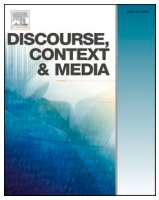
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Exploring the use of emoji in museum social network sites

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ABSTRACT

This paper aims to explore how emoji make meaning in interaction with other semiotic resources in museum social media posts. In so doing, it examines to what extent emoji are changing the way museums communicate with their audiences. The analysis is based on a corpus of museum social posts and grounded in Systemic Functional Linguistics. Findings show that emoji make meaning not only in interaction with language, working as a paralinguistic resource, but also in interaction with visual content. The analysis highlights the presence of image-driven emoji, which create a convergence of meaning in association with details of the post image, limiting or excluding the textual component of the caption from the intermodal semiosis. Image-driven emoji often lead to playful effects and can be exploited by museum communicators for engagement purposes, to create quizzes and games. The study therefore suggests that emoji can contribute to add an informal component to museum communication, according to the 'post-museum' style, which is characterised by a more direct interactional attitude towards the audience.

1. Introduction

Museums have been among the first to acknowledge the ground breaking contribution of emoji to digital communication: in 2016, the Museum of Modern Art (MoMA) in New York acquired the original set of 176 emoji characters designed by Shigetaka Kurita and contextually organised an exhibition celebrating the new acquisition (Lee, 2018). In justifying the choice, MoMA stressed that emoji were "reasserting the human within the deeply impersonal, abstract space of electronic communication". Later, other museums followed MoMa's example and acquired emoji as part of their collection: in 2018, the Victoria and Albert Museum acquired the 'mosquito' emoji as part of Rapid Response Collecting, a special section of the museum devoted to contemporary objects able to represent major moments in history. More recently, in 2020, the Cooper Hewitt, Smithsonian Design Museum acquired two emoji that have helped broaden diversity and inclusivity - the 'person with headscarf' and 'inter-skintone couple' emoji - becoming the third museum to add emoji to their digital collections (cooperhewitt.org, 2021).

Considering the pioneering role played by museums in acknowledging the importance of emoji, it is not surprising that these were incorporated into museum communication (henceforth MC) from the earlier stages. Emoji started being used in 1999 on Japanese mobile phones and they became popular worldwide in the 2010s, after being added to several mobile device operating systems. The introduction of emoji in social media has been gradual and it is not easy to pinpoint a precise moment in history when museums started using them. Yet, there are some key points of reference. Major mobile phone companies, such as Apple, Google, Microsoft, and Samsung began supporting emoji in their device operating systems between 2011 and 2013 (Wijeratne et al., 2017); later, in 2015, Instagram reported that nearly half of the texts on the platform contained emoji (Dimson, 2015). Considering this short timeline, it is remarkable to notice that back in 2013 and 2014 museum social network sites (henceforth SNS) already featured emoji[1].

Quite surprisingly, there is a dearth of research on the use of emoji in MC, both from a professional and linguistic perspective. The present work aims at filling this gap by describing and discussing the use of emoji in MC. Focusing in particular on museum SNS, it explores how emoji interact with other semiotic resources to create meaning and to what extent emoji are changing the way museums communicate their messages to different audiences. The following research questions are asked: 1) How are emoji used in MC? To what extent are they used to express ideational, interpersonal or textual meaning? 2) What impact do emoji have on the way museums communicate with their public?

Emoji are used - both individually and in interaction with language - to express ideas, opinions and feelings; therefore, it seems relevant to

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[1] Earliest examples of emoji used in museum SNSs were manually identified by browsing Instagram feeds backwards: see, for instance, https://www.instagram.com/p/h_0tVqKIPZ/ and https://www.instagram.com/p/lpnRjRqIL6/.

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explore their function in the context of MC, which is historically characterised by an increasing use of evaluative language and discursive strategies based on emotivity (Lazzeretti and Bondi, 2012; Lazzeretti, 2016a). Previous research has shown that adjectives used to positively evaluate artists or artwork were already present in museum press releases dating back to the 1950s (Lazzeretti, 2014), while emotive language has been more gradually introduced, appearing with increasing frequency in museum press releases and exhibition titles from the 1950s onwards (Lazzeretti, 2016b). In the transition from printed to digital museum genres, the use of evaluative and emotive language was not only maintained, but also enhanced, becoming a distinctive feature of the language adopted in museum websites and social media (Bondi, 2009; Lazzeretti, 2016a). Against this backdrop, exploring the use of emoji in MC seems insightful, as it could shed light on the most recent developments of evaluation in this specific discursive domain. For instance, the analysis might reveal to what extent and how standard evaluative language and emoji can coexist, complementing and reinforcing each other.

Although focused on a specific area of communication, the study has implications for our current knowledge of how emoji make meaning in a multimodal environment. The visual component plays a fundamental role in MC, because visually displaying objects and art works is at the heart of what museums do. As my study shows, in a context such as museum social media, where textual and visual elements are embedded within the same multimodal space, emoji interact significantly with the visual component of the post. These findings lead to a reconceptualization of emoji not only as a paralinguistic resource, whose meaning depends on the co-text, but, more broadly, as a part of a composite visual-verbal message. Furthermore, the challenge of interpreting the more ambiguous relationship between image and emoji can add an element of playfulness to the messaging, with implications for museum communicators in terms of engagement purposes.

The analysis carried out in this study is based on a corpus of 100 social media posts collected among international high-profile museums between August 2020 and February 2022. It draws on Systemic Functional Linguistics (Martin, 1992; Martin and White, 2003) and, in particular, on the analytical framework developed by Logi and Zappavigna (2021) to classify emoji, which allows the researcher to manually annotate emoji according to four main functions: IDEATION, APPRAISAL, INVOLVEMENT, PERIODICITY.

The paper is organised as follows: the next section deals with emoji and MC as a discourse research area and with the 'new post-museum' paradigm advocated by Ravelli (2006), taking into consideration the contribution provided by emoji in this respect. Then the materials used for the study, as well as the methodology adopted, are presented. The analysis will deal with the conceptual functions played by emoji in the dataset - namely, IDEATION, APPRAISAL, INVOLVMENT and PERIODICITY -, exploring how emoji interact with other modes and semiotic resources within the space of museum social media posts.

2. Theoretical framework: emoji in MC

Emoji are digital pictograms used in informal communications to add emotional tone or visual annotations to the conceptual content of a message (Danesi, 2016). They represent facial expressions, but also concepts, ideas, emotions, feelings and activities. Linguistic research on emoji has focussed on two main avenues of enquiry: i) the sociolinguistic aspects of emoji, involving how their use may differ according to age (Cruz-Moya and Sánchez-Moya, 2021), gender (Herring and Dainas, 2020), socio-cultural context (Gaspar et al., 2016) and system platform (Cramer et al., 2016); and ii) the communicative functions of emoji, which can convey emotions (Herring and Dainas, 2017), but also express semantic meaning (Walther and D'Addario, 2001). This second field of enquiry is specifically relevant to this study, as it explores how emoji can be used to express different types of meaning, individually or alongside language, across a variety of multimodal contexts.

As surveyed in Logi and Zappavigna (2021), earlier research on emoji reduced their function to the expression of affective meaning, while more recent work has recognised the semantic and pragmatic functions of emoji. From the perspective of pragmatics, emoji can be used to align with the interlocutor and establish an informal tone (Sampietro, 2016), but also to express sarcasm (Thompson and Filik, 2016), humour or hedging (Skovholt et al., 2014). Furthermore, as non-verbal cues, emoji can reinforce the overall meaning of a message or replace language. There is ongoing debate as to whether emoji can develop into an independent language, able to replace single words and even complete utterances with subject, verb, and object (Ge and Herring, 2018), or function as a paralinguistic modality, whose meaning depends on the co-text (Danesi, 2016; Gawne and McCulloch, 2019). This debate is relevant to the present study, which assumes that emoji may interact not only with their verbal co-text, but also with the visual co-text, hence the need to adopt a context-based approach and focus on a specific context of communication, MC, in which the visual component plays a fundamental role. Such an approach can enable the identification of levels of semiosis for emoji that have not yet been described across other contexts.

MC is often considered the exclusive domain of practitioners, i.e. museum media and public relations experts, but actually it represents a burgeoning research area for discourse studies, which has been pioneered since the 1990s by Louise Ravelli (1996, 2006, 2007). The ground breaking contribution made by Ravelli (1996) relies on the acknowledgement of the critical role played by language in mediating meanings in museums. Popularization is crucial in museum settings and texts should "speak" in a language that the intended audience can understand. Many scholars have highlighted the importance of improving readability of museum texts (McManus, 2000; Serrell, 1983, 1996); however, some have argued that museums should not only "simplify the message", but rather "write differently" (Blunden, 2006: p. 31), since over-simplification can trivialize contents and underestimate audience competence. As a result, striking a balance between these two opposing yet complementary aspects, namely accuracy and comprehensibility, is challenging for museums. In this regard, Ravelli's (2006: p. 72) stance can be summarised as the difference between the "old modernist museum" and the "new post-museum". While the former prefers to adopt an impersonal style and a neutral stance, establishing an asymmetric authority-novice type of relationship, the latter (i.e. the post-museum) prefers a more informal style and an opinionated stance.

The gradual introduction of emoji in MC significantly relates to the aspects highlighted above, as emoji can contribute to making the language of museums more informal, adding a playful component to the dissemination of knowledge, according to the 'new post-museum' paradigm (Ravelli 2006). Yet, little attention has been paid to the affordances of emoji in the digital communication of museums. Previous studies have investigated how emoji can be deployed to capture a range of visitors' emotional experiences (De Angeli et al., 2020; Madgin, 2021), or considered the opportunity to utilise them to bypass the dilemma of museum translation, i.e. as a way to engage with audiences without having to incorporate language at all (Monagle, 2017).

Since emoji are used to express ideas, feelings or opinions, it is arguable that they play an important role in MC, which is inherently evaluative and descriptive. Previous corpus-based studies, focusing respectively on contemporary exhibition web presentations (Bondi, 2009) and exhibition press releases (Lazzeretti and Bondi, 2012) have shown an overwhelming use of linguistics features that express positive evaluation of the exhibition, especially with regard to the semantic areas of novelty, quality and exclusiveness, as well as the presence of emotive language used to create 'news value' and excite curiosity around the artists and their work. One of the most obvious markers of emotive language in MC is the word family *controvers –y/-ial*, often used to introduce artists and create interest around them. The role played by evaluation in the language of museums is hardly surprising, considering that museum discourse shares common ground with art discourse,

whose main communicative purpose is to describe, interpret and evaluate art works from a subjective point of view (Harris, 2003). What is most striking is that evaluative language, *in nuce*, was present in MC from the earlier stages: diachronic corpus-based studies have shown that adjectives typically used to evaluate artists and art works, such as *great* and *well-known,* were already present in press releases issued by museums in the 1950s (Lazzeretti, 2014). Furthermore, keeping the focus on the period between 1950 and 2010, an increasing use of emotive language has been detected in specific contexts, such as exhibition titles and narrative sections of museum press releases (Lazzeretti, 2016a). These findings should not be seen as in contradiction with Ravelli's (2006) claims about the formal and impersonal stance of the old museum. Discourse strategies based on evaluation were only sketched out in the 1950s: museum communicators have become gradually aware of its potential and have come to master it especially from the 1990s onwards, with the advent of new media. Evaluative language has now been fully incorporated into websites, blogs, newsletters and social media (Bondi, 2009; Lazzeretti, 2016a).

Several studies have highlighted a salient connection between evaluative language and emoji. Describing the use of emoticons – the ancestors of emoji – in the discourse of Twitter, Zappavigna (2012) argued that they "work in tandem with evaluative meanings made in the verbiage" (p. 80). In her analysis of selfies published on social media, Georgakopoulou (2016) came to similar conclusions, noting "a systematic coupling of language with emojis" in addition to "the recurrence of specific evaluative lexis", and "the typicality and recurrence of the same evaluative language with the same emoji across posts" (p. 301). More recently, Fryer (2021) noted that the combination between emoji and evaluative language creates "a potential for people to bond around a shared sense of taste or emotion" (p.9).

In light of these considerations, the question arises as to how emoji fit into an intrinsically evaluative linguistic context such as that of MC and, in particular, to what extent and how they can coexist with the traditional language of evaluation. Furthermore, the above considerations invite us to examine to what extent emoji contribute to modernising the communication style of museums, making it more informal and personal, according to the 'new post-museum' paradigm advocated by Ravelli (2006).

3. Materials and methods

This study is based on a corpus of social media posts collected among the social network sites of seventeen Anglo-American museums, observed over a period of six months: from the 5th of September 2021 to the 18th of February 2022. The choice of museums was primarily determined by the need to collect social media posts originally written in English, to avoid translation problems in a second language; furthermore, the selected museums are characterised by a high social media presence[2]. The list of museums under observation is provided below (Table 1).

Once the museums to analyse were selected, I started following their official accounts on Facebook and Instagram. Posts containing at least one emoji were then collected manually, in the order in which they appeared in the feed, to ensure random criteria for selection. A minimum of 4 and a maximum of 10 posts were collected from each museum. The posts were copied and pasted into a spreadsheet for manual annotation. The resulting corpus amounts to 100 posts, equally representative of American and British museums (50 and 50 posts respectively). Associated comment threads were not included in the corpus. The full dataset is available in the appendix.

Keeping in mind the main aim of this study, which is to explore how emoji are used in MC, a taxonomy grounded in linguistic principles was needed that could effectively summarise the main communicative functions of emoji and that had already been used on a generically similar dataset (social media posts). The analytical framework for the classification of emoji developed by Logi and Zappavigna (2021) lent itself very well to this purpose. Museum social media posts were therefore analysed from a qualitative perspective and manually annotated according to their coding rubric.

Table 1
Anglo-American Museums under Observation.

1	British Museum	UK
2	Frick Collection	US
3	Getty Museum	US
4	Guggenheim Museum	US
5	Met Museum	US
6	Museum of Contemporary Art - Los Angeles	US
7	Museum of Modern Art - New York	US
8	National Gallery	UK
9	National Gallery of Art DC	US
10	National Portrait Gallery	UK
11	New Museum	US
12	Royal Academy of Arts	UK
13	Saatchi Gallery	UK
14	Somerset House	UK
15	South London Gallery	UK
16	Tate Gallery	UK
17	Victoria and Albert Museum	UK

Logi and Zappavigna's (2021) rubric is based on four categories of meaning derived from the theoretical framework of Systemic Functional Linguistics (Martin, 1992; Martin and White, 2003): these are the categories of IDEATION, concerned with representing or construing experience - the "sequences of activities, the people and things involved in them, and their associated places and qualities" (Martin and Rose, 2007: p. 73); APPRAISAL, related to expressing emotion and providing evaluation – "the kinds of attitudes that are negotiated in a text, the strength of the feelings involved and the ways in which values are sourced and readers aligned" (Martin and Rose, 2007: p. 25); INVOLVEMENT, concerning "the use of names, slang, and taboo lexis, specialized and technical terms, standard and non-standard features and the like to orchestrate group membership" (Martin, 1997: p. 20); and PERIODICITY, related to text organisation and information flow. Martin and Rose (2003) explain that a meaningful text is created from periodical waves of information flow: "Periodicity is concerned with information flow: with the way in which meanings are packaged to make it easier for us to take them in…giving readers some idea about what to expect, fulfilling those expectations, and then reviewing them" (p. 175).

The main system of IDEATION entails three subsystems (ENTITY, OCCURRENCE, STATE), while the system of APPRAISAL involves the expression of positive or negative ATTITUDE, realised in the form of AFFECT (emotional states), APPRECIATION (aesthetic evaluation) or JUDGEMENT (social/moral evaluation). INVOLVEMENT includes emoji "used as emblems within particular communities and emoji that connote taboo meaning which is acceptable when used among solidary interactants" (Logi and Zappavigna, 2021: p. 12). PERIODICITY, involved with the organisation of text, is identified by three possible emoji locations in social media posts: INITIATING (occurring before linguistic resources); INTEGRATED (occurring after some and before other linguistic resources), or CULMINATIVE (occurring after linguistic resources). The following table, adapted from Logi and Zappavigna (2021), provides an exemplification for each category of emoji as realised in the dataset (Table 2).

Another fundamental theoretical reference for the analysis is the notion of intermodal coupling (Zhao, 2010; 2011), which has to do with the distribution of meaning across different resources and semiotic modes (emoji, language, metadata, images). As Zappavigna and Logi (2021), "if multiple modes co-express dimensions of social actions (such as an activity or participants) then they can be said to form a coupling"

[2] https://www.theartnewspaper.com/2020/03/31/which-museums-have-the-biggest-social-media-followings.

Table 2
Codic Rubric for Discourse Semantic Systems

System	Subsystem	Description	Example	
IDEATION	ENTITY	Things, activities and semiotic entities	There's more to this  than meets the eye (#85)	
	OCCURRENCE	Activities or processes involving one or more entity	How old do you think this subject is?  (#99)	
	STATE	States or changes affecting one or more entity	Scenes of romance (#44)	
APPRAISAL	ATTITUDE (positive vs negative)	AFFECT	Emotional states	We're starting off your Wednesday with a pop of colour, courtesy of Madame Yevonde (#83)
		APPRECIATION	Aesthetic evaluation	A feast for the senses  (#29)
		JUDGEMENT	Social/moral evaluation	Well, maybe sometimes highly creative people work best apart.  (#39)
INVOLVEMENT		Non-gradable resources for construing solidarity among interactants	 Fifty years ago this month, radical Black scholar and civil rights activist Angela Davis was released from jail (#96)	
PERIODICITY	INITIATING	Where emoji are located in the text	 Some #WednesdayWisdom from famous rule-breakers! (#27)	
	INTEGRATED		Fred Segal  MOCA!!!! (#55)	
	CULMINATIVE		We can't wait to see what you all come up with this year  (#67)	

Adapted from Logi and Zappavigna (2021).

(p. 4). For example, in the following example (1) taken from the dataset.

1) A feast for the senses  (#29)

the positive ATTITUDE (+ve APPRECIATION[3]) verbally expressed by *A feast for the senses* is reinforced by the positive ATTITUDE (+ve APPRECIATION) realised by the sparkles emoji . Combined together, the two elements constitute a convergent coupling.

In the previous example a convergence between lexical items and emoji is carried out at the attitudinal level, but the convergence can also occur at the ideational level. For instance:

2)  Indulge with hot chocolate at the @hotelchocolat Chocmobile! (#34)

Here, the emoji in isolation does not necessarily identify the hot chocolate ENTITY, but combined with the lexical item 'hot chocolate' as a coupling, determines a convergence of meanings.

The convergence between lexical items and emoji can be at the ideational and/or attitudinal level, as respectively shown in examples 1) and 2). However, there might also be cases where no coincidence can be noted between the ideational level of the text and the ideational or attitudinal level of emoji. For instance, in the following case.

3) An aquamarine brooch from Carl Fabergé  (#38)

There is no link between the ENTITY 'aquamarine brooch' and the smiling face with heart-eyes emoji at an ideational level, but the latter clearly expresses positive attitudinal meaning in the form of APPRECIATION.

The manual annotation of the corpus enabled the identification of the most relevant conceptual metafunctions in use for emoji in MC (IDEATION, APPRAISAL, INVOLVEMENT, PERIODICITY) and to observe how these interact with other semiotic modes (through convergent or not convergent couplings).

Previous research has examined how much people vary in their interpretations of emoji (Miller et al., 2016). According to a study by Częstochowska et al. (2022) concrete objects can more accurately be described with emoji, while emoji representing abstract symbols are most ambiguous. Researchers focusing on disambiguation of emoji often advocate the importance of a context-specific interpretation of their meaning (Dürscheid et al., 2019; Gawne and McCulloch, 2019); yet, Miller et al. (2017) claim that, even when emoji are interpreted in textual contexts, a certain potential for miscommunication remains. The issue of ambiguity also affects the dataset in use for this study, where a number of emoji might lend themselves to a non-univocal interpretation: for instance, the heart emoji might express affect or aesthetic evaluation, or both of them. Ideally, an ethnographic observation of the writing process could shed light on the reasons why certain emoji were chosen and on their implied meaning. One might interview the authors of each post and ask whether they agree or not with the interpretation given by the researcher. Yet, such an approach might only partially lead to a final disambiguation and still leave open the question of subjective interpretation. Ambiguity is an inherent feature of emoji, but also an enriching element underlying their attractiveness to users, and, as such, should be acknowledged and accepted as part of the game. To univocally map the meaning of each emoji would be to reduce multiplicity to unity, complexity to simplicity and variety to uniformity. Thus, in this study, it is assumed that there may be ambiguous emoji and that the interpretations assigned to them are only one possible interpretation.

4. Discussion

4.1. Ideation

The first function to be taken into consideration in the analysis is the ideational, by which emoji are used to construe experience; thus,

[3] In the SFL notation +ve and -ve are used as shorthand for positive and negative; I follow this notation throughout the paper.

ideational emoji are those representing physical entities, processes or states. Emoji used with an ideational function were identified in 91 posts: this implies that almost all the posts collected in the dataset contain at least one or more ideational emoji. Ideational emoji mostly identify an ENTITY (68 cases), or an OCCURRENCE (57 cases), while STATES are more seldom expressed through emoji in the dataset (4 cases). Most ideational emoji build convergent couplings with lexical items in the co-text, as in the following examples:

1. Bags: Inside Out is closing up shop next week 👜 (#69)
2. The devil is in the detail… 😈 (#15)
3. Join us for The Walk 🦶 (#4)

This redundant use of ideational emoji, repeating the information already present in the text, has already been described in the literature (Donato and Paggio, 2017; Logi and Zappavigna, 2021). A more peculiar use identified in the dataset of museum social media is that of ideational emoji building a convergence of meaning with details of the post image, rather than with the co-text. Linguistic elements of the text may be excluded from such convergences of meaning, which occur at the visual level only. For instance, the presence of the emoji placed at the beginning of the following example (4), the love letter 💌, would be hard to justify by only reading the post caption, as no textual item is able to create a convergence of meaning with it:

4. 💌 This painting captures the view from the second-floor window of 66 Claverton Street in Pimlico, where British painter Charles Ginner (1878–1952) lived in 1938. Painted during his first winter in the house, Ginner's thoughtfully placed brushstrokes perfectly encapsulate the traces of snowfall on rooftops and the footprints left behind in the snow. ❁ (#62).

While for the snowflake emoji ❁ at the end of the post the ideational convergence with textual items ("snowfall") is clear, the choice of using the love letter here can only be understood by looking closer at the artwork reproduced in the post and by identifying the detail of an old mailbox at the bottom of the picture (Fig. 1).

This kind of image-driven emoji typically engages users in a playful experience, as they are required to pay attention to details and carefully observe images in order to understand why those particular emoji have been used. The mechanism through which playfulness is triggered, requiring a cognitive effort on the part of the recipient for the reward of solving the game, resembles that of other forms of playful language, such as, for instance, riddles, which "act as a challenge to the recipient to find a solution" (Cook, 2000: p. 72) and are "suitable for competition" (p. 80).

The role played by image-driven emoji becomes more salient when the textual component of a post is minimal or almost entirely based on emoji. This is the case of the following example (Fig. 2), where the rocket emoji 🚀 takes a predominant role, being placed in the initial position and, in fact, replacing the textual component of the post; consequently, the ideational convergence of meanings is necessarily occurring at the visual level, by coupling the emoji with the post image: a plane soaring into the sky and leaving a broad trail behind.

Image-driven emoji account for a small number of cases in the dataset – 12% - but their presence is nonetheless significant, as it highlights the ability of emoji to construe meaning even in the absence of language, which is perhaps understandable in a context like that of museums social posts, where the visual component is crucial.

When the convergence of meanings occurs primarily between emoji and the visual resources in the post, a level of playfulness is introduced, which can be efficiently harnessed by communicators for engagement purposes. That is the case of posts where emoji are used to create short texts that users have to decipher, based on their previous knowledge and on the hints provided by the post image. Fig. 3 provides an example in this regard: a sequence of ideational emoji inspired by the image content is here aimed at suggesting "a mythical medieval creature" and engaging users in a quiz.

At the textual level, ideational meaning is intentionally vague, as the post refers to a non-identified "mythical medieval creature", which users have to guess, while at the visual level, a series of convergent couplings are generated by connecting emoji with details of the post image: a rooster 🐓 and a snake 🐍 emoji couple with details of the creature portrayed in the picture, which has a rooster body and a snake tail; a further ideational coupling is created between the death ☠ emoji and the dead person shown on the right of the picture. Other emoji in the sequence, such as a mirror, an eye and a devil, do not semantically align

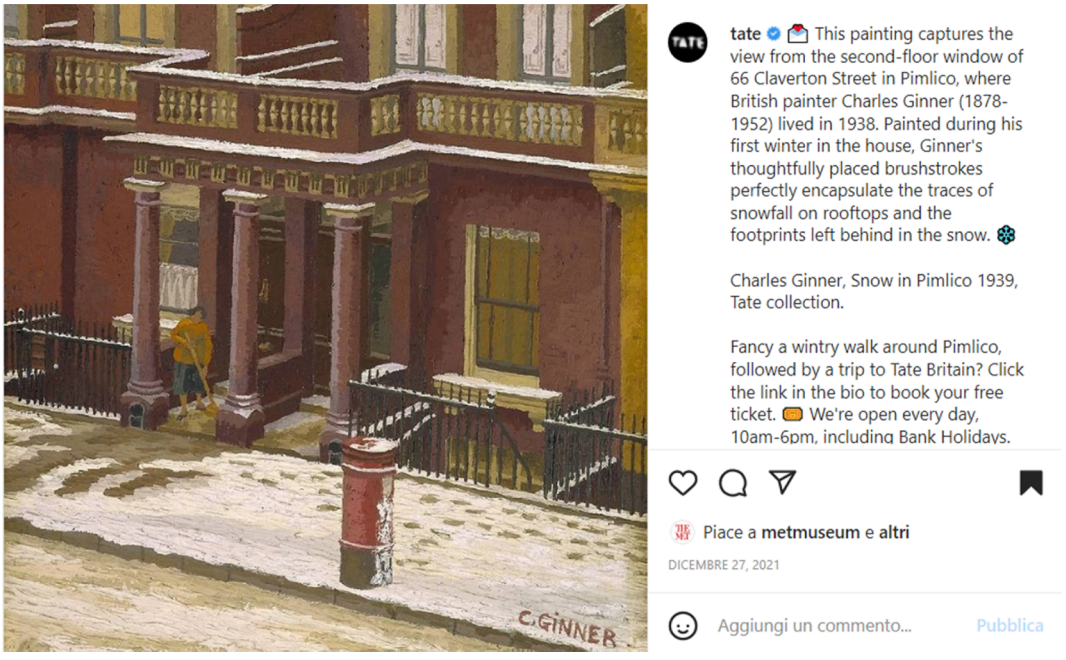


Fig. 1. IDEATION: Convergent Coupling Realised between Emoji and Details of the Post Image.



Fig. 2. IDEATION: Convergent Coupling Realised between Emoji and Post Image.



Fig. 3. Playful effects of excluding the textual component from ideational couplings.

with textual or visual resources in the post, but rely on the previous user's knowledge: the animal to guess, a basilisk, was known, in fact, for being particularly evil and for petrifying those who looked at it, making a mirror the only weapon to kill it.

This playful component associated with the use of emoji, lending themselves to quizzes and puzzles, has been identified in twenty posts – one in five - and appears therefore as a distinctive feature of this dataset. This finding refers to all the posts, not only image-driven ones.

Another distinctive aspect of the dataset relies in the use of ideational emoji aimed at expressing an OCCURRENCE. Besides cases of emoji indicating common actions, such as the thinking face 🤔 emoji for thinking, or the 💤 emoji for sleeping, occasionally used in the dataset, some specific actions are more frequently represented by emoji in the dataset. The processes ideated by emoji underpin relevant pragmatic aspects of MC, such as those linking to external websites to find out more, reminding readers of important dates, scheduling events, or providing credits for artwork reproduced in social media posts. Museum-specific OCCURRENCES are metonymically evoked by emoji identifying objects related to these actions, such as the link symbol 🔗 for linking, or the calendar 🗓 for scheduling. Most often in the dataset emoji are used to suggest the process of captioning, as identified in 40 overall posts. The caption placed at the conclusion of the post, in which the credits of the reproduced artwork - be it a photograph, a painting, a sculpture, or an installation - are given, constitutes a recurring rhetorical move in the structure of museum social media posts, which we may call the "captioning the artwork" move. Interestingly, many different emoji lend themselves to the ideation of captioning, according to the relevant artistic technique: for instance, the palette emoji, or the framed picture emoji, are used to caption paintings, while the camera emoji seems not to be limited to photographs, but can be used to suggest the process of captioning at large.

5. 🎨 Charles Dickens by Daniel Maclise, 1839 © National Portrait Gallery, London #87
6. ✂ Collage by Indian artist Benode Behari Mukherjee #46
7. 📸 Vivienne In Her Garden, London 2014 (Dame Vivienne Westwood) by Juergen Teller, 2014 © National Portrait Gallery, London/ Photo: Juergen Teller #84
8. 🖼 John Constable, "Wivenhoe Park, Essex," 1816, oil on canvas, 22 × 39 in., Widener Collection #26

If we were to translate the meaning of these emoji into standard language, that would be 'image by'. Image captions, in fact, have been introduced this way in MC, for example in press releases and web news, long before the advent of emoji. Although the present study does not investigate museum social media from a genre analysis perspective, the analysis enabled the identification of a salient generic feature in their structure, which is signalled by emoji.

4.2. *Appraisal*

Emoji used with an APPRAISAL function were identified in 41 posts, with a neat prevalence of positive polarity (a negative attitude was retrieved in 3 cases only). The most relevant subsystem within the appraisal function (affect, appreciation, judgement) is APPRECIATION, related to aesthetic evaluation, with 28 cases, while AFFECT, related to

emotional states, was identified in 15 cases. The subsystem of JUDGEMENT, related to social/moral evaluation, is very little represented in the dataset (2 cases). These findings suggest that, when emoji are used to convey an attitudinal meaning in MC, these are aimed to positively evaluate some content from an aesthetic perspective. The prevalence of aesthetic evaluation is not surprising in the context of museum discourse, which is inherently linked to description and evaluation of artwork, artists or exhibitions. What is striking here is that less than half of the posts in the dataset convey evaluative emoji, as many more would have been expected. Also striking is the limited range of emoji used to convey positive APPRECIATION. In this regard, the dataset provides few examples: the applauding hands emoji 👏; the smiling face with heart-eyes 😍; the sparkles ✨; and the star ☆. The sparkles emoji has been identified in 20 overall cases and is the most frequently used in the dataset to express attitudinal meaning. This might point to a lack of emoji that are appropriate for the expression of aesthetic evaluation, capable of replacing different shades of meaning and formulaic expressions of evaluative language in MC across a range of semantic fields, such as novelty, importance, quantity or exclusivity. For instance, the typical evaluative phraseology of MC includes expressions such as 'never been exhibited before', 'on display for the first time', 'a major exhibition', 'shown exclusively at', etc, which often recur in museum press releases and digital communication (Lazzeretti and Bondi, 2012).

The sparkles emoji is generally associated with features of light, shine, glimmer and vividness. According to Leddy (1997), these are significant, yet superficial, aesthetic qualities, "attractive only to the unsophisticated" (p. 259). Another feature that the sparkles ✨ emoji seems to include is the sought-after dimension of coolness, an "elusive, exclusive" semantic category (Bird and Tapp, 2008: p. 20), which "thrives on the very fact that it can never be fully identified, measured or clearly demarcated" (Kohlenberger, 2014: p. 131). Even though coolness is a commercially loaded value and typically attracts the youth target, an aesthetic evaluation in these terms can be profitably applied to museums, which aim to establish stronger relationship with visitors based on both material and immaterial values: according to a study on "museum coolness" carried out by Loureiro and Blanco (2021: p. 1), museums create the desire to revisit them through a series of "atmospheric cues", such as the use of colours, décor, and permanent displays, and by fostering a sense of authenticity and pride in being part of the museum community.

The sparkles ✨ emoji is very frequent on social platforms, standing together with other popular ones, such as the Rolling on the Floor Laughing Face 🤣, the Red Heart ♡, and the Pleading Face 🥺: according to Emojipedia (2021), last year almost one in every 100 tweets contained a sparkles emoji. Its widespread use in museum social media cannot therefore be considered as a prerogative of this realm of communication. Yet, the frequency of the sparkles emoji in the dataset under scrutiny seems precisely related to its versatility and the breadth of meanings it is capable of taking on: semantically, it is vague enough to make up for the lack of specific aesthetically evaluative emoji and able to absorb more nuanced meanings. The following examples (9 – 12) show how the sparkles emoji can couple with evaluative lexical items belonging to different semantic fields, ranging from a general idea of quality (*beauty*), to novelty (*now open*, *new*) and importance (*revolutionary changes, masterpiece*).

9. The beauty is in the details. ✨ (#48)
10. Now open at the National Gallery of Art: "The New Woman Behind the Camera," a new exhibition celebrating women who made revolutionary changes in life and in the field of photography in the early 20th century ✨ (#23)
11. A new Guggenheim is on the way. ✨ (#8)
12. Just a masterpiece creating a masterpiece ✨ (#60)

4.3. Involvement

The interpersonal system of INVOLVEMENT, used to express solidarity by employing emoji that address members of a specific group or social community, limitedly features in the dataset: only two cases were identified. In the first case (example 13), the black fist emoji ✊, commonly used to represent the #BlackLivesMatter movement, is featured in the initial location to anticipate the topic of the post, presenting the work of an American black artist and activist. A plain semantic convergence is created at the ideational level, coupling lexical items (*radical Black scholar, civil rights activist*) and the black fist emoji.

13. ✊ Fifty years ago this month, radical Black scholar and civil rights activist Angela Davis was released from jail after more than a year of incarceration. […] (#96)

In the second case (example 14), the convergence of meanings between text and emoji is less straightforward, as is the sense of solidarity conveyed by the intermodal coupling: the blue circle emoji 🔵 is integrated several times in the text and apparently used as an attention-managing device, to pinpoint a series of Covid-related news. Yet, the colour and shape of the emoji in use suggest an immediate association to those who are familiar with the Getty Museum and its visual identity: these recall the logotype of the institution, by an implicit reference which only in-group members of the Getty community would grasp. The blue circle emoji 🔵 therefore serves the purpose of reinforcing the bond between the museum and long-standing visitors, who can easily recognise the overall imagery related to the museum and in particular branding elements such as the logo, typefaces, and colours.

14. What's new at Getty?

🔵 In-person events are back! Virtual events will remain available for those unable to attend. Visit getty.edu/whats-on for more information.
🔵 The city of LA now requires visitors age 12 and up to show proof of full vaccination or a negative COVID-19 test taken within 72 h prior to visiting. Visit getty.edu/coronavirus for more information.
🔵 The library is open for use with limited capacity and by appointment only to all registered readers and new researchers. Visit getty.edu/research/library for more information.
[…] (#21)

4.4. Periodicity

The last conceptual function to be taken into account in the analysis was PERIODICITY, which defines where emoji are located in posts. The most frequent position, observed in 61 out of 100 posts, was the integrated one, where emoji are inserted in the body of posts as part of its lexicogrammar (see example 16); 16 cases of emoji occurring in the initial location, at the beginning of the post, were observed (example 15), and only 5 occurred in the culminative location, at the end of the post (example 17). A combination of different positions within the same post (initial + integrated, or initial + integrated + culminative) was identified in further 16 cases (example 18).

15. 🗣 Some #WednesdayWisdom from famous rule-breakers! (#27)
16. We're open ✨ We look forward to welcoming you back to the SLG […] (#66)
17. Due to inclement weather, the museum and store will be closed today, January 29. Stay safe and warm, New York City! ❄ #79
18. 🖼 A painting on a postage stamp? 🤔 Paul Ackroyd introduces Thomas Lawrence's enormously 'Red Boy' – the first-ever painting to feature on a British stamp. […] (#3).

Regarding PERIODICITY, the dataset shows a quite regular and recursive structure, by which emoji most commonly occur in an integrated position, observed in almost 80% of the posts. However, two peculiar cases have been noted (#9 and #59), which elude the configuration observed so far: in fact, in these two posts emoji are located in the post image, rather than in the text. Again, as previously noted for intermodal couplings excluding the text from semiosis, this unconventional location of emoji aims to engage the public in a game. For example, as shown in Fig. 4, users are invited to find the emoji hidden in the picture – a tiny snail on the right sleeve of the woman in the portrait - and answer in the comments. This is another efficient strategy to let users indulge while observing the pictures and appreciate the tiniest details.

The emoji hidden in the post image does not properly align with previous cases classified as integrated in terms of PERIODICITY and finds no straightforward collocation within the coding rubric adopted in the analysis. Furthermore, no plain convergence, neither at the ideational, nor at the attitudinal level, can be detected between emoji and other semiotic modes in the post, unless we consider a possible link at the ideational level with the idea of slowness itself: the snail is typically associated with this feature, and slow viewing is required to fully enjoy the beauty of the artwork reproduced in the post. In this case, the snail emoji 🐌 might couple with the lexical items "no sweat" and "enjoy", which also insist on the rewards of slow viewing, based on immersive, yet effortless attention. The semantic convergence between emoji and text, while far from explicit, seems in this case to encompass both the ideational and attitudinal levels, since it implies a positive evaluation of slowness. Posts like those mentioned above enable innovative engagement strategies, set in a playful context. Interestingly, looking at the comment feed of the posts, there were different reactions: most users loved it, while others found it disrespectful to the artist and the artwork.



Fig. 4. Unconventional PERIODICITY: Emoji Hidden in the Post Image.

5. Conclusions

The study has explored how emoji are used to construe meaning in a small corpus of museum social media posts, bearing in mind the evaluative component which intrinsically characterises MC (Lazzeretti and Bondi, 2012; Lazzeretti, 2016a) and the fundamental role played by images in the messaging of museum communicators. In so doing, it examined the impact of emoji on MC in the light of its historical evolution from the old modernist to the new post-museum style (Ravelli, 2006).

The analysis has shown that the ideational function, where emoji are involved in the semantic construal of entities or activities, is the most common (90%) in the dataset, while the interpersonal function, where emoji express evaluation or solidarity towards post content, was identified in less than half of the cases. Within the wide range of emoji playing an ideational function, some are used to foreground pragmatic functions typical of MC: for instance, the 📸 camera emoji or the 🎨 palette emoji are commonly used to caption artworks, while other *ad hoc* emoji can be involved in the semiosis of specific communicative functions underpinned by museums, such as scheduling events, saving dates, or linking to external web sources. Compared to the IDEATION function, those of APPRAISAL and INVOLVEMENT appear secondary in the dataset. The analysis highlighted that APPRAISAL is mostly concerned with the subsystem of APPRECIATION, i.e. aesthetic evaluation of post content. This might explain the widespread use of the ✨ sparkles emoji, commonly employed in the dataset to express positive, yet semantically vague evaluative meaning, and cover different semantic fields, such as novelty, quality, importance, exclusivity, coolness. In this regard, the study suggests that, at least for now, emoji cannot compete with the rich gamut of lexical nuances expressed by standard evaluative lexis. Emoji seem rather to dynamically coexist with standard expressions of evaluation as a paralinguistic resource, adding an informal and personal touch to the messaging. The presence of emoji may thus signal a new phase in the evolution of evaluation in MC, which has developed over time across different modes (print and digital), genres, and modalities (linguistic, paralinguistic and visual). Museum communicators moved from the early experiments with evaluative language in the 1950s to an increasingly emotional style, which has now culminated in the contemporary 'emoji-enhanced' style.

An in-depth exploration of museum SNS has highlighted the specificity of this digital environment, which heavily relies on visual content and therefore requires focusing not only on the interaction between emoji and text, but also on the interaction between emoji and other non-textual resources. This observation confirms the importance of exploring emoji in different contexts of digital communication, as previously suggested by scholars advocating for emoji as a highly contextual semiotic resource, flexible and prone to change according to the communicative environment in which they are used (Parkwell, 2019). The examination of intermodal couplings in the dataset has highlighted a third level of intermodal semiosis, besides that occurring in the interaction (a) between the text caption and the post image and (b) between the text caption and emoji: a further process of signification – (c) - is that produced by the interaction between emoji and the post image, which requires paying closer attention to details of the post and thus engages the reader/viewer in a playful challenge, as also typical of other forms of playful language e.g., riddles (Cook, 2000). Image-driven emoji create convergent couplings in association with the visual co-text, limiting or excluding the textual component from the semiosis. Their presence often leads to playful effects and enables engagement strategies based on games and puzzles: examples in the dataset, such as that of the medieval creature to be guessed based on a sequence of emoji, show that the text-emoji convergence can be reduced in favour of the image-emoji convergence, also because of its playful potential. The attraction exerted

by the visual component of the post is so strong that it even influences the collocation of emoji within social media posts: the analysis of PERIODICITY has shown that in some cases emoji can even be embedded in the post image, rather than in the text, again giving rise to playful and engaging effects. In this regard, the study suggests that emoji can contribute to add an informal component to the dissemination of knowledge, through their use in quizzes and games, according to the 'new post-museum' paradigm advocated by Ravelli (2006).

A limitation of the study consists of its limited dataset: more data would corroborate previous claims on the prevalence of emoji playing an ideational function in museum SNS and more accurately quantify the presence of image-driven emoji. Scaling up the dataset is therefore regarded as a necessary step for further research in this field, also with an aim to broaden the analysis to emoji appearing in the comment threads, which could not be taken into consideration in the present study; this would undoubtedly enrich the analysis and shed light on the different way museums and their audiences use emoji for dialogic interaction.

Even with its limitations, the study has useful implications for museum communicators, as it leads them to reflect on the motivations and purposes of their practice. One the one hand, in some cases, emoji are reduced to an ornament, adopted as a fashionable trend in digital communication or as a "text embellishment" (Ge-Stadnyk, 2021). The analysis of the specific environment of museum social media, on the other hand, has shown that emoji can be used in a truly innovative and creative form, beyond the purely ideational level, which merely integrates or reproduces what is already expressed in the text, in order to increase public engagement.

Although the analysis conducted in this study refers to a specific context, its findings have broader implications for digital discourse studies. Observations on how emoji interact with the visual component of the social media post and couple with images to make meaning, even in the absence of language, invite us to consider emoji not only as a paralinguistic resource, working alongside text, but, more broadly, as a part of a cohesive visual-verbal message. This implies for researchers the need to adopt a holistic approach and to consider not only the verbal co-text of emoji, but the wider multimodal context in which they interact. Furthermore, the results of the study suggest the need to refocus on the visual nature of emoji and on their original status, which is that of polysemic, non-univocal and inherently ambiguous images. In this regard, emoji seem to resemble artwork, thus requiring a certain degree of subjectivity in their interpretation, and perhaps it is not surprising that their use in an environment imbued with the visual arts such as MC enabled the identification of some of their unexplored potential in meaning-making.

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Data availability

Data will be made available on request.

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.dcm.2023.100697.

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