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**Instagram Live: An Application of Computer-Mediated Discourse
Classification Schemes and Linguistic Perspectives**

1. Introduction

Instagram is a feature-rich social networking service that primarily functions as a photo and video-sharing platform. Instagram's continuous pursuit of connecting people, groups and businesses through social media has allowed it to achieve a significant milestone of having 700 million users (Instagram, 2017). This essay will focus on Instagram Live ("IG Live"), a particular feature introduced in 2016 where users can share live videos and engage with other users in real time (Instagram, 2016). IG Live was marketed as an extension of the platform's existing Instagram Stories feature that allows users to post content that expires within 24 hours. Features available in the current iteration of IG Live (Figure 1) include real-time split-screen video streaming with another user, engagement with viewers as they send comments, as well as saving the broadcasted stream. This paper is organised in the following way: section 2 will review existing literature concerning live streaming, section 3 will present a brief analysis on the word 'Instagram', section 4 will analyse IG Live using Herring's (2007) and Crystal's (2006) classification schemes, section 5 will offer a linguistic perspective on IG Live, and section 6 will summarise and conclude the paper.
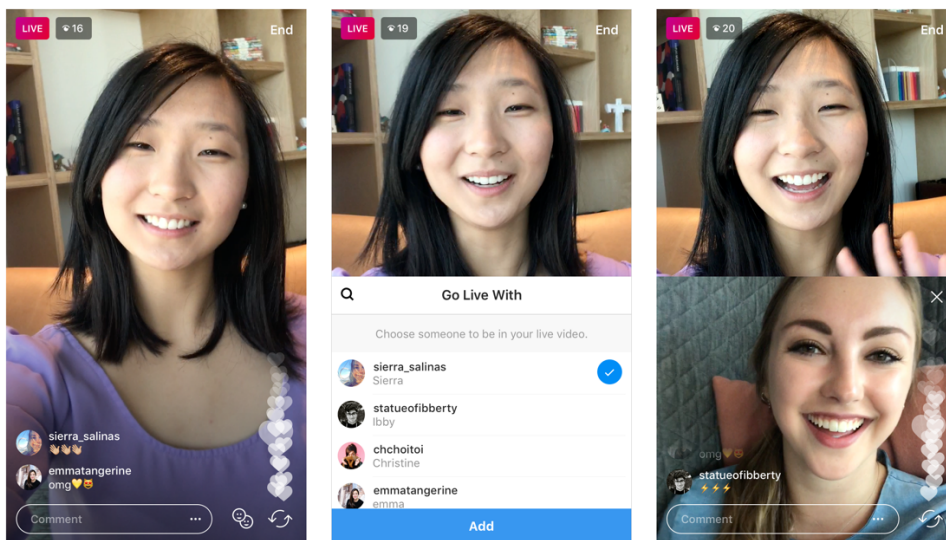

Figure 1: Screenshots of an IG Live broadcast (Instagram, 2017).

2. Present Literature on Live streaming

IG Live can be described as a social live streaming service, a type of social media where "every user has the opportunity to produce and to broadcast his or her program in real time" (Scheibe, Fietkiewicz, & Stock, 2016, p. 6). Other live streaming services include Twitch, Periscope, Mixer and YouTube Live. Such services reach out to a diverse and dispersed audience, and

video games researcher T. L. Taylor (2018) has pointed out six primary reasons for viewership: aspirational, educational, inspirational, entertainment, community and ambience. In the area of education, live streaming enables educators to give immediate evaluations and constructive feedback without interrupting the teaching session (Howell et al., 2017). This medium of communication has also seen increasingly significant presence in the field of politics. During political unrests, live streams serve as a form of alternative media that allow people to have a glimpse of the actual events; these live feeds act as the eyes of the protestors and demonstrators on the ground (Gerbaudo, 2017). In an analysis of 2012 Quebec student protests vis-à-vis live streaming, Thorburn (2014) suggested that live streams can possibly influence people's attitudes towards a particular social movement and can be regarded as "an expansion of an already existing use of media in activism" (p. 56). Live streaming is also of course highly prevalent in the world of professional e-sports, but recent data has shown that individual streamers accounted for a large percentage of Twitch viewership, not official e-sports brands or accounts (Yosilewitz, 2019). As a whole, the technological capabilities of live streams undoubtedly "permit deeper interactive engagements" (Champlin, 2019, p. 258) between viewers and streamers regardless of content and domain of usage.

3. Breaking down 'Instagram Live'

A brief analysis of the word 'Instagram' could possibly be helpful in understanding IG Live as a medium of communication. 'Instagram' is a portmanteau of 'instant camera' and 'telegram'. The Instagram mobile application emulates an actual physical instant camera – a user can point at something, capture it by tapping or clicking the camera button, and the photo will appear instantaneously. The difference in this process is that Instagram uses highly advanced technology which fits into tiny microchips while instant cameras make use of self-developing films. The idea of an instant camera in the form of ones and zeros is undoubtedly the core of Instagram, but it is the 'telegram' portion of its name which is more relevant in our current discussion of IG Live. According to the Oxford English Dictionary (2019), 'telegram' refers to "A message sent by telegraph (telegraph n. 3a), typically composed in a concise and elliptical style and delivered, usually in written or printed form, very soon after sending." Instagram has expanded this definition to include visual and audio content on top of written messages. The meaning of 'Live' in IG Live can be traced back to a 1934 British Broadcasting Company Yearbook, with the definition "Of a performance, event, etc.: heard or watched at the time of its occurrence; *esp.* (of a radio, television, online broadcast, etc.)" (OED Online, 2019). IG Live therefore extends the technological capabilities of the telegram concept by allowing simultaneous transmission of all sorts of contents with almost zero delays. Like the telegraph which "revolutionized communications and in doing so changed the basic institutions of society" (Phillips, 2000, p. 269), IG Live and Instagram as a whole has transformed the way we interact in the digital age.

4.1 Herring's (2007) Faceted Classification Scheme for IG Live

One way we can analyse IG live as a form of computer-mediated discourse is by applying Herring's (2007) Faceted Classification Scheme. In particular, we can consider two different sets of categories: technological, or medium factors (Figure 2a) and situation, or social factors (Figure 2b). This section will elaborate on medium factors and briefly discuss social factors,

since social factors are largely dependent on the content of the live stream itself rather than the medium.

	Medium Factor	**Value based on IG Live**
M1	Synchronicity	Synchronous
M2	Message Transmission	1-way
M3	Persistence of Transcript	Varied persistence
M4	Size of Message Buffer	Broadcast: 60-mins time limit Messages: 2200-character limit
M5	Channels of Communication	Dual channel (Visual and Audio)
M6	Anonymous Messaging	High for viewers, Low for streamer
M7	Private Messaging	Not Applicable
M8	Filtering	Not Applicable
M9	Quoting	Not Applicable
M10	Message Format	New messages at the bottom

Figure 2a: Herring's (2007) medium factors based on IG Live. This schema is based on an IG Live stream by a single user (as opposed to a shared one) with more than one viewer.

M1. IG Live is a synchronous system, meaning that users (both streamers and viewers) must be logged in at the same time in order to interact simultaneously. IG Live emulates face-to-face spoken conversation without needing the interlocutors to both be located in the same place. However, if a user chooses to save their IG Live broadcast and pin it to their Instagram feed, other users can view the broadcast even when the broadcaster is offline. In this case, users are only able to passively watch a repeat of the broadcast without any real-time interaction.

M2. IG Live uses a message-by-message transmission system, also known as one-way transmission. Users are unable to tell when another user is typing a message, unlike on Instagram's Direct Messaging platform where it shows three animated dots when another user is writing a message. Typing indicators are common on instant messaging applications such as WhatsApp and Telegram.

M3 and M10. The persistence of transcript, or in other words the time in which a message stays on the screen during an IG Live broadcast, is dependent on two factors namely number of viewers and their level of interaction. These factors are in turn linked to the popularity of the streamer. For example, a live stream by a famous celebrity would attract a high number of viewers who are likely to spam the stream with messages. Since there is a limit to the number of messages allowed on screen, messages have very low persistence as they are rapidly replaced by new ones. These new messages appear at the bottom of the screen and the older messages are pushed upwards and disappear after some time. Conversely, a live stream by a typical user would receive much fewer viewers and therefore messages are likely to have a higher persistence.

M4. IG Live currently has a time limit of one hour (Drake, 2019). The maximum number of characters allowed in one message during an IG Live broadcast is undocumented, but it can be assumed from Instagram's general rules that the character limit is 2200 (Instazood, 2019).

M5. IG Live uses Voice-over-Internet Protocol (VOIP) technology to deliver audio and visual data between streamers and viewers. Unlike other VOIP providers such as Skype and ooVoo which allow all connected users to deliver audio, IG Live only allows the streamer to produce audio. Streamers have the freedom to present whatever visual content they desire, but viewers can only send written messages or emojis. IG Live can therefore be described as being dual channel, but production of audio and video are constrained to the role of the user in an IG Live broadcast.

M6-M9. There is a large degree of anonymity for viewers as users can create an account on Instagram without any identifying username or photos. Private messaging is not applicable to the context of IG Live since messages sent during an IG Live can be seen by every user that is tuned in to the stream, including the streamer himself. Instagram has launched filtering tools (Much, 2016) and measures to curb online harassment (Mosseri, 2019), but these protections only regulate comments on posts and not elsewhere on the platform. Quoting, like in emails, is unavailable on IG Live.

	Social Factor	**Value based on IG Live**
S1	Participant Structure	o One-to-Many o Privacy is set by streamer o High degree of anonymity for viewers o Unspecified maximum number of viewers o Participant distribution is varied
S2	Participant Characteristics	Varied
S3	Purpose	Varied
S4	Topic or Theme	Varied
S5	Tone	Mostly informal and casual
S6	Activity	Varied
S7	Norms	Varied
S8	Code	Varied

Figure 2b: Herring's (2007) social factors based on IG Live. This schema is based on an IG Live stream by a single user (as opposed to a shared one) with more than one viewer.

As shown in Figure 2b, a majority of social factors are dependent on the content of the live stream. Participants who watch a particular IG Live broadcast are likely to have very different characteristics, but at the same time are also likely to share a common interest, which is the content or subject presented on the live stream. Some viewers are content with watching without sending any messages while others gain a more enjoyable interactive experience from sending messages during the live stream. Different live streamers have different purposes – for

example, a social media influencer may use IG Live to promote a product while a musician may use IG Live to tease an upcoming new single. The social factor that is most linguistically relevant would be 'Code'. The top five countries with the largest number of Instagram users (United States, India, Brazil, Indonesia, Russia) span four different continents (Statista, 2020), and we can therefore safely assume that many different language varieties are being used on IG Live. Users from Russia for example, may use the Cyrillic script, while Japanese users may use either the Romaji or Kana keyboard when typing.

4.2 Crystal's (2006, Ch 3–6) Features of Speech and Writing

Another way we can understand IG Live as a medium of communication is through Crystal's (2006) analysis of speech and writing. This approach considers seven different factors as shown in Figure 3.

	Speech Like	Text Like
F1	time-bound*	space-bound*
F2	spontaneous*	contrived*
F3	face-to-face	visually decontextualized*
F4	loosely structured*	elaborately structured
F5	socially interactive*	factually communicative
F6	immediately revisable*	repeatedly revisable*
F7	prosodically rich*	graphically rich

Figure 3: Crystal's (2006) features of speech and writing.
The '*' indicates that the particular feature is exhibited on IG Live.

F1. While the IG Live platform displays both time-bound and space-bound features, it would be important to note that IG Live's speech like features are mainly associated with streamers since they can produce speech audio on top of written text messages, unlike viewers who can only send text messages. For real-time interaction to occur, both the live streamer and viewer must be present or online at the same time. While the streamer may not necessarily have a specific addressee, the streamer most likely has a particular target audience in mind based on the purpose of his or her broadcast. Users voluntarily choose to watch a live broadcast, suggesting that live streamers do not know their addressees beforehand and are only able to discern his viewers through their usernames. Older messages on the stream are constantly being replaced with newer ones, meaning that a message's on-screen permanence is dependent on the volume of other messages. For the IG Live session itself, the ability to save it makes the platform text-like as it will become permanent.

F2. IG Live is able to transmit audio and visual information between streamer and viewer in real-time. Perhaps we can look at time-lag as the technological equivalent of unintentional pauses in spoken conversation – a disrupted internet connection that causes transmission delays is similar to how we pause as our brain scrambles to find the word we intend to say. At the same time, the messaging portion of IG Live makes the system text like. Even though the time-

lag that occurs when sending messages are negligible, it is still not as instantaneous as the actual audio and visual live stream itself.

F3. Even though a streamer might stream himself talking to an audience, I believe that it would be inaccurate to fully label IG Live as a face-to-face interaction in a traditional sense as the streamer is unable to see his audience. Having said that, the interaction is not entirely visually decontextualized. The streamer can employ paralinguistic cues such as volume, pitch and intonation to convey certain meanings or achieve certain effects. Emoticons or emojis can also be considered as a form of paralanguage (Jibril & Abdullah, 2013) and therefore viewers are able to create meaning through these visual elements.

F4. IG Live follows a loose and natural structure. Both streamers and viewers tend to speak casually with colloquial expressions that vary from country to country. The informal register is akin to everyday speech and slang words commonly found in spoken conversations as well as on instant messaging platforms are also frequently used on IG Live.

F5. The nature of Instagram as a social media platform suggests that IG Live is built on developing and maintaining social relations. The spontaneity of IG Live is appropriate for social activities; the availability of non-verbal features as espoused in F3 combined with informal expectations create an atmosphere that is conducive in establishing and preserving social relationships.

F6. IG Live exhibits both speech and text like features in terms of spoken and written revision. The simultaneous broadcast means that live streamers are unable to retract their spoken words as the audio is being transmitted in real-time to their viewers. However, for written messages by both streamers and viewers, they are able to make unlimited changes to their texts and these amendments are unseen by others.

F7. Due to the audio channel available on IG Live, streamers can display prosodic richness. For example, a live streamer can raise his voice to convey anger or speak softly in a consistent rhythm to portray calmness. The graphical richness of IG Live is restricted by the application's screen size as well as limited message formatting possibilities. Even though text features such as capitalisation may be regarded as prosodic code, it is generally difficult to translate and express certain nuances using written text.

5. IG Live from a Linguistic Perspective

From our analysis of IG Live using the relevant frameworks, we can expand on several notable linguistic observations. Internet lingo such as abbreviations and acronyms are undoubtedly a significant feature of computer-mediated communication, with ease of communication as primary motivations. The highly transient nature of IG Live requires an even greater urgency to "employ strategies that reduce the time needed to write the message", leading to "simplified syntax, such as subject or modal deletion" and "the acceptance of surface errors, such as typographical and spelling errors" (Murray, 2000, p. 402). This ephemeral style of interaction requires users to be creative in their language usage, potentially creating a domain, or several

domains of specialised registers. Individuals who actively partake in such social media activities will learn the subtle nuances of the medium, therefore achieving linguistic competency in computer-mediated communication.

IG Live also has implications on turn-taking, an important characteristic of conversation and discourse. It could be argued that an understanding of conversational turn-taking is naturally attained through real-world experiences. In face-to-face interactions, transitions between one speaker to the next are guided by the interpretation of speech acts, gestures, and vocalics (McCulloch, 2019). On IG Live, viewers tend to spam the chat section to prevent their messages from a drowning in a sea of other messages. The extremely rapid rate of message transmission results in an absence of conversational cues that form the basis of turn-taking conventions. The seemingly unpredictable and volatile nature of IG Live therefore makes it different from traditional face-to-face conversations that have a generally accepted set of protocols.

One sociolinguistic observation arising from our analysis of IG Live is that online anonymity could possibly lead to an increased prevalence of passing, referring to "when people adopt (linguistic or other) behaviors from another group in order to be taken as authentic members of that group" (Herk, 2012, p. 406). Due to the high degree of online anonymity afforded by IG Live, viewers can present themselves as someone they are actually not by using certain words or phrases associated with a particular culture or group. Since linguistic output can be regarded as a marker of in-group membership, viewers on IG Live can imitate the language behaviours of others to announce their social position. Writing styles can easily be copied, and the lack of visual identity makes the passing process even simpler.

6. Conclusion

IG Live is a multimedia platform that can be viewed as an amalgamation of various technologies. The complexity of analysing IG Live through both Herring's (2007) and Crystal's (2006) frameworks lies in the fact that there are two distinct roles in a single interaction – the live streamer and the audience, and not every technological capability or feature is available to both participants. An analysis of IG Live is made even more challenging due the plethora of possible live streaming content, which would affect its situational classification. Perhaps an analysis of IG Live would be more comprehensive if we were to divide it into the two roles of streamer and viewer as well as the type of content. Social live streaming is a relatively new phenemonon, and as it becomes more clearly defined, we could possibly approach the medium through other paradigms such as the social presence theory and Grice's converational maxims.

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