributions from anyone at any moment.

In terms of linguistic features, *danmu* is constrained by the limit of characters (around twenty) suitable for the screen. Nevertheless, Chinese online users incorporate a diversity of writing scripts and semiotic resources in the non-standard literacy practice. Yi Zhang (2017) identified a total of fourteen types of literacy practices including the use of Chinese Mandarin, Chinese dialects, romanized Chinese, traditional Chinese, expressions and transliterations of foreign languages (English, Japanese and Korean), emoticons, and stylized Arabic numerals among others.

Although each user's entire linguistic knowledge remains unknown, Chinese users are capable of constructing different kinds of multilingual discourses utilizing their plurilingual repertoires. Based on recent trends in sociolinguistic studies of multilingualism, the relations among languages are often fluid and languages should be considered as practices instead of competences with soft and permeable boundaries which allow for code-mixing and translanguaging (Canagarajah 2011; Cenoz and Gorter 2011).

3. Metalinguistic discourse online

Non-linguistics' perspectives on language and its use have long been the subject matter of *folk linguistics* (Jaworski, Coupland, and Galasinski 2004). This approach is consistent with our view of metalanguage as not merely a text or speech concerning the literal language, but a sociolinguistic category that entails linguistic representations and evaluations. In other words, when people participate in metalinguistic talk, whether online or offline, they are also engaging in the wider discourse of language ideologies such as what constitutes standard, good, or correct use of language (Barton and Lee 2013) as well as the issues regarding language variation, such as identity, speech communities, power relations, etc. Thus, it also makes sense to label together these beliefs, attitudes and assessment toward language as *metalinguistic discourse*.

Web 2.0 sites provide a platform where ordinary users can publicly reflect upon and discuss language-related topics. This is often found through self-generated writing in discussion threads (Squires 2010), YouTube comments (Androutsopoulos 2013; Benson and Chan 2010; Ivković 2013), and social media platforms such as Flickr (Lee 2013). In contrast to spoken interaction, computer mediated communication (CMC) persists as text on a screen and allows its interlocutors, be they native speakers or outsiders (e.g., language learners), to consciously consider the text, think about and craft responses which facilitate a heightened metalinguistic awareness (Herring 1999).

Reviewing studies on comment threads on popular social media such as YouTube, Facebook and Flickr, Barton and Lee (2013) identified five key topics in online metalinguistic discourses investigated to date: (1) linguistic forms and structures; (2) Internet-specific language, e.g. the use of acronyms and abbreviations; (3) language teaching and learning, e.g., peer-based feedback between fan-fiction writers (Black 2009); (4) translation issues in multilingual platforms; (5) self-deprecating metalanguage, i.e. utterances where a person downplays their own linguistic abilities (see Lee 2013).

The authors concluded that despite being largely prescriptive and evaluative, these discourses are also supportive in that they co-construct an environment for social networking and informal, self-directed, and collaborative learning. This implication particularly intrigues us to explore how non-expert users of certain language (e.g., Chinese speakers who have some or little comprehension of Spanish) deploy their linguistic *reflexivity* to share their opinions of the language, assess its use and even develop new knowledge during a ludic activity such as viewing foreign media products.

4. Context of the study, data collection and analysis

We draw upon data collected from Bilibili, a Chinese video-sharing site supporting the *danmu* system since its creation, and in particular, one of its most commented on Spanish television series, *El Ministerio del Tiempo* ("The Department of Time", MdT in the following). Considered the best Spanish series of all time (El País 2017), MdT features time travels through re-enacted historical events, generating enormous interpretive and creative fan communities online, i.e. the *ministéricos* (Scolari and Establés 2017). In China, it also gained popularity on social media and video-sharing platforms, having two parallel fansubbed versions in bilingual format (Chinese and the original Spanish), and obtaining tens of thousands of *danmu* on the target site.

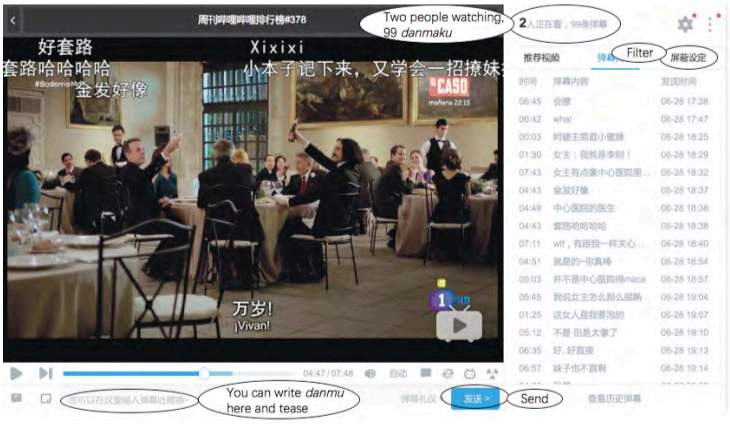

Figure 2. Screenshot of a fansubbed episode of MdT on Bilibili

The annotated screenshot in Figure 2 shows an interactive platform provided by Bilibili. It is built around a video (a fansubbed episode of MdT), a comment box below, and a multifunctional controlling panel which has three main functions: (1) displaying statistical information on viewers in real-time and recommendations of related videos; (2) enabling users to adjust the viewable *danmu* (e.g., amount, transparency, speed) or to set the filter to reduce visual distraction; (3) keeping a list of all the existing messages in chronological order. However, regardless of their insertion sequences, all the communication is perceived through the timeline of the video. Under the anonymity feature, the user is likely to be unaware of and even unconcerned with the possible responses afterwards (unless intentionally reviewing the commented fragment).

An initial observation revealed that *danmu* are mainly short, informal and multilingual texts with an incomplete sentence structure and an abundant use of Inter-

net slang. On this account, we made two methodological decisions: (1) adopting a manual sampling approach (Benson 2015; Benson and Chan 2010) instead of a keyword search method (Ivković 2013; Lee 2013) to avoid leaving out any comment of interest and (2) constructing a dataset whose scale was large enough for topics to emerge, but without posing too much difficulty to the first procedure.

Following this, we selected the pilot episode of MdT (S01E01) as the material to undergo analysis since it attracted considerably more comments than other episodes of the season. The 70-minute episode first aired in February 2015 and narrates several time travel experiences from the sixteenth and nineteenth-century Spain to contemporary Madrid.

We identified a total of nine postings of the original video on Bilibili including two fansubbed versions uploaded by different users (fan of the series or the fansub group, fansubbers) at different times (between 2015 and 2016) and in higher or lower display resolutions which appealed to dissimilar audiences. Of all these, we retained three videos containing the largest number of *danmu*, which implied the largest scale of audience participation and were representative cases to constitute our dataset (Table 1). We did not consider the subtitles quality, since both versions were produced by renowned fansub groups in China (SY actually specializes in non-English media products), and they contain both intra- and interlinguistic subtitles, along with many top notes to facilitate understanding. These characteristics probably have prompted more metalinguistic comments. Other reasons behind their popularity may be the relatively early upload time (the first publication appeared in September, 2015, seven months after its release in Spain, by the group SY) and the better video quality.

Table 1. Construction of the dataset

Versions of MdT S01E01	Fansub group (anonymized)	Number of *danmu* (until July 15, 2017)
1	ZMZ	1,450
2	SY	1,369
3	SY	1,590
Total		**4,409**

The first step of the analysis was to discard comments that were not language-related: mainly those discussing the plot (e.g., 'three timelines?'), characters (e.g., 'so handsome'), the Spanish geography (e.g., 'this is gran vía'), culture references (e.g., 'Cervantes?'), simply expressing general emotions (e.g., 'sounds interesting') or quoting certain lines said by a character. To increase the reliability of the study, the first author coded all the comments and discussed the problematic ones with the second author until reaching an agreement.

To address RQ1, we counted each comment and assigned them to a specific theme and category: (1) Spanish language (e.g., 'Old Spanish is as sexy as always.'); (2) Learning Spanish (e.g., 'I've come to learn Spanish.'), (3) Spanish–Chinese translation (e.g., 'why are so many words in the sentences not translated?'). Subcategories also emerged inductively, e.g., comments on the Spanish language deal with several linguistic domains including grammar, vocabulary and collocations, speech, etc. Some comments potentially pertain to more than one category, e.g., 'Playing backward to learn the dirty language (happy)', which relates to both Spanish language and learning Spanish categories. In such cases, we prioritized the topic of the discussion thread where it belongs or the most prominent topic.

In order to measure the viewers' interest accurately, we also included metacomments that do not add much to the actual meaning but acknowledge the previous discussion, e.g., 'A bunch of straight A students were discussing earlier, I am too ashamed to show up'. On the other hand, comments in close time frames but do not refer explicitly to the subject, e.g.,'haha' are excluded, since we could not determine if they relate to the metalinguistic talk or the video or other comments.

In regards to RQ2, a deeper exploration and exemplification of the categories was conducted, looking for: (1) the visual or audio elements that motivate the participation; (2) the audience's perception and interpretation; (3) linguistic differences that account for these impressions or opinions. Following Androutsopoulos (2006) and Hsiao (2015), online discussion threads, which typically include several messages concerning the same topic, should be treated as the basic units of analysis. Therefore, our analysis of metalinguistic talk was based on units of discussion threads or sequences of conversation.

The qualitative analysis consists of three components (see Figure 3–9): (1) a screenshot of the sequence which generated the *danmu*, with our graphical indications or annotations of key texts to facilitate reading; (2) an extract of *danmu* in Chinese and our translation to English; (3) our comments on the interaction. We also kept the spelling mistakes since they represent faithfully users' participation.

5. Results

Table 2 summarizes the language-related topics identified in the dataset using the emerged categories:

Table 2. Language-related topics discussed in *danmu*

Topics		*Danmu*	Total
Spanish language	Grammar: verbal morphology, personal pronouns, agreement, syntax, historical and geographic dialectal variations	84	238
	Vocabulary and Collocations: vulgarism, polysemy	28	
	Writing: inverted question marks	11	
	Speech: speaking rate, homophones, accent	115	
Learning Spanish	Personal experience, learning materials	108	108
Spanish–Chinese translation	Improper translations	14	44
	Proper translations: onscreen text imitations, annotations	30	
Total			**390**

5.1 Spanish language

The first and major category deals with the Spanish language (238 comments at 61%). With the version provided by the fansub group, viewers are able to engage in crosslinguistic comparisons between the video's original audio and written subtitles in Spanish, their Chinese translation and their other L2 / L3.

When contrasting Chinese with Spanish, viewers find a great number of differences. In terms of writing, the inverted exclamation and question marks are easily noticeable ('What does the little *i* mean at the beginning (speechless face)?'). Apart from this, the most commented distinctions lie in grammar, including the complex verbal morphology (conjugation), the ellipsis of personal pronouns or the null subject ('Does *he* mean I?'), tense changes ('*He* is I conjugated in the first-person singular of the present perfect tense.'), and syntax, i.e. word order ('The word order seems so random').[1]

When comparing to other languages, many commenters, who claim that it is the first time for them to watch a television series in Spanish, recognize some linguistic similarities with other romance languages. They mention Italian, Portuguese and French, but the comparison is limited to general impressions such as

1. Consider that Chinese generally lacks inflection to express tense, person, number, etc. In terms of syntax, it follows a subject–verb–object structure and normally has an explicit subject.

a fast rate of speaking and a familiar lexicon. Moreover, some viewers try to use English as a reference, but only encounter more or less the same differences (e.g., 'Oh my god Spanish conjugation is so difficult… I think English is pretty simple.').

As a result, all these topics constitute potential comprehension problems. The most common one occurs with the Old Spanish (66 of the 84 comments about grammar), the underlying cause that accounts for many subthemes like the personal pronouns, agreement and dialectal variations. It is used in several initial scenes of the episodes which are set in the sixteenth century. Consequently, the dialogue involves a frequent use of verbs conjugated in second-person plural (see the subtitles in Figure 3). While it was considered a polite form at that time to address a singular interlocutor, it turns out to be difficult to understand for the Chinese audience especially the Spanish learners who hardly ever see Medieval Spanish in textbooks.

Figure 3. Old Spanish

Extract 1. *0:00:56-0:01:23 (version 2)*

(1) atacasteis 不应该翻译成你们吗？ atacar
'Shouldn't *atacasteis* be translated into second-person plural? *atacar*.'

(2) 前边的古代都用vos表达你
'The guy before, in history people use *vos* to express *you*.'

(3) 古西语一如既往的性感
'Old Spanish is as sexy as always.'

Extract 2. *0:01:28-0:02:06 (version 3)*

(1) 这是墨西哥人吗..一直用vosotros的变位
'Are they Mexican… they keep using *vosotros*.'

(2) 墨西哥人没有vosotros
'Mexicans don't have *vosotros*.'

(3) 有啊
'Yes they do.'

(4) 墨西哥是用usted的变位吧
'Mexicans seem to use the conjugation of *usted*.'

Extract 3. *0:03:56-0:04:10 (version 3)*

(1) 这是阿根廷？阿根廷的地名和第二人称用法
'Is this Argentina? It's the Argentine place name and usage of second-person.'

(2) 又是西班牙口音应该是castellano antiguo吧
'Since it is Spanish accent, it should be Old Castilian.'

Many viewers directly question the inconsistency between a conjugated verb and its Chinese translation, such as comment 1 in Extract 1. They also raise similar doubts concerning the following verbs: *sois* ('you'), *mentís* ('lie') and *prended* ('seize'). These verbs all appear in second-person plural which challenge learners' previous knowledge about the Spanish morphology and agreement. Accordingly, in most cases they receive responses a few seconds later as can be seen in comments 2 and 3. These users have a more advanced language level and help explain and even evaluate the phenomenon.

Others identify the usage with the dialectical variation specifically the Spanish used in Argentina and Mexico. In Extract 2, a user asks 'are they Mexican… they keep using *vosotros*'. This initiates a debate on if Mexican Spanish uses more second or third personal pronoun (*vos* or *usted*). Meanwhile, comment 1 in Extract 3 is among several which suggest the possibility of it being the Spanish in Argentina. Comment 2 corrects this interpretation and makes sense of the medieval language deducing from the European Spanish accent in MdT.

Obviously, not everyone is able to participate in such grammatical discussion, but users appear to enjoy the diversity in *danmu*. Some 'complain' in a humorous tone: 'I focused so much on you guys discussing Spanish that I forgot to watch the series!' or 'being an engineering student I only saw *danmu* outlining the important points and skipped the plot haha'. Others even demand more presence of this type of dialogue: 'if only there were people talking about grammar in Japanese television series'.

Comments also move beyond basic linguistic forms to practical language usages. A topic that arises special interest is *vulgar and colloquial expressions* as spoken by the female driver who is stuck in traffic in Figure 4. While they may be considered acceptable on Spanish television, the Chinese audience is not used to such exposure. Many viewers refer to them as *zanghua*, a Chinese concept which literally means 'dirty language'. In fact, they are banned in the Chinese television

and Internet as part of a campaign against 'vulgarity' since 2009. It censors not just pornography, but also dirty words, slang, and socially and politically unacceptable figures in order to present a harmonious image to the world (Xiao 2011).

Figure 4. Vulgar and colloquial expressions

Extract 4. *0:30:20-0:30:38. (version 3)*

(1) 果然是西班牙人，脏话不离口
'Sure enough they are Spanish people, speaking dirty language all the time.'

(2) 她应该说jolin 然后蔡依林中枪
'She should say *jolin*, so that Jolin Tse (a Taiwanese singer) would be referenced.'

(3) 一个标准的西班牙司机23333脏话这种标配嗯
'A standard Spanish driver, hahaha, the dirty language is surely characteristic.'

(4) 倒回去学脏话 ✧ *。٩(ˊωˋ*)و ✧ *。
'Playing backward to learn the dirty language (happy).'

Extract 5. *0:30:19-0:30:27 (version 2)*

(1) 这句话原意大概是我在牛奶里便便。。。。
'The original meaning of this phrase is something like I shit in the milk…'

Extract 3 shows different responses triggered by the lines in Figure 4. These encompass entertaining activities such as the language play in comment 2. The user creatively proposes *jolín*, a Spanish colloquial interjection and a euphemism

for 'fuck', and mocks its homophony with the English name of a famous Taiwanese singer. Similarly, a user in Extract 5 finds the expression *me cago en la leche* ('shit I had bad luck!') amusing and shares a literal translation.

Comment 1 and comment 3 on the other hand, adopt a sociolinguistic perspective and shift the discussion to Spanish people / drivers in general and their language choices. Specifically, comment 3 sets the linguistic standard for Spanish drivers, ironically associating the official form of Spanish, i.e. the most neutral and socially accepted variety, with the dirty language. Terms like 'sure enough' and 'standard configuration' also point to the viewers' pre-existing stereotype of the Spaniard as users of the bad language. This allegation may be experience-based or hearsay (see Nikitina 2017 for a counterexample, where Malaysian Spanish learners perceive Spaniards as 'polite people'). However, with the media representation, the impression has been proven true.

Finally, Spanish learners like the user in comment 4 take advantage of the multimedia player to re-visualize the fragment. In this way, the user engages in an intentional learning of language items that are seldom taught in Spanish as a Foreign Language classrooms. In fact, as mentioned by another viewer in version 1, this vocabulary is normally acquired through conversations with local friends ('hahaha those days when my Spanish friends were keen on teaching me to insult in *joder*'). In the end, it seems exciting and desirable for learners to know the non-standard language as illustrated by a *kaomoji* (e.g., alternative Japanese emoticons that are usually read horizontally) in the same comment.

Unlike previous categories that are related to the written language, the last and most frequent category -speech- is prompted by the soundtrack of MdT (115 of 238 comments on Spanish). Among these comments, more than half centre on the rate of speaking in the dialogue. According to a crosslinguistic experiment conducted by Pellegrino, Christophe and Egidio (2011),Japanese and Spanish, often believed to be 'fast languages', clock the greatest number of syllables per second while Chinese and German rank among 'slow languages' with the lowest syllable rate.

The first scene that surprises the audience is Figure 5, where the female student challenges her professor in a serious and high-speed discourses. This results in a flood of *danmu* flying across the screen in all three versions. Most users are simply astonished (like the quote in the paper's title) and describe the speech rate as 'fast', 'brutal', and 'horrifying' which makes it 'impossible to follow both Spanish and Chinese subtitles'. They also compare the speech with 'tongue twisters', 'rap', and '*xiangsheng* (or crosstalk, a traditional Chinese comedic performing arts)'. Some even decide to 'never learn Spanish in the whole life' or ask other viewers: 'would anyone blame me if I say I want to quit the series because of the speaking rate?'

However, for other Spanish learners, the speaking rate is just 'normal' and 'acceptable'. They identify it with 'taking a listening comprehension test' or 'a listening lesson' which creates a sympathetic atmosphere in the comments as illustrated

in Extract 6. Others suggest 'experiencing the real speaking rate' elsewhere such as in *Gran Hotel* and *Física o Química* (both are Spanish television series available on Bilibili). Likewise, users in Extract 7 argue whether the fastest speech is found in news broadcasting or random conversations with local people. Focusing on sociolinguistic varieties, comment 2 in Extract 6 compares the European Spanish with Latin American Spanish and Extract 8 suggests that since the scene takes place in Barcelona, the character should be speaking Catalan rather than Spanish.

Moreover, as some users associate dirty language to a national character, here we also observe descriptions of Spanish people as being 'extremely chattering', and conclusions like 'so I say never argue with a Spanish woman'.

Figure 5. Fast speaking rate

Extract 6. *0:05:49-0:06:31 (version 1)*

(1) 心疼你们练听力的
'I feel pity for you guys who have to practice listening skills.'

(2) 西班牙的西语发音我觉得还是比较容易听的，阿根廷，古巴口音听得心累
'I think the European Spanish accent is relatively easy to understand, while Argentine and Cuban accents are is really hard.'

(3) 西班牙语就是这么快high心疼自己
'Spanish really is this fast and high. Pity for myself.'

Extract 7. *0:09:01-0:09:24 (version 2)*

(1) 语速最快的应该是新闻播报
'The fastest speaking rate should be in news broadcasting.'

(2) 前面憋瞎逼逼了 你随便在街上抓一叔叔伯伯都比rap还快
'The guy before stop saying nonsense, you seize any old guy on the street and they talk even faster than rap.'

Extract 8. *0:06:03-0:06:11 (version 3)*

(1) 巴萨居然不讲catalan，不可思议
'Barcelona doesn't speak Catalan, incredible.'

Last but not least, being unable to understand the original audio, many viewers mistake unfamiliar and quickly uttered words or phrases for familiar and near-homophonic versions. With the *danmu* system, they can easily recognize and discuss the shared experience. For example, in Figure 6 the hooded man offers a secret job to the protagonist who answers in a tired and low voice: '*espiar* (spy)?' Triggered by the unclear response, two users in Extract 9 point out that somehow they hear 'FBI', the abbreviation for the Federal Bureau of Investigation of the United States. This is better-known in China and potentially suits the context. In Extract 10, comment 2 explains the mishearing with an arrow to address comment 1 while comment 3 is still shows confusion by the more plausible version.

Figure 6. Homophones

Extract 9. *0:04:18-0:04:31 (version 3)*

(1) 原谅我好像听到了FBI。。。
'Forgive me for maybe hearing *FBI*…'

(2) FBI＋1
'*FBI* too.'

Extract 10. *0:04:26-0:04:42 (version 1)*

(1) 这句说的是fb 吗？fb 被翻译成特工？
'Does this sentence says *fbi*? Is *fbi* translated in agent?'

(2) ←espiar，就是spy，说fb 的空耳了
'That is *espiar*, which means spy. Whoever said *fbi* misheard.'

(3) 哪里有fb ……
'Where is *fbi*…'

In a broader sense, mishearing or phonetic subtitling has been a common practice on Web 2.0 multimedia platforms such as YouTube (Androutsopoulos 2010) and Bilibili (Zheng 2016). The word 空耳 (*kong'er*) in comment 2 Extract 10 is a direct loanword from Japanese which means 'auditory hallucination'. It is used by Chinese netizens to refer to humorous or parodic transcriptions of dialogues or lyrics in a foreign language. In other words, users intentionally misinterpret the original voice, appropriate it for a different audience and purpose, and even convert the media material into an entirely new semiotic artifact.

5.2 Learning Spanish

The second category consists of 108 comments (29%) related to Learning Spanish as a Foreign language. Instead of prompted by a specific detail, most of these comments appear at the beginning of the video which contains no more than an image of distant landscape. This provides an opportunity for users to greet each other and discuss how they become aware of and decided to watch MdT. A total of 51 users explicitly refer to 学 (*xue*), the Chinese word for 'learn'. This constitutes one of the main reasons for the viewing given that many consider the video useful material that aids their learning in various ways:

1. Creating an authentic language context which turns out especially helpful to those beginners or freshman majoring in Spanish: 'being a beginner in Spanish I come to feel the context'.
2. Improving listening skills ('I come to practice listening comprehension.'). This is even better if the series is not subtitled: 'I want to watch without subtitles to practice listening, anybody kindly share the video?' / 'they are on rtve, have a look there'. Interestingly, this conversation causes a user to have a complaint: 'when there are no subtitles you guys shout for them, while there are subtitles you want the one without them. You are really hard to please.'
3. Introducing Spanish history and society: 'I, in need of sociocultural knowledge, am still watching'.
4. Refreshing and maintaining the language ability: 'it has been so long since I watched Spanish series. If not, I would soon forget Spanish.'

The heated discussion raises interest in curious viewers who are new to Spanish ('I'm not a Spanish learner and it's my first time watching a Spanish series, but now I feel like learning it'). However, some users seem to disagree. They share

their learning experience ('just want to say that Spanish is a bit hard, having studied it for half of the semester'), perceptions ('once one starts learning Spanish it is as deep as the ocean.'), and even discourage them ('do not learn it, you will freak out.'). Responding to a question of 'can people learn Spanish by watching television series?' a user directly says: 'No.'

Others manifest learning in more entertaining ways. Some learners associate the characters' names with their Spanish names given by the teacher or chosen voluntarily in the first class: 'My Spanish name also happens to be Blanca, hahaha.' 'Our class also has Blanca and Isabel'. In the opening credits of the fansub group, three users recognize their Spanish teacher's name ('omg saw our professor among translators, this…'). Some choose to interact in the object language, e.g., *me llamo Rebeca* ('my name is Rebeca'), *me gusta estudiar* ('I like studying').

Although *danmu* is completely anonymous, many users try to establish offline relationships probably because in real life they are all Spanish learners. They use 血统 (*xuetong*, 'bloodline') to describe the possibility of being classmates while others enjoy to 'go sightseeing on you guys trying to relate to each other, hahaha.' A user explicitly refers to the exam of DELE or Diplomas of Spanish as a Foreign Language, and calls for company ('anybody preparing for b1 in November 2016? Would you raise your hand and form a group with me?'). Nevertheless, some consider the attempt unnecessary. As a user notes, Spanish is no longer a less preferred language in China, but a popular subject in many schools, universities and language centers in recent years ('there are plenty of students of Spanish. Our high school has a Spanish class, let alone those in university.').

5.3 Spanish–Chinese translation

Lastly, users are also concerned about the provided Chinese translation (44 comments at 11%).The subtitles are made by fans for fans and differ from the official ones in many ways (L. Zhang and Cassany 2016, in press). In particular, fansubs adopt creative subtitling techniques that facilitate the understanding of a complex story with a remote historical background. Two strategies that impress the audience are onscreen text imitation and annotations, which have been acknowledged in the broader translation studies as 'perhaps the most attention-grabbing techniques' activated by fansubbers (Diaz Cintas and Munoz Sanchez 2006; Diaz Cintas 2018; Dwyer 2012;Josephy-Hernández 2017; Ortabasi 2006; Pérez-González 2007).

Onscreen text imitation is applied when a text appears on the screen and serves for the plot development such as a message, sign-board, title of the series, etc. Instead of translating them in the bottom subtitles, fansubbers take the liberty of creating a new graphical unit alongside the original text replicating its style to produce an authentic appearance for the audience. One example is Figure 7 where

the imitative Chinese characters are integrated with the book cover. The image only exists briefly on the screen, but the special effect fools many viewers (e.g., Extract 11) upon first sight.

Figure 7. Onscreen text imitation

Extract 11. *0:33:35-0:33:46 (version 1)*

(1) 这字幕超强，完全没痕迹融合进去了
'These subtitles are extraordinary, integrating without the smallest trace.'

(2) 真的无痕！看到弹幕才发现
'Really untraceable! I didn't realize it until reading the *danmu*.'

Fansubbers also add annotations to explain a specific term or a cultural reference in the video. Like on-screen text imitation, this practice is rarely seen in official translations but is appreciated by fans of the media product. Figure 8 includes a brief note on the Spanish honorific *Don*. In view of the note, participants in Extract 12 initiate an exchange on Spanish names referring to famous figures such as *Don Quijote* and *Don Juan*. Since they are known in China by phonetic transcription, it is difficult to distinguish between the first name, last name and honorific titles. This linguistic discussion only takes place in Version 1 that incorporates the explanation of *Don*; in two other fansubs without it, the word passes unnoticed.

Figure 8. Fansubber's annotation

Extract 12. *0:49:27-0:49:46 (version 1)*

(1) 所以堂吉柯德叫吉柯德?
'So Don Quijote is called Quijote?'

(2) 对唐是西班牙语伯爵don的音译
'Yes. *Tang* is the transcription of the Spanish nobleman *don*.'

(3) 对，唐璜其实就叫胡安
'Yes, Don Juan is actually named Juan.'

(4) 堂吉柯德是 Don Quijote De Lamancha
'Don Quijote is Don Quijote De Lamancha.'

On the other hand, users who have a good command of Spanish are sensitive to any explicit mistake or potential inconsistency in the Chinese subtitles. A total of seven linguistic points in semantic, phraseological and syntactical domains are criticized or suggested for reframe (depending on the viewer's language level; the observations are not always accurate). Normally only one user picks out the mistake however the most problematic one is shown in Figure 9: *una caña* ('a beer') translated into 'a cane wine'. As several users immediately indicate in Extract 13, the acceptation is used commonly to order a beer in a Spanish bar. However, someone without that experience is likely to mis-translate probably basing their translation exclusively on a dictionary as comment 2 infers taking up a translator's position.

Extract 13. *0:08:10-0:08:27 (version 2)*

(1) caña一般指要一扎/一杯啤酒
'*caña* usually means that one wants a pitcher / glass of beer.'

(2) caña是指一杯好不好
'*caña* refers to a glass ok?'

Figure 9. Improper translation

(3) 甘蔗酒什么鬼翻译。。
'What the hell is the translation in cane wine…'

(4) una caña是一杯啤酒的意思 不是甘蔗酒
'*una caña* means a glass of beer, not a cane wine.'

(5) 译成了甘蔗酒可能是因为翻译查字典的时候查到的是蔗糖这个解释
'The reason for the translation in cane wine could be that when the translator looked it up in the dictionary, it says sucrose.'

Danmu reconfigures the audiovisual product in a highly visible and public manner. The above examples present a complex interaction among multiple voices: (1) the original soundtrack in Spanish; (2) the translation in Chinese; (3) fansubbers' annotation on (2); (4) viewers' comments in *danmu*. Being embedded in the video, these revisions gain meaning through intertextual and multimodal references and are subject to frequent updating in the future.

6. Discussion and conclusions

As Barton and Lee (2013) noted from their observation on YouTube, participation in linguistic discussions on such video sites is particular because they are often initiated by the visual content. In other words, they are articulated collaboratively and multimodally. This peculiarity influences the way in which users interact and express themselves on Bilibili which we conceptualize not simply as a location for storing, viewing and commenting videos, but a space for complex, multi-authored, highly dynamic and open-ended collaborative writing.

Regarding RQ1, *danmu* users referred to three main linguistic topics: Spanish language, Spanish–Chinese translation, and learning Spanish. Concerning the first aspect, viewers are mostly interested in linguistic features that contrast with

Chinese or English. Some commonly recognized differences include the fast speaking rate, the complex grammar, and the frequent vulgarity in media products. Secondly, viewers use *danmu* to provide feedback to the fansub group's work. They underscore and express gratitude for the creative and meticulous post-production, i.e. on-screen text imitation and annotations. Critical users also pick out mistakes in the translation. Finally, they use *danmu* to improve specific linguistic competences such as listening skills and to pick up uncommon linguistic forms, vocabulary and collocations.

The purpose of the participation varies depending on users' linguistic profile. Those who have their first contact with Spanish actively engage in crosslinguistic comparisons using their (multi)linguistic repertoire. They raise interpretations on novel phenomena and seek confirmation from senior users. On the other hand, participants with a better experience with Spanish speakers respond to newcomers' doubts from an insider's perspective. They also play with the language through creative and entertaining comments while taking a learner and a reviewer's role to make use of the audiovisual material.

On traditional western-based social media (e.g., Flickr), users with a parallel profile, i.e. those whose mother tongue is not English but choose to express themselves in the lingua franca, tend to develop a self-deprecating metalanguage (Lee 2013). This means that they downplay their linguistic abilities using expressions like 'my English is so poor'. While this practice is pervasive in Web 2.0 and facilitates social networking and widens participation, it is unusual under an anonymous environment such as Bilibili. Here it is the co-production of diverse knowledge or *collective intelligence* (Levy 1997) rather than identity work that is most valued as it enriches the viewing experience.

Regarding RQ2, *danmu* provides an access to sociolinguistic issues that are central for daily communication such as the speech rate, language varieties, the colloquial register, and attitudes towards vulgar expressions. This knowledge is particularly useful to learners located in such a distant context as China as reported by Milans (2012) in his article "'Ah! Spain, that's far away from China': Methodological reflexivity and mobility in critical sociolinguistic ethnography." Using the interactive commentary system on Bilibili, viewers collaboratively confirm or revise their previous attitudes and knowledge on Spanish language and culture. The original audio and video channel, along with bilingual subtitles and fansubbers' notes, create an excellent context for people who have not made contact with Spaniards in order to develop their sociocultural competences.

Moreover, the *danmu* technology facilitates the participation in the exact sequence where the sociocultural reality is projected. It enables users to post specific and brief comments which the fan community of Bilibili read and understand under the same contexts. They are also ready to respond to the comprehension

needs or curiosities of others. According to their expertise, they even collaborate online in meaning-making and problem-solving practices such as the 'vos' in Old Castilian to better enjoy their favorite television series. From a broader perspective, they are a form of participatory culture (Jenkins 2006) where the explosion of new media technologies make it possible for average consumers to archive, annotate, appropriate, and recirculate media content in powerful new ways.

A growing number of research has found such support among many fan communities online (Sauro 2017; Shafirova and Cassany 2019; Vazquez-Calvo 2018; Vazquez-Calvo, L. Zhang, Pascual and Cassany 2019). However, prior to *danmu*, these group activities often relied on forum threads or private messages. On Bilibili, the corrections or discussions become part of the video and appear simultaneously with the questionable subtitles. In this sense, watching videos with *danmu* is comparable to reading a book with dynamic annotations. To process the reconfigured video content requires a higher cognitive effort from viewers. Many complain about (1) the visual clutter, since certain styles or fonts are considered ugly and destroy the aesthetics of the original video, (2) the excess of information, which distracts them from catching up on the video, and (3) the information pollutant, i.e. irrelevant and redundant comments, such as the release of personal emotions, quarrels between film star fans and even spoiler (Chen, Gau and Rau 2017).

On the other hand, viewers on Bilibili also benefit from an ever-changing body of supplementary information. This is not limited to linguistic revision, but also historical facts, names of actors or background music, and the entertaining messages and recreations. They orient the interpretation of the media product outlining what interests the fans and what deserves more attention. Thus, less expert users can use *danmu* to understand the series as the rest of fans do on Bilibili.

In a broader sense, *danmu* also constitutes an attempt to reconcile the viewers' own understanding of the Spanish dialogue with the Chinese rendition provided by the subtitlers – particularly when this is felt to be not particularly accurate. On one hand, fansubbers' decisions are often influenced by their fan viewers' preferences and expectations of the media product (Denison 2011;Dwyer 2012; Pérez-González 2014); on the other hand, audience are aware of fansubbers' amateurism, which encourages them to challenge translators' decisions and engage in discussions related to translation or language use. Some scholars in the AVT field have noticed this unique phenomenon recently (Díaz-Cintas 2018; Dwyer 2017), and consider *danmu* to be a 'direct channel that shortens the communicative distance between translators and viewers' (Díaz-Cintas 2018,140). Thus, to examine the interaction between fansubbing and audience perception and interpretation in *danmu*-mediated encounters remains a valuable future direction.

Finally, another widely acknowledged benefit of viewing multimedia materials is an enhanced cultural comprehension. A study on 470 Chinese university

students revealed that they gain their cultural knowledge about Western culture and society mostly from films and TV series and that they also prefer to learn in this way (Yang 2016). Thus, focusing on these *danmu* related to cultural topics is a valuable and viable line of future research in an effort to explore how people's ideological opinions are shaped by media representations of language and society. MdT would be a good fit for this as well since it provides a vivid portrayal of the Spanish nation, culture and history (see L. Zhang and Cassany 2019 for an exploration of *danmu* and interculturality).

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We published the article in the special issue *Understanding Chinese social media*. I received the call for papers from Sumin Zhao, one of the guest editors and the supervisor of my research stay. This novel journal (created in 2018) of John Benjamins attracted contributions from many internet linguists, including Alexandra Georgakopoulou, Francisco Yus, Ruth Page, etc. We sent an abstract for evaluation in June, 2018, and received the invitation in July.

We underwent two rounds of revision. In the first round, both guest editors and an external reviewer reviewed the manuscript. They suggested major revisions on theories, methodology and organization of results. In response, we reframed the study within humor studies, revised and updated the literature on multimodality, eliminated the quantitative procedure, and regrouped the results according to their humor construction mechanisms. The revised manuscript was reviewed by another external reviewer and was accepted with minor changes. Here follows the publication process:

First submission	2019-01-06
First response	2019-03-12 Major revisions
Second submission	2019-05-08
Second response	2019-06-03 Accepted with minor revisions
Third submission	2019-06-14
Preprint	2019-10-16
Citation (Google Scholar)	N/A (accessed 21/04/2020)

Table 3. Publication process

"The murderer is him ✓ "

Multimodal humor in *danmu* video comments

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This paper analyzes humorous comments created through a popular viewing-and-commenting system used in China and Japan, known as *danmu* (or *danmaku*). This system enables its users to superimpose anonymous comments on the video frame, which are displayed in subsequent viewing. We collected 327 user-selected 'funniest' screenshots of comments from *danmu* video sharing sites. Using content and discourse analysis, we re-contextualized the comments and identified main mechanisms of humor. Results show that speakers make fun of the plot, characters and of each other, relating to the video frame, Chinese culture and Japanese fandom. They rely on non-aggressive but rather playful teasing, allusions and retorts, and apply multimodal resources such as color, layout, and symbols to enhance the humorous effect. Our study contributes to the emerging research focus on multimodal humor (Yus 2016), social semiotics and a discursive approach to *danmu*-mediated communication.

Keywords: *danmaku*, affordances, incongruity, semiotic modes, video sharing, Bilibili

1. Introduction

A little more than a decade ago, the Chinese video-sharing website AcFun (an abbreviation of anime, comic and fun) launched a viewing system known as *danmu*, which marked the beginning of a new era for online video sharing in China. Inspired by the Japanese prototype created by Nico Nico Douga ("Smiley Smiley Video"), *danmu* displays viewers' comments on the video content, scrolling from right to left on the screen as the video displays. This phenomenon seems to resemble a "bullet curtain", which is the literal meaning of the term *danmu* in Chinese (Figure 1).

Danmu authors can select the text size, color and movement; audience can also personalize their viewing experience (adjust the font, transparency, speed,

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Figure 1. A screenshot of a *danmu* video from Bilibili: World Cup 2018 official song Команда[1]

etc.), filter certain comments, or deactivate *danmu*. This interface rapidly gained popularity in China and is now supported by both fan-based platforms and many mainstream video streaming sites. The most popular *danmu* server, bilibili.com, claims around 90 million visitors per month, and more than 4 million monthly paying users (Bilibili 2019; see Nakajima 2019 for a comparison of Nico Nico with Bilibili).

Regarding its popularity, a survey of 248 participants (Chen, Gao and Rau 2017) reveals that people view *danmu* to obtain: (1) information (e.g., background story, music, actors); (2) entertainment (e.g., complaints, parodies); and (3) social connectedness, i.e., a "pseudo-synchronous" feeling of shared viewing (Johnson 2013). Meanwhile, infrequent users complain about the visual clutter (e.g., ugly styles or fonts), the excess of information, and information 'pollution', in other words, irrelevant and redundant comments, for instance, personal emotions, quarrels between fans, or spoilers. These could destroy the aesthetic effect of the original video, hinder viewers' understanding, and thus bring inconvenience to the viewing experience.

Nevertheless, Chinese internet users embrace *danmu*, and in some cases the comments seem to garner more attention than the video itself. As Hsiao (2015: 113) observes, "for viewers, the programs are not the only main points; rather, the other viewers' comments that scroll across the screen in real time are more popular". It provides a habitat for the Japanese fandom (also known as ACG, an acronym for anime, comic and game) in China, and fosters a complex and dynamic participatory culture (Zheng 2016; Chen 2018); in the wider social context, it serves as an alternative platform for free speech and potential democratic participation (Yin and Fung 2017).

1. See https://bit.ly/2RTtlfI (accessed 11 December 2018).

This phenomenon has drawn scholarly interest from different disciplines, including information and communication studies, cultural and film studies (Nozawa 2012; Johnson 2013; Xu 2016; Zheng 2016; Dwyer 2017; Steinberg 2017; Yin and Fung 2017; Chen 2018; Díaz-Cintas 2018; Nakajima 2019), and applied linguistics (Hsiao 2015; Zhang 2017; Yang 2019a, 2019b; Zhang and Cassany 2019a, 2019b). However, *danmu* remains a largely unknown practice to both international academic audience and the public.

Our study is situated in this emerging body of work and explores an unstudied aspect of *danmu*. As can be readily seen from Figure 1, *danmu* comments are increasingly colorful and multidirectional. The texts are written in diverse scripts (e.g., Chinese characters, Latin alphabet, Cyrillic script) with non-standard semiotic resources (icons, smileys, etc.). The interaction between software design and its use is a crucial point in multimodal studies, in particular, studies on semiotic technologies (Djonov and Van Leeuwen 2013; Zhao, Djonov and Van Leeuwen 2014; Zhao and Zappavigna 2018). Our study expands earlier research that has mainly centered on Western multimedia platforms such as YouTube (e.g., Adami 2009; Sindoni 2013; Benson 2017), in order to explore original modes of interaction in the Asian context.

This paper emerges from the first author's PhD research, which focuses on the role of *danmu* in language and intercultural learning (Zhang and Cassany 2019a, 2019b). We draw upon data from a popular post titled 'What are the funny *danmu*?' on the Chinese question-and-answer website Zhihu. With the most liked screenshots selected by fans across years, platforms and genres, we aim to answer the following research questions:

RQ1: What humor mechanisms are employed in funny *danmu* comments?
RQ2: How do multimodal resources contribute (or not) to the humorous effect?

2. Humor and the *danmu* language

Our data deal with what is funny, amusing or laughable, or the study of humor in academic terms. Scholars from many fields like psychology, sociology, literature, philosophy and computer science have analyzed the concept of humor extensively. From our linguistic approach, the *incongruity-resolution* (IR) model is among the most popular theories that explain the strategies underlying humorous communication, in particular, the (canned) joke (e.g., Suls 1983; Raskin 1985; Attardo and Raskin 1991; Ritchie 2004; Dynel 2009a; Yus 2016; Attardo 2017).

The premise of the IR model is that people interpret jokes in a dual-phase pattern: (1) the hearer comes across certain incongruity or *cognitive dissonance* (Yus

1997); and (2) the hearer finds a resolution that reconciles the incongruity and obtains a humorous outcome. Yus (2016) differentiates between *discourse-centered incongruity*, which requires the hearer to adopt inferential strategies to process to joke for relevance (Sperber and Wilson 1995), and *frame-based incongruity*, which requires the hearer to construct an appropriate mental situation to make sense of the joke. In either case, the expectation of a non-serious conversation, the pleasure in solving incongruities, and shared social values and attitudes with the joker all contribute to a humorous outcome.

Beyond (canned) jokes, many researchers have explored *conversational humor* (Dynel 2009b, 2011) or *humor in interaction* (Norrick and Chiaro 2010). This work has shed light on a range of semantic and pragmatic devices that construct humorous effects in dialogic interactions. The first set encompasses devices that are frequent but not particular to conversational texts (Dynel 2009b), such as humorous lexemes and phrasemes; punning; allusions to existing texts with distortions and quotations; stylistic figures (comparison, irony and sarcasm); and register clash (mixing informal and formal discourse items).

The second set concerns mechanisms that are inherently interactive and interwoven into a conversation exchange, where humor is often co-constructed, constituting *conjoint humor* (Holmes 2006). Many scholars (e.g., Norrick 1993; Boxer and Cortés-Conde 1997; Hay 2000; Dynel 2008, 2009b) have analyzed, among others, teasing (jocular utterances performing playful and non-aggressive functions such as mock challenges or imitation); retorts (a quick and witty response to a preceding turn with which it forms an *adjacency pair*); putdowns (abusive and disparaging remarks); and banter (a rapid exchange of humorous lines for mutual entertainment).

Focusing on *danmu*-mediated interactions, some scholars have foregrounded the humorous feature of the *danmu* language. Hsiao (2015: 113) identifies a distinctive verbal art, *tucao*, which consists of "commenting on someone or something by uncovering the truth about it in a sarcastic, harsh, and humorous tone". *Tucao* is realized through repetition, rhetorical questions and internet slang. Successful *tucao* acts "evoke laughter, elicit empathy, or threaten someone's face" (Hsiao 2015: 124). They are not taken too seriously and echoed by other users. As a result, they facilitate a group rapport in the *danmu* community, which is also proven an important function of conversational humor (Hay 2000; Holmes 2005; Coates 2007).

Zhang (2017) relates *danmu*-mediated writing practices to Bakhtin's (1984) notion of the "carnivalesque" (cf. Díaz-Cintas 2018). The concept is defined as a subversive literacy mode against the assumed dominant style, and uses humor and chaos for free expression. For example, users employ vulgar expressions to transliterate English used in the video, e.g., "Shǐ dà kē" (literal meaning: "shit big

chunk") for Stark (the Marvel Comics superhero Iron Man). In choosing certain characters resembling the original English pronunciation, speakers manifest their plurilingual competence, a good sense of humor, and the "carnival" or "grotesque" orientations of the *danmu* language.

Unlike verbal humor or humor conveyed by language, multimodal humor remains a largely under-researched area for linguists. A few exceptions include analyzing comedy footage to identify multimodal stimuli like prosody and gesture (e.g., Attardo et al. 2003), examining cartoons (Tsakona 2009) and postcards (Francesconi 2011) through a combination of cognitive and semiotic approaches, and testing the IR model on advertisements and cartoons (Yus 2016) and image macros (Dynel 2016), i.e., user-generated online memes where a humorous text (a caption) is overlaid on a visual image.

Our study departs from previous research that conceptualizes multimodal humor via two semiotic modes, the verbal and the visual. Instead, we take into account modes made available through the *danmu* system, such as color and layout, to identify patterns or mechanisms to convey humor. This leads us to the field of multimodality and, specifically, the meaning potentials of semiotic modes.

3. Multimodality and semiotic modes of *danmu*

Multimodality refers to the combination of semiotic modes in the meaning making process (Kress and Van Leeuwen 2001). Multimodal discourse analysis (MDA) studies of social media have explored emerging meaning-making forms in online discourse, thanks to the advancement of sophisticated Web 2.0 technologies. Zappavigna and Zhao (2017) consider selfies as a visual genre, and analyze how they represent the everyday experiences of motherhood on Instagram. Zappavigna (2018) focuses on social tagging or hashtags, which enable metacommentary or metadiscourse to be embedded in the social media communication, with diverse linguistic functions from taxonomic classification to evaluation. Georgalou (2017) builds a comprehensive dataset of Facebook posts and interviews, to document how users discursively construct and negotiate their identity.

Many MDA studies have adopted a social semiotic perspective (Halliday 1978; Kress and Van Leeuwen 2006). This approach is based on Systemic Functional Linguistics (SFL), which asserts that language performs simultaneously three *metafunctions* in any communicative event: an *experiential* function of enacting experience, an *interpersonal* function of negotiating relationships, and a *textual* function of organizing information (Halliday and Matthiessen 2004).

From an SF perspective, we can draw some general considerations on two main semiotic modes to which *danmu* provides access, i.e., color and movement. First, as discussed by Kress and Van Leeuwen (2002: 343), color can be discussed as a semiotic resource or a mode that "is multifunctional in its uses in the culturally located making of signs". Color can realize the ideational function to denote specific or classes of people, places and things, like colors of flags, corporations or universities; it can convey interpersonal meaning to influence others, such as orange signs of obstruction; on a textual level, it can distinguish differences as well as create coherence, creating a *color coordination* based on the same degree of brightness, and/or saturation. Moreover, color has an *associative value*, or *color symbolism* (Van Leeuwen 2011), which relates to its cultural and historic provenance, and should be carefully interpreted in the given socio-cultural context.

Second, *danmu* enables users to select the movement or the *dynamic layout* of comments. Layout is considered an integrative semiotic resource, which enables images, words and other spatially co-present elements to be combined to form cohesive and coherent multimodal texts (Kress and Van Leeuwen 2006). In semiotic software such as PowerPoint, layout has been critically examined as a primary meaning-making resource that can both benefit or constrain users' awareness and experience in the design of slideshows (Djonov and Van Leeuwen 2013; Zhao, Djonov and Van Leeuwen 2014). In other words, while the software has considerable capacity to impose certain norms on the use of layout, users also actively go beyond those principles for their own objectives and within particular culture.

As Zhao and Zappavigna (2018) suggest, the meaning-making potential of social media genres is shaped by the constantly evolving technologies. In the case of *danmu*, the platform makes available *affordances* which guide the commenting practice, i.e., the embedded comment section and its typographic design options (See also Yang 2019a for a detailed analysis on *danmu* from a semiotic technology perspective). However, users do not take up all the resources or make semiotic choices correspondingly. As we will see in the examples, sometimes they go against the indications of the platform and produce creative and even stylized ways for humorous meaning making.

4. Data collection and analysis

To collect examples of interaction in *danmu* commentary, we ran a search on Zhihu, the biggest Chinese social question answering site, similar to Quora in the Western world. Using the keyword *danmu*, we found popular posts such as "What are the funny *danmu* (comments)?", "What *danmu* made you shed tears?" and "What *danmu* you sent went viral?". The first question, created in January 2016

under the original title "What are the funniest *danmu* you have ever seen?",[2] was by far the most popular one. The answers usually contained one or more screenshots, a short explanation made by the author, and several pages of other users' comments. The question attracted nearly 5,000 answers and over 68,000 followers. Given its highly relevant content and popularity, we chose this post as our data source.

To construct the dataset, we focused on answers with over 1,000 likes, with the most liked one hitting 17,000 likes. We excluded a few text-only answers, since it was difficult to retrieve the original viewing context. The rest of the answers presented screenshots taken from different platforms, including *danmu*-themed websites Bilibili and AcFun, official video streaming and sharing sites like Souhu, Tudou, iQiyi, etc. and the Japanese video-sharing site Nicovideo. They were selected by experts in the fan community, i.e., fans of media products and frequent users of *danmu*, and valued by the public. In other words, they constituted a representative sample from the platform for our analysis.

We collected 327 screenshots dated 16–19 July 2018. To facilitate the analysis, we first cleaned the data in two steps: (1) discarding repetitive screenshots; and (2) merging a sequence of continuous screenshots into one item for analysis (e.g., Figure 3), incorporating enough data to explicate the mechanism for humor. This resulted in 134 screenshots for analysis.

We based our analysis on the whole screen capture, which represents a communicative situation triggered by the funny comment (Figure 2). Since *danmu* comments are shown without authorship, it is impossible to identify the number or identity of individuals behind them. However, we consider *danmu* a social action, where certain comments tend to induce others to follow them, as our examples will illustrate. Many copied or similar messages serve to follow on from or amplify earlier messages, creating nonsensical memes (Zheng 2016). We also included responses to funny comments, as long as they were complete utterances in the capture; references to other aspects in the video were considered irrelevant and excluded.

We examined the data focusing on how commenters used the *danmu* technology to make fun of the video. Since humor was produced within the particular fan context (*danmu* culture and series/movies), the first author used the following references for contextualization and cross-check: the original post, including the author's explanation and other fans' comments, the original video whenever available, and Moegirlpedia (an encyclopedia of terms in Chinese and Japanese fandom) for specialized search.

2. https://www.zhihu.com/question/19778466 (accessed 17 November 2018)

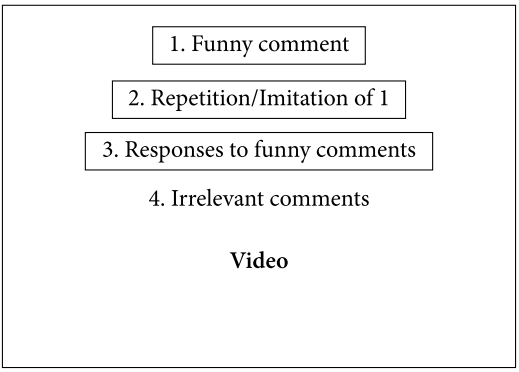


Figure 2. Basic analytical unit

Finally, to understand the humor from an insider's perspective, the first author consulted a Chinese fandom expert. She has used Bilibili for nearly five years with a membership of the second highest level. She enjoys *danmu* viewing and is knowledgeable about East Asian subculture. The first author shares a similar background, and thus the discussion between the two further contextualized our observation and enriched the analysis.

We now discuss the examples in terms of whether fun is made of the plot, characters, or each other, and analyze in each case whether, and if so how, color, layout, etc. contribute to humor. Note that we did not consider alterations in font size (Figure 1), since its visual presentation depends on the device used for viewing and the lack of information would mislead the analysis.

5. Constructing humor through multimodal resources

5.1 Making fun of the plot

Danmu users make fun of the plot in three ways. To begin with, through the embedded comments, speakers can point out some detail in the video frame that affects the plot development, such as a spoiler. Figure 3 illustrates the use of downwards arrow to indicate the criminal in the Japanese anime series *Detective Conan*.

Detective Conan is one of the most broadcast animations in China, and many fans' favorite activity is guessing the murderer in each episode. With *danmu*, some discovered an original way to enjoy the series, i.e., inserting deictic emojis at the exact time and place to reveal the culprit beforehand. In the aligned central comments, various speakers (in different colors) also add a check mark in their affirmation, signaling that the mission of this episode, i.e., searching for the murderer, is completed. This practice is reminiscent of giving spoilers prior to the digital era,

Extract 1. Screenshot 1 (with symbols)
'The murderer is him (check mark).'
'Criminal (downwards arrow).'

Figure 3. A spoiler

when comic readers drew a circle on the killer's head upon his appearance. In both cases, the spoiler remains anonymous, which probably motivated participation.

Despite being voted as one of the funniest *danmu*, Bilibili actually forbids spoilers in its netiquette, since the result can be unwelcomed in the fan community. By examining the open access chat history, users can make an official report to the platform to mute or block the related account. From this perspective, the humorous element emerges not in the spoiler itself, but through how it is achieved collectively and at the right moment.

The multidirectional arrow, such as ←, →, ↑ and ↓, plays an important role in Figure 3 and is also among the most preferred symbols in the dataset. Zhang (2017) identifis three main functions of deictic emojis in *danmu* screening: (1) to pinpoint and correct/edit one's own comments; (2) to pinpoint the video content; and (3) to mark one's reply to another user. In a complex environment where messages are gradually layered onto the video, arrows act as markers of turn-taking and direct cohesive conversations. However, due to their ability to indicate certain detail in the video frame, arrows also facilitate humor which is specific to the plot.

Moreover, speakers choose different colors and a specific position to collectively repeat the punchline: 'The murderer is him (check mark)'. While color seems to be selected based on personal taste, the layout of the phrase is designed as top *danmu*, appearing at the top center of the frame for a few seconds. According to the user guide of Bilibili, scrolling *danmu* are the default setting, and hence, multifunctional, whereas top *danmu* overlay the scrolling text and often serve as annotation. Being designed to pop up and remain static before disappearing, top *danmu* are more readily apparent and observed in many cases, as we are about to see in Figure 4.

Secondly, speakers can also interpret the plot in a humorous way, which often involves more than one video frames. For instance, Figure 4 belongs to a series of 20 screenshots, where 16 of them feature the yellow text ridiculing the narrative.

Extract 1. Screenshot 1 (in yellow)
'An African bumps into a Japanese attempting to take over the golden oil.'
'Then the African blames him angrily that how he dared taking them since Africa is less developed in agriculture.'

Extract 2. Screenshot 2 (in yellow)
'Naturally the Japanese wouldn't surrender.'
'He would laugh.'
'And say that their natural resources are too scarce.'

Figure 4. Rewriting the narrative

The original scene is taken from *Tiny Times*, a Chinese romantic drama film series, in which four young women quarrel over an alleged scandal. Argument between women is a recurring theme of the film, but also the target of criticism

and mockery, such as the yellow comment in Figure 4. Using the central position and a striking color, the commenter marks a difference from other speakers in white, suggesting an unconventional move: proposing an alternative story based on the meme of *Jinkela*.

As one of the most famous and long-lasting Chinese internet memes, *Jinkela*, or "golden oil", is a brand of fertilizer best known for its advertisements. In one of its most popular clips, a Japanese and an African argued fiercely to take over the product for their own countries, until an American intervened and ruled in favor of the African. The exaggerating plot and the overacting of foreigners speaking Chinese motivated numerous remixes and parodies.

The humor in Extract 1 and 2 is achieved through a script opposition (SO) (Raskin 1985), enhanced by a consistent use of color and layout. The yellow text potentially suits two unrelated and incompatible scripts: the meme and the video scene, which causes incongruity and evokes laughter. To maximize the humorous effect, the speaker inserts the rewritten argument accurately according to the protagonists' acting in each frame. The text persists in the same color and position of top *danmu* in consecutive frames, which reminds others of the parallel narrative. This captivated many viewers, with responses like: 'What on earth did the yellow font say?'; 'Good job the yellow font!'; and 'OMG, I have to pause in every frame, otherwise I would miss the yellow font.'

The third way of making fun of the plot consists of a trans-modal practice. The texts acquire a graphic quality and are perceived as part of the frame. Figure 5 shows an elaborate example where speakers combine star-like symbols to *illuminate* the night.

Figure 5 is taken from the Japanese romance anime *My Little Monster*. In this screenshot, the boy is ashamed since he fails to catch fireflies for the girl. This is the series finale, and they are still not a couple officially, which makes many fans impatient. To compensate for the loss, viewers draw fireflies, signalling an alternative script with possibility for romance. From the incongruity perspective, the symbols also challenge the original script. However, unlike previous cases, the outcome does not produce a plot twist, but contributes to the plot development in a bona fide manner.

This practice exploits the pictorial register of *danmu* and plays with the visual design of the video. Users employ a variety of symbols including punctuation marks, geometric shapes and other special symbols, using different colors. Together they recreate a night of glittering fireflies and win the other audience members' praise (Extract 1, Figure 5). As Zheng (2016: 337) suggests, "these comments have transcended the function of verbal communication, turning into a collective performance and spectacle". The next section introduces more examples of

Extract 1. Screenshot 1
'…… They are really lighting up!'
'You guys are too cute (enamored face)…'
'Fuck, I almost thought a bunch of fireflies showed up.'

Figure 5. Completing the scenario

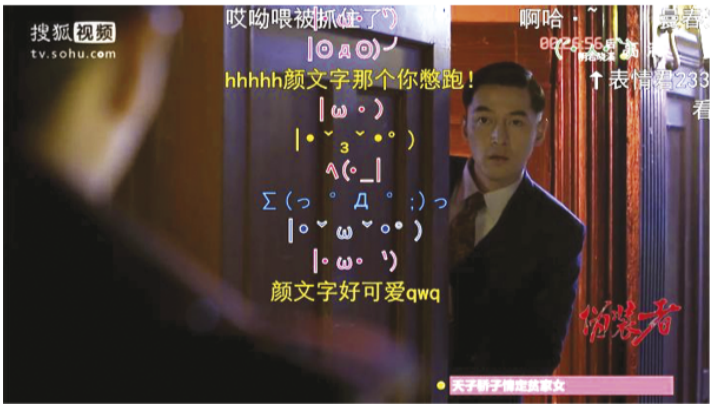
the imagine-oriented writing and the display of other resources, such as color and position.

5.2 Making fun of the characters

In addition to the plot, commenters also make fun of the foregrounded characters directly. A common strategy is using *kaomoji*, a Japanese emoticon style to represent the facial expression and even actions. *Kaomoji* is written in the Japanese writing systems (adopted Chinese characters or kanji and syllabaries of hiragana and katakana) and is read horizontally, e.g., (* ^ ω ^) for joy. Figure 6 shows a straightforward example where speakers employ *kaomoji* to mimic the character and provoke laughter.

Figure 6 is captured from the Chinese espionage series *The Disguiser*. The protagonist is a spoiled young master from a rich household trained to become a spy. In this screenshot, he is caught by surprise during a mission. Triggered by the innocent and astonished face, many speakers insert *kaomoji* to tease him. Similar to Figure 5, the degree of aggression in teasing is nearly non-existent. In other words, viewers or fans do not mean to be genuinely offensive towards the character, but rather to challenge the latter jocularly (Dynel 2009b: 1293).

The writing of *kaomoji* also manifests commenters' plurilingual repertoire. The emoticons are composed of Japanese characters and punctuation marks, but



Extract 1. Screenshot 1 (top *danmu*)
'Hahaha to that *kaomoji*, don't you leave!'
'*Kaomoji* is so cute (crying face).'

Figure 6. Imitating characters

also Latin letters, e.g., *qwq* (eyes with falling tears and a quivering mouth). Other than the facial expression, *kaomoji* can draw contextualized body language. For instance, |•ω•) and ^(•_| in Figure 6 represent hiding and resemble the man peeping from behind the wall.

While *kaomoji* seems popular among speakers, other genres of emojis, such as smileys and objects, are not present in our data. Our informant suggested that they seem too "universal" and "middle-aged" to be adopted by *danmu* users, who are mostly young people and fans of Japanese subculture. As a substitute, they prefer emoticons and especially *kaomoji*, which evoke a feeling of cuteness, distinguish them from ordinary users, and represent their identity. According to Zhang (2017), in *danmu* comments, emoticons and *kaomoji* are employed four times more than emojis.

A more sophisticated way to make fun of the characters is alluding to idioms and proverbs, which are recognizable to recipients with sufficient cultural knowledge. As Dynel (2009b: 1290) asserts, "their humorous force stems primarily from the language user's acknowledgement of the pre-existing text and the quote's relevance to the situation". Figure 7 exemplifies how speakers exploit green, a color with idiosyncratic meanings in Chinese culture, to tease the character.

Figure 7, belonging to a series of five screenshots, is taken from the Chinese classical television series *Romance of the Three Kingdoms*. It captures the moment when the commandant Lü Bu finds out that Diaochan, while betrothed to him, is also a concubine of Dong Zhuo, his superior and foster father. In response to this

Extract 1. Screenshot 1 (in green)
'I feel pity for Lü Bu.'
'What? My *danmu* just turned green automatically.'
'Green cloth (homophone for Lü Bu).'

Figure 7. Culture-related humor

plot development, many green squares appear on Lü Bu's head at the top of the screen. Although the use of symbols and position also stand out, on this occasion it is the color that plays a crucial role in building the humor.

Traditionally in Chinese, 'wearing a green hat' refers to being cuckolded. This derives from earlier Chinese history, when green was considered an 'in-between color', used for inferior quality clothing (Xing 2009); since the 13th century, green headwraps were required for family members of prostitutes, which further evolved into 'green hats' for husbands whose wives commit adultery. Nowadays its implication is so widespread that it would be familiar to all the audience and create a humorous effect.

To reference this traditional association, speakers combine color with other semiotic resources: they employ square emojis to form a hat, and place them exactly at the center of the frame, covering the protagonist's head. Others turn their texts green, expressing pity for him, acting surprisingly, and making a pun on his name (Extract 1). This prompts many laughs, acknowledgement and followers (e.g., 'Testing testing (in green).'). In a total of four cases, we found speakers creating a green hat for husband made a cuckold, which points to a common humorous practice through *danmu* (cf. Xu 2016; Teng 2018).

Another original way to tease the characters is making up conversations for them through bottom *danmu*. Located at the bottom center, bottom *danmu* normally occupy the position of the subtitles with the same animation. This is conve-

nient if a video has no subtitles, e.g., the Russia 2018 World Cup song (Figure 1), because volunteers, or 'wild subtitlers' as they are known informally, provide lyrics and translation using bottom *danmu* (see Yang 2019b for an exploration on *danmaku* subtitling). However, the content can also be altered or manipulated to create a comical effect.

Figure 8 is taken from the Korean television series *My Love from the Star*. It is a romantic fantasy story between a girl and an alien with human appearance. In this intense scene, the injured alien refuses to be taken to hospital but cannot explain why, which leaves a silence in the last screenshot. Appropriating the blank space for subtitles, a speaker inserts bottom *danmu* as his response.

Extract 1. Screenshots 1–4
(Subtitle) 'Go to the hospital.'
(Subtitle) 'I can't.'
(Subtitle) 'Why can't you?'
(*Danmu*) 'Because… I… don't have… health insurance.'

Figure 8. Creating subtitles

The reference to health insurance is hilarious; it spoils the mood and runs counter to the male character's cold and distant persona. In terms of conversational humor, the response acts as a retort, intended to amuse the hearer unexpectedly, especially towards the indirect addressee or the third party, i.e., the audience of the series. The intention is succeeded, since given the minimal difference between the font used for original subtitles and *danmu*, many people do not realize the trick on first inspection.

Finally, Figure 9 represents perhaps the most extreme case where the main objective is not to convey humor, but to showcase the multimodal skills of the commenter. The screenshot captures an image-oriented writing that is far more complex than Figures 5, 6 and 7, signaling deep worship of the character, created solely and vividly by *danmu*. It shows a portrait of Rem, from the anime *Re:Zero – Starting Life in Another World*. She won the most popular Japanese anime/manga character awards on Bilibili in 2016, and inspired numerous creations of fan art. In this screenshot, she appears in the form of advanced *danmu*, involving complex typographic alterations of the text. Upon seeing the image, many fans express their excitement and admiration for the unknown creator (Extract 1, Figure 9). They also use blue font, which is Rem's hair color.

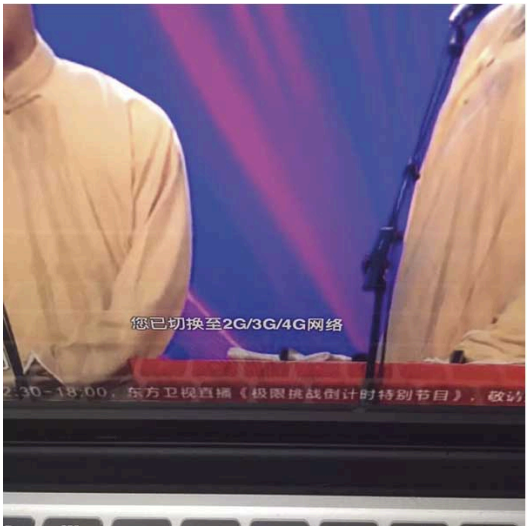
Extract 1. Screenshot 1 (In blue)
'Amazing, this is actually *danmu*.'
'I love you Rem.'

Figure 9. Comment art

Different from previous cases, pixel-like images such as Figure 9 are usually created by one person, known as a *comment artist*. Johnson (2013: 308) reports that on the Japanese video-sharing site Nicovideo, they fulfill a role that "commands a kind of prestige". Although comments are not attributed to individuals, artists enjoy more attention or praise, sometimes more than the content of the video. On Bilibili, skillful users upload tutorial videos on how to send advanced *danmu*, while the site also organizes competitions to promote *danmu* art.

5.3 Making fun of each other

The last category deals with commenters making fun of each other. Similar to Figure 8, this practice also relies on bottom *danmu*, but instead of referring to the narrative, speakers interact with potential viewers. In real-life conversations, formal phrases can be repeated verbatim in certain contexts (e.g., in court or army discourses) to create humor (Dynel 2009b: 1291). Similarly, Figure 10 shows a bottom comment faking a system notification, which triggers different reactions besides laughter. As a user explained in the comment section of the post, 'this is to scare those who watch videos on their mobile phones through Wi-Fi'. Indeed, the author of the post wrote 'This scares the hell out of me', although afterwards he posted the screenshot as one of the funniest *danmu*, and got more than 11,000 likes. According to other comments, this kind of trick is widely practiced in *danmu*. They admit having being tricked by 'low battery alert', 'computer shut off' when the screen becomes temporarily black, and 'End' or 'After 10 years' in unexpected moments.



Extract 1. Screenshot 1
'You have switched to 2G/3G/4G network.'

Figure 10. A fake system notification

On the other hand, participants also complain that they are so familiar with these tricks that they are caught unprepared when the messages are real: 'I saw it once too, and I didn't pay attention since I thought it was a joke. Not long after several

episodes there was an SMS reminding me that my data would exceed the limit… that was the hardest month I have ever lived…'.

6. Discussion and conclusions

Regarding RQ 1, our analysis sheds light on a variety of mechanisms to create humor in *danmu*. Speakers interact with and make fun of the plot, the characters and each other. From an incongruity-resolution perspective, speakers challenge the original script and put forward an alternative scenario where their participation makes sense. To "get the joke", the audience has to contextualize the funny comment in the incongruous frame (Yus 2016), using shared encyclopedic and specific knowledge, such as: (1) traditional culture (Chinese history and values); (2) popular culture and, in particular, elements of Japanese fandom (meme, idols, *kaomoji*); (3) the audiovisual product (conventions of the genre); and (4) the viewing situation (display device and network). Meanwhile, speakers resort to conversational humor mechanisms, especially when they make fun of the character and each other. Teasing, allusions and retorts are employed with a non-aggressive but rather playful intention to elicit laughter. The lightheartedness is also evident in the absence of more offensive humorous forms, such as putdowns.

Regarding RQ 2, the analysis shows that employing multimodal resources enhance the humorous effect. *Danmu* users not only draw upon the affordances of the system to make changes in color and layout, but also actively incorporate special symbols to create shapes or graphical effects. The semiotic resources contribute to humorous meaning making through textual, ideational and interpersonal level. On one hand, the resources help organize the comments, differentiating and highlighting certain messages; on the other hand, some resources represent associative values and play a key role in amusing others, e.g., green as a derogatory color for men in Chinese culture, *kaomoji* as a sign of youth and subculture. To maximize the humorous outcome, speakers even break the community's norm, e.g., dropping major spoilers or intentionally misplacing some comments to simulate "official voices" (Bakhtin 1984). Speakers also frequently combine multimodal resources, which indicates their rich experience in practicing different usages, despite the relatively new system.

The study both corroborates and suggests new directions for related fields. First, the analysis proves that classic theories on humor such as the IR model (or other similar theories that emphasize a contrast between incompatible scripts/interpretations), can be used to identify humorous strategies in multimodal communication. Furthermore, different from cartoons (Tsakona 2009) or image macros (Dynel 2016; Yus 2019), which convey humor through either visual or ver-

bal modes or a juxtaposition of the two modes, *danmu* users employ contemporary and innovative modes (color, movement, emoji) to boost humor. In a few cases, the funniness does not originate in common humorous mechanisms, but rather *surprisingly sophisticated skills of comment making*. In other words, expert users take their liberty of creation to extremes, which negotiates and broadens audience's dynamic understanding of humor. Finally, viewers acknowledge the humor through common support strategies similar to those in face-to-face interactions (Hay 2001), such as contributing more humor, playing along with the gag, and offering sympathy to the object of teasing.

This paper contributes to several emerging research focuses: multimodal humor (Tsakona 2009; Francesconi 2011; Yus 2016); multimodal meaning making on social media (Georgalou 2017; Zappavigna and Zhao 2017), in particular, the humorous and evaluative functions of *danmu* as metadiscourse (Zappavigna 2018) targeting aspects of the primary text or the context; and the study of *danmu* from a discourse analytic perspective (Hsiao 2015; Zhang 2017; Zhang and Cassany 2019a, 2019b). Further studies may intend to deepen the discussion on discourse features of the *danmu* language, such as interaction patterns and topical development. While it is crucial to understand how *danmu* mediates, facilitates or problematizes online polylogues, scholars may also be interested in exploring more usages of the cutting-edge technology, for other purposes, like education or advertisement, and for different audiences, such as its potential application in the Western context.

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We received the invitation from the editor, Giovanni Parodi, in February, 2019. The manuscript will be included in the section "corpus/discourse description", and will complement with other experimental studies on multimodal discourse in the same volume, along with scholars like John Bateman and J R Martin.

Our abstract was accepted in April, 2019. We prepared the chapter using the dataset from the third article (Chapter 4). We applied a quantitative method (rejected by *Internet Pragmatics*), documented with detail the multimodal resources in *danmu*, and developed a clearer way to present the examples. The revisions centered on more detailed description of the dataset, expansion of the conclusions, and specification on the copyright of the images.

At this stage, we have finished the final edits of the manuscript, and are waiting for the final publication of the book. The preparation process can be found below:

First submission	2019-05-29	
First response	2019-06-23	Accepted with minor revisions
Second submission	2019-08-06	
Third submission	2020-03-18	

Table 4. Preparation process

5. LANGUAGE PLAY THROUGH MULTIMODALITY: COLOR, POSITION, SYMBOL, AND SHAPE IN *DANMU*-MEDIATED COMMUNICATION

5.1 Introduction

While multimedia platforms such as YouTube have been widely studied in various fields, native video portals in Asia remain largely unknown. This study aims to bridge this gap by introducing an increasingly popular viewing system in Japan and China, known as *danmu*. *Danmu* was created in 2006 by Nico Nico Douga (lit., "Smiley Smiley Video"; abbreviated as Nicodou, Nicovideo and Niconico), a Japanese video sharing site targeted at *otakus* (anime and manga fans). *Danmu* was introduced in China in 2008 and since then has transformed people's online viewing habits. Unlike YouTube, *danmu* video player has the user-generated comments built in, running across the screen from right to left (Figure 7). Users can insert (colored) comments in specific frames while watching the video; the comments are displayed without authorship, appearing at the moment of insertion and in subsequent viewing.

Figure 7. *Danmu* video of World Cup 2018 official song on Bilibili

This uncommon commentary has received several names. On Nicovideo, comments are generally known as コメント or *komento*, a loanword from English. Specifically, Japanese audience use 弾幕 or *danmaku* (lit., "bullet curtain") to describe an excessive amount of comments that hinder viewing, due to their visual resemblance. *Danmaku* also extends to a shooting game genre, denoting the high density and complex patterns of enemy fire. As the technology spreads in China, the translated term 弹幕 or *danmu*, has been used widely to refer to both the commentary system and each comment flying across the screen.

We adopt the term *danmu* in this study, in line with earlier studies (L. Zhang & Cassany, 2019a, 2019c, 2019d). This terminology is distinctive and avoids discrepancies in translation (Dwyer, 2017a; X. Zheng, 2016), e.g., "barrage subtitles," "bullet comments" or "bullet

screen." Moreover, *danmu* emphasizes the wide acceptance gained in China where this study is based. Initially a niche entertainment, *danmu* has become a common feature in most Chinese video sharing platforms and was applied in movie theaters. On the other hand, *danmu* remains unfamiliar in the Western context, despite a tendency toward overlaying comments on the video player, such as live-streaming videos on Facebook and Twitch.

Danmu has drawn increasing interest from different disciplines. Computer scientists have analyzed the potential of the novel system (L. Liu, Suh, & Wagner, 2016), users' experience and motivation (Y. Chen et al., 2017), and its promising application in online education (Y. Chen et al., 2019; Lin et al., 2018). Cultural and media scholars have explored its influence in Japan (Johnson, 2013; Nakajima, 2019; Nozawa, 2012; Steinberg, 2017), China (Z. Chen, 2018; Xu, 2016; Yin & Fung, 2017; X. Zheng, 2016) and internationally (Dwyer, 2017a). A few applied linguists also noticed the practice (Hsiao, 2015; Yi Zhang, 2017; L. Zhang & Cassany, 2019a, 2019c, 2019d). However, the meaning making potential of *danmu* still remain largely unknown, except for some recent exploration (Pérez-González, 2019; Yang, 2020).

This study is based on a first exploration of "funny *danmu* comments" (L. Zhang & Cassany, 2019d), where we analyzed how humor was expressed through multimodal means. This study centers on the multimodal aspect, with twofold objectives:

1) To describe and analyze the semiotic resources used in *danmu* comments;

2) To explore how these resources facilitate playful meaning-making.

To do so, we start by contextualizing the technology in Japan and postmodern China, before outlining some key features of *danmu*-mediated communication and online comments. Second, we present a mixed analytical approach, consisting of both quantitative and qualitative methods. We apply this approach to a dataset of "funny *danmu*", which allows for a detailed account of the affordances of *danmu* video-sharing platforms and users' actual semiotic practices.

5.2 Theoretical framework

5.2.1 Background

Towards the end of 2006, the Japanese video-sharing website Niconico went online. The site quickly became a subcultural habitat for fans of manga (comic), anime, and games, featuring miscellaneous user-generated content. The amateur works are called *doujin*, which are based on either existing works (i.e., fan fiction in the Western context) or original content. The three pillars of *doujin* on Niconico are developed around the Vocaloid music (songs by virtual idols with computerized voice), the Idolmaster game (a simulation and rhythm game to raise pop idols at talent agencies), and

the Toho Project (a *danmaku* shooting game). In addition to video sharing, Niconico expanded services to live streaming, television channels, novels, and comics, etc. and launched a mobile application. As of March 2019, Niconico ranks 10th among the most visited sites in Japan (Alexa, 2019), with more than 75 million registered users (Kadokawa, 2019).

The most conspicuous feature of Niconico is probably the video-embedded commentary system, which integrates social media into the core of its design. Users can upload, share, and collaboratively tag videos, but they also reconfigure and transform contents by commenting on them. Immediate reactions, thoughtful interpretations, and humorous retorts flood the screen as the video unfolds. Hiroyuki Nishimura, a board member of the parent company and influential figure in the development of Niconico once noted: "Even when the videos are boring, the viewers are getting together and entertaining each other (Katayama, 2008)."

Over the years, Niconico has made an effort to reach an international audience, including a Taiwanese version with traditional Chinese characters, localized Spanish and German versions (discontinued), and an English version with limited commenting activity (Niconico, 2013). Meanwhile, similar platforms and applications emerged, among others, the Chinese multimedia sites AcFun and Bilibili, the disused YouTube video annotation function (Howard, 2012), and Hecklevision screenings in the United States (Dwyer, 2017a). Supported by MuVChat technology, Hecklevision allows the audience to live-text comments and displays them on screen along

with the movie. The technology is akin to *danmu* screenings in China, which prevailed in 2014 but seem to fade out and now remain as a niche entertainment.

Among the attempts to introduce the commentary system to a local audience, the most successful case is probably Bilibili, nicknamed as Site B. Bilibili was funded in 2009 by an ex administrator of AcFun or Site A, the first Chinese website to introduce the *danmu* function in 2007. However, Bilibili has far surpassed its precedent and arguably, Niconico. At the end of 2018, nine months after the company's debut on the Nasdaq Stock Market, Bilibili announced around ninety million visitors per month, eighty million visitors from the mobile device, and more than four million monthly paying users (Bilibili, 2019). By contrast, Niconico is experiencing a continuous decline in its paying members, which has dropped to less than two million (Kadokawa, 2019).

Like Niconico, Bilibili appealed to fans of Japanese anime, comic, and video games (or ACG subcultures), before transitioning to a platform with diverse contents and services. The name references a popular anime character Misaka Mikoto, nicknamed as Biri-Biri. The site has a younger demographic than Niconico, with more than 80% users from Gen Z, i.e., born between 1990-2009 (R. Chen, 2018). Being tech-savvy and self-expressive, the young generation inherited many *doujin* practices originated in Niconico, such as the Vocaloid music (Yin, 2018). The platform encourages avid fans to show their talents, through subsections for live broadcasting, music covers, blogs and columns, and mobile games, with the last constituting its

main source of monetization (Bilibili, 2019). Unlike Niconico, Bilibili holds a "membership test" of one hundred questions of ACG knowledge and cyber etiquette rules, with variable difficulty depending on the years.

Bilibili adopted and popularized Niconico's commentary interface, i.e., *danmu*. As shown in Figure 7, the interface is built around a video and a multifunctional comment box where users can: 1) modify the font size, color, and location of the comment; 2) adjust the viewable comments (amount, transparency, speed); 3) filter certain comments based on keyword or author, and deactivate the function; 4) know the number of real-time viewers and comments; and 5) read the netiquette. Users can also access a record of sent comments on the right of the video, or show support by subscribing or giving coins to the "uploader."

In 2018, Bilibili witnessed more than one billion comments sent through *danmu* (Bilibili, 2018). The most recurrent words represent different reactions to the video, many of which are enigmatic for non-frequent users of *danmu* (e.g., "High energy alert" to indicate something exciting is about to happen). As we will discuss in the next section, *danmu* language has developed a distinctive colloquial and synthetic register, boosting opportunities for vernacular creativity and free expression.

5.2.2 *Danmu* as creative and playful communication

Creativity and playfulness in computer-mediated communication (CMC) have merited considerable research over the years (Danet, 2001; Jones, 2012; Tagg, 2012). While earlier studies have remarked on the ludic nature of the Internet and documented rather comprehensively forms of language play (*netspeak*, emoticons, etc.), a growing body of studies explore non-English speaking contexts and its creative linguistic practices (e.g., Danet & Herring, 2007; J. Liu, 2011; Vaisman, 2014; Wozniak, 2015).

Focusing on *danmu*-mediated communication, Yi Zhang (2017) analyzed pervasive non-standard literacy practices on Bilibili, which are hybrid with multilingual and non-linguistic semiotic resources. Viewed as a "carnival" (Bakhtin, 1984), *danmu* users resort to a subversive and alternative literacy mode, and use humor for free expression (Díaz-Cintas, 2018; Yin & Fung, 2017). For example, speakers employ vulgar expressions to transliterate English used in the video, e.g., *shi dake* (literal meaning: "shit big chunk") for Stark (the Marvel Comics superhero).

Besides playing with words, *danmu* users also enjoy playing with the video content and other commenters. Hsiao (2015, p. 113) identified a distinctive verbal art, *tucao*, which consists of "commenting on someone or something by uncovering the truth about it in a sarcastic, harsh, and humorous tone." *Tucao* is realized through repetition, rhetorical questions, and the use of Chinese Internet slang. Successful *tucao* "evoke laughter, elicit empathy, or threaten someone's face

(Hsiao, 2015, p. 124).” Taken lightly and echoed by other users, *tucao* facilitates a group rapport in the *danmu* community.

Other than playful comments to satirize, parody or *tucao*, many interactions perform a collective identity. Centering on the *otaku* community on Bilibili, Xiqing Zheng (2016) found that heavy consumers of Japanese anime and manga produce nonsensical memes, a subcultural dialect indecipherable for outsiders, and a netiquette for the language used in *danmu*. These practices form “a collective performance of a stylized and ritualized communication (X. Zheng 2016, p. 317)”, which creates and sustains the subcultural community on Bilibili.

Our study is based on and departs from previous studies focusing on linguistic or ideological playfulness. Instead, we take into account the multimodal affordances of the commentary system, and how they mediate, influence and facilitate viewers’ playful and creative interactions.

5.2.3 A multimodal perspective on video comments

Multimodal discourse analysis (MDA) studies into social media have explored emerging meaning-making forms in online discourse (Georgalou, 2017; Zappavigna, 2018; Zappavigna & Zhao, 2017). Adopting a social semiotic perspective (Halliday, 1978; Kress & van Leeuwen, 2002), many MDA studies focused on metafunctions of semiotic modes in communication. Color, for example, not only denote ideational meaning, convey interpersonal influence, and enact

textual functions like differentiating or coordinating, but also carries an associative value within particular socio-cultural context (Kress & van Leeuwen, 2002; van Leeuwen, 2011).

Meanwhile, an emerging body of research on semiotic software (Djonov & van Leeuwen, 2013; Zhao, Djonov & van Leeuwen, 2014) reveals that while software has considerable capacity to impose certain norms on the use of semiotic modes, users also actively go beyond those principles for their own objectives. As we will see in the analysis, a common goal of such deviation is "to play."

From an interdisciplinary approach, researchers have combined sociolinguistics with multimodality to consider video comments as a discursive genre with distinctive features. Focusing on YouTube, Androutsopoulos (2013, p. 50) observed that "videos and comments co-occur in a patterned way and are interrelated in meaning making." He termed this patterned co-occurrence "participatory spectacle." This interplay is multi-authored, multimodal, multimedia, inherently dialogic, dynamically expanding, and open ended, which affects how people read and interact with YouTube.

Similarly, Adami (2009, p. 395) observed that comments emerge from "participants" interest-driven exploitation of the prompts offered by the initial video." Sindoni (2013) further posited a multimodal relevance maxim, where textual comments are consistent with the foregrounded video, which is the main focus of multimodal interaction and the most salient semiotic resource. Based on these observations, Benson (2015) conducted an interactional analysis on

YouTube comments, where he treated the video content as an initiation move, and comments as responding moves, instead of isolating the comment section.

The above studies provide valuable insights and analytical frameworks into multimodal interactions on social media, especially video-sharing sites. Our investigation adds a case study of *danmu* to this emerging field, illustrating the cutting edge of multimodal discourse in the Asian context.

5.3 Methodology

This study drew upon data collected in a previous study (L. Zhang & Cassany, 2019d) on multimodal humor in *danmu* comments. The data came from the post "What are the funny *danmu*?" on Zhihu,[1] the biggest Chinese social question answering site (similar to Quora in the Western world). Created in January 2016 by *dou buyong fangyan* (都不用放盐), the question is by far the most popular post regarding *danmu*, attracting more than five thousand answers. The answers usually contained several screenshots, with explanations or comments made by the author. Most screenshots were taken from Bilibili and AcFun, and to a lesser extent, *danmu*-enabled mainstream video streaming and sharing sites like Souhu, Tudou, iQiyi, and Nicovideo.

Our corpus consisted of 327 screenshots from the post. The screenshots were collected from forty-seven answers with more than

one thousand likes.[2] As shown in Figure 8, a screenshot typically includes a funny comment (1.) and its followers or responses (3.). Many fans also copy relevant multimodal resources to make fun (2.). Therefore, we considered the whole screenshot as a unit of analysis. We left out comments on other aspects of the video that were not related to the funny comment (4.). In total, most screenshots contained more than ten *danmu* comments, however, a few screenshots were captured in time and featured only the funny phrase.

Figure 8. Visualization of a screenshot in the corpus

We first discarded repetitive screenshots and merged continuous screenshots into one image, which resulted in 134 images. We then coded those considered "funny *danmu*" based on the multimodal resources they employed. We excluded 39 images (29%) that appeared in default settings, i.e., white scrolling text, written in Chinese characters. On the other hand, 95 images (71%) featured typographic alterations and symbols. Among others, we registered four main resources for playful meaning-making: color and position, which are the affordances made available through the system, and

symbol and shape, which emerged inductively as the actual semiotics options speakers drew upon.

We adopted a mixed approach to analyze the images. For the numerical analysis, we counted each resource separately and compared the frequency in the dataset. If a comment used more than one resources simultaneously (e.g., a yellow comment in a specific position), we counted the usage in all the corresponding categories. Following the statistical results, we conducted a deep qualitative exploration of representative examples. We attended to the making potentials of semiotic modes present in the comments, contextualizing the practices in the particular fan context (*danmu* culture and series/movies) and the broad sociocultural background.

The analysis relied on a variety of resources: the original post, including the author's explanation and other fans' comments; the original video whenever available; Moegirlpedia (an encyclopedia of terms in Chinese and Japanese fandom); and an experienced user of *danmu* video sharing sites and heavy consumer of East Asia subculture. The first author shares a similar background and the discussion validated our observation and analysis.

One limitation of this procedure lies in a slight statistical bias in the position category. This resulted from the nature of our data, which captured a certain moment during the display of the video. Hence, a comment in the top center (which will be referred to as "top *danmu*") could be either intentionally placed there or simply happen to appear at this point mid-scroll. In this sense, 12 cases (9%) in our dataset

were problematic. Nevertheless, it was less probable for a fan to take the screenshot at that exact timing, so we considered those comments top *danmu* and included them in the position category.

5.4 Playful participation through multimodal resources

5.4.1 An overview

Our dataset consisted of 134 images of playful interactions, where 95 applied multimodal resources. Table 5 shows that the most preferred resources were position and color, while symbol and shape were registered with a much lower frequency:

Resources	**Frequency**	**Percentage**
Position	82	61%
Color	78	58%
Symbol	32	24%
Shape	10	7%

Table 5. Multimodal resources in *danmu* comments

In terms of usage patterns, Table 6 shows that more than half of the uses (55%) employed more than one resources at a time. Combination of two resources was the most common pattern (mainly color and position). Speakers exploiting all four resources were infrequent, corresponding to those who created shapes on the screen:

Resources	Frequency	Percentage
0	39	29%
1	21	16%
2	49	37%
3	15	11%
4	10	7%
Total	134	100%

Table 6. Usage patterns of multimodal resources

5.4.2 Position

Danmu commentary is characterized by its superimposition on the video. By default, comments enter the screen at the top right corner and exit on the top left, scrolling in a straight line across the screen in two or three seconds. Future comments run below existing ones, and gradually replace earlier messages when the total amount of comments exceeds the capacity of the video (e.g., five hundred *danmu* for a video lasting three minutes). However, scrolling *danmu* is far from the only option provided by the platform or adopted by users. In our dataset, speakers frequently make use of other positions or movements available on the platform, namely bottom *danmu*, top *danmu*, and advanced *danmu*.

Bottom *danmu* is one of the most preferred modes by users for playful meaning making. They appear at the bottom center of the frame and freeze for a few seconds before disappearing. In other words, bottom *danmu* share the animation and position of the subtitles. Back in Figure 7, we can discern some Russian and Chinese

subtitles appearing as bottom *danmu*. The authors are known as "wild subtitlers" in the fan community, who volunteer to provide lyrics and translation to aid comprehension (Yang, 2019). However, in other occasions, speakers invent subtitles out of mischief, resulting in a comical outcome.

Figure 9 shows an example of bottom *danmu* disguised as subtitles. Despite the difference in size between the original subtitles and *danmu*, it is expected that viewers mistake the latter for the doctor's response on first inspection. In humorous terms, the response acts as a retort (Dynel, 2009), i.e., a quick and witty response, which amuses the audience unexpectedly. In this case, the retort adopts an omniscient perspective, dropping a major spoiler about the fate of the male main character.

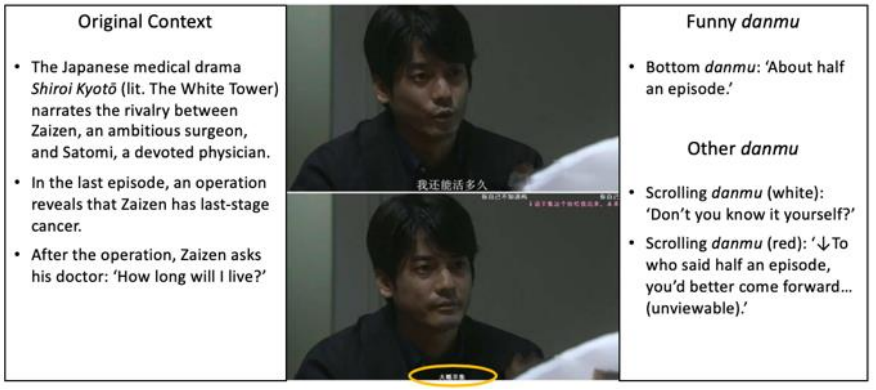

Figure 9. Screenshot of bottom *danmu* shared by Qin xianglin (秦翔林)

Other *danmu* in the second screenshot also exhibit interesting multimodal usages. While a scrolling *danmu* also makes fun of the ignorance of Zaizen, the other viewer is annoyed by the spoiler. In what remains viewable, the speaker starts the discourse with a

downward arrow to address the leaker, while choosing the red font to threaten the culprit with a confrontation. Nonetheless, such threat is only ostensible under the anonymous communication, and further highlights the playful character of *danmu*-mediated interactions.

In addition to subtitles, bottom *danmu* can also be disguised as system notifications. In a screenshot with eleven thousand likes, a bottom *danmu* reads "You have switched to 2G/3G/4G Internet." This is a scaring message for those watching videos on their mobile phones, supposedly via Wi-Fi. Meanwhile, the discussion in the post reveals similar tricks such as "Low battery alert", "Computer shut off" when the screen becomes temporarily black, and "End" or "After 10 years" in unexpected moments.

Unlike common *danmu*, an umbrella term for scrolling, bottom, and top *danmu*, advanced *danmu* are reserved for users having paid virtual coins to and acquired permission from the video's uploader. Besides size and color, advanced *danmu* involve complex text settings such as duration, specific location, visual effect, transparency and typeface. The advanced *danmu* in Figure 10 are gold-colored, representing the "coins" and matching Liu Bei's clothes, the soil, and the wooden ladle. The three comments are lined up (the last one is semi-transparent), which simulates "leveling up" notifications in video games. Together the comments transform a famous historical scene to a popular SNS game interface, wining twelve thousand likes from the audience.

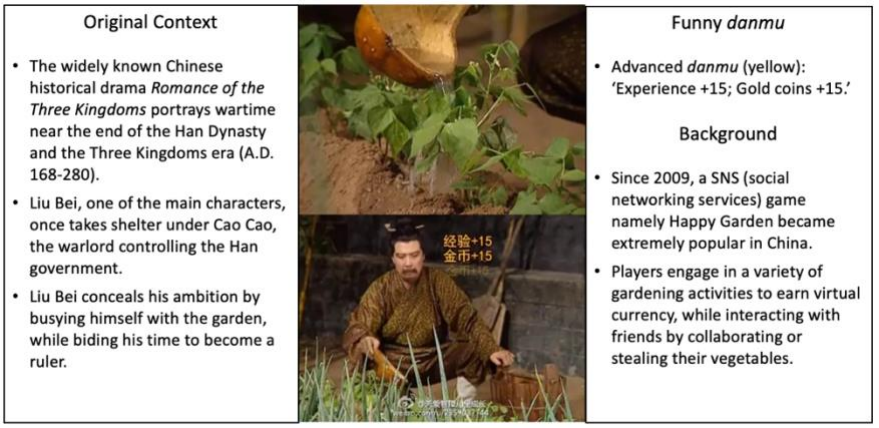

Figure 10. Screenshot of advanced *danmu* shared by Huanghua shuo bugou (谎话说不够)

Finally, top *danmu* pop up at the top center in the frame and, like bottom *danmu*, remain static for a few seconds before vanishing. Top *danmu* also overlay scrolling *danmu* when they coincide and are more readily apparent. In our dataset, speakers frequently combine top *danmu* with other resources to draw attention, as we will see in the following screenshots.

5.4.3 Color

Color is used extensively and for diverse purposes. Starting with the ideational function, colors can denote specific or classes of people, places, and things (Kress & van Lueween, 2002). In the upper-left corner in Figure 7, a speaker uses blue for "Argentina" as the color of its national flag, and red for "Chinese red (the symbolic color of China)." In Figure 9, we observed red fulfilling the interpersonal function of "intimidating" the spoiler. At the textual level, speakers

also use color to differentiate from and refer to each other in a flood of comments, e.g., “The yellow font made me laugh so hard.” Finally, color also facilitates intersemiotic cohesion (Y. Liu & O’Halloran, 2009), as the repetition of gold by advanced *danmu* analyzed in Figure 10.

Regarding more creative usage, a common practice is evoking the *associative value* of color. The Chinese color term *huang* or yellow has undergone complicated semantic extension, from the color of the earth to a failed event (Xing, 2009). In the mid-1890s, the term “yellow journalism” was coined in the United States to refer to sensational and unethical journalism. The term later spread to China and added the meaning of “pornographic” to yellow, as in *saohuang* (“clear away the pornography”, the Chinese Anti-vice Campaign) and *hen huang hen baoli* (“very erotic very violent”, a Internet meme).

Similarly, the sex-related content in Figure 11 triggers the audience’s association. As the expert elaborates on female orgasm, yellow comments flow into the screen. Sex is considered taboo in the Chinese society and subject to Internet censorship. Under such clandestine environment, speakers refer to the therapist as “veteran driver”, an Chinese Internet slang for the sharer of porn resources in online forums, who benefits many others like a driver serving a group of passengers.

Figure 11. Screenshot of yellow *danmu* shared by Sueka

Figure 12 shows a more complex example of language play on the figurative meaning of the word "color" itself. In Chinese, "color" has an idiosyncratic meaning of "intimidating appearance or actions", which is used in the translation to imply Carter's physical punishment. Amusingly, speakers adhere to the original meaning of "color" and enumerate its hyponyms in nine different shades. The colorful texts construct a literal and vivid representation of Carter's threat, making it frivolous and laughable.

Figure 12. Screenshot of colorful *danmu* shared by Nicolas

What adds another layer of playfulness to Figure 12 is the interplay between the user-generated comments and amateur translation. Like Figure 9, many popular cultural products on *danmu* video-sharing sites like Bilibili are translated by fans (X. Zheng, 2016). A salient feature of fan subtitling, or "fansub", is that translators take liberty in localizing the source text using idioms and proverbs (L. Zhang & Cassany, 2019b). Through *danmu*, viewers gain access to "a direct channel" to communicate with the translators (Díaz-Cintas, 2018, p. 140). Besides making fun of the rendering, viewers praise "fansubbers", underline unconventional subtitling skills (e.g., text imitation and annotations), and spot and correct errors in the translation (L. Zhang & Cassany, 2019c).

5.4.4 Symbol

The most frequent symbols in *danmu* commenting are arrows and *kaomoji*. Arrows, including ←, →, ↑ or ↓, enact three main deictic functions. First, arrows can refer to a previous comment, such as the complaint about the funny *danmu* (spoiler) in Figure 9. Likewise, arrows can point at one's own comments to correct the content, or pinpointing the video content (Yi Zhang, 2017). Contrasting to YouTube, *danmu* system gradually layers comments onto the video, without differentiating "new comments" and "responses", resulting in no visible conversation structure. Nevertheless, arrows act as markers of turn-taking and facilitate coherence in interactions.

The deictic function of arrows also plays a key role in playful meaning making. In our dataset, eleven images feature arrows in the funny *danmu*. Figure 13 illustrates arrows pointing at the criminal with good timing, while colorful top *danmu* repeat the punchline with checkmarks implying "the case can now be closed." Those symbols draw attention to visual details crucial to the plot development. As North (2007, p. 542) noted, despite having become conventional in online communication, symbols "may, however, be used creatively… if they contribute to language play that is deployed so as to be relevant to the unfolding context."

Figure 13. Screenshot of symbols shared by Ban ciyuan (半次元)

Another common resource for playful meaning making is *kaomoji* (lit., "face mark"), a Japanese emoticon style flourishing since the mid-1980s. *Kaomoji* is written with the Japanese writing systems (adopted Chinese characters or kanji and syllabaries of hiragana and katakana), and is read horizontally, e.g., (* ^ ω ^) for joy. Inspired by Japanese *manga* (comic), the devising of *kaomoji* entails a complex visual grammar including both *keiyu* (figure symbols) and *on'yu* (sound symbols) (Katsuno & Yano, 2007). In other words, *kaomoji* can express not only emotions, but also actions and noises

(onomatopoeia). In our dataset, a screenshot of a Chinese espionage series captures the figure of an untried spy peeping from behind the wall. Amused by the rawness, speakers send |･ω･) and ʕ(･_| to mimic the half-hidden agent.

5.4.5 Shape

The last category deals with combination of symbols to create shapes. This practice exploits the image-text interplay enabled by *danmu* and directly "edit" the video image. In Figure 14 and three other cases, speakers tease a cuckolded character by creating "a green hat" at the top of the screen. The playfulness results from multiple semiotic strategies: evoking the associative value of green as "adultery", aligning square emojis in the shape of a hat, and placing them as top *danmu* to cover Lü Bu's head. The association is so widespread that scrolling *danmu* also turn green, expressing pity and playing along: "What? My *danmu* just turned green automatically" and "Green cloth (homophone for Lü Bu)."

Figure 14. Screenshot of the shape of a hat shared by e tou (蛾头)

The rest of the images containing shapes include a vertical line (of multiple |) to break up an unwanted couple appearing in the same frame, which is humorously referred to by speakers as the "38th parallel" (the demarcation line dividing North Korea and South Korea); a starry sky (of star-like symbols) to jointly create a romantic atmosphere for a couple on a date; and a pixel-like image (of complex codes) of a popular character to showcase the passion and multimodal skills of the "comment artist" (Johnson, 2013, p. 308; L. Zhang & Cassany, 2019d). The last practice is the most sophisticated and admired among the community, giving rise to a visual culture of "*danmu* art", along with tutorials uploaded by experts and annual competitions held by the fan platform.

5.5 Discussion

Our data yielded four multimodal resources used in *danmu* comments: position, color, symbols, and shapes. The quantitative analysis showed a predominant use of position and color. This could be attributed to the design of the video player. As shown in Figure 7, a mouseover text editor provides easy access for users to customize the comment through mode (position) and color. However, to insert a symbol or to create a shape is technically and aesthetically more challenging, requiring motivation and strategy from the user (e.g., using letters from another language). So far no research has documented systematically the semiotic resources in *danmu* commentary. Nonetheless, a few studies introduced examples of

particular uses of color and symbols (Xu, 2016; Yi Zhang, 2017; X. Zheng, 2016) and the more complicated and artistic typographic play (Johnson, 2013).

The funny *danmu* illustrated sophisticated uses of multimodal resources for playful meaning making. In particular, users are skillful in: placing the text in a precise position or adding a deictic emoji, to interact with certain element of the video frame (characters, subtitles, a previous comment); deploying the polysemy of color terms to convey figurative and idiosyncratic meanings that resonate with the video content; and arranging symbols in certain shapes that render a desired interpretation of the scene. As previous studies (Djonov & van Leeuwen, 2013; Zhao et al., 2014), we found many semiotic practices running against or going beyond the platform and video player's design (faking subtitles, producing spoilers, editing the image). The outcome is a hilarious and carnivalesque appropriation of the original video, which transforms and enriches the visual experience in an unprecedented manner.

The playfulness lies not only in users' exploitation of multimodal resources, but also in the recognition from the audience. On Zhihu, thousands of users praised their skills and ingenuity and chose them as the "funniest *danmu*." Users are familiar with the diverse contexts and knowledge evoked in funny *danmu* (Chinese tradition, Japanese fandom, *danmu* netiquette, popular culture like films/series, and videogames), which are yet not straightforward for outsiders. Several scholars have observed that *danmu* video sharing sites, especially Bilibili, foster the emergence and development of a subcultural

community (Z. Chen, 2018; X. Zheng, 2016). Moreover, recent studies indicated that Bilibili also serves as an alternative space for sharing democratic views against dominant ideology (Yin & Fung, 2017), celebrating unconventional social values and roles (Gu, 2017), and learning foreign languages (L. Zhang & Cassany 2019a, 2019c).

As we have seen in Figure 10–14, funny comments motivate others to play along. The repetition and imitation contribute to the overall visual representation, creating a dazzling display that almost obscure the screen. Xiqing Zheng (2016, p. 337), drawing on Johnson (2012, p. 306), analyzed the linguistic and pictorial register of *danmu* comments, which "have transcended the function of verbal communication, turning into a collective performance and spectacle." The participation is further safeguarded by the anonymity feature of *danmu* (Nozawa, 2012). According to Herring (2013a), such collaborative anonymous text production represents an "emergent discourse" on Web 2.0. Examples like Wikipedia or *danmu* are massively multi-authored, yet democratic and anarchic prompting contributions from anyone at any moment.

Our analysis sheds light on an innovative semiotic technology and showcases its multimodal meaning making potential. Future studies may adopt a narrower focus, delving into the semiotic functions of a single mode, such as color. In fact, although position ranks first in the numerical analysis, color could be a more powerful mode for meaning making, given its infinite choices and figurative usage. Future researchers may also deepen the examination of *danmu* as a semiotic software, attending to the speedy projection of comments,

rather than screenshots. In short, through the pioneer study, we expect to awaken scholars' interest in the emerging semiotic practices on Asian social media, which are largely under-researched but could eventually advance existing multimodal paradigms.

5.6 Conclusions

Our analysis of the most popular *danmu* across years, platforms and genres, confirms that users actively drew upon multimodal resources in their comment making practices. The examples we reviewed were replete with multimodal maneuver, from basic alterations in color and position to complex graphical effects. Users also showed a strong tendency to combine semiotic resources, especially color and position, and went beyond the established commenting routines. In other words, *danmu* users not only embraced the novel multimedia interface, but also appropriated the system playing with diverse semiotic modes. By contrast, other multimodal genres with video-embedded commentary do not seem to engender such semiotic creativity. In live text commentary in television news or Facebook live videos, a text scroll or box displays messages in chronological order. A limited number of real-time responses are shown on the screen to support interaction between the host and audience. However, the multimodal meaning making potential (typography, layout) provided in *danmu* is largely missed.

As the foresighted remark made by the journalist Sasaki Toshinao ten years ago regarding Niconico, “the comments flowing on screen are not simply “add-ons” or freebees. The comments and video merge to generate new content. This is a new world where moving image content and social media have converged (cited in Steinberg, 2017, p. 100).” In the era of “convergence culture” (Jenkins, 2006), *danmu* brings the physical co-viewing experience online and exhibits multimedia and transmedia potential. On one hand, the Multimedia Principle recognizes that different codes or modes (image, audio, video, text, etc.) eventually enhance the construction of textual meaning (Parodi & Julio, 2015), and thus aid comprehension of the video text. On the other hand, the audiovisual product can be broadcast on television, screened in theatres, circulated on video-sharing sites and, as we analyzed, commented on social networking sites. This multi- and transmedia process enables the audience to creatively construct narrative worlds and curate the original video (Scolari, 2009).

Finally, as noted in Parodi (2011, p. 163), there has been a growing interest in “dynamic texts” (cinema, video clips, Internet genres, etc.) more than static ones (books, articles and documents in paper or digital format, but in a non-interactive linear way). Following this tendency, we suggest that most “dynamic texts” are defined in terms of production, i.e., producers create and configure multimodal texts according to their own aesthetic standards, with limited options for readers or receivers. However, *danmu* is dynamic both by production and reception, since users are able to change the text display by filtering odious comments or censoring certain authors. As a result,

everyone has a personalized viewing experience, while each visualization and sharing of the video attract more comments and potentially reconstruct the original content. Therefore, how these new contents continue to reconfigure the video remains to be seen.

Notes

1. https://www.zhihu.com/question/39463086 (accessed November 17, 2018)

2. However, we could hardly determine the original creators of the screenshots. Many images were so popular and had become memes circulating on numerous websites. In this case, we follow the Zhihu Agreement (https://www.zhihu.com/terms#sec-privacy). The policy on copyright stipulates that, given the original link and the user's account name, a third party can reprint content published on Zhihu for non-commercial purposes.

Zhang, L. T., & Cassany, D. (under review). Making sense of *danmu*: coherence in massive anonymous chats on Bilibili.com. *Discourse studies*.

Like the initial rejection from *Spanish in Context*, we were not lucky when we first attempted to publish In *Discourse studies*. In 2016, we prepared the first manuscript on *danmu* and submitted to the journal. However, as the reviewer correctly pointed out, although affirming the originality and importance of the topic: "the paper tries to achieve far too much in too little space, approx. 6k words running text, including all examples, is just too short to deliver a concise description of the entire system."

We agreed with the reviewer and went for more detailed and substantiated analysis, as shown in previous chapters. After three years, we felt that we could make a second try with a completely rewritten manuscript, which focuses on interactional coherence. We submitted the manuscript on December 16, 2019, and till this day (April 22, 2020) we are still waiting for the review.

6. MAKING SENSE OF *DANMU*: COHERENCE IN MASSIVE ANONYMOUS CHATS ON BILIBILI.COM

6.1 Introduction

Massive chats on Twitch.tv, YouTube Live and Facebook Live have become increasingly popular as a research subject (e.g., Hamilton et al., 2014; Ford et al., 2017). On these platforms, videos are live-streamed and viewers participate in the event by posting comments and reading real-time responses. Different from traditional chat spaces, live-streaming videos have an embedded or adjacent chat channel, where the interaction develops as the streamer's activity proceeds. This breaks down the traditional topic development and coherence maintenance, as topics tend to be prompted by the video content (Herring, 2013b) and conversation may seem chaotic and illegible when too many participants join in (Ford et al., 2017).

On Chinese and Japanese video-sharing sites, a new genre of chat, namely *danmu*, is emerging. *Danmu* is a system of superimposed comments running across the screen from right to left as the video plays (Figure 15). Comparing to comments on popular Western live-streaming sites, both genres allow context-specific and multimodally-composed texts. However, *danmu* comments are completely anonymous and are temporally fixed to appear the point of insertion. Future audience thus view the video with all the

accumulated comments—without authorship or date of insertion—and experience a temporal feeling of live interaction (Johnson, 2013; Li, 2017).

Figure 15. Screenshot of a *danmu*-commented episode of the Japanese anime series Detective Conan on Bilibili.com. The central comments read: "The murderer is him" (Chapter 5).

The commentary system originated in Nico Nico (2006-), a Japanese video-sharing site catering to *otakus* (fans of anime, comics and video games) (Johnson, 2013; Nakajima, 2019; Nozawa, 2012; Steinberg, 2017). Nico Nico now ranks 10th among the most visited sites in Japan (Alexa, 2019), with over seventy-five million registered users (Kadokawa, 2019). The embedded comments—referred to as *komento* (an English loanword)—became so popular that sometimes videos are overlaid with comments, similar to a bullet curtain, or *danmaku* in Japanese. As the technology spreads in China, the translated term *danmu*, has become the synonym of the system and individual comment. We prefer the Chinese term, in accordance with the context of the study.

Indeed, China is probably where the foreign interface gained the widest acceptance. During the last ten years, *danmu* has transitioned from a niche entertainment to a common feature in most video-sharing platforms. The most popular *danmu*-themed site, Bilibili (2009-), claims around ninety million visitors per month and more than four million monthly paying users (Bilibili, 2019). It is also the only website requiring a membership test (on knowledge of the *danmu* netiquette and fandom culture) for anyone wishing to send *danmu*. Since 2004, some movie theaters experimented with *danmu*, allowing the audience to text live comments onto the big screen (c.f. MuVChat screenings in the U.S. in Dwyer, 2017a). With the rapid growth of the streaming industry, the *danmu* interface has been adopted by Chinese live-streaming platforms (Cao, 2019; X. Chen & Chen, 2019; G. Zhang, 2019). However, this paper is concerned with the most common use of *danmu*, i.e., on video-sharing platforms.

A rapidly increasing number of scholars have explored the *danmu* phenomenon from different perspectives. Computer scientists were interested in user motivations and its promising applications in the online education industry (Y Chen et al., 2017; Y Chen et al., 2019; Lin et al., 2018). Communication scholars argued that through *danmu*, platforms like Bilibili can become an alternative space for democratic discussions (Yin & Fung, 2017) and a virtual heterotopia to resist social pressure, repression and control (T. Chen, 2018; Gu, 2017; X. Zheng, 2016). Finally, linguists illustrated users' appropriations of *danmu*, such as collaborative subtitling (Díaz-Cintas, 2018; Yang, 2019, 2020), humorous acts (Hsiao, 2015; L. Zhang & Cassany, 2019d), multilingualism (Y Zhang, 2017, 2019) and language and

intercultural learning (L. Zhang & Cassany, 2019a, 2019c). However, no study to date has looked into the interactional organization of *danmu* from a discourse analytical perspective.

For an ordinary viewer, it can be difficult to make sense of a fast-moving and ever-changing body of texts, especially if they are also frequently colorful, multidirectional and written in diverse scripts (e.g., Chinese characters, Latin alphabet) with multiple semiotic resources (icons, smileys, etc.). However, the texts must somehow appear meaningful and entertaining to *danmu* enthusiasts who do not only enjoy the "bullet curtain", but also took the effort to pass the membership test to join the parade. Hence, drawing on data collected from previous studies on *danmu* (L. Zhang & Cassany, 2019a, 2019c, 2019d), we raise the following research questions:

RQ1: What procedures do users apply to create coherence in *danmu*?

RQ2: To what extent are *danmu* interactions coherent and meaningful?

6.2 Coherence in multimodal computer-mediated communication

Coherence in computer-mediated communication (CMC) has merited considerable investigation over the years. The classic work of Herring (1999) showed that text-based CMC can be both incoherent and enjoyable. Defining *interactional coherence* as sustained, topic-focused, person-to-person exchanges, she found

many CMC media displays incoherent features, e.g., disrupted adjacency, overlapping exchanges, and topic decay. However, users adopt a series of compensatory strategies to minimize possible confusion, e.g., backchannels and addressivity in IRC channels, and linking and quoting expressions in asynchronous group discourse. Moreover, incoherence also motivates language play and humor, contributing to one of the key features of online communication (Danet, 2001).

Herring's work inspired much posterior research on interactional coherence in textual CMC genres, most notably instant messaging (Berglund, 2009; Lam & Mackiewicz, 2007, 2009; Woerner et al., 2007) and multiparty chat rooms (Herring, 2013b; Markman, 2013; Simpson, 2005). Revisiting Herring's claims on coherence, some researchers (Berglund, 2009; Lam & Mackiewicz, 2007) believed that conversations should not be considered incoherent if they do not generally lead to miscommunication. Simpson (2005, p. 342) also noted that speakers manage to "accord meaning and unity to the text in the discourse process". In other words, the texts are coherent to the participants, otherwise the medium would not be popular.

Since the last decade, text-based CMC has been increasingly incorporated into Web 2.0 platforms, e.g., social networking, video-sharing and online gaming sites. In this vein, a small number of publications investigated coherence in textual CMC in multimodal contexts. Zelenkauskaite and Herring (2008) contributed the first study to analyze interactional coherence in television-mediated text messaging (iTV SMS); Herring et al. (2009) investigated coherence

in text chat in the interface of a fast-paced multiplayer online game; Honeycutt and Herring (2009) looked into coherence of exchanges on Twitter; Bou-Franch et al. (2012) provided a meticulous linguistic analysis on coherence in YouTube comments; and Ford et al. (2017) analyzed "practices of coherence" in massive chats on Twitch, a live-streaming platform dedicated to video games.

The research was conducted by scholars from different fields (informatics, linguistics, anthropology) using different approaches (Dynamic Topic Analysis and VisualDTA [a tool to visualize topic development], content and discourse analysis, ethnographic observation). Interestingly, their findings all revealed coherent conversations to a greater or lesser extent. Among others, iTV SMS, YouTube comments and Twitter messages seemed to display the most surprising degree of coherent (and dyadic) interactions. In addition to classic cohesive devices (reference, substitution, ellipsis, conjunction, and lexical cohesion; Halliday & Hasan, 1976), the researchers identified medium-specific resources for coherence building, e.g., the @ sign as a marker of addressivity (Werry, 1996, Nilsen & Mäkitalo, 2010) in tweets (Honeycutt & Herring, 2009).

On the other hand, chat messages in online gaming tend to be less coherent, probably because the main activity, i.e., game play, demands users' greatest attention. Herring et al. (2009) found most chats were short and abbreviated reactions, concerning the game itself. However, the authors also observed "periodically interspersed" actual conversations, "which, although they tend to be limited in

scope, can be engaging and unexpectedly coherent (Herring et al., 2009, p. 8)".

Finally, chat messages in live streams are the most problematic, especially when the audience scales. Ford et al. (2017) referred to Twitch videos attracting more than 10,000 concurrent viewers as massive chats or *crowdspeak*. Crowdspeak contain seemingly "chaotic, meaningless or cryptic" messages (e.g., emotes or digital icons provided by Twitch). However, through practices of coherence (shorthanding, bricolage, and voice-taking), users achieve and enjoy "a different kind of coherence that prioritizes crowd-based reaction and interaction over interpersonal conversation (Ford et al., 2017, p. 859)".

Danmu comments could be comparable to Twitch chats: both are triggered by a video and are shown during the viewing session. However, on video-sharing sites, *danmu* comments are not live, in other words, *danmu* is "a type of asynchronous CMC that is experienced synchronously, where users see messages (annotations) appear and disappear from the viewable screen at set times unless playback is interrupted (Howard, 2012, p. 5)". The *pseudo-synchronicity* has been considered a key feature accounting for the popularity of *danmu* (Y Chen et al., 2017; Johnson 2013; Li, 2017; Steinberg, 2017; Yang, 2020). However, how the unique interface affects users' interaction still needs empirical examination.

Following pragmatic and discourse analytical perspectives (Bou-Franch et al., 2012; Herring, 2013b; Simpson, 2005), we understand

coherence as “a general process of sense-making in which individuals engage whenever they communicate (Bou-Franch et al., 2012, p. 502)”. Regarding massive chats, Ford et al. (2017, p. 859) provided another useful definition: “by coherence, we simply mean that the chat makes sense to participants and is not experienced as a breakdown, overload, or other difficulty”. To sum up, there has been an unceasing interest in exploring coherence norms and practices in emerging online environments. We believe *danmu*-mediated communication constitutes a necessary case study that offers original data to tackle the problem of coherence.

6.3 Methodology

The data analyzed in this study forms part of an ongoing four-year project on the *danmu* language. Our earlier investigation focused on the creative usages through the distinctive affordances of *danmu* (multimodally designed and positioned comments to create humor, *in situ* discussions that develop metalinguistic and intercultural awareness). Based on our understanding of the potential of the medium, this study goes back to the most fundamental question: how do users make sense of *danmu* and subsequently achieve various purposes (making fun or parody, learning)? To answer this question, we drew on a primary dataset (a.) and a complementary dataset (b.):

a. A *danmu*-commented episode of the historical science fiction series *El Ministerio del Tiempo* (MdT) (Spanish Television,

2015-). Critically acclaimed as the best Spanish TV series in history ("El Ministerio del Tiempo", 2017), the series narrates time travels of three newly recruited agents (Julian, Amelia and Alonso) to preserve the Spanish history. As a representative sample, we chose the 70-minute pilot episode, translated by Chinese fans (or *fansub*; L. Zhang & Cassany, 2019c) and uploaded to Bilibili in September 2015. The chosen episode was the first and most popular publication of the series on Bilibili, attracting 1,590 *danmu*.

b. The discussion thread "What are the funny *danmu*?" on Zhihu (a Chinese social networking site similar to Quora). The initial post was created in January 2016 and, with more than 5,000 answers, it is by far the most popular thread about *danmu* on the platform. The dataset was compiled from the most liked answers (>1,000 likes) and includes 327 screenshots of "funny *danmu*", selected by users from different video-sharing/streaming platforms. For the present study, we chose 106 screenshots that contain some interaction triggered by the "funny *danmu*".

The analysis was initially designed to identify cohesive devices in the datasets following Halliday and Hasan's model (1976). However, after being confronted with contradictory results, we realized that the categories do not seem to adapt to the Chinese language. Many researchers remarked on the *zero pronoun* or *zero anaphora* of Chinese, i.e., a situation in which an anaphor is lexically absent (Huang, 1994; Yan Jiang, 2015; Okurowski, 1989). Instead, context or pragmatics plays a central role in communication, as opposed to

grammar (or inflection) in most European languages. Consequently, necessary adjustments need to be made when studying cohesion in Chinese, as concluded by Yeh (2004, p. 258):

> "Devices in Halliday and Hasan's model (1976), such as reference, lexical cohesion, and conjunction, may be present in most languages. However, the importance attached to various types of cohesive devices might be different. Some of them might be avoided in a particular language, while the others are preferred. In our comparison of Chinese and English, for example, the third person impersonal pronoun is generally avoided and another cohesive device, lexical repetition, is, in compensation, adopted."

Given the particularities of Chinese, we adopted an interpretive or data-driven approach to make sense of *danmu*. First, we conducted a multimodal analysis of the latest *danmu* interface on Bilibili—not yet described in the existing literature—to illustrate the platform affordances. This knowledge is crucial as contextualization of the subject. Moreover, from a semiotic technology perspective, the multiple semiotic affordances can also motivate or constrain users' ways of interaction (Zhao et al., 2014).

Second, we conducted a content analysis of the 1,590 comments (dataset a.), followed by a fine-grained multimodal discourse analysis of the interactions observed in both datasets. While the focus was how users create order or mark their responses in conversations, a distinctive usage pattern emerged and is discussed separately in the section "deictics". The illustrations of *danmu* data (Figure 18–23) were inspired by Bai et al. (2019, p. 535510). By juxtaposing two consecutive screenshots and reproducing the translated *danmu* correspondingly, we managed to consider not only the verbal content,

but also time, position or direction that influence the meaning making of each comment.

6.4 Making sense of *danmu*

6.4.1 The interface

The first step to make sense of *danmu* interactions is to understand the system and platform affordances. Figure 16 shows the latest *danmu* interface on Bilibili.com (accessed October 31, 2019).

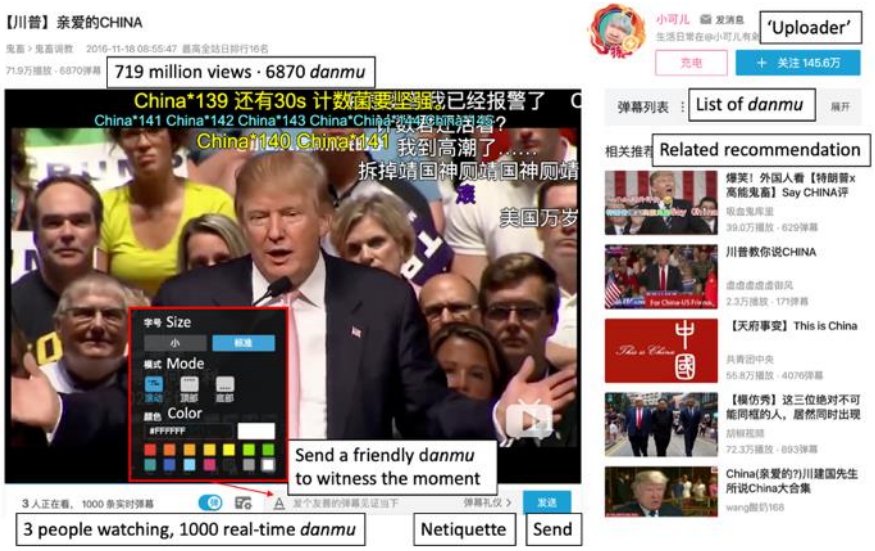

Figure 16. Screenshot of the main part of a video page on Bilibili.com. The video is called [Trump] Dear CHINA and shows Trump saying the word “China” non-stop.

This version was released in July, 2018 and features four main components: a video player with superimposed *danmu*, a rectangular area below for editing *danmu*, a drop-down list of all comments or "*danmu* pool" (with the date of insertion and time of appearance in the video) to the top right, and a section for recommended videos. In addition, there are a video description, "uploader" information, and also a traditional comments section below the video (see Wu et al., 2018 for a comparison between *danmu* and common comments on Bilibili).

The *danmu* editor has multiple functions. On the left, it shows the number of real-time connected viewers and *danmu*. However, there is a maximum amount of viewable *danmu* for each video depending on the duration, e.g., one thousand for a three minutes video. In this example, of almost seven thousand *danmu* sent since the video was uploaded, only the latest one thousand are shown in the video and accessible through the drop-down *danmu* list.

Next to the numerical data, there are two icons for (de)activating the *danmu* function and customizing the visual effect of *danmu* respectively. Through the pop-up editor of the grey icon, users can adjust the font, amount, transparency and speed of viewable texts, activate the anti-block function (leaving 15% blank space in the lower part of the screen), and filter comments based on specific qualities (movement, color, type).

The comment box occupies the center of the *danmu* editor. A default text in grey invites viewers to write and send *danmu* without

interrupting the viewing session. On its left, when moving the pointer onto the icon A, a text editor is activated (marked in red in Figure 16). *Danmu* authors can select the font size (small or standard), color (from the palette or in HTML color codes) and movement (scrolling, popping up at the top or bottom center). Upon clicking the "send" button, *danmu* will appear in one of the following ways:

- *Scrolling danmu*. Comments enter the screen at the top right corner, scroll left in a straight line across the screen, and exit on the top left corner in a few seconds. Scrolling *danmu* is the default setting and the most frequent type in many videos, e.g., the white *danmu* on the right side of the Trump video.
- *Top danmu*. Comments appear at the top center of the screen and freeze for a few seconds before disappearing. When coinciding with scrolling *danmu*, top *danmu* overlay the scrolling text, e.g., yellow and blue comments at the top center of the Trump video (counting how many times Trump has said "China").
- *Bottom danmu*. Comments (dis)appear in the same way as top *danmu* but at the bottom center of the screen. Bottom *danmu* can be used to add subtitles for "raw videos" (Yang, 2019) or to invent funny conversations for the purpose of play (L. Zhang & Cassany, 2019d).
- *Advanced danmu*. While scrolling, top and bottom *danmu* are known as common *danmu* and available for all Bilibili members, advanced *danmu* is a reserved function for those having *tipped* to and acquired permission from the video's uploader. Advanced

danmu allows complex text configurations (duration, specific location, visual effect, transparency, typeface), which are also exploited by expert users to create *danmu* art (Johnson, 2013; L. Zhang & Cassany, 2019d).

Last but not least, since we collected the data before the update of the interface, it is convenient to make a comparison of the two versions. As shown in Figure 17 (accessed October 20, 2017), the old version presents the identical main constituents (video player, comment box and *danmu* list) and functions (*danmu* editor, filter and visual adjustments). However, the layout of these constituents is rearranged in the new version. Most prominently, the right column has been simplified to foreground video recommendations and to subdue the *danmu* list (see also Yang, 2020). Moreover, the inviting discourse has been toned down significatively, from making *tucao* — sarcastic, harsh, and humorous comments (Hsiao, 2015) — to sending "friendly *danmu* to witness the moment". Overall, the new version further emphasizes the liveness of communication, while complying with the Chinese "harmonious" Internet language policy (Wang et al., 2016).

Figure 17. Screenshot of a fan-edited video of MdT in the old *danmu* interface. By default the right column shows recommended videos, but users can access the *danmu* list by clicking on the adjacent button, as shown in the screenshot.

6.4.2 The comments

Figure 18 presents a visualization of eight scrolling *danmu* passing on the screen in 25 seconds. The screenshots are taken from the series MdT, and the excerpt reproduces the translated and numbered comments according to their *entrance time*. In the first screenshot, turn 453 is sent and enters the screen at 18m 16s; in the second screenshot, turn 457 has scrolled to the left corner at 18m 47s after entering at 18m 39s. As the number of comments increases, the text layer "thickens" gradually. Turn 458 and turn 459 both are sent around 1s later than turn 457 and run beneath it so as not to overlap. However, because turn 459 contains more characters, the text travels slightly faster and is outdented to turn 458.

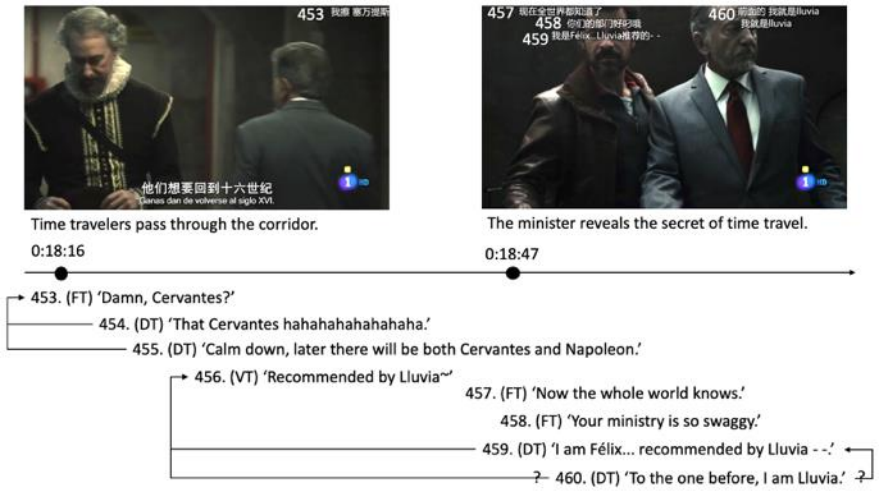

Figure 18. *Danmu* synchronicity in 25 seconds of MdT

The excerpt in Figure 18 is coded based on the context each turn refers to: three *film turns* (FT) where viewers react to the character (turn 453) or to the plot (turn 457 and 458); one *viewing turn* (VT) explaining the personal reason for viewing (turn 456), and four *danmu turns* (DT) responding to previous comments, marked by arrows in the excerpt. The exact reference is unclear in turn 460, however, it did not affect the coding.

Contexts	Topics	Examples	Frequency
Film	Plot	231. (FT) "The Ministry of Time rocks, the mobile phone has signal even after time travels."	1178 (74%)
	Characters	24. (FT) "The soldier who just died looks quite handsome!"	
	Soundtrack	387. (FT) "Why does the background music sounds like farting…	
	Subtitles	48. (FT) "Thank you fansub group."	
	Sociocultural background	63. (FT) "Spain in 1850 was extremely powerful, it called itself *the empire on which the sun never sets*."	
Danmu system	Previous *danmu*	64. (DT to 63) "Isn't *the sun never sets* the British Empire????"	412 (26%)
	Real-time viewers	14. (DT) "To the other buddy, hello! 15/2."	
Viewing session	Situation	192. (VT) "Watching alone I feel very lonely."	55 (3%)
	Reasons	26. (VT) "I need to learn Spanish."	

Table 7. Classification and frequency of *danmu* references

Table 7 shows three layers of contexts in *danmu*. First, a predominant number of comments refer to the film, sharing impressions, doubts or complaints about the plot, characters, soundtrack, etc. Many viewers are also interested in the sociocultural background depicted in the film, e.g., historic events, figures and locations, or the Spanish people (799. "They are really Spanish, speaking dirty language all the time.").

Second, less than a third of the comments refer to the *danmu* system. The most common referent is previous *danmu*, through which users

can construct (extended) interactions. Meanwhile, in view of real-time connected users shown in the interface, some users send greetings (detailing the date). However, due to the anonymous feature, the referred user would be unlikely to notice the greeting or join the chat synchronously.

Finally, a small number of comments refer to the viewing session, sharing when, where and why they are viewing the series. Many *danmu* of this type appear at the beginning of the video, while others are triggered by unexpected plot development, e.g., an erotic scene (1302. “Shit, I do not wear headphones in the subway, and there are people behind me...”; and 1288. “The day we can see porn on Bilibili is just around the corner!”).

6.4.3 The interaction

Danmu interaction, defined here as person-to-person communication through the *danmu* system, differs from traditional computer-mediated communication in that the former is not marked by date of insertion nor any form of authorship. Furthermore, the *danmu* system does not provide any option for users to structure their comments, such as the choice of “reply to comments” in many social networking sites. Instead, the order of *danmu* messages follows exclusively the moment of insertion in the video’s timeline.

Such distinctive features can have a paradoxical effect. On the one hand, the anonymous, spontaneous and democratic environment prompts participation from anyone at any moment. In dataset a., we

identified 152 exchange sequences, consisting of at least an initiation and a response (Benson, 2015). Most sequences are short (138 sequences: 2~5 turns); a few sequences exceed six turns (11 sequences: 6~10 turns; 3 sequences: >10 turns); and the longest sequence extends to 32 turns.

On the other hand, the participant is unaware of and likely unconcerned with possible responses from future viewers. If any, the participant will not be notified and can only review the video intentionally afterwards. The lack of knowledge causes delayed, redundant or even contradictory responses (not knowing an existing response in the next few seconds). Of 412 coded as responses or DTs in dataset a., only 53 appear as adjacent turns entering the screen immediately after the triggering comment. Instead, cross-turn interactions are much more frequent. To make their contribution meaningful, users adopt a variety of strategies to address each other and achieve coherence.

Figure 19 shows intertwined *danmu* interactions containing three exchange sequences, triggered by film turns 262, 264 and 265 respectively. The first sequence is the adjacent pair of turns 262 and 263, sharing the confusion caused by the fast speaking Spanish (*vamos* misheard as *zou* or “let’s go” in Chinese). The second sequence is prompted by turn 264 drawing on contextual knowledge about the actor, which is confirmed by turn 267. The third sequence starts with turn 265, whose comparison to another science fiction series of a similar setting triggers turns 269 and 270.

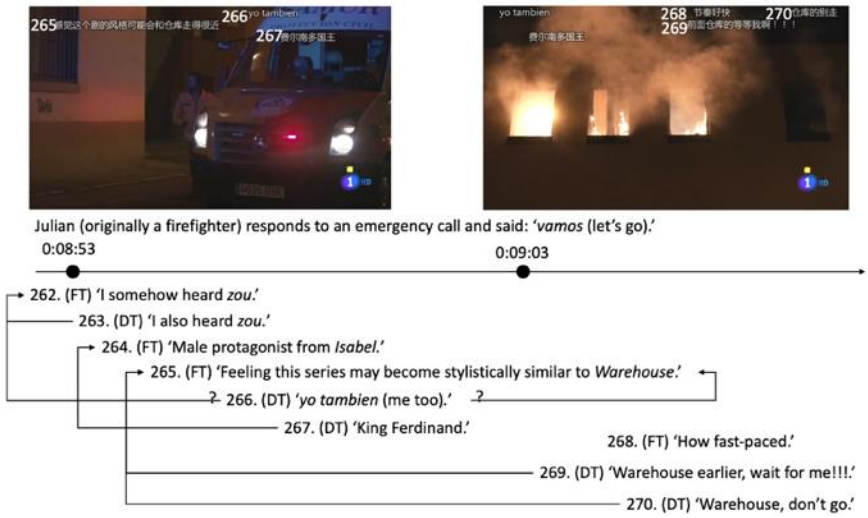

Figure 19. Intertwined *danmu* interactions

Figure 19 also illustrates if and how participants mark their response to a specific addressee. Turn 263, despite being an adjacent turn, repeats the predicate in turn 262. Turn 267 also relies on lexical cohesion, in particular, an intertextual reference that would be clear to people with the same interest. Turns 269 and 270 repeat1 the keyword ("*Warehouse*") in the triggering turn and further strengthen the reference with two *danmu*-specific expressions: "wait for me" and "don't go". Here authors play with the visual effect of scrolling texts, where later comments seem to be "chasing" earlier ones. Similarly, twenty users adopt the expression "+1", an Internet slang for "I agree" or "me too", e.g., 130. "Forgive me for maybe hearing FBI..." and 131. FBI＋1.

On the other hand, turn 266, despite being clearly a response (written in Spanish), does not provide more cues to locate the referent. Two hypotheses can be made to explain the situation: 1) when turn 266

was sent, there were few existing comments in the time frame that the reference was clear for the author (the same explanation could apply to "the one before" in turn 460, Figure 18); and 2) the language choice of turn 266 echoes the discussion on Spanish pronunciation (*vamos* vs. *zou*), and thus turn 266 potentially pertains to the first sequence. In any case, the task of sense-making falls on the audience. Depending on the version of *danmu* accessible at the moment of viewing, each viewer can draw a totally different interpretation of the relations among *danmu*.

Figure 20 shows another common way of marking relation in *danmu*. As scrolling *danmu* travel across the screen from right to left, *danmu* inserted at an earlier point will appear left to those inserted later (except for lengthy comments that fly faster). As a result, viewers like turn 203 refer to previous comments as "the left".

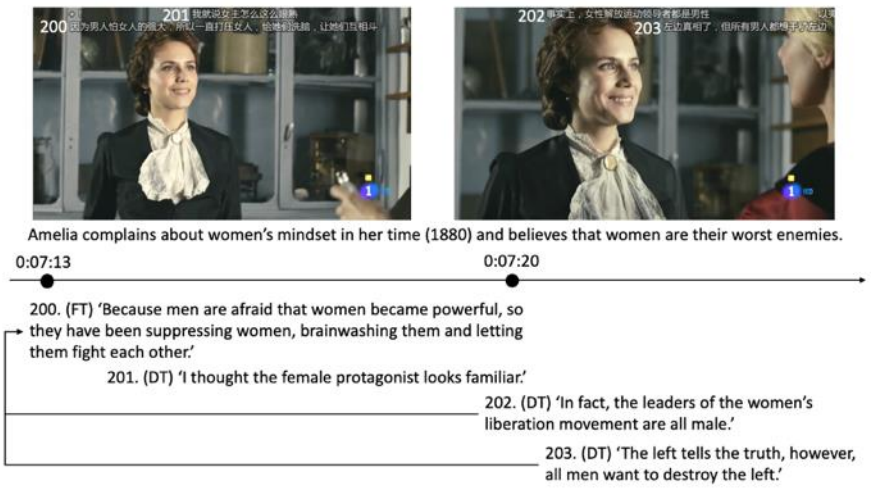

Figure 20. Position-based references

In the excerpt in Figure 20, turn 200 reflects on Amelia's speech on women's "worst enemies" from a male perspective. Turn 201 concerns another interaction led by turn 190 ("Female protagonist from *Ángel o Demonio*"). Both triggered by turn 200, turn 202 counters the accusation of men, while turn 203 further emphasizes the gender opposition. The discourse analysis clarifies that "the left" in turn 203 refers to turn 200 and not the adjacent turn 202, otherwise the argument would not make sense. Moreover, the author usually needs to read the whole *danmu* before drafting a response. However, turn 203 enters before the previous turn has finished, and is therefore indented to turn 202.

Feminist topics seem to stir the interest among many viewers. In dataset a., the most heated discussion (32 turns) developed around feminine hygiene products, triggered by a present-day tampon shown to the nineteenth-century Amelia. In response to some complaints about the discussion being "unbearable" and "without limit", several users refer to them as "male chauvinists" and "living antiquity".

The majority of the data analyzed so far appear in the default setting, i.e., scrolling fashion, white font and written in sinograms or the Latin alphabet. However, in addition to the default option, the *danmu* interface makes available to users a variety of options for typographic manipulation, e.g., color, movement, size (detailed in chapter "the interface").

Figure 21 shows multimodal forms to mark the position of the triggering turn. In the top screenshots, the mention of the name

“Blanca” triggers turn 134 (many Chinese language learners use another name in the target language). After three film turns describing the job as “a great responsibility” (turn 135), “too hasty” (turn 136) or dubious (137. “Don’t tell me the Ministry of Time already exist in that era.”), turn 138 responds to turn 134 out of a coincidence of names. To make the reference explicit, turn 138 also employs Spanish, and adds a Japanese-style emoticon (*kaomoji*), where the eyes (arrows) look suspiciously towards the left.

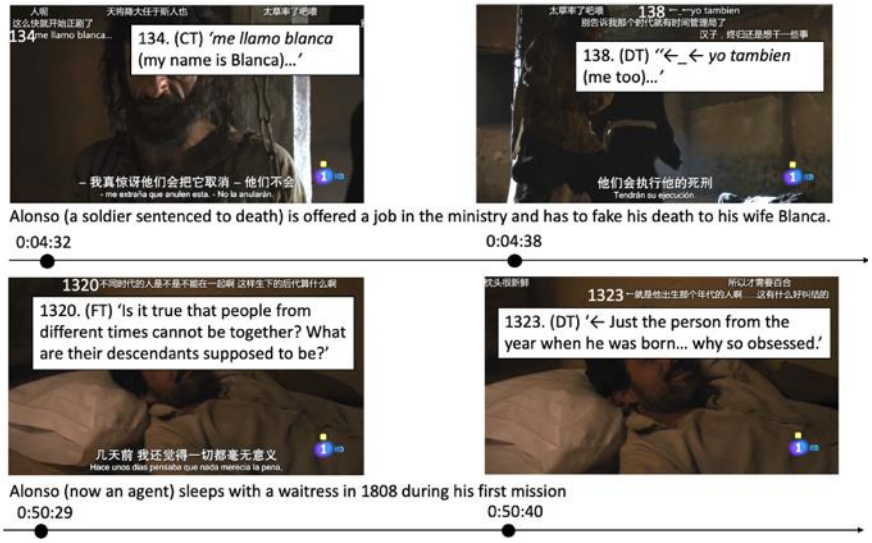

Figure 21. Multimodal references

Similarly, in the bottom screenshots, turn 1320 raises a question regarding the logic of the plot, and turn 1323 starts the explanation with a leftwards arrow. Two turns precede turn 1323 in the bottom-right screenshot: film turn 1321 reacting to the “unexpectedly new pillow”, and turn 1322 succinctly responding to turn 1320 (“Multiracial of time”).

In dataset b., most "funny *danmu*" are also created by users exploiting the multimodal system affordances. Correspondingly, the responses to those funny *danmu* make reference to their particular qualities. Figure 22 shows two instances of *danmu*-specific references to funny comments. On the left, the funny *danmu*—the yellow text—calls for attention using a striking color and the central position. The humorous intervention is welcomed by other viewers and referred to as "the yellow font". On the right, the "funny *danmu*"—or rather an amazing piece of art—receives wide admiration from the audience. Fans acknowledge the use of color (blue, as the hair of the character) and type (advanced *danmu*). Fans also use Chinese subcultural expressions (合影 "take a group photo", 大佬 "a big shot") to praise and pay respect to the *danmu* artist (see also Johnson, 2013, p. 308).

Young women quarrel over romance rumors. The yellow text parodies the scene mixing several Chinese Internet memes.

1. (DT) 'What on earth did the yellow font say?'
2. (DT) 'OMG, I have to pause in every frame, otherwise I would miss the yellow font.'
3. (DT) 'The yellow font 66666666 (hahaha).'
4. (DT) 'The yellow font, you need to stop.'

A *danmu artist* draws a blue-haired female character in the anime using advanced *danmu*

1. (DT) 'Taking a group photo with advanced *danmu*.'
2. (DT) 'Bowing to the *danmu* by a big shot.'
3. (DT) 'If true love had color, it must be blue.'
4. (DT) 'God-level *danmu*.'

Figure 22. Color-based (left) and type-based (right) references

6.4.5 The deictics

Since Halliday and Hasan (1976), deictics have been considered a potential indication of discourse cohesion. However, some researchers also argued that a text with cohesive devices is not necessarily coherent, and a coherent text sometimes does not contain apparent cohesive devices, especially in computer-mediated communication (Herring, 2013b; Simpson, 2005, p. 342). Furthermore, recent studies show that deictics can acquire new meanings and functions adapted to the medium (Collister, 2012; Cuenca, 2014).

The excerpt in Figure 23 shows multiple uses of the deictic "you" in *danmu*. Triggered by a "door of time" that leads to the past, turn 533 imagines a Chinese scenario with the Yongzheng Emperor (or the "Forth Prince" in popular time travel series). The plural "you" (marked by a suffix in Chinese) in turn 533 thus refers to the minister and Julian in the first screenshot. Turn 534 is an adjacent turn consisting of repetition and the *danmu* specific expression "you stay" (similar to "wait for me" and "don't go" in Figure 19), where "you" means turn 533. Turn 535 shifts to the perspective of Spaniards during the Inquisition, which makes "you" a cataphora for "heretics scum" and "we", "the Spanish". In turn 536, the viewer would be inside the film frame, speaking from behind a door of time. Therefore, the plural "you" again refers to the minister and Julian.

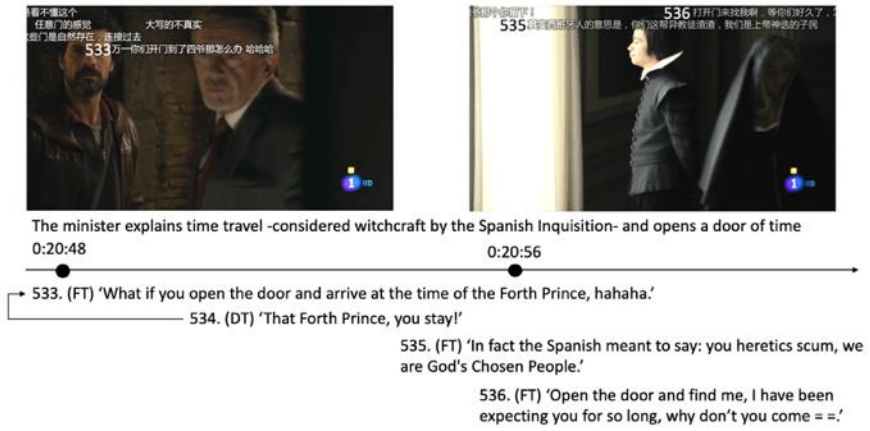

Figure 23. Deictics in *danmu*

Figure 23 shows original and playful means of participation, facilitated by the use of personal deictics. As turn 533, viewers can *speak to* the characters, especially when surprised by the plot development. For example, viewers object to the erotic scene between Alonso and the waitress (1302. "What about your wife, your wife. How long has it been? No wonder you told her to forget you." and 1305. "Wait you just accept it like this?"). When a man from 1808 steals a modern pistol from the police, viewers question him (1805. "Even if you take it, you can't make bullets." and 1093. "Let's see if anyone cares about you.").

Like turn 535, viewers can also *speak for* the characters. In the Chinese Internet slang, such voiceover is called an OS (overlapping sound) and reveals characters' thoughts and feelings. For instance, when Julian is stunned by the offer to work for the ministry, viewers actively picture his painful realization of the job duties (603. "Main actor OS: Why does it have to be me?" and 617. "OS: I choose to go die.").

In intense scenes, viewers use the imperative voice to *command* the characters. When Julian secretly takes a photo of the suspect, the camera shutter sound irritates the audience (1259. “Mute your phone, idiot.”). When the suspects sneak a book out of the store, viewers shout: 782. “Hey!” and 785. “Pay!”. Other times, viewers intervene just for fun. When an actress unexpectedly kisses another actress, a commenter pleads: 222. “Fuck! Let that girl go, let me do it!”, along with declarations of love (809. “Girl you are so beautiful! Marry me!”).

6.5 Discussion and conclusions

Regarding RQ1, we identified both verbal and nonverbal resources activated by users to create coherence in *danmu*. Nonverbal resources are the most characteristic of the *danmu* system. Most *danmu* can be interpreted based on: 1) the insertion time in the film; 2) the surrounding elements on the screen (actor, subtitles, other *danmu*); 3) multimodal properties of the text (the directionality [right-left or top-bottom], different colors and types); and 4) the additional deictic emojis and symbols (arrows).

As to verbal resources, the most common device seems to be lexical cohesion, realized through: 1) quotation or repetition (e.g., “that person who said…”); 2) indirect addressivity (e.g., the semantic anaphora “the male chauvinist” and “living antiquity” referring to the patriarchal comment); and 3) cultural references (e.g., the pragmatic

anaphora “King Fernando” to substitute “male protagonist from *Isabel*”). Personal deictics also contribute to cross-turn cohesion (e.g., “you stay”). Comparing to Romance and Germanic languages, the Chinese used in *danmu* contains fewer grammar-based cohesive resources (e.g., substitution, ellipsis) and mainly relies on vocabulary and context to achieve coherence (Huang, 1994; Yeh, 2004).

Regarding RQ2, we found that *danmu* exhibits both coherent and incoherent features. Like a bar where people chat loudly, multiple and unpredictable topics of conversation emerge, develop and die away at the same time. The disrupted adjacency, redundant participation, and frequent topic digression are all signs of incoherence in *danmu*. However, unlike traditional chat channels, *danmu* constitutes an example of event-based communication, like Twitch chats (Ford et al., 2017; Musabirov et al., 2018), online gaming chats (Herring et al., 2009) and television-mediated chats (Zelenkauskaite & Herring, 2008). Most *danmu* comments center on the ongoing film (*prompt-focused participation*, Herring, 2013b) and only make sense if situated in the specific film scene, viewing context or the *danmu* co-text.

In short, we could conclude that despite obvious technological factors that discourage coherence (anonymity, character limit, short visibility), many users still achieve meaningful interpersonal interactions. The fact that certain comments lack clear references does not seem to affect the general popularity and utility of the medium. Furthermore, some users exploit the potential incoherence of *danmu* for playful purposes (Herring, 1999, 2013), e.g., to make

fun of the scrolling effect (“wait for me”, “don’t go”), or to take part in a specific frame (dialogue, command or voice-over of the character).

This study illustrates how emerging digital media influence and shape social interaction. As our data indicated, *danmu* only becomes interesting and useful if many people are engaged, because *danmu* comments 1) represent the majority of reactions of the film among the community; 2) guide future interpretation of the film and add extra meaning (humor, reflections); and 3) facilitate the interpretation of adjacent comments. In this vein, future studies may be interested in continuing exploring the construction of “small chats” (small-scale discussion threads) within “massive chats” (large-scale simultaneous reactions) (Hamilton et al., 2014; Ford et al., 2017) in different genres of *danmu* videos, and incorporating *danmu* users’ perspective of (in)coherent viewing experience.

Finally, this study provides insights into the complexity of online fandom (L. Zhang & Cassany, 2016, 2019b). So far, many studies have stressed the ephemerality and nonsensicalness of *danmu* comments. Cao (2019, p. 10) was concerned at having “gone too far ahead in assuming that these fleeting texts may indeed require interpretive efforts to produce an effect”. Xiqing Zheng (2016) also pointed out that many *danmu* videos are replete with nonsensical memes, which help build up an alternative community for otakus in the virtual space. However, our data contained meaningful, serious and in-depth discussions, which indicate the diversity and potential

of *danmu* and Bilibili as far beyond a subculture habitat (Gu, 2017; Yang, 2019; Yin & Fung, 2017).

Note

1. The repetition can also be argued as a quotation, since the Chinese expression 仓库的 is an abbreviated form of "(that person who say/said) Warehouse."

7. DISCUSSION AND CONCLUSIONS

7.1 *Danmu* as a learning medium

Regarding RQ1 (What do *danmu* users talk about?), Chapter 2 revealed the top five topics interesting *danmu* viewers of The Ministry of Time: 1) the unusual genre of historical science fiction; 2) the characters and actors; 3) the plot development; 4) the sociocultural background; and 5) the Spanish language and fan-made translation. Some topics (1–3) were expected to awaken curiosity among the audience (Cascajosa Virino, 2016; Torregrosa-Carmona & Rodríguez-Gómez, 2017). Moreover, as Spanish *ministéricos* remarked (Estables & Guerrero-Pico, 2017, p. 68), MdT serves as a good example to appreciate Spanish culture and history from different points of view.

The strong interest in Spanish society and culture is related to the exponential growth of Spanish learners in China. Twenty years ago, only twelve universities across the country offered a bachelor's degree in Spanish. In the next fifteen years, sixty universities added Spanish Philology as an undergraduate program (S. Zheng & Liu, 2015). Today, in March 2020, the total number of universities with a Spanish degree has risen to one hundred (J. Lu, personal communication, March 5, 2020). Meanwhile, numerous students are learning Spanish in secondary schools, language academies, and The Cervantes Institute.

However, Spanish language teaching in China has not yet fully adapted to the increasing necessity. Among others, qualified teachers and professors are lacking; the grammar-translation method is still predominant in most classrooms; and the leading handbook (*Español Moderno*) hardly concerns real-life communication (see Castaño Arques, 2020; Sánchez Griñán, 2008 and Vázquez Torronteras, 2020, for empirical analysis and didactic proposals).

On the other hand, media products (films, television, radio, podcast) have become useful and entertaining channels for learners to access authentic Spanish language and culture (Muñoz-Basols, 2019). Our investigation suggested three roles adopted by the audience: 1) traditional passive viewers; 2) fansubbers, who reconstruct the video through grass-root translation and headnotes; and 3) *danmu* commenters, who further reconstruct the fansub through open debate and revision of the video and subtitles.

While fansubbing offers fascinating language learning opportunities (L. Zhang & Cassany, 2019b), *danmu* commenting should not be overlooked. Being anonymous and contextualized, *danmu*—with critical reading—can foster an informal learning environment for participants and subsequent viewers. For fans and language learners, it could be important to segregate the fan identity from real identity, to save face when making mistakes (see the case of a Catalan girl learning Korean through popular culture in Moya Ruiz, Orfila Febrer, Tarragó Pascual, & Cassany, 2020). Chapter 3 also illustrated how *danmu* users developed informative and even academic discussions, unpacking confusing language use and pervasive ethnic stereotypes.

Recently, more empirical studies emerged and confirmed the educational potential of *danmu*. Analyzing video lectures on Bilibili, Lin et al. (2018) identified widespread knowledge sharing practices through *danmu*, which enhance learners' interaction and course engagement. Interestingly, human sciences or liberal arts lectures seemed to attract more *danmu* than mathematics lectures.

Wu et al. (2018) compared knowledge sharing through *danmu* and regular comment sections on Bilibili. In *danmu*, people shared more explicit or "know-what" knowledge (words, numbers or symbols). In regular comments, people shared more tacit or "know-how" knowledge (experiences, beliefs, values).

A unique knowledge sharing practice, acknowledged in Wu et al. (2018, p. 212) and further developed in Yang (2019), is "*danmaku* subtitling." This phenomenon constitutes a new scenario of amateur translation, where enthusiastic viewers insert translation as *danmu* for original foreign videos.

Finally, several experimental studies implemented *danmu*-inspired design in online courses (Lee et al., 2015; Leng, Zhu, Wang, & Gu, 2016; Y. Yao, Bort, & Huang, 2017; Yabo Zhang, Qian, Pi, & Yang, 2018). These studies reported promising results regarding social presence, learning performance and learners' satisfaction. However, scholars were concerned about learners' cognitive load caused by visual clutter or multitasking.

The latest work by Yue Chen et al. (2019) may offer a solution to the problem. The authors designed a customizable commenting tool—

DanMOOC—that caters for different needs, e.g., filter out course-unrelated discussion, send an individual comment or start a threaded conversation, and separate the instructor's explanation from learners' comments. Comparing to previous designs, DanMOOC considered distinct tastes and preferences (e.g., divergent attitudes towards emotional expressions and social-oriented comments) and provided a tailored experience for both instructors and learners.

7.2 *Danmu* as multimodal composition

Regarding RQ2 (How do *danmu* users appropriate technological affordances?), Chapter 4–5 identified the appropriation of: 1) colors and positions provided by the *danmu* interface, and 2) symbols through the character input system. Colors were useful to distinguish *danmu*, or to relate to the video content through the associative value. Position also served to differentiate one's comment, while a specific location could repackage the comment, e.g., as subtitles. In terms of symbols, users incorporated both traditional characters and Japanese *kaomoji*. Expert users also created shapes by combining symbols or ASCII art (text-based visual art).

Regarding the context, most funny *danmu* appeared in (animated) television series, while films and short videos seemed less inspiring. Probably, the familiarity and implication with plot and characters' development lent more space for imagination. Additionally, since Chinese, Korean and Japanese dramas—popular genres on *danmu*

video streaming sites—tend to be slow or predictable, audience exploited *danmu* to add spice to the viewing experience.

Multimodality has been a prominent aspect of *danmu* and several studies reported similar practices. Back in 2013, Johnson introduced sophisticated typographic play and pictorial writing on Niconico. He predicted that these practices potentially transform the comment feed into a space for meta-interaction and visual performance. Later, to exemplify Chinese commenting culture, Xu (2016) contextualized Bilibili with a screenshot where a green hat was put on a cuckolded character. Also based on Bilibili, Yi Zhang (2017, p. 162–166) analyzed multiple functions of deictic emojis (arrows). Xiqing Zheng (2016, p. 335–338) described celebrating practices of *otakus* (collective repetition of a famous line and ASCII art) which became a ritual in the community.

Focusing on fan videos of Marvel superheroes on Bilibili, Gu (2017, p. 34–36) offered interesting observation on color and position usage. First, like in this study, the consistent use of a color font separated informational comments from emotional comments (e.g., blue *danmu* posting the names of background music in a remix video). Second, as our users capitalized on the symbolic meaning of green and yellow, Gu identified pink as a popular choice to denote romance between characters. Finally, both studies found frequent cases where users overlaid colorful *danmu* of the same content (e.g., Figure 3 in Chapter 4). Although the repetition may seem aggressive and impede viewing, Gu suggested that through expressing visually represented

and exaggerated emotion, the commenter was "declaring ownership" of a beloved scene.

More recent studies conducted systematic analysis of *danmu*'s multimodal affordances, adopting a social semiotics or semiotic technology perspective (Pérez-González, 2019; Yang, 2020). Curiously, our findings may suggest more possibilities regarding the potential of the interface. For example, the fleeting temporality was thought to "heighten the difficulty to engage in interaction and any form of in-depth discussion (Yang, 2020, p. 263)." However, Chapter 3 proved the task not only feasible, but also rather smoothly-executed.

In short, we agree with Teng (2018) in that the meaning making of *danmu* is "a process of keeping cohesion between one multimodal ensemble (audience-generated comments) and another one (either user-generated or institution-generated videos)." To achieve this cohesion, users had to follow certain norms, e.g., knowledge of the video and the platform, Japanese fandom, Chinese digital culture and social issues. The "common knowledge" seemed necessary to engage in a variety of multimodal practices on Chinese social media, e.g., *biaoqingbao* (Chinese memes of image macros; see Yaqian Jiang & Vázquez, 2019; Lu, 2018) and WeChat emojis (Yiqiong Zhang, Wang, & Li, 2020).

Regarding RQ3 (How do *danmu* users construct meaning?), Chapter 6 provided insights into textual cohesion and coherence. Common mechanisms for coherence included lexical cohesion (repetition,

pragmatic references), in addition to multimodal devices discussed in Chapter 4–5 (emojis). As Q. Wu et al. (2018, p. 212), we registered playful cases of "parasocial interaction", where the *danmu* user created an imaginary social relationship with the consumed video. In such cases, users included deictics directed at the characters.

To the best of our knowledge, Chapter 6 is the only study to date that explored coherence in *danmu*-mediated communication. In terms of methodology, this research innovated data illustration by presenting time-stamped and restructured *danmu* alongside original screenshots. Finally, the results could help advance existing paradigms of intersemiotic cohesion (Caple, 2013; Kress & van Leeuwen, 2001; Liu & O'Halloran, 2009; Martinec & Salway, 2005; Royce, 2007), which largely drew upon journalistic texts.

In a nutshell, *danmu* allowed users to manifest the discursive-technological creativity, putting the technological potential at the service of functional or communicative purposes. On the one hand, the interface is anonymous, tremendously fleeting (a few seconds of display), and elliptical (uncommon explicit references). On the other hand, users found ways to construct relevant meanings for the audience (make fun, ask questions, respond to previous comments, etc.). Herring (1999) already demonstrated that chat—with a lesser degree of coherence than face-to-face interaction (or very different procedures)—was relevant to young people. This research showed the same, with an even more open system and multimodal elements like color or position.

7.3 Limitations and future lines

The first limitation of this research derived from the qualitative or data-driven approach. Initially, as the research plan proposed, the dataset consisted of ten episodes from four Spanish series (*Ministerio del Tiempo*, *Gran Hotel*, *El Tiempo entre Costuras*, *Isabel*), including 222,274 *danmu* comments. However, due to the limited analytical capacity and richness of the data, the final dataset was narrowed down to one representative episode.

While the episode provided a valuable answer to RQ1, the results might not transfer to other series or genres. Future studies could consider diverse sources and adopt new analytical tools designed for *danmu*, e.g., natural language processing tasks (Bai et al., 2019), which permit extracting specific interactions on a large scale. On the other hand, this research opted for a detailed and profound analysis with limited sample size. Also, Chapters 4–5 analyzed screenshots, which included more diverse usage patterns.

Second, the profile of the researcher might influence the analysis. Having been a *danmu* user and a "fangirl" (Chapter 1.1 and 1.3), I could be biased towards familiar video genres and *danmu* practices. On the other hand, in the funny *danmu* dataset, certain references and expressions were difficult to decipher or even went unperceived in the initial analysis. To increase the reliability of the study, future studies may incorporate interdisciplinary perspectives and methods, e.g., collaboration between computer scientists and an anthropologist to study interactions on Twitch.tv (Ford et al., 2017).

Third, the unconventional thesis format might limit the depth of the study. Given the language barrier and thematic novelty, each article devoted the necessary space to introducing *danmu*. While we made the best effort to provide an up-to-minute description of *danmu*, a traditional thesis could have saved the "repetition" and opt for a more systematic and progressive analysis.

To sum up, *danmu* renders much room for future research. *Danmu*-enabled video streaming sites (Douyu, YY) are attracting increasing academic attention (Cao, 2019; Xinru Chen & Chen, 2019; G. Zhang, 2019; J. Zhou et al., 2019). Unlike video sharing platforms, *danmu* in streaming videos are sent and recorded in real time, influencing or deciding the discourse of the streamer. Once the streaming finishes, *danmu* also become definite. Through *danmu*, viewers can give (paid) gifts or tip the streamer, resulting in "a spectacle of money flowing and vanishing on screen (Cao, 2019)". The peculiarity materializes social inequality, since expensive gifts distinguish generous tippers (the privileged class) from common fans.

In our case, two future lines of research took shape—in the form of conference papers—in the course of this research. The first line focuses on the discursive construction of video sharing platforms (L. Zhang & Zhao, 2018). Instead of the bottom-up approach adopted in the thesis, this project took the top-down approach. We aimed to investigate how the multimodal design of video sharing sites frame users' video sharing practices. Compared to YouTube, Bilibili adapts and appeals to fans through implicit and explicit strategies (setting up a folk taxonomy of video genre, integrating subculture into the menu

bar, etc.). This project could extend the application of the multimodal semiotic approach, and help us understand the complex interaction between individual and social media in the digital age.

The second line relates to the social implications of *danmu* (L. Zhang, 2021). In both datasets, we found users expressing or making fun of social concerns through *danmu* (medical insurance, sex education, feminism). These episodes provided excellent data for discourse and conversation analysis. In the tampon-triggered debate, users talked about feminine hygiene products, citing their own experiences, while identifying and deconstructing patriarchal comments. Here, *danmu* became a transformative third space, safeguarding public debate on traditional and often silenced issues. This project invited questions like: what are the common ideology or aspirations underlying *danmu* comments? To what extent does anonymity and the ephemeral design motivate interaction?

Today, amid the coronavirus crisis, Bilibili became a hub for grass-root videos communicating public health information. Popular vlogs and short science videos obtained around five to ten million views. Ultimately, as this thesis showed, *danmu* can be a medium, a scene and a language, like a straw in the wind indicating the textual, modal, and social transformation we are experiencing. To be able to record and introduce a small aspect of this reality, across distant languages and culture, is the luck of us as researchers.

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