What's So Funny About a Skull and a Statue?
A Semantic Analysis of Sentence-Final Emojis

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1. Introduction

With the rising usage of emojis, people are able to express themselves and the intended tone of their message much easier in online settings. This means that emojis are able to provide extra information regarding the utterance in which one is trying to convey: they're a pragmatic approach to aiding online communication. For an emoji such as Crying (😭), which looks like someone sobbing and seems to exude a sad emotion, it is interesting to find that the commonly intended meaning is actually humor, which is completely different from what the emoji appears to mean and perhaps what it was meant to mean when the emoji was originally created. In this paper, we will be observing such emojis that appear to be unrelated to one another semantically but actually occur in similar contexts on the internet.

This paper is organized as follows. In section 2, we provide background information about emojis and the emojis that we are interested in. In section 3, we introduce the methods in which our data was collected and analyzed. In section 4, we explain our results from analyzing the data. In section 5, we discuss the results and how they answer our question. In section 6, we present our conclusion. Finally, section 7 contains a table of example tweets that we will reference throughout the paper.

2. Background

Emojis have become an extremely widespread part of online speech, however their currently accepted semantic interpretations can differ wildly from their likely intended meaning. In online spaces such as Twitter, the trend of using emojis as sentence-final ‘mood markers’ has become extremely widespread and documented (Danesi, 2017; Riordan, 2017; Thompson & Filik, 2016; Weissman & Tanner, 2018), “emojis help indicate one's mental state, which can allow addressees to better understand other people and their intentions” (McCulloch, 2019), however we particularly have chosen to focus on three emojis that we have seen to commonly follow the same the sentence-final structure as the Crying-Laughing (😂) emoji: Skull (💀), Moai (🗿) and Crying (😭) emojis, and by showing they alter meaning in identical and similar contexts we can illustrate this idea of a mood marker. When someone adds the Crying-Laughing emoji to the end of a sentence, the semantics are relatively clear: the emoji implies they found whatever was discussed in the sentence humorous or funny. But what implications arise from the addition of a Crying emoji, a Moai statue, or a Skull? These emojis are used with high frequency in online spaces and go far beyond their intended meanings of Easter Island statues and skeletons.

We can directly observe this mood or feeling indication by adding in the Crying-Laughing emoji to an otherwise neutral sentence to simulate the ‘original’ sentence-final emoji construct. (As an aside, the Crying-Laughing likely makes a good default or original emoji to replace because it is

quite easy to understand and has little in the way of interpretation: it just means the speaker was humored or entertained.) We can then replace Crying-Laughing with one of the other more ambiguous[1] emojis we are observing and see how the emoji changes the interpretation:

Figure 1

1.1 "The way he just walked out without saying anything"
Emoji-less, the sentence has a layer of ambiguity in regards to how the speaker feels about the event, just that it was somewhat noteworthy.

1.2 "The way he just walked out without saying anything 😂"
Emoji seems to indicate that the speaker thought the event was funny.

1.3 "The way he just walked out without saying anything 💀"
Emoji seems to indicate the speaker thought that walking out was embarrassing or bad in some other way. Speaker can find this humorous or not depending on interpretation, which will be discussed later.

1.4 "The way he just walked out without saying anything 🗿"
Emoji seems to indicate the speaker thought that walking out was a 'bruh moment' (moment of bewilderment).

1.5 "The way he just walked out without saying anything 😭"
Emoji seems to indicate the speaker thought that walking out was sad, or otherwise a somewhat distressing event. Speaker can find this humorous or not depending on interpretation, which will be discussed later.

Clearly, the emoji do add something to the semantics of a sentence beyond their literal meaning. 1.3 and 1.4 have nothing to do with skeletons/death or Easter Island. There is also the matter of humor, in that some of these emojis can be interpreted as humorous or non-humorous, particularly Skull and Crying-Laughing. For example, 1.3 has two different interpretations: "that was super embarrassing for him but funny for me" (humorous), and "that was super embarrassing for him" (non-humorous, perhaps in a secondhand embarrassment sense). Similarly, 1.5 has a similar duality of interpretation when it's humorous or non-humorous: "that was sad but also kinda funny" (humorous), and "that was sad" (humorous).

3. Methods

Twitter data was extracted with a Python script using JustAnotherArchivist's snscrape (2022). Up to 500 most recent tweets (from February 19, 2022) were collected for each emoji. Our data came in various languages, but the language that used the emojis the most was English, particularly in sentence-final position.

The data was annotated by hand for language, sentence-finality, the number of occurrences, and availability of a humorous reading.

[1] Ambiguous as in not having a well-defined meaning. What is an Easter Island head is not what is in question, but what adding an emoji of one adds semantically to a sentence.

For languages, tweets were tagged as *English*, *French*, *Japanese*, or were left blank. While our main goal is to observe English data, we were able to gather a few in French and Japanese, so we could observe whether our observations apply universally instead of strictly for English. We decided to include French and Japanese because we have team members that are able to comprehend these languages enough to annotate. The data that were left blank are either in other languages, only consisted of emojis, or were too difficult for us to translate.

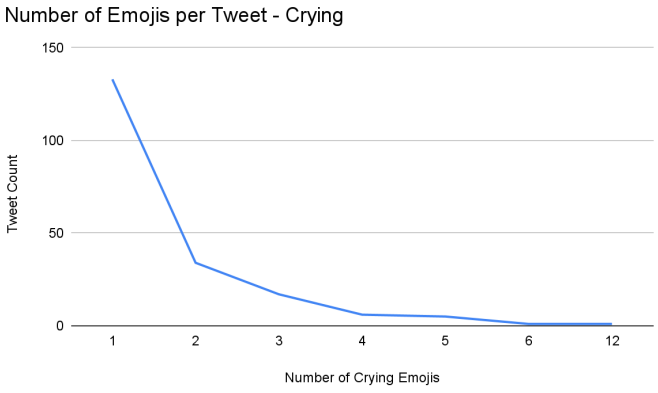
For sentence-finality, tweets were tagged as *Y* (yes), *N* (no), and *?* (question mark). A tweet was tagged as sentence-final if the emoji or emoji cluster occurred in sentence-final position and was previously tagged as one of the available languages. It is important to note that a handful of the tweets had multiple sentences within them, so we annotated each sentence for emoji sentence-finality if applicable. A tweet was tagged with a question mark when sentence-finality was unclear, such as when a tweet is mostly made up of emojis. These are also tweets that were left blank for the language tag.

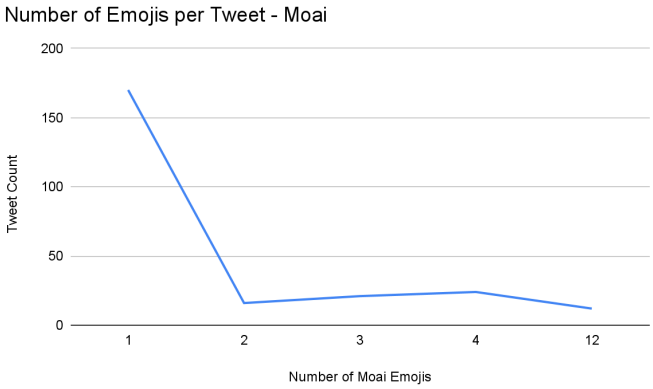
For the number of occurrences, tweets were tagged by the number of emojis that occur in the sentence-final emoji cluster. Similarly to sentence-finality, we took tweets containing multiple sentences into account by counting the number of emojis that occur in each sentence-final emoji cluster within the tweet when applicable. Tweets that were tagged with a question mark for sentence-finality were still tagged by the number of emojis.

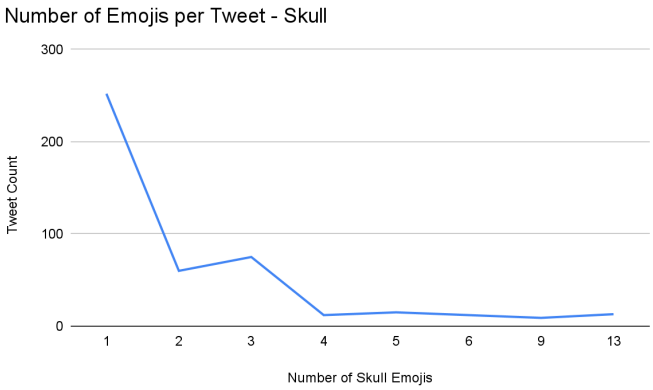
For the availability of a humorous reading, tweets were tagged as *Y* and *N*. A tweet was tagged as humorous if there was an interpretation available where the sentence-final emoji or emoji cluster marked humor for the utterance. Unfortunately many of the tweets required additional context (such as looking at what the tweet is in response to or the responses for the tweet), so when that context was unavailable, we opted to tag the tweet as non-humorous.

4. Results

The tweets we scraped provided us with a robust dataset that gave us good insight into what contexts the various emojis appear in. One of our main goals beside deciphering the meaning of each emoji and comparing that to its intended purpose was to determine if the number of repetitions had any semantic effect. To accomplish this, we left out sentences that were not tagged as Y for the emojis being sentence-final because we wanted to focus on sentence-final examples to try and maintain a consistent syntactic context for each emoji to make for better comparison both linguistically and statistically. For this, we created multiple graphs to show off the bounds of how many emojis were used, and how many tweets contained that number of the emojis. We can see some interesting trends between emojis in the graphs.







These graphs give us interesting insights into how the emojis are used numbers-wise. Firstly, we can discuss the outliers. They all have at least one example over 10, which we will consider an outlier or random spam, as there is likely no real difference between 10, 12 or 13 emojis, especially in a text like a tweet which is likely to be of a low word count and read quickly. What we are interested in is the lower bounds of the sets, roughly between 1 to 5 emojis. These are the distinctions that are going to make a difference, particularly because it's much easier to tell the difference between ‘example sentence 💀’ and ‘example sentence 💀💀💀’ at a glance. This would also be applicable in tweets like the ones in Table 1.2 and Table 1.3. We believe that the ranges for emoji use are along a scale, with more emojis being used for emphasis, or strengthening of the intended effect. We believe that the numbers fall off dramatically after 4 because that is the upper bound of this strengthening–anything past 5 is only registered as a lot or spam. This is directly extrapolated from the data, as they all fall off between 4 and 5 emojis in a tweet–1 is obviously the most popular as it gets the point across, some use more for emphasis, and very few go above 4 or 5 because that amount is relatively superfluous and the meaning the speaker is trying to convey has already been made clear.

The other interesting non-semantic data to cover is how the emojis are paired, specifically with each other. We tend to notice a very specific trend when we look at the data. We’ve compiled all pairings from our sentences and listed them in the following figure:

Figure 2

😭 + 😂	8
🗿 + 😂	0
💀 + 😂	14
🗿 + 😭	3
💀 + 😭	14
💀 + 🗿	1

As can be clearly seen, Skull is an extremely popular emoji to pair with others. Skull is a marker of observed embarrassment, as will be discussed later, which lends itself well to pairing. Skull and Crying-Laughing imply that the speaker is laughing at some sort of failing, and the Crying implies that they sympathize with what they are responding to. This data suggests that Skull is in a category somewhat apart from the other emojis we've looked at. This will be discussed in depth in section 5, but data suggests that Skull does not entirely fit under the label of mood marker.

5. Discussion

We have gleaned some very valuable insight from this project and the relevant data processing. As most of our annotation was done by hand, we developed some very informed intuitions about how each of the three emojis work and what they mean. Of course, with this being the internet, definitions are always in flux and especially things as vague as emojis will never have set definitions (Częstochowska, J., et al., 2022).

💀 : We feel Skull is a marker of observed embarrassment or failure by the speaker. When replying to a specific message it serves to ridicule or otherwise take issue with the text that is replied to. This can be evidenced by the fact that a single skull emoji is often seen as a perfectly adequate response to a bad[2] or unwelcome message. The skull is also frequently used in standalone statements that make reference to an unfortunate or embarrassing event. An example of this would be Table 1.4. There is no worded response to the video, just the emoji. When asked about this, the message sender said they wanted to convey “that it was yikes”, which is in line with our previous theories on Skull–that it is conveying a speaker's negative feelings towards an event or speech act. In a way it is a non-word way of passing judgment on another's actions or words in online messaging.

🗿 : We would postulate that the Moai is a marker for bewilderment and for lack of a better phrase a ‘bruh moment[3]’. It is not necessarily a positive or negative reaction, but more one of confusion. They are also used in response to other messages a vast percentage of the time, with 72.4% of tweets with a sentence-final Moai beginning with a @ symbol used to mention another Twitter user, and 15.1% containing a link to another tweet. These numbers, particularly the @s, are very telling as they are much higher than the other emoji we were looking at (53.6% of the

[2] In this case ‘bad’ is the most general description we can use due to the lack of context inherent to a general description. You could have an opinion (or a ‘take’) that is disagreed with:

> A: “I think anime is good”
> B: “💀”

Or an action that is disapproved of:

> A: “I bought an expensive shirt and decided to tie dye it.”
> B: “💀”

These are just examples of the two types of replies we see the most often online and in various messaging platforms.

[3] A ‘bruh moment’ is a moment in which you are so confused, bewildered, or just no longer wish to be involved with another person and/or thing that you say ‘bruh’, as if to say: ‘Bruh, come on, are you serious?’ or ‘Bruh, what are you doing?’

Skull tweets contained @s and 62.4% for Crying). This is quite similar to real life, where most ‘bruh moments’ are often uttered as responses to other people.

😭: We propose that the Crying is partially a soft[4] sadness marker and/or a sort of emotional investment indicator. This is because it often appears in tweets that indicate no sadness but merely a heightened emotional state. This also lines up with its frequent pairings with Skull. Its soft sadness seems to imply that the speaker holds a sadness or exasperation for an otherwise unfortunate event. There is one other side to the Crying emoji, and that is its use as a sort of ironic or more emotionally charged Crying-Laughing. In our annotations we found that 23.9% of Crying-Laughing emoji uses were with humor in mind. This was human annotated and so likely has a large margin for interpretation, but it is nonetheless interesting that an emoji that is designed to represent sadness is intended to be humorous in nearly a quarter of use cases.

All of these emoji seem to lie under a sort of Venn diagram of labels, where emojis like Crying-Laughing and closest emoji relative we examined, Crying, fit snugly under the label of mood marker, the other two we have examined do not. Skull is a reaction or judgment on another, and the Moai seems to indicate a specific bewildered kind of reaction. These are of course somewhat up for interpretation, and trying to match specific definitions to digital hieroglyphics would frankly be impossible due to the chaotic and unorganized nature of the internet. With that being said, however, we believe that our generalizations about each emoji hold true in online conversation.

To answer our final research question, we should compare the expected, original definitions of the emojis to their actual, perceived meaning. Crying, we assume, was intended to mean that the speaker is crying. In reality, it is somewhat similar, however we assume that those who use it are not literally crying as they type, but trying to convey that they feel a bit of the emotions that someone who is crying feels, be that sadness or merely extreme emotions. Skull is where we see a complete separation between expected and real. Its use in online speech has nothing to do with death or skeletons. Moai is the most interesting example because its assignment seems completely random. Where Skull is somewhat reasonable, perhaps starting as an ‘I’m dead’ (Robertson, 2021) and then morphing into something different, Moai (or Easter Island Head, as some resources call it) is completely detached from the idea of a ‘bruh moment’.

6. Conclusion

To conclude, we hope to have provided a picture of how rich and varied the usage of these emojis are in online speech. The goal of this essay was to generalize the use of three emojis in the context of appearing in the same environment as a fourth, and we discovered a wealth of info on the semantics and syntax of their use. From usage, to combinations, to what labels they fall under, we have no doubt that a very intricate categorization of all emojis used could be created. For instance, popular tagging/@ emojis like Skull, or specific reactions like Moai.

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[4] In that it is not very serious, sad but not something that would hang on you for very long or seriously weigh you down (Table 1,1).

7. Appendix

Table 1

A table where all example tweets referenced in the paper can be found, as well as their location on the spreadsheet. They will be abbreviated in the text as T1.#

#	Tweet Text	Sheet #
1	@samspauly WTF AAAAH IM TOTALLY FREAKING OUT RIGHT NOW 😭😭	Crying 119
2	Same to that "Are you a Muslim? No, I'm Filipino" 💀	Skull 29
3	@retro_1999 Took them forever but at least it happened 🗿	Moai 49
4	[*Link to suggestive/inappropriate video by Markiplier about Pokemon*] 💀	Sourced from Discord

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