

## **Visual Communication in Practice: A Texto-Material Approach to WhatsApp in Mexico City**

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With more than 2 billion users, WhatsApp is one of the most important mobile technologies in the world. Accordingly, scholarly interest in WhatsApp has grown in recent years. However, studies have tended to separate WhatsApp's visual and textual elements from the analysis of its technological infrastructure. Alternatively, we argue for a "texto-material" approach that examines the links between both dimensions. We elaborate on the analytical gains that come from this approach by examining the use of WhatsApp in Mexico City. We posit that considering how textual/visual elements and technological features are interwoven is crucial for understanding the cultural specificity of WhatsApp's development and use in places like Latin America.

*Keywords: affordance, Latin America, mobile communication, messaging apps, texto-materiality, WhatsApp, visual culture*

WhatsApp is used by more than 2 billion people and is perhaps the most important digital technology for personal and collective mobile communication in many parts of the world. Acquired by Facebook in 2014, WhatsApp has become the most used messaging app in more than 100 countries and is currently installed on more than 90% of devices in 45 countries (Hakim Bobrov, 2018). WhatsApp is an important case for scholarly research for two reasons. First, it is not algorithmically governed, so its communication dynamics are enacted only by people within the constraints of the app. Second, although it might not be as prominent in places in the Global North, in Latin America, South Asia, and Southeast Asia, it is the most important "social" medium (B. Bucher, 2020).

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A growing number of empirical studies have sought to capture the significance of WhatsApp in people's practices around the world (Baulch, Matamoros-Fernández, & Johns, 2020). By practice, we refer to "embodied sets of activities that humans perform with varying degrees of regularity, competence and flair" (Postill, 2010, p. 1). Some important work about this issue has been conducted in fields such as education and health and has shown that WhatsApp is a key technology in many non-Western countries as a means of engagement with different types of content (Dahdal, 2020) and between various groups of people (Bouhnik, Deshen, & Gan, 2014). This has become particularly obvious during the COVID-19 pandemic, when WhatsApp has been integrated into (or even replaced) formal educational activities (Maphosa, Dube, & Jita, 2020).

Despite this growth of interest in WhatsApp, studies of people's experiences in the Global South are still underrepresented compared with research conducted in the Global North. Moreover, when WhatsApp has been investigated, research has focused on either content matters, that is, media texts and meaning-making activities (Valenzuela, Bachmann, & Bargsted, 2019), including visual elements, or materiality issues, that is, the "features that provide opportunities for or constraints on action" (Leonardi & Barley, 2008, p. 162), particularly infrastructures and affordances (Fiadino, Schiavone, & Casas, 2015), without considering how these two dimensions connect. But how materiality and content are interwoven is of crucial importance for understanding the contextual nature of WhatsApp's development and use. Our main contribution in this article is to show that the cultural specificity of media technologies such as WhatsApp is achieved in and through culturally situated practices that integrate materiality and content (Aharoni, Kligler-Vilenchik, & Tenenboim-Weinblatt, 2021; Lobinger, 2016). For these reasons, we argue that the study of apps such as WhatsApp is best served by approaches that explicitly examine how content and materiality intersect.

In this article, we draw on fieldwork conducted in Mexico City to examine how the contextual use of WhatsApp relies on the entanglement of textual/visual elements and its technological features and affordances (T. Bucher & Helmond, 2018). Mexicans are among the world's heaviest WhatsApp users. Latinobarómetro (2018) estimates that 60% of the country's population uses the app regularly. We begin our empirical discussion by looking at the uses of key communication devices in Mexico, such as emoji, graphics interchange formats (GIFs), and stickers. We then show how the meaning and use of these content features need to be understood as part of texto-material entanglements (like WhatsApp's default settings and the kinds of cell phones and data plans that users have). The conclusion elaborates on the analytical gains that come from considering both texto-visual elements and material dimensions in the study of WhatsApp. We demonstrate how the entanglement of these two dimensions is key in understanding the significance and relevance acquired by WhatsApp in Mexico City. Before we delve deeper in the discussion of these empirical processes, we elaborate on our theoretical approach and how it can expand extant literature on this app.

### **A Texto-Material Approach in the Study of Media Technologies**

Our analysis of WhatsApp builds on Siles and Boczkowski's (2012) approach to media technologies as texto-material assemblages, that is, the intermingling and arrangement of multiple sociotechnical elements. This approach combines an account of how users relate to texts, contents, and languages, with an analysis of how they appropriate media technologies as artifacts and infrastructures.

The study of media texts has been a central theme of research in fields such as media and communication studies, most notably work inspired by the cultural studies tradition and its focus on issues of interpretation (Radway, 1988). Scholars have focused on how people create, interpret, share, and circulate media texts. Studies reveal the varieties of ways in which individuals accept, negotiate, or resist the meanings embedded in these texts and how meaning-making practices take place within interpretive communities (Livingstone, 2008).

Alternatively, the study of artifacts, objects, infrastructures, and technologies has been the domain of fields such as science and technology studies (Pinch, 2008). Research has made visible the practices, relations, and negotiations among various groups that shape the stabilization of technologies. Instead of attributing intrinsic capacities to artifacts, scholars have revealed the set of relationships that lead to the formation of assemblages, networks, or sociotechnical systems in which technologies and their features acquire certain meaning (Boczkowski, Crooks, Lievrouw, & Siles, 2016).

Studies have employed a texto-material approach to make sense of an increasing variety of cases, including digital photography (Lobinger, 2016), online news (Boczkowski, Mitchelstein, & Matassi, 2018), more traditional forms of news (Aharoni et al., 2021), and different kinds of websites and platforms (Siles, 2017). These studies have helped develop analytical tools for making visible the intertwining of materiality and content that characterizes the use of media technologies in various ways: by adopting a process orientation that supplements a dominant emphasis on the present, focusing on the tensions between stability and change in the development of both material and content configurations, promoting interdisciplinary theoretical approaches, and carrying out mixed-method research designs (Siles & Boczkowski, 2012).

In this article, we build on this approach, but also supplement it in two important ways. First, we focus explicitly on the *visual* dimensions of media technologies that, in cases such as Mexico's, are central to how mobile communication takes place. Siles and Boczkowski's (2012) use of the notion of "text" tends to take for granted the primacy of written forms over other kinds of symbolic content. We argue for explicitly considering the visual as a supplement to the centrality of the text metaphor. A focus on the visual (as opposed to purely textual) is better suited to capture people's actual practices and seems more appropriate for cultural settings in which the use of multimodal elements is more extended than the use of textual ones.

Second, we stress the importance of *practices* in people's relationship with artifacts such as WhatsApp. The concept of affordance has been useful in communication and media studies for furthering our understanding of "what material artifacts such as media technologies allow people to do" (T. Bucher & Helmond, 2018, p. 235). We build on Costa's (2018) notion of "affordances-in-practice" to theorize "the enactment of platform properties by specific users within social and cultural contexts" (p. 3651). The affordances-in-practice approach (which is different from the notion of affordances *as* practices) helps us to further consider how the perception of technological features "vary across social and cultural contexts" (Costa, 2018, p. 3651). Affordances-in-practice thus invite considering the singularities of how users appropriate WhatsApp in certain places and how any kind of cultural specificity is achieved *in and through* the combination of technological affordances and culturally situated practices.

### **WhatsApp as an Object of Study**

Most studies of WhatsApp have privileged either textual or material dimensions, but usually not their intertwinement. In what follows, we discuss the analytical gains that come from this trend in the scholarly literature on WhatsApp and how a texto-material approach can supplement it in productive ways.

#### ***WhatsApp as Media Text***

Those who privilege the study of media texts—including visual aspects—tend to define WhatsApp as a carrier of language and symbolic content. This body of work emphasizes how various forms of textual and visual content can operate as a vehicle for the circulation of “personal messages” (Moura & Michelson, 2017). Works have looked at WhatsApp messages through the lens of textual analysis and theory (Yus, 2017) or analyze specifically how language is used on the app (Albawardi, 2018).

Visual elements have become pervasive in contemporary mobile communication. Moreover, the use of audio and visual elements is essential to understanding the success of apps such as WhatsApp in places where literacy is relatively low (Spyer, 2017). Research on visual resources has focused on communication forms that are key to understanding how people interact: stickers (Lim, 2015; Steinberg, 2020), emoji, GIFs (Jiang, Fiesler, & Brubaker, 2018), and memes (Nooney & Portwood-Stacer, 2014).

Various researchers have studied these visual elements as a means of expression in different cultural contexts. These studies emphasize how various forms of textual and visual content can operate as “a system of values” (Gn, 2018), as cultural products (Steinberg, 2020), or even as a “language” (Baron, 2013). Accordingly, researchers have tended to focus on the “communicative functions” (Highfield, 2018) of symbolic elements that characterize content on various apps or the semiotic strategies that people employ when they use them. Stark and Crawford (2015) thus described the “affective mix of relationship maintenance, sustenance, and continuation” (p. 6) that characterize the use of emoji.

Together, these studies envision visual elements as a semiotic language to support, expand, and “enrich” textual communication. Danesi (2016) thus speaks of a “grammar” that emerges through the repetition and widespread cultural circulation of emoji. Accordingly, research has emphasized issues of interpretation. Miller and colleagues (2016), for example, suggest that “emoji are used alongside text in digital communication, but their visual nature leaves them open to interpretation” (p. 268). A growing body of studies have used a comparative approach to understand the differences in how the use of emoji varies according to context, class, language, and age (Barbieri, Kruszewski, Ronzano, & Saggion, 2016; Miller, Kluver, Thebault-Spieker, Terveen, & Hecht, 2017).

#### ***WhatsApp as Infrastructure***

Alternatively, scholars who have privileged the study of materiality tend to focus on the links between messaging apps (including WhatsApp) and infrastructures, both by theorizing these apps as infrastructures in themselves and by studying the sociotechnical assemblages on which they depend (Pereira, Bueno Bojczuk Camargo, & Parks, 2020). Research along this line usually stresses how platforms

acquire specific technological services, features, and tools (Plantin & de Seta, 2019; Siles, 2013). Three features have been prominent in the study of WhatsApp: encryption (the possibility to protect conversations from unauthorized access), multimodality (the opportunity to combine a multiplicity of communication means), and groups (the segregation or aggregation of communications for specific sets of individuals). These three elements are commonly described as the material base of the app's success.

An infrastructural approach to messaging apps also situates them within larger technological systems. In this perspective, WhatsApp is a part of sociomaterial assemblages that include telecommunications operators, devices, intermediaries, cell phone providers, operating systems, other apps, and data plans. In practice, this approach has focused on WhatsApp as a vehicle for the circulation of information (Pellegrino, 2018). Fiadino and colleagues (2015) thus showed how WhatsApp enables the formation of specific data flows within cellular networks. This body of work has thus made visible how WhatsApp operates in specific regions and has enabled a comparison with prominent apps in other parts of the world; the most notable are WeChat in China, which Chen, Mao, and Qiu (2018) define as a "super-sticky" technology, and LINE in Japan, which Steinberg (2020) theorizes as a "super app" that aims to "become the hub for all digital life, displacing the smartphone OS as the ground or interface upon which the smartphone experience is built" (p. 4). Key in this conception of infrastructure is how technologies become a central and indispensable component of people's daily lives (Gómez Cruz & Harindranath, 2020).

Finally, research on infrastructural issues also emphasizes how various groups of people appropriate WhatsApp's specific technological features in distinct ways within particular cultural settings. Matassi, Boczkowski, and Mitchelstein (2019) analyzed how users turn WhatsApp into a natural technological component of their daily lives (that is, they "domesticate" it). They demonstrate that young adults, middle-aged adults, and older adults have different relationships with this technological object.

### ***Integrating Textual and Material Dimensions***

Research on WhatsApp as either carrier of media texts or as infrastructure has provided valuable knowledge on the significance of this app in contemporary mobile communication. Yet, by separating these two dimensions, it has also been limited in important ways. Although scholars have increasingly focused on the role of the visual in mobile communication, we know less well how material conditions and infrastructures shape the use and circulation of visual elements (such as stickers and emoji) and vice versa. Yet, both dimensions are critical in how people relate to this app. This lack of attention to issues of text-to-material intertwinement has also been the case for research that theorizes visual elements as technologies. For example, there is no major consideration of how content and material issues are combined in studies of the technical standardization of emoji (Berard, 2018) or the history of GIFs as formats (Eppink, 2014). Yet, it could be argued that this entanglement was key in their development.

As an alternative, we argue that studying sociotechnical assemblages can help broaden our understanding of the significance of WhatsApp in contemporary mobile communication and to assess its cultural specificity in regions such as Latin America. This approach allows making visible the articulation and importance of both dimensions as part of the very same use process. Theorizing WhatsApp as text-to-material

invites an investigation of the practices through which users bring together visual elements and affordances-in-practice in strategic ways.

### Methods

This study employed a three-step methodological approach. First, in 2019, we carried out in-depth interviews with 24 people of various ages and from different sociodemographic backgrounds in Mexico City, from students to professionals, domestic workers to entrepreneurs. These participants were organized into three age groups (20–30; 31–45; and 46–60 years). Half described themselves as women and half as men. In this first research step, we were interested in capturing usage variety and narrative diversity in people's lived experiences with the app. Interviews lasted for an average of 60 minutes.

During the interviews, it became clear to us that we could not understand the relevance of WhatsApp in people's lives without accounting for the use of visual elements such as emoji, stickers, and GIFs. Thus, in 2020, we implemented a second stage with a "theoretical sampling" strategy to specifically search for more information on how people in Mexico City used and made sense of these visual elements (Corbin & Strauss, 2015). We focused on emoji because users themselves mentioned it as the most important visual element in their practices. We asked people to send us "their favorite emoji" (in the form of screenshots) and respond to these two questions: "How do you use them?" and "What do they mean for you?" We also asked them for sociodemographic information, such as age and gender. We posted this invitation on Facebook (in several groups related to digital cultures and on our own profiles) and asked participants to share our invitation with contacts, thus creating a snowball effect. Although we did not intend this to be a representative sample, we quickly identified consistent patterns when we compared the responses from both interviews and emoji exchanges.

We received screenshots and comments from 70 individuals. Responses from men and women were almost equally distributed. Participants were between 22 and 65 years old and, for the most part, lived in Mexico City. The largest group of participants, in terms of age and occupation, consisted of students between 22 and 26 years old. Many participants responded by "translating" the specific meaning of the emoji they had sent to us, thus providing the main definitions of their "personal dictionary" of emoji. We built on extant research on WhatsApp that has employed this app as a data-gathering tool in itself (Käihkö, 2020). Accordingly, we used both Facebook and WhatsApp to ask additional questions to some participants about their screenshots (sometimes using emoji in our own responses to elicit more information). We analyzed responses using a multimodal approach that accounted for both the images and the text explaining their use (Sampietro, 2016).

The third research step of this study was carried out in early 2021. This phase built on the data collection strategy implemented in the second step of our research. To collect the data, we employed not Facebook, but WhatsApp groups that we created to that end. We set up open groups, asking again our previous participants to share the invitation with their contacts in Mexico City. Whereas the second stage focused on emoji, in the third stage, we asked them to share their "favorite" GIFs and stickers, as well as explanations of their practical meaning. The use of WhatsApp groups has proved to be an effective tool for data-collection purposes (Colom, 2021). In our case, it facilitated constant interaction with participants and allowed people to respond to, contribute to, and participate in exchanges with others whenever they wished. We collected 30

more responses to our questions from people between 20 and 35 years old. This strategy allowed us to further elaborate on the analysis we had conducted for elements such as emoji by incorporating other types of content.

Our methodological approach was developed primarily to face the challenges imposed by the COVID-19 pandemic. While the first stage of the project provided us with diversity and depth in responses, the second and third phases allowed us to focus on specific issues that were salient to us among our preliminary findings (namely, the significance of emoji, GIF, and stickers). In these stages of the project, we sought to employ what Patton (1990) defines as a "theory-based" or "operational" construct sampling strategy, that is, cases that worked as "manifestations of a theoretical construct [in this case, a texto-materiality approach to WhatsApp use] so as to elaborate and examine the construct" (p. 183). Accordingly, we focused on "heavy" WhatsApp users who had a reflexive relationship with this app. To be sure, this research design limited the potential for building an entirely random sample (given that we already knew some of our respondents). However, it also enabled participants to easily recruit other people for the study by sharing posts on platforms such as Facebook and WhatsApp. This is not unlike traditional snowball sampling techniques.

We analyzed the data in an inductive manner by trying to identify the main patterns in how users articulated textual and material dimensions in their daily practices. We coded the interviews through a grounded theory approach (Corbin & Strauss, 2015). We then applied this method to the multimodal analysis of visual images and user explanations by looking for patterns in people's responses, constantly comparing them with the findings from interviews to identify how particular visual elements expanded our early theoretical constructs. The combination of three different research stages allowed us to triangulate data sources and methods, as well as to combine strategies that were ideal for both identifying general patterns in the data and refining and expanding our analysis.

### **The Lives of Emoji, GIFs, and Stickers in Mexico City**

On "emoji day" 2017, when Facebook's CEO Mark Zuckerberg posted a map of "the countries that use emoji the most," Mexico was one of three countries in the American continent that were featured (along with the United States and Brazil; Zuckerberg, 2017). Reports indicated that the most used emoji in the country was "Emoji With Heart-eyes" (😍) in 2017 and "Face With Tears of Joy Emoji" (😄) in 2018 (Cahun, 2017; Vertiente Global, 2018). Although this only constitutes anecdotal evidence and comes from a concerted effort by Facebook to promote the use of the app, it signals how relevant emoji is for Mexicans. As the use of emoji was normalized in daily life, the rise of GIFs and stickers further expanded the possibility of incorporating visual elements in mobile communication.

Our analysis revealed three instances of the use of visual forms as affordances-in-practice: (a) a means to exploit polysemy in ways that written words could not; (b) an opportunity to capture key aspects of Mexican culture; and (c) a way to perform specific aspects of the self.

### ***The Polysemy of Visual Communication***

First, our participants emphasized the relevance of visual elements for creating layers of open meaning that would be difficult to achieve through writing. This affordance-in-practice builds on an idea

articulated by Miller and colleagues (2016): "Words have a dictionary definition, but emoji are nuanced, visually-detailed graphics that may be more open to interpretation" (p. 259). Users develop their own personal syntax to play with this characteristic of emoji, using them as "digital gestures" (Gawne & McCulloch, 2019). In his response to our call for sending "favorite" emoji, one man (who was 24 years old and worked as a clerk in a fashion store) shared with us this combination of images: 🌊👉. He explained that it meant, "Hello, baby." In Spanish, the word for hello is "*hola*" and the word for wave is "*ola*." Although written slightly differently, both words are pronounced the same way. Thus, to understand this meaning, it is necessary to recognize the playful use of both the wordplay (by translating the visual image, as it were) *and* the phonetic language.

The meaning of these visual elements is always open to change, reinterpretation, expansion, and playful combination. A female 22-year-old student said, "The emoji I use the most is 😊. I use it to smooth the texts, so they do not look aggressive, and it doesn't seem that I am saying something angry." This informant typically employs this emoji as a shortcut to a certain feeling that is not put into words, but rather suggested.

Two emoji stood out in the screenshots sent to us by our informants during the second stage of our research because of the frequency with which they appeared: 🙄 and 🤦. When asked to explain this preference, users provided different reasons. During the interviews conducted for the first phase of our research, one female participant (30 years old and working for a media company) indicated that she employed the 🙄 emoji to say, "Do not be stupid." Another woman (25 years old and currently unemployed) mentioned during an interview that she used it to express, "Oh, shit!" A third woman (a 23-year-old graduate student) said during the interview that it was a way for her to acknowledge an obvious mistake (such as when the phone's autocorrect had mixed up certain words).

To make themselves understood by others, participants strategically evaluated aspects such as the context of the conversation (which includes the time of day, week, month, or year), the identity they wanted to project, and the person with whom they were communicating. The words of one our participants, a 21-year-old college student who defined himself as an avid emoji user, blend these factors in a telling way:

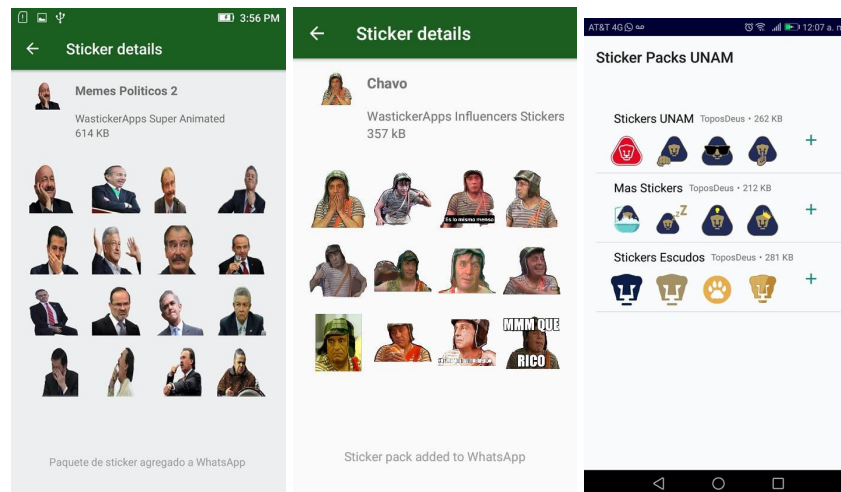
I use face emoji that reflect a mood or facial expression [to] emphasize *the right message* [emphasis added] I am sending. [I use hand emoji] to wave, say that I am available or even give the finger. And I use the objects *to complement a message* [emphasis added], making it less formal or funnier.

This polysemy also characterized the use of GIFs and stickers. For example, a 30-year-old woman who worked in a store said in one of the interviews that she loved them because using them "was a funny way to express thoughts and emotions," thus supporting Mirzoeff's (2016) argument about how "networked cultures are intensifying the visual component and moving past speech" (p. 68). Participants also pointed out the centrality of their "personal dictionaries" of visual elements to summarize ideas they "needed to express without words."



### **Visual Communication as Mexican Culture**

A second, related affordance-in-practice was to use visual elements to capture specific aspects of Mexican culture. Emoji have their roots in Japanese iconic culture. Yet, their flexibility offers possibilities for playful reinvention in places like Mexico City. This allows apps that integrate them to be globally successful while expanding the repertoires of local identities. In numerous cases, our participants used emoji in ways that are similar to “official” definitions of their meaning (see emojiopedia.org for a comprehensive list). Yet, on many occasions, our informants exploited the polysemy of emoji, GIFs, and stickers to create contextual meanings in relation to Mexican culture (cf. Wiseman & Gould, 2018). Accordingly, participants in the third stage of our research said they often incorporated stickers of local politicians, celebrities, sportspeople, or religious images as part of their mobile communications on WhatsApp (see Figure 1).



**Figure 1. “Packs” of stickers (Mexican politicians, an iconic TV show, and a popular “fútbol” team).**

Throughout the three research stages, participants said they consistently use visual elements as codes for moods, behaviors, and emotions that have certain meaning only in Mexican society (cf. Wiseman & Gould, 2018). This phenomenon was nowhere clearer than in people’s explanations of how they use the emoji 😏. According to Emojiopedia (2021), this emoji 😏 expresses an “unamused face” and signals “irritation, displeasure, grumpiness, and skepticism” (para. 1). Yet, participants used it to capture the quintessential Mexican expression, “Mmmmttaa.” This expression phonetically originated from “puta madre” (“motherfucker”). Although originally used as an insult, Mexicans employ it as an emphatic expression instead. In oral speech, interlocutors need to interpret the body gesture of the other person who says it to decipher its intended meaning. In other words, the expression “mmmmmttaa” is a combination of a verbal and a facial expression; it works almost as an onomatopoeic sound of the expression half-said without opening the mouth while rolling the eyes. WhatsApp users materialized both the gesture and the sound of “mmmmmttaa” through this emoji to suggest that they were not happy with something, but were reluctantly beginning to accept it.

For users, visual elements were better equipped to capture certain meanings than oral or written statements. In this way, visual elements can acquire a completely different meaning. For example, participants in the third stage of our research shared with us this sticker they used on February 14 (see Figure 2).



**Figure 2. Sticker.**

Valentina (with "a" at the end) is a popular brand of hot sauce in Mexico. This sticker plays with the similarities in the name of the celebration and the brand to resignify the meaning of Valentine's Day in Mexico. Not knowing this cultural reference makes the sticker lose its meaning and comical effect.

### ***Visual Elements as Self-Performance***

A third pattern in our data was using visual elements to perform specific kinds of selves. Most users we interviewed said they didn't use the default skin tone of emoji, but rather tailored them to better represent themselves. To this end, they typically selected the skin color to make them look like they imagined themselves to be. In their explanations of their "favorite" emoji, most participants said they also used emoji with black hair, guided by the conviction that this is the most common in Mexico. This reveals the level of intimacy and investment that people have in their use of emoji and how self-identification with these images is part of this investment

When asked about her "favorite" visual element during an interview, a 27-year-old woman who was self-employed responded emphatically, "I *am* [emphasis added] all of these." She then pointed to a group of frequently used emoji on her phone. Interestingly, she defined herself through her favorite emoji rather than using aspects of her personality to explain these images. Alternatively, a 25-year-old woman who worked as a clerk stated, "I won't stop swearing, not even with emoji!" She thus used what she thought was a defining aspect of herself to explain why 🙄 and 🤦 were her "favorite" emoji. This reveals how users' way of imagining themselves and the meaning of emoji shape one another.

This "transfer" of meaning between selves and visual elements could be the reason why bitmojis were so popular among our study participants at the time we conducted the second part of our fieldwork, but were barely present in explanations given by users during the third research stage. For participants in this latter research stage, stickers created a space for polysemy and individual self to collate. As a 32-year-old self-employed woman mentioned, "I think they are better than emoji for self-expression, they are more specific, and funnier." A 25-year-old unemployed man claimed that he used stickers "to express situations or emotions when text and emoji are not enough." It was common for participants to turn family members'

and friends' photos into stickers, sometimes as an inside joke in a group, sometimes as a sort of tribute. People also turned photos of themselves into stickers, an ultimate infrastructural personalization of emoji's logic. Funny faces, surprise faces, and disapproval gestures also intersect with meme culture and gain meaning within communication strategies that become both personal and mediated, shaped by infrastructural contexts (given that the production of elements such as stickers requires an assemblage of skills, apps, software, and hardware).

### **Visual-Material Entanglements**

After having examined key visual components of people's mobile communication, we turn our attention to how materiality is key for understanding the WhatsApp assemblage in Mexico City. First, we discuss issues such as the kinds of cell phones and data plans that study participants had, and then we turn to how the app's settings shape the circulation of content.

#### ***Of Cell Phone Models and Data Plans***

A key material dimension in the use of WhatsApp relates to how the app structures the use of visual elements. In the case of emoji and stickers, WhatsApp automatically selects a group of images under a tab named "Frequently used," or the symbol of a clock. This is the first option shown to users when they search for emoji and stickers on the app and thus favors the use of certain images over others. In an interview, a 22-year-old university student noted about this default feature of WhatsApp, "I tend to use those emoji that are in the first 'pages' because my phone is a little old and obsolete, and it is harder to browse those emoji in the latter pages." This comment brings to the fore the centrality of the cell phone device in shaping how people appropriate visual elements. Because of how WhatsApp is materially structured, the cell phone makes the use of certain images "more practical" than others, as one participant put it.

Data plans are also key in shaping WhatsApp's materiality. Many mobile phone providers in Mexico commonly offer low-cost data plans with unlimited use of apps such as WhatsApp. This reinforces the use of the app regardless of income, literacy, and technological device and works to further establish the centrality of WhatsApp as a communication device in daily life. In other words, by offering unlimited use of WhatsApp, such data plans help turn the app into the infrastructure of everyday mobile communication. If people did not have such plans, they would have to handle their data use more carefully. In advertising, it is common to find links between cell phone providers, WhatsApp, and emoji, further solidifying the entanglement between the visual and the material in public culture (see Figure 3).

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- ✔ WhatsApp en México, E.U.A. y Canadá y Facebook y Twitter en México.



**Figure 3. Advertisement from a cell phone provider in Mexico that offers unlimited use of WhatsApp (Source: Telcel, 2020).**

### **Building a Database of Stickers**

Having specific cell phone models and data plans creates certain conditions for the use of visual elements. During the third stage of our research, a 33-year-old participant who worked for the Mexican government mentioned that he usually spends significant time looking for the “right” sticker and building what he called a “database” of visual elements. He indicated that he “collected” these elements from other people. Unlike emoji, which are part of the default settings of WhatsApp (and are presented as an alternative “keyboard” in many cell phones), stickers need to be gathered “manually.” The importance of sticker collections cannot be overstated. In the words of a 24-year-old female interviewee who worked in a store, “My sticker collection is a treasure. I do not know what I would do if I were to lose it.” Collecting stickers had become an end in itself. Some participants mentioned that sometimes they joined groups *only* to get more stickers. Another affordance becomes essential to understand the use of stickers: WhatsApp groups. As a 29-year-old self-employed woman mentioned during an interview, “We once did a ‘stickers war,’ exchanging more than 200 stickers. It was so much fun because we were *talking* [emphasis added] to each other only through stickers.”

The circulation of stickers reveals the infrastructural assemblage on which WhatsApp operates. To produce a sticker, users need to select an image; modify it (using a range of software programs that are external to WhatsApp); use the app’s application programming interface to be able to include it on WhatsApp; incorporate it into a predefined collection or “package” of other stickers (in ways that are similar to how emoji are organized); and, finally, send it to others (who can “favorite” it or not). In other words, the affordance-in-practice of exchanging stickers requires constantly interweaving infrastructure and communication practices. A 32-year-old woman who worked for an advertising company thus said she could spend “hours” looking for the right stickers and emoji.

Deciding whether they want to add a sticker as a “favorite” and store it in their phones for posterior use can become challenging for users, particularly for those who have an old cell phone or a phone with limited memory. During the interviews, one 27-year-old woman, currently unemployed, defined such a situation as a source of anxiety, because “the other person sees the writing dots [the symbol shown when an interlocutor is writing something] but doesn’t receive any message.” Such practices of sharing and collecting images were common among participants in our study.

Another illustrative example comes from one self-employed 30-year-old woman who mentioned, during the first research stage, that she once received a sticker in one of her friends’ WhatsApp groups. She liked it and thus added it to her “collection.” She then narrated how someone in the group suggested, “We should send our best stickers!” According to her estimation, people in the group had exchanged 180 stickers in a few hours. Several interviewees recalled that they belonged to a WhatsApp group of friends in which the circulation of GIFs and stickers was common. When asked to describe the nature of these stickers, she defined them as a reflection of their collective identity: They are “just like us,” she noted, by which she meant playful, creative, and promoting a culture of constant jokes.

These exchanges are so important for users that many of them indicated that they participated in certain groups mostly to “collect” these stickers. A 29-year-old college student narrated during the third stage of our research how her grandmother complained about losing her phone, not (only) because of the physical artifact, but mostly because she knew this would mean she would also lose her collection of stickers. Again, the kind of cell phone owned by users creates conditions for storing and exchanging visual elements in important ways. A 34-year-old man who worked as a consultant said,

What keeps WhatsApp groups alive are the memes and stupid things you share. Stickers are now fashionable, there are some really good ones, and you want to be a part of more groups in order to have more, keep them, and accumulate them.

This assertion reveals how the visual and the material are interwoven in the “fashionable” affordance-in-practice of exchanging stickers. It also introduces the importance of WhatsApp’s groups in achieving this texto-material entanglement.

### ***Enacting Contexts Through Infrastructure***

As we noted previously, informants spend considerable time strategically meditating about the conditions in which certain visual elements become appropriate messages. Using visual elements requires a shared body of knowledge and agreements (Garrison, Remley, Thomas, & Wierszewski, 2011). In WhatsApp, what counts as an appropriate “context” is materially conditioned by the app. A good illustration of this is the app’s groups feature. A 21-year-old college student put it this way during an interview: “One of my professors had the ‘great idea’ of creating a WhatsApp group. The whole class is there, so I decided to send absolutely nothing. That’s a total no!” This user defined the group as a self-contained context marked by certain rules of behavior whose boundaries and membership conditions are materially enacted by WhatsApp’s technology.

On one hand, a group's social nature partly dictates what counts as appropriate content and motivates users to participate (or not). But on the other, the materiality of the app conditions the boundaries of social exchanges by allowing the group's creators to literally decide who is a part of it and who is not. Participants in a group can also access the list of members at any time. Materiality is also involved in decisions of how to name the group (a mandatory process on the app) and how to customize the group's identity (through an image, a description, and the collection of "Media, Links, and Docs" that have been previously exchanged within the group).

There is a common joke in Latin America about the nature of certain groups where people send content that is deemed "cheesy." Users typically refer to this content through a stereotypical image: a meme of Warner Bros' Tweety allegedly sent by family members (usually women). Figure 4 shows how a Mexican technology provider sought to capitalize on this joke. According to our younger informants, this form of unsolicited content also includes greetings with religious undertones (the so-called *bendición*, or blessing) or phatic messages to say phrases such as "Good morning!" or "great day!" examples of a growing digital "kinship" (Sinanan, 2019).



**Figure 4. A young man receives the infamous "Tweety meme" from his mother, who just got a new tablet. The meme says, "A flower for my beloved little son. Little kisses, your mommy" (Source: Sephko, 2020).**

How users relate to groups makes visible another material component in WhatsApp. A 27-year-old man who worked for a private company laconically noted about groups during an interview, "If they are

about old memes or about Tweety, I just mute them.” By employing the ability to stop receiving notifications from certain groups, users try to control the emotional attachment they have with certain kinds of images. “Mute” is the technology that allows them to conveniently manage mobile communications and even interrupt them as they please. Once again, materiality conditions how participants experience the group’s social dynamics.

During the third stage of our research, one 34-year-old man who worked for a media agency explained how he included a sticker in a family group conversation. His aunt then asked him about the differences between stickers, memes, and GIFs. To properly elucidate this to her, he prepared a PowerPoint presentation with examples to share during Sunday’s “lockdown family Zoom call.” This illustrates how the entanglement of groups, family dynamics, and digital infrastructure shapes the use of visual forms.

### **Concluding Remarks**

In this article, we argued that a texto-material approach allows understanding both the communicative practices and visual elements that characterize WhatsApp. Most previous studies on this app have tended to segregate these two dimensions. Instead, we argued that examining their entanglement offers a productive opportunity to broaden understanding of WhatsApp’s cultural specificity in Mexico City. Our analysis proceeded in a three-step process.

First, we showed how a focus on the visual enriches the analysis of media texts. Visual elements have become crucial components of everyday mobile communications at both the personal and collective levels. Our informants treasured visual elements such as emoji, GIFs, and stickers in part because of their semiotic polysemy. They also adopted and adapted these elements as affordances-in-practice to materialize aspects of their local setting in specific ways. Through playful and affective appropriations, they engaged in self-performance practices that allowed for a constant “transfer” of meaning between images and themselves.

Second, we accounted for how WhatsApp enabled the use and circulation of visual elements in particular ways. We thus considered the role of WhatsApp as an app in the creation of content. To this end, we incorporated into the analytical project the app’s default settings, the operation of groups, and larger infrastructural issues (such as cell phone models and data plans). In this way, we shed light on how WhatsApp functions as a “container technology” that helps communication practices gain consistency and spread (Eriksson, 2020).

Finally, we sought to make visible how certain links between the visual and the material worked to naturalize certain uses and identities for WhatsApp in Mexico City. We argued that WhatsApp has stabilized in this location largely because of how these two dimensions have been interwoven. In short, we posit that there are no emoji, stickers, and GIFs without WhatsApp, just as there is no WhatsApp without these visual elements in Mexico City. Put differently, emoji, stickers, and GIFs could not be understood without the pervasive presence of WhatsApp, the main platform for mobile communications in Mexican everyday life. At the same time, the diffusion of WhatsApp in this country largely depends on the use of visual elements as cultural communicative devices.

An analysis of WhatsApp as texto-material assemblage opens various avenues for further research. There are numerous examples of the entanglement between the visual and the material that could be redefined as texto-material assemblages: the square format iconized by Instagram, the short video format of TikTok, or the portrait mode that is now prevalent in stories on many platforms. These cases show that what often seem like purely “aesthetic” issues are actually a conjunction of media texts and artifacts that are institutionalized and “disappear” from plain sight once they reach the status of infrastructure.

Facebook’s acquisition of Giphy, the most important platform for the creation and sharing of GIFs at the time of writing, can also be understood through the analytical lens of texto-materiality. WhatsApp (and Facebook as a company) has been very agile in turning communicative practices into technological affordances, allowing and facilitating the use and growth of visual elements (such as emoji, stickers, and GIFs) as an intrinsic part of its infrastructure.

Studying practices and technologies in Latin America can shed some light on the differences and similarities that these mobile communication practices have in different parts of the world, particularly in places with different levels of literacy and technical expertise, and unequal access to cutting-edge infrastructures and devices. In this sense, the texto-material approach opens valuable theoretical and empirical opportunities that can contribute to a better understanding of digital cultures outside of the places and regions that tend to receive more scholarly attention (Gómez Cruz & Siles, 2020).

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