Emojis: Metonymy in Meaning and Use

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Abstract

Emojis are changing the way we communicate in digital text interactions nowadays. They allow us to express kinesthetic cues that are always present in face-to-face communication. Such non-verbal cues may be understood as windows into the emotional/attitudinal states of human beings, and they are conventionalized on the basis of metonymy which, as a mental shortcut, automatically connects facial expressions to the feelings and emotions triggering those expressions. Using a new methodological approach in the form of an entry model for metonymic description, the article intends to provide some insights on how the semantics of emojis is deeply linked to metonymic patterns. The emotions analyzed are hilarity and anger. The paper also briefly addresses the meaning and use of emojis for things and non-affective relations.

Keywords

emoji – metonymy – pragmatic link – emotion – digital text communication – facial expression
1 Introduction

The present investigation explores the relationship between metonymic patterns and the meaning and use of emojis in digital text communication. Nowadays, emojis have become incredibly popular among internet users since they allow us to convey meaning, often in cooperation with language, by means of a non-linguistic code. Emojis in this way are a type of pictograph, i.e., pictorial representations of ideas, feelings, events, entities, among other things. Metonymy, on the other hand, is a conceptual phenomenon that deals with access and activation connecting a concept to another experientially and cognitively related concept.

To explore this relationship, we will first discuss the nature of emojis and their relationship with language and communication because they exhibit language-like properties. Then we will move into the notion of metonymy, focusing on key aspects such as access and activation, as well as on the “pragmatic function” (Fauconnier 1997:11) connecting the semantically related entities A and B, which must be within the same frame or cognitive model. This will allow us to observe the metonymic structures that lie behind the use and understanding of emojis on our smartphones, tablets, and computers.

The main goal of the paper is deeply related to this issue: we want to show, using original data, how much metonymy there is in the meaning and use of emojis for emotions and for non-affective relations. It also aims to expand the research on visual metonymy into the realm of emojis. The rationale behind this lies in the idea that even though emojis are iconic representations that are based on resemblance of feeling, emotions, and things, they are also indexical. Such an idea of the close relationship between metonymy and indexicality has been pointed out by authors such as Forceville (2009), Feng (2017), and Mittelberg (2019). And this is due to a casual-continuity relation (in line with the Peircean philosophy [1955[1902]]) existing between two cognitively and experientially related concepts. Just like metaphor (Forceville 1996; Kövecses 2010), metonymy is a conceptual phenomenon that is not solely manifested in language but also in other forms of communication such as gesture and visual image.

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This research is part of a Metonymy Database project (Blanco-Carrión et al., 2018) whose main aim is to systematically investigate the functioning of conceptual metonymy across a variety of authentic samples in English and Spanish. The original samples analyzed in the analysis section (Section 5) have been taken from the web, and they are analyzed using a database entry model, as we shall see in more detail below.

The emojis that are studied in the paper are the following:

The Grinning Squinting Face emoji (😊)

The Grumpy Face emoji (😠)

The Red Grumpy Face emoji (😡)

The Crescent Moon emoji (🌙)
the Three Zzz emoji (zzz)²

The paper is structured as follows. Section 2 starts with a brief overview of emojis, followed by some ideas on their relationship with language and communication. After that, the conceptual phenomenon of metonymy will be discussed in Section 3, followed by the presentation of the entry model used for metonymic description and an illustration of its application afterwards. Section 4 deals with the methodology used. Then, Section 5 shows the analysis itself where the emojis mentioned above are studied. The first part of the analysis deals with emojis for emotions while the second part will focus rather on emojis for concrete things and non-affective relations (e.g., sleeping). Finally, section 6 presents some remarks that can be extracted from the analysis as well as from the paper as a whole.

2 Emojis: A Brief Overview

Back in the late 90s with the advent of mobile-specific internet browser systems, the first emojis appeared with the work of a Japanese software engineer named Shigetaka Kurita, who worked for NTT DoCoMo, one of the largest mobile telephone companies in the world. At that time, the small LCD screen of mobile phones did not allow users to show more than forty-eight characters. That restriction made Kurita think of a solution so that information could be released by tying a small number of characters. Information items such as weather updates, which were directly sent to the phone via a mobile phone

² The emojis studied in this paper have been retrieved from http://emojipedia.org. They do not represent any specific version such as Apple’s, Samsung’s, or Google’s.
network, were coded by using a set of pictographic symbols. For instance, if the weather was fine, a symbol of a sun would appear. This sort of images was thought to be clearer and more effective than text. They also saved space on the small LCD screens. Figure 1 below depicts some of the first emojis proposed by Kurita.

Although the designs of the first emojis were very simple and without much detail, they succeeded in communicating their intended meanings. For instance, if we take a look at the third row from the bottom in Figure 1, we can observe emojis that deal with emotions (to the right side of this row). These emotions are in turn “accessed” via visual cues meant to represent certain gestures made with the eyes and the mouth. We may distinguish symbols for emotions such as relief, anger, sadness and surprise. Metonymy unconsciously guides the creation and interpretation of these symbols since there is a cause/effect relation between the facial expressions schematically represented by these emojis and the emotions they are experientially associated with.

Figure 1 also shows emojis that deal with objects and ideas such as the Bomb emoji (sixth emoji in line 2 from the bottom and from left to right), which even though it activates such notions as warfare and explosions, is nowadays generally used to convey the figurative meanings “excellent” or “attractive”. This salient property of bombs – their explosiveness and its corresponding strong emotional effect on observers – is the characteristic that is highlighted via metonymy (ENTITY FOR SALIENT PROPERTY).

As previously mentioned, we agree with the position that despite the iconic nature of images such the Bomb emoji, they are, nevertheless, also indexical
– that is, metonymic – due to a casual-continuity relation that exists between two related concepts. In this case, concepts such as warfare and explosion activate concepts like excellent and attractive. Importantly to mention, however, is that this relation is context dependent. The ubiquity of metonymy in verbal communication is very high, so it makes sense to expect a high frequency of metonymic patterns as well in other ways of communication like visual image (Benczes, 2009), multimodality (Forceville, 2009), and gesture (Mittelberg, 2019).

In 2009 the California-based Unicode Consortium – the organism that specifies the representation, handling, and encoding of texts across modern digital communication platforms, sanctioned around 700 emojis. These were primarily inspired by the use of Japanese mobile computing. One year later, in 2010, the approved emojis were available to software developers. They became incredibly popular, replacing the old emoticons. Happy faces such as :-) are now 😊 while sad faces such as :-( turned into ☹. The nowadays popular word emoji is understood as an anglicized version of two Japanese words. These are e, meaning “picture” and moji, which means “character”.

2.1 **Emojis and their Relationship with Language and Communication**

Emoji has become one of the world’s universal forms of communication due to its special status as a code rather than as a language (Evans, 2017). Emojis are visual representations of feelings, ideas, entities, statuses, and events. They must be understood as a code rather than as a language, since it lacks a grammar. This idea comes from the fact that, according to Peirce’s theory of signs, words are symbolic whereas visual images are iconic in that they resemble the things they represent. However, they can also have indexical functions, connecting two concepts by virtue of a causality link.

The emoji code and the linguistic system are nevertheless similar, in that both are rooted in the conceptual system and partially sanction meaning. Generally, words are partially sanctioned when put in context (following Langacker 1987). The same goes for visual representation because it is fairly difficult (if not impossible) to express parts of our three-dimensional world in a two-dimensional static image (i.e., an emoji) or moving images (Feng, 2017: 446). They are only fragments of the whole thing, setting and/or process.

The type of information coded by using emojis is to a certain extent similar to the type of information coded in language, given that many well-entrenched and conventionalized linguistic expressions are now being replaced by emojis in digital text communication. Take for example an expression like That’s
funny, which in internet slang is generally expressed as “hahaha” or “lol” (laugh out loudly). This expression can also be replaced by the Grinning Squinting Face with Tears of Joy emoji (;o) – one of the most popular emojis between the years 2014 and 2018, according to emojipedia.org. The emoji 😂 was also (controversially) named the Oxford Dictionaries’ 2015 Word of the Year. This shows that emojis, even if considered as a mere code by many linguists, exhibit some language-like properties because it is a system that is iconic, indexical, and based on the same conceptual structure as language.

One of the reasons why emojis exhibit language-like properties is the nature of human communication. Linguistic symbols are not the only communicative resources employed in face-to-face communication. We also pay attention, sometimes most of our attention, to non-verbal cues such as paralinguistic features accompanying spoken language (first studied by the American linguist George Trager [1958]; see also Poyatos, 1997). Some of these are accent and pitch of voice, volume, speech rate, vocal gestures like gasps, sighs, laughter, moans and groans, throat-clearing, etc.

A great deal of our conscious or unconscious attention, when we are engaged in face-to-face communication, is also paid to non-verbal kinesthetic cues such as facial expressions, gestures, body movements, posture and gait. This non-verbal dimension of human communication is relevant for the present purpose since it is precisely this dimension that is often “replaced” or supplemented with the use of emojis in non-spoken digital text communication.

The non-verbal cues referred to above play a substantial role in social meaning in face-to-face communication, since they fulfill various functions. According to the British psychologist Michael Argyle (1988), we predominantly use non-verbal cues to convey communicative attitudes (i.e., emotions) toward others. One of the reasons, according to Argyle, is that it is less risky or embarrassing to communicate emotional states via non-verbal cues. In his important work on emotions and language, the psychologist Albert Mehrabian (2007) concluded that around 7% of our emotional responses to others come from language use, while an impressive 38% come from paralanguage. This leaves us with a striking 55% that comes from facial expression, gestures and body movements. In sum, we may posit that emojis evolved in digital text communication to represent that 55% of social meaning that is expressed via gestures, facial expressions, and body movements. Such an attitudinal meaning in face-to-face and digital text communication is inherently metonymic in nature.

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4 The emoji 😂 was approved as part of Unicode (version 6.0) in 2010 and added to Emoji 1.0. Emoji 1.0 is the first release of emoji documentation from Unicode. It includes all the emojis approved between the years 2010–2015.
since we can infer the participant’s emotions based on her/his reactions and facial expression. Moreover, recent empirical evidence from a frame-based approach to gesture (Mittelberg, 2019) also points to the metonymic essence of visuo-kinetic signs. There is more than simply iconicity in co-speech gestures; we also have to consider indexicality and conventionality.

As stated above, it is due to the nature of human communication that emojis can acquire language-like properties even though they lack a grammar. However, words and emojis can be differentiated by using at least two criteria: these are symbol type and motivation. Table 1 below illustrates them:

<table>
<thead>
<tr>
<th>Symbol type</th>
<th>Motivation</th>
<th>Example</th>
<th>a result of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign</td>
<td>Arbitrary</td>
<td>‘dog’</td>
<td>a linguistic system (e.g. English)</td>
</tr>
<tr>
<td>Icon</td>
<td>Resemblance</td>
<td>😊</td>
<td>a non-linguistic system (e.g. Emoji)</td>
</tr>
</tbody>
</table>

Linguistic signs – symbolic units that consist of a semantic pole, a phonological pole, and the relationship that holds between them (Langacker 1987) – are often arbitrary in that a concept such as that of dog could have been conventionally paired to an infinite set of forms. This is not to say, however, that linguistic signs lack a motivational factor.5

Words are elements of a linguistic system like English. On the other hand, we have emojis, which rather than often arbitrary signs like words, are motivated icons. And they are elements of a non-linguistic system of communication: Emoji.6 We may say that an emoji consists of a relationship between a semantic pole and a visual pole. Emojis are visual tropes that rely on metonymy for

5 According to Cognitive Linguistics, linguistic signs at all levels are often directly or indirectly motivated, especially syntactic constuctions, but also a great many lexemes and morphemes, even in some cases, certain iconic uses of phonemes, as in sound symbolism. The original motivation of a sign is lost with the passage of time and with language change, with the result that a large part of the meaning-form connection of the vocabulary of present-day languages looks completely arbitrary.

6 Languages also exploit iconicity of language to a large extent. Onomatopoeias are a good example since they resemble the sound produced, for instance, by a bee when we say buzzing.
their proper use and interpretation due to the indexical function they serve (just like gestures do).

3 Metonymy

Metonymy is a highly ubiquitous conceptual phenomenon that is manifest in both non-linguistic and linguistic domains. Following Barcelona (2011, 2015), metonymy can be understood as an asymmetric mapping between two conceptual entities – source and target. This mapping is achieved by virtue of a pragmatic link (in the sense of Fauconnier [1997]) within the relevant frame, so that the source provides access to and activates the target. The target is construed (in the sense of Langacker’s Cognitive Grammar [1987, 1991]) from the perspective of the metonymic source, which is at the same time the reference point (Langacker, 1993) providing access to the target.

Metonymic patterns seem to be more basic or fundamental than metaphorical ones. As a matter of fact, some scholars have even come to suggest, as a plausible hypothesis, that metonymic patterns regularly motivate metaphor (Barcelona, 2000, 2011) and, to a certain extent, important aspects of grammar (Barcelona 2009; Langacker, 2009), an idea that seems indeed plausible if we realize the more basic and essential role of metonymy in human thought and action. This in turn, might be due to the “inference-prompting” function of conceptual metonymy. Such a pivotal function is not solely reflected in language, but also in gesture, facial expression, and visual image.

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7 Frames and cognitive models (Barsalou, 1992, 1999; see also Evans, 2009: Ch.10; Morras, 2022) are highly rich non-linguistic bodies of knowledge. They are semantic webs that encompass related concepts in our encyclopedic knowledge.

8 Metonymy motivates metaphor in two, not mutually exclusive ways. The first is the fact that a great many metonymies get decontextualized and become metaphors; this happens when the metonymy’s source is not present in the situation described. Compare The pile of books reached the ceiling, which suggests a large number of books (metonymy up for more) with Very high prices (metaphor more is up). The second way is the role of metonymy in extracting the abstract correlation between some elements of the target’s conceptual structure and similar elements in the source’s conceptual structure, as in I grasped your idea (understanding is grasping), which requires the metonymic understanding of both grasping and (sudden) understanding in terms of “sudden control”.

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To illustrate a metonymic pattern that is reflected in language, consider a nowadays classic example taken from the pioneering work of George Lakoff and Mark Johnson (1980: 35):

(1) The *ham sandwich* asked for *his* check.

In (1) above, the *ham sandwich* stands for the *customer* that ordered the sandwich and is now waiting for his check. Note that there is conceptual coherence between the two entities that constitute the metonymic relation. It is important to point out that example (1) should not be considered as a *part for whole* metonymy,9 since we are not exactly dealing with either a metonymic expansion or reduction (in the sense of Ruiz de Mendoza, 2017a) of the same entity, but only with conceptual relatedness between the roles (*customer* and *food ordered by that customer*) of two different entities within the relevant frame – in this case the *restaurant* frame.10

Now consider an example that deals with a visual metonymy. The example below represents original data that has been taken randomly from the internet as authentic material for further analysis:

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9 Following Lakoff and Johnson (1980), *part for whole* metonymies are considered as a special type since they have been referred to by rhetoricians as synecdoche. However, in the present research these metonymic patterns are not treated under a different label. *Part for whole* metonymies maintain the same essence of this cognitive operation, which is mental access and activation.

10 On the issue of the convenience to maintain the tripartite generic distinction between *whole for part*, *part for whole* and *part for part* metonymies, see Barcelona (2019).
We can observe in (2) that the texter is about to answer the question *Do you have plans tonight?* by using the Thinking Face emoji. In the emoji, the furrowed eyebrows looking upwards with thumb and index finger resting on its chin stand for deep thought. Indeed, this conventionalized posture has been widely accepted as meaning just that, as if saying “Hmm”, “I don’t know about that”, or “let me think”, among other related expressions. There is attitudinal meaning that is conveyed by virtue of emojis for emotions. The metonymy reaction for emotion seems to be at work in how the emotions of participants are interpreted via the representational meaning of static images such as emojis (Feng, 2017: 453).\(^{11}\)

As briefly shown above, linguistic and visual metonymies are fairly similar yet they need to be distinguished as two instances of the same conceptual phenomenon. The key difference lies in the conceptual nature of the type of sign that each group belongs to. In the analysis section, the metonymies will be

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\(^{11}\) The metonymy reaction for emotion is linked to the higher-level metonymy effect for cause in the conceptual hierarchy.
analyzed in a multimodal way since most of them are accompanied by text. There is more to say about what metonymic features we are focusing on below.

### 3.1 Metonymy and its Relationship with Emojis

Due to the primarily iconic character of emojis some scholars such as Evans (2017: 187) have come to suggest that metonymy is what makes emojis work. Indeed, the iconicity behind the functionality of emojis is most likely seized upon by metonymy, whose function is to guide pragmatic inferencing through target activation. However, and as mentioned before, there is also indexicality in static visual images such as emojis because there is causality between the eliciting condition and the reaction. The high-level metonymy effect for cause is precisely the indexical feature which characterizes this visual representation as metonymic.

Emojis that convey feelings and emotions – rather than things and events – are particularly interesting in that they do so by showing the effects (i.e., reaction in terms of facial expression) that certain psychosomatic states such as love, hate, pride, or joy cause on human beings (i.e., eliciting condition). For instance, when we use the Grinning Squinting Face emoji (😆), we generally mean to express excitement or hearty laughter. This means that the emoji 😆 is used in situations related to entertainment, hilarity, and sometimes irony.12

The emoji 😆 evolved from the old emoticon “XD”. Note that the emoticon only evokes the two “facial features” that are relevant for communicative purposes related to laughter. These features are the scrunched X-shaped eyes (“X”) and the broad open smile (“D”). These characteristics are what jointly build up the emoticon “XD” since they are necessary to express hearty laughter in digital text communication. But why were these features and not others selected to convey laughter? Because the broad smile and the scrunched eyes are precisely the facial features that most often co-occur with laughter, the latter being in turn the effect of a feeling of hilarity. Broad open smiles and scrunched eyes are symptoms of laughter and hilarity. In other words, the sub-event (broad open smiles and scrunched eyes) activates the whole event (strong laughter), and the member (strong laughter) activates the category (laughter in general). On the other hand, laughter in general, as effect, activates hilarity and/or excitement, as cause.

Following Feng (2017: 442) visual images are indexical in at least two ways. The first one has to do with the fact that reality can hardly be totally depicted by visual images; it follows that reality is partially represented by images. The

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12 For an insightful account of irony from a cognitive-linguistic perspective, see Ruiz de Mendoza (2017b).
second and most relevant point for the purpose at hand is that emotions are abstract concepts that are invisible despite their metabolic basis (Maiese 2014), and the only way in which they can be represented is by virtue of visual images like emojis – that is, the symptoms of those emotions that are reflected in facial expression.

3.2 Description of the Entry Model

We are using a new framework of metonymic analysis consisting of a (simplified) entry model that shows seven descriptive fields which we think are essential to approach the issue of how much metonymy there is in the meaning and use of emojis. The seven fields we are focusing on are (i) category label, (ii) hierarchical level, (iii) prototypicality, (iv) example of the metonymy, (v) conventionality, (vi) language/code, and (vii) function. Let us take a brief look at each one of the seven fields.

Category label relates to the identification of a high-level metonymy.

Hierarchical level has to do with the taxonomy or taxonomies that include a given metonymy, ranging from the generic levels (whole for part, part for whole and part for part) to the lower, subordinate levels.

Prototypicality deals with the prototype (Rosch, 1978) categorization of metonymy. Although this categorization is actually a continuum, Barcelona (2011) proposes three main points on that continuum to assess the degree of prototypicality of a metonymy. These are:

Prototypical metonymies, those exhibiting the highest degree of prototypicality, which are typical and referential metonymies for individual entities or groups (not classes or categories) of individual entities whose source and target do not include each other, as in The sax [the sax player] caught a strong cold and had to be replaced. Prototypical metonymies are the metonymies usually studied in traditional rhetoric and semantics.

Simply typical metonymies are metonymies that exhibit varying degrees of prototypicality, but that are not referential for individual entities. Examples include predicative metonymies, as in Mike is a brain [i.e., an intelligent person]. Both “simply typical” and “prototypical metonymies” are “typical” metonymies. “Typical” metonymies are those whose target is a “secondary domain” (Langacker, 1987: 165–222)13 within the source of whole (source) for part

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13 A “primary” domain is one which is obligatorily activated when understanding the meaning of a symbolic unit (i.e., a morpheme, a lexeme or any other grammatical construction), e.g., physical object in book. We might then say that a “secondary” domain (a term not used by Langacker) is not (or is less) obligatorily activated, e.g., author in book. Both notions are scalar.
(target) metonymies, as in *A friend of mine painted his flat* [i.e., the ceiling and walls] *yellow*, or is not included in the source, as in all part (source) for whole (target) metonymies, an example being *Mike is a brain* [“brain” for “intelligent person”] and part (source) for part (target) metonymies, as in *He drank the cup* [i.e., “He drank the content of the cup”]. “Simply typical” metonymies, furthermore, are either not referential at all, as in predicative metonymies, or they are used to refer to a type, class or category of entities (not to individual entities or to groups of individual entities), as in *A good student should read extensively*, where the generic reference of the subject noun phrase is motivated by the metonymy instance for type (Radden, 2009: 207).

“*Purely schematic* metonymies” are whole for part metonymies whose target is a “minimally primary” or “minimally secondary” subdomain within the source, that is, the target is deeply included in the source, as in *This book is highly instructive* (ENTITY [BOOK] FOR RELEVANT PART [SEMANTIC CONTENT]), where the notion BOOK is primarily understood in terms of its conceptual content rather than in term of its physical properties (size, weight, color, etc.). These metonymies are very close to literal meaning, since the semantic shift is very subtle and not readily noticed by speakers, for which reason their status as metonymies is controversial in CL (see Barcelona 2011; Ruiz de Mendoza, 2000; Croft, 2002 [1993]; Paradis, 2004, 2011; Geeraerts and Peirsman, 2011, among others).

The fourth field is *Example of the metonymy*. In this field an example of the metonymy studied is provided as well as the taxonomic domain activated by the source and the target. The next field is *Conventionality*, and it relates to the conceptual association between form and meaning. Then the sixth field is *Language/Code*; this identifies the system of communication being used (e.g., an oral language, a sign language, the Emoji code, etc.).

As regards *Function* (the seventh and last field), metonymy is, as stated above, primarily an inferencing device. This is its main function. Its other major functions are reference and motivation, as we shall see in more detail below. These two functions are derived from the inferential function.

### 3.3 An Illustration of the Entry Model

As seen in Section 3.1, the emoji 😅 is generally used to convey hearty laughter and hilarity. Consider the example below (taken from the web) where the Grinning Squinting Face (with Tears of Joy) emoji is used to convey a funny situation:
In (3) the linguistic exchange must be analyzed with the emoji 😁 or else it would not express the humorous overtone. An utterance such as *Your face was hilarious!* would sound too serious or even offensive without the emoji. It would somehow lose the humorous ingredient. Emojis in this respect function as hedges that “soften” a message that otherwise would sound too direct or tough.

The semantics of the emoji 😁 in (3) has to do with funny things and events. An expression with an open smile and scrunched X-shaped eyes indicates laughter since it provides a visual representation of a salient sub-event of hilarity and a salient subcategory of laughter. And laughter activates the emotional/attitudinal state causally related to it. Therefore, the metonymy effect for cause plays a substantial role in the understanding of how the Grinning Squinting Face emoji works, as well as emojis in general. As just stated, the iconic basis of emojis is often not direct at all. What is direct, however, is the causal link between laughter, represented by a grinning squinting face such as 😁, and the emotional/attitudinal state causing that laughter. That laughter being at once an effect and a symptom of that state.

From the preceding discussion we can go back to the definition of metonymy assumed in this research and presented in Section 3 to see how it accounts for the effect for cause metonymy in example (3). There is an asymmetric mapping between two conceptual entities, here laughter, represented by
the grinning squinting face, and the emotional/attitudinal state (hilarity and excitement). There is also a **pragmatic link** between the metonymic source (i.e., laughter, represented by x-shaped eyes and an open smile) and the target (emotion/attitude) within the relevant frame, which in the present case we might gloss as the **human being or person** frame. This pragmatic function links the roles of the two conceptual entities, with laughter having the role of **effect** and the relevant emotion or attitude having the role of **cause**.

Following Barcelona (2015: 149), the pragmatic function of the conceptual entities is a typological criterion for metonymicity that leads us to three types of generic metonymies. These are **part for whole**, **part for part**, and **whole for part**. The generic metonymy **part for part** is the one to which the high-level metonymy **effect for cause** belongs. The entities and their roles in this case are “parts” of the same frame. Facial expressions are deeply linked to our feelings and emotions since they are their bodily manifestations. The **human being or person** frame (or icm in Lakoff’s 1987 sense) includes a number of causal links like that connecting facial expressions to emotions, hence, the metonymy **effect for cause** is involved.

Table 2 below shows an entry model for the Grinning Squinting Face with Tears of Joy emoji.

<table>
<thead>
<tr>
<th>TABLE 2 Entry model for the Grinning Squinting Face with Tears of Joy emoji</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Category label: <strong>effect for cause</strong></td>
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<tr>
<td>2. Hierarchical level:</td>
</tr>
<tr>
<td><strong>Generic:</strong> part for part</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>3. Prototypicality (Purely-schematic, typical, prototypical): <strong>Typical</strong></td>
</tr>
<tr>
<td>4. Example of the metonymy:</td>
</tr>
</tbody>
</table>

![Image of grinning squinting face emoji]
4 Methodology

We have seen so far that part of the methodology used to identify and describe the metonymic mechanisms behind the communicative functions of emojis in digital text communication consists in the application of a simplified version of the entry model of the University of Córdoba Metonymy Database (Barcelona, 2018; 2019; Blanco-Carrión, 2018; Hernández Gomáriz, 2018). We might consider this entry model as a new framework of analysis consisting of a detailed template to describe metonymies systematically by means of eleven descriptive fields. We have only included seven of those fields in our simplified version of the entry model (shown above in table 2) since we are dealing with visual metonymies rather than with linguistic ones. We think that these seven categories are suitable for the purpose at hand, which is to identify and describe metonymies and metonymic features that are involved in visual tropes such as emojis that, even though they are mainly based on resemblance, they seem to work with indexical features in the sense of Peirce (1955 [1902]) since there is a casual-continuity relation between an emotion and its physical manifestations.

The identification of metonymies rests on the pragmatic function or functional domain that exists between source and target. We know that in spite of the many theoretical attempts to understand how words sanction figurative meanings (e.g., Bowdle and Gentner, 2005; Evans, 2010; Giora, 2003; Pragglejaz Group, 2007), there is still no consensus among cognitive linguists on this issue. However, we think that the notion of “degrees of metonymicity” provided in Barcelona (2011: 19–26) might help. This degree of metonymicity is also understood as prototypicality (one of the seven fields of the entry model used). Now, the relevant factors for considering an expression as metonymic are the following:

a) Asymmetric mapping between source and target domain  
b) Functional domain shared by both source and target  
c) Pragmatic function
There is an asymmetric (rather than symmetric as in metaphor) mapping in metonymy in that there is just one element that gets highlighted via mental access and activation from the metonymic source to the metonymic target. The elements of the source have no counterparts in the target like in cases of metaphor.

Once the asymmetric mapping is identified, we have to see if source and target share the same functional domain. The example in (3) presented above shows these points. First, there is an asymmetric mapping between facial expression, on the one hand, and emotional/attitudinal states on the other hand. Second, these two domains of experience share a functional domain, which is the person frame.

Lastly, the pragmatic function is key in metonymy, and it relates to the relationship that exists between source and target. In (3), the pragmatic function between source and target can be glossed as facial expression (effect) – emotional/attitudinal state (cause).

When it comes to visual metonymies like emojis for emotions, the mechanisms are similar because we deal with the same conceptual phenomenon. An emoji face offers a partial visual representation of a person’s face and highlights some facial features (particularly the eyes, eyebrows, and mouth) to evoke the participant’s reaction to a certain eliciting condition. There is a pragmatic link between certain facial expressions and the emotions that cause them. The metonymy reaction for emotion, which is a part of the higher-level metonymy effect for cause, is clearly at work in how people interpret their interlocutor’s emotions.

All the examples analyzed in the following section have been randomly taken from the internet as real instances of emoji use. We collected a small corpus of emojis for emotions and non-affected relations from which selected some of them due to space limitations. Statistical findings are not the main aim of the present research. The data collected for this study is used exclusively as a raw material for analytical thought. This method also follows the spirit of the usage-based approach to language and conceptual structuring by analyzing real (rather than invented) instances of emoji use.

5 Analysis

The first emoji to be accounted for is the Angry Face or Grumpy Face emoji. Consider the following example which has been taken from Twitter:
The metonymy at work in (4), **effect for cause**, is a **highly typical** metonymy – in Barcelona’s terminology – since the source and the target are clearly distinct elements within the **emotion** frame which in turn is deeply linked to the **person** frame. The conceptual domains of anger, dislike, disapproval, etc., and their behavioral effects, in this case the facial gesture schematically represented by the Grumpy Face emoji, are linked by the **effect-cause** pragmatic function within the **emotion** frame. If someone watches me with a frowning mouth and eyes, that person will almost certainly infer that I am not feeling happy. On the contrary, she might conclude that I am in a psychological state of anger or disgust due to the facial expressions that this emotion usually causes on human beings. Anger is implicit in a face such as 😠 because the pragmatic link between gesture and emotion has been conventionalized through humanly relevant scenes – the so-called **proto-scenes** (Tyler and Evans, 2003) – involving anger and its embodied manifestations in social interactions.

The Twitter user in (4) could have used no emojis on the comment. However, it would not convey the intended meaning with the same **attitude**. The Grumpy Face emoji definitely helps the texter to convey this subjective perspective in a message that could have otherwise been written without emojis to convey the same message but with a more **neutral** stance in terms of emotions. In this regard, we can see that emojis can convey mood in digital text communication in a multimodal way where non-linguistic elements interact with linguistic structure (see Schoonjans [2017] and Zima [2013] for such a view; see also Vandelanotte [2021] for Internet memes in multimodal constructions).

Table 3 below shows an entry model for the Grumpy Face emoji.

At the generic and highest level in Table 3 above, we have **part for part**, followed by **effect for cause**, which is a high-level metonymy. Then at
the basic and low levels the specificity increases, arriving at the metonymy
frowning mouth and eyes and eyebrows scrunched downward for anger. In terms of prototypicality, we may say that the metonymy is a
typical one since source (gesture) and target (anger) are distinct elements
within the person frame and the metonymy-based expression is not referen-
tial for individuals. The function of this effect for cause metonymy is said
to be motivational since it led to the creation of the conventional meaning
(anger, disgust) of the Grumpy Face Emoji, thanks to the resemblance of the
icon to the typical facial expression exhibited by an angry person.

There are cases in which the Grumpy Face emoji is intensified by using red
color. Consider the following example taken from Twitter:

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**Table 3** Entry model for the Grumpy Face emoji

1. Category label: EFFECT FOR CAUSE
2. Hierarchical level:
   - Generic: **PART FOR WHOLE**
   - High: **EFFECT FOR CAUSE**
   - Basic: **FACIAL EXPRESSION FOR EMOTION/ATTITUDE**
   - Low: **FROWNING MOUTH AND EYES AND EYEBROWS SCRUNCHED DOWNWARD FOR ANGER**
3. Prototypicality (Purely-schematic, typical, prototypical): **Typical**
4. Example of the metonymy:

![Example of the metonymy](image)

**Taxonomic domain activated by the source:** Human face: Facial expression
**Taxonomic domain activated by the target:** Human emotions/feelings: Anger

5. Conventionality: **Conceptual and coded**
6. Language/Code: **Emoji**
7. Function: **Motivational**
In (5) we focus on the Red Grumpy Face emoji (tweet at the bottom), which expresses an intensifying state of anger. Anger has been treated in Cognitive Linguistics (e.g., Kövecses, 1986, 1990; Forceville, 2005) as an abstract concept that is conceptualized via metaphor and metonymy. Linguistic examples of this are expressions such as *He exploded with anger*, where the conceptual metaphor **anger is a hot fluid in a container** helps us to conceive an extreme physiological and psychological response to that type of emotion as the explosion of a substance in a container. However, as in language, metaphor in Emoji is often motivated by metonymy. The metonymic mapping of a behavioral effect of an emotion such as anger onto that emotion is the main conceptual motivation of a metaphor like **anger is a hot fluid in a container**. In (5) the stand-for relation connects a possible physiological effect
of anger to anger itself, since when people are extremely angry, their faces may turn reddish due to the high blood pleasure caused by that psychosomatic state. We could say, then, that there is an experiential causal link between the psychological state of extreme anger and the increase in blood pressure that makes our face look red.

When we heat things such as steel, we can observe at a given moment how the metal turns red because of the high temperature it is exposed to. Similarly, when human beings are exposed to unpleasant and annoying situations (the “high temperature” or eliciting condition), this brings about an increase in blood pressure, turning our face red, just like a piece of steel that is exposed to fire. In sum, the red color in a person’s face is a symptom of her psychological state, hence, the metonymy RED GRUMPY FACE FOR EXTREME ANGRY BEHAVIOR becomes conventionalized to express intensified anger.

Sometimes a person is grumpy, showing signals such as uncomfortable or inappropriate behavior and “negative” facial expressions such as frowning eyes, but not necessarily a red face. This is the situation represented in example (4) by the use of the emoji 😞. On the other hand, when people enter to a psychological state of extreme anger, this leads them to a higher level of blood pressure, thus, turning their face red in anger. This is precisely what the Red Grumpy Face emoji in (5) evokes.

We can observe from comparing examples (4) and (5), how emojis not solely resemble real facial expressions, but can also invoke attitudinal meaning (i.e., angry vs. very angry). Following Feng (2017), we agree that the bodily manifestations of emotions are essentially metonymic because they are inferences that are made by people based on visual cues. Table 4 below shows an entry model for the Red Grumpy Face emoji.

5.1 **Emojis beyond Emotions**

Now we will briefly show some other types of emojis that do not have to do with sentiments and feeling but with things and non-affective types of relations (i.e., non-affective processes or events). Consider the first example taken from Twitter:
TABLE 4  Entry model for the Red Grumpy Face emoji

1. Category label: EFFECT FOR CAUSE

2. Hierarchical level:

   Generic: PART FOR WHOLE
   ↓
   High: EFFECT FOR CAUSE
   ↓
   Basic: FACIAL EXPRESSION FOR EMOTION/ATTITUDE
   ↓

   Low: RED FACE WITH FROWNING MOUTH AND EYES AND EYEBROWS SCRUNCHED DOWNWARD FOR EXTREME ANGER

3. Prototypicality (Purely-schematic, typical, prototypical): Typical

4. Examples of the metonymy:

   ![Red Grumpy Face emoji]

   Taxonomic domain activated by the source: (Red) human face: Facial expression
   Taxonomic domain activated by the target: Human emotions/feelings: Extreme anger

5. Conventionality: Conceptual and Coded

6. Language/Code: Emoji

7. Function: Motivational

(6)
Example (6) is a tweet posted back in November 2014 from Julie Bishop, a former Australian politician who served as Minister for Foreign Affairs. In this example, the emojis depicted not only make the intended message sound with a warmer or more informal tone, but also replace linguistic signs as in the case of the Crescent Moon emoji (🌙) and of the Three Zzz emoji (💤). Let us analyze these two emojis about things and relations in order.

The emoji 💤 designates a process (sleeping). This emoji also represents snoring, dreaming, or any sleep-related state.\textsuperscript{14} In the example above, the relation profiled by the verb sleep can be replaced by the emoji 💤. The resulting construction, “Time for 💤”, is inferred on the basis of the metonymic structure PART FOR WHOLE (i.e., Generic level) that underlies onomatopoeias such as 💤, as well as on the basis of the conceptual content (and structure) provided by the verb time, the preposition for, and their syntactic function within the PP.\textsuperscript{15} At a higher level of conceptual hierarchy, this generic metonymy narrows down and takes the form SNORING FOR RELATED ACTIVITY. At lower levels (basic and low) the metonymy is more specific, arriving at ZZZ FOR SLEEPING as shown in table 5 below.

In terms of prototypicality, this metonymy is typical because it refers to a process rather to an entity or a collection of entities (Barcelona, 2011) and its function is motivational since it motivates the conventional meaning of the emoji.

The second emoji designates a thing (the moon) but is metonymically used to refer to the night. The emoji 🌙 is part of a larger construction (Good [night]) that has unit status (in Langacker’s 1987 terms) in our mental lexicon – that is, it is entrenched and conventionalized. The unit status of a construction such as

\textsuperscript{14} Note that the conventional onomatopoeic use of “ZZZ” to denote the process of snoring or at least the typical way of breathing when sleeping and, through snoring, to activate metonymically the notion of sleeping, is itself probably based on metonymy, since both in snoring (and sleep-breathing) and in the articulation of the/z/ phoneme in English, orthographically represented by the letter <z> and of the/θ/ phoneme in Spanish, also represented in writing by the same letter, there occurs a degree of friction (both phonemes are fricative phonemes, the English one being voiced and the Spanish one being voiceless). This letter represents in many languages with a Latin alphabet a fricative sound. The metonymic abstraction (Barcelona, 2000) of the notion “friction” from both the sleep-related sound and the realization of these phonemes is probably the motivation for the choice of this onomatopoeic symbol.

\textsuperscript{15} Note that 💤 can also be used in situations of boredom as in “This class is boring 💤”. In this context we can infer that the speaker is falling asleep because the class is not attractive. Emojis in this respect contribute to the level of specificity of a given construction since they provide details. They not only express but also describe meaning.
**TABLE 5**

Entry model for the Three Zzz emoji

1. Category label: SOUND FOR RELATED ACTIVITY
2. Hierarchical level:
   
   **Generic:** PART FOR WHOLE
   
   **High:** SOUND FOR RELATED ACTIVITY
   
   **Basic:** SNORING (ZZZ) FOR RELATED ACTIVITY
   
   **Low:** ZZZ FOR SLEEPING
3. Prototypicality (Purely-schematic, typical, prototypical): Typical
4. Examples of the metonymy:

**Good night**, facilitates the interplay with other types of conventionalized (and also entrenched) symbols such as icons. Emojis, on the other hand, exhibit language-like properties since they are meaningful “expressions” that designate either a thing or a relation (just like words do). In the case of the emoji 🌙 it designates a thing that is part of our concept of NIGHT. The Crescent Moon emoji depicts a thing but it can also be further used to describe or make reference to the night itself (rather than only to the moon) as in (6) above. This
PART-FOR-WHOLE metonymic relationship between the moon and the night is precisely what allows us to infer that the emoji 🌙 stands for night in “Good 🌙”.

The idea that an emoji not only expresses but also specifies or describes speakers’ meaning comes from the pragmatic function they serve. They provide specificity to the extent that the message can be interpreted differently depending on the emoji that is used along with the text. This change in meaning might incline us to consider emoji as a sort of meta-communication device. However, in spite of the fact that emojis can replace the social meaning that is expressed by gestures, facial expressions, and body movements, which accounts for approximately 55% of the semantics of a situated face-to-face interaction, our position (following Langacker, 1987, 1991) is that the dividing line between semantics and pragmatics is artificial at best. Rather than a strict division, there is a continuum between these two fundamental

**Table 6**  Entry model for the Crescent Moon emoji

| 1. Category label: ENTITY OR EVENT IN A PERIOD OF TIME FOR THAT PERIOD OF TIME |
| 2. Hierarchical level: |
| **Generic:** PART FOR WHOLE |
| ↓ |
| **High:** ENTITY OR EVENT IN A PERIOD OF TIME FOR THAT PERIOD OF TIME |
| ↓ |
| **Basic:** CRESCEANT MOON FOR A SPECIFIC PERIOD OF TIME WITHIN THE 24-HOUR PERIOD |
| ↓ |
| **Low:** CRESCEANT MOON FOR NIGHT |
| 3. Prototypicality (Purely-schematic, typical, prototypical): **Typical** |
| 4. Example of the metonymy: 🌙 |
| Taxonomic domain activated by the source: **Entity in a period of time:** Moon |
| Taxonomic domain activated by the target: **Period of time:** Night |
| 5. Conventionality: **Conceptual and coded** |
| 6. Language/ Code: **Emoji** |
| 7. Function: **Motivational and referential** |
and inextricable aspects of linguistic meaning that are jointly accounted for in Cognitive Linguistics.

5.2 The Advent of Emojis in Digital Text Communication
Meaning expression and specification seem to be related functions that emojis can cover. The better they look the more details they provide. The things and/or relations that are conveyed by emoji are recognized more easily. These highly detailed icons, in turn, contribute to higher levels of specificity in a digital text exchange, as shown by the two pictures below that depicts the evolution of emoticons into emojis:

![Emoji Evolution](image)

The improvement in the emoji’s appearance facilitates recognition and makes text messages more vivid and full of color. In the third row from the bottom in (7) we can observe on the left the classic emoticon of the happy face “:)” that is used to convey a wide range of warm, positive feelings, including love, happiness, and gratitude, and is now replaced by the emoji 😊 (the old emoticon is now automatically transformed into the corresponding emoji in almost any keyboard). Emojis that convey similar old emotions such as the Winking Face emoji ;-) (😉), are also present in the images above, which can express general positivity.

The evolution of emoticons into emojis has facilitated written communication in the online world, making texts more colorful, playful, and full of details. The emoji system provides digital text communication with conceptual content derived from perceptual resemblance and motivated by metonymy. This in turn complements substantially written digital exchanges by providing details in terms of meaning expression and specification.

The communicative complexity of emojis, despite their lack of grammatical structure, allows this system to convey complex scenarios in the form of event...
chains. Nowadays the popularity of emoji has made big companies focus on how to use this communication code in advertisements. To illustrate, consider the following emoji chains used by a well-known fast-food restaurant:

(8)

![Emoji Chain Example](image)

Even though no words (except “good times” at the bottom right corner) are used in (8) above, the emoji chains make perfect sense. Indeed, we can infer from the chain at the top that someone dropped their mobile phone in the toilet in the first place. This event damaged the mobile permanently. We are told the story that the person got unpleasantly surprised and then very sad for the phone, until (s)he grabs some chips from McDonald’s and ends up happy.

The chain at the top can be divided into three parts. The Phone, WC, Water and Explosion emojis structure the first event. Even though they designate things independently, they jointly compose the event where the phone accidentally fell into the toilet.

Then the second event is constituted by the

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16 Due to space limitations, we only analyze this emoji chain.
17 The Explosion Emoji in the emoji chain at the top in (8) expresses the permanent damage of the phone. This emoji is motivated/ guided by an EFFECT (DAMAGE) FOR CAUSE (EXPLOSION) metonymy.
Shocked Face (౧) and the (Loudly) Crying Face emoji(ౠ). This part represents the realization by the person involved of the fall of her/his phone into the toilet followed by intense sadness or inconsolable grief. The third and last event of the chain is represented by the McDonald’s chips (🍟) and the Smiley Face with Big eyes emoji (😃), meaning that after such a disappointing and foolish event the person got some chips from the fast-food restaurant and immediately overcame the grief and ended up feeling happy.

6 Concluding Remarks

The paper has briefly analyzed some emojis for emotions, things, and non-affective relations. We saw that despite the iconic character of emojis in that they partially represent three-dimensional things of the world as well as abstract concepts, they usually exhibit a casual-continuity relation towards concepts that are semantically coherent with. This relation of causality is in itself metonymic, and this is what we tried to show by using the entry model for metonymic description.

Metonymy is highly ubiquitous in human thought and action since it is a “mental shortcut” that involves access and activation from concept A to an experientially, hence cognitively related concept B within the relevant frame. The emojis analyzed display this conceptual pattern. Given the status of metonymy as a conceptual phenomenon, it is to be expected to encounter it in language, visual image, music, gesture, and facial expression. As some researcher such as Forceville (2009) has shown, metonymy is multimodal.

Metonymy makes use of our sensory experience to conceptualize our environment. An example of this can be the animal kingdom. Animals can know that a predator is approaching them by listening to its roar or its footsteps. That is, many animals use the auditory and/or the olfactory channel to know whether they are in danger; that sensory information, like the roar of a tiger, evokes the whole entity, which is in this case the feline predator (a part for whole metonymy). With emojis the situation is similar, but instead of the sense of hearing we make use of the sense of sight, together with our encyclopedic knowledge or conceptual structure.

As shown throughout this article, emojis are mainly based on resemblance, however, they also manifest indexicality and this is reflected in metonymy. Emojis can provide access and activate target concepts within a relevant frame. This is particularly interesting with the emojis that deal with feelings and sentiments, such as those analyzed in (3), (4), and (5). This type of emoji is structured metonymically since the concept of causation is involved. We saw how the high-level metonymy effect for cause is at the heart of
emojis that denote psychosomatic states such as hilarity, happiness, and anger. All those feelings – the cause – are represented via a schematic representation (itself metonymic, too) of their effects in terms of facial expression, body movements, and posture. Facial expressions turned out to be critical in this respect because they represent most vividly the effects on people of those psychosomatic states.

Facial cues allow people to infer emotional states. These cues have to do particularly with the shape of the mouth, eyes, and eyebrows (the three facial parts that are generally present in emojis for emotions). Visual tropes like the type of emojis that denote fundamental emotions capture emotional/attitudinal states of human beings by focusing on those facial expressions. In this case the emojis for emotions (rather than for concrete things or relations) are expressive of the attitudes and emotions of the speakers, i.e., the texters. Moreover, they include a schematic human head, which is perfectly circular, as well as a variety of skin colors in order to “humanize” the old emoticons such as “XD”, which has been replaced by 😊. The key facial expressions are now clearly represented because emojis include many more details than a simple emoticon. These details correspond to the various elements of facial expressions that jointly activate the notion of a particular emotion, not only in digital text communication, but also in face-to-face linguistic interaction. Metonymy is then critical in the conventionalization of what those gestures and facial expressions mean.

The rise of emoticons followed by emojis was clearly intended to solve the “communication gap” in the digital era. As we saw in Section 2.1, around 55% of social meaning is derived from facial expression, gesture, and body movements. These elements can be used to avoid emotional misunderstandings in digital text communication, just as they are used in oral face-to-face linguistic interaction due to the multimodal character of human communication.

Emojis for concrete things and non-affective relations also help bridging the communication gap, making digital text interactions more vivid, colorful, and specific, as shown in Sections 5.1 and 5.2 where we saw how emojis can both express their conventional meaning and specify, i.e., construct (new, additional) meaning. Emojis, therefore, can be used to create fairly complete discourse pieces, as shown in the emoji chains in (8) where no words are used yet the emoji chains succeeded in telling a whole short story. Emojis can also be used to express attitudinal meaning as in (2), (3), and (4). Lastly, emojis can be used to replace grammatical structure as in (6) where the noun night is replaced by the Crescent Moon emoji, yielding the construction “Good 🌕”.

This impressive communicative function of emojis seems to share the same
non-linguistic structure with that of the linguistic system for such an interplay to occur.

Emojis are doubtless a fascinating research topic in this era of digital text communication. They represent our enormous ability to suggest and create meaning and to quickly understand others through non-verbal cues. They also show us that metonymy is not only reflected in language, but also in the visual realm. Visual metonymy is an understudied topic in Cognitive Linguistics, so its analysis is critical to support the conceptual status of metonymy in the structuring of the human mind. Further quantitative research on the frequency of use of the different emojis analyzed and their underlying metonymic patterns would be desirable in order to expand and complement the preliminary ideas presented here.

References


