*Special Topic: **Technology and the Media Environment of the Information Society***

Emojis as a Language of their Own

Dmitriy Agranovskiy[1] (✉) ⓘ and Alina Avilova[2] ⓘ

[1] Peter the Great St.Petersburg Polytechnic University (SPbPU), St.Petersburg, Polytechnicheskaya, 29, 195251, Russia

agranovskij.da@edu.spbstu.ru

[2] Charles University(CU), Prague, Opletalova, 38, 110 00, Czech Republic

alinaavilova2006@gmail.com

Abstract

Emojis are a product of computer mediated communication. As a means of expressing emotion, indicating the illocutionary force or the intended tone, they are well-researched. However, emojis are rarely seen as a visual language in their own right. The article analyzes the syntax and semantics semantics of emojis and people's ability to interpret them. The research method for this article was an online survey. An emoji rendering of the title of a literary work was proposed for translation into verbal language. Readers had to attempt an interpretation of its meaning. The survey participants were 450 first-year technical students. 97% of whom regularly use emojis. The range of correctly defined emoji texts ranges from 20 to 92%. Misattribution options are divided into "literal translation", "combining emoji features into a monosyllabic response", "defining the meaning emoji", "name of other literary works", "analogy of emoji recordings with popular works". Emojis as iconic signs have many meanings, which in the case of emoji text are selected in relation to each other. Sometimes the reader defines the "main" meaning-forming emoji-sign, which can contribute to correct interpretation or, on the contrary, lead on a wrong path. Also, all emojis can have the same grammatical "level" and be perceived by a person as equivalent objects.

Keywords: Emoji; Emoji rendering; Translation; Perception; Literature; Visual language

Аннотация

Эмодзи являются порождением технологически опосредованной коммуникации. Хотя их роль как средства выражения эмоций и тона высказывания хорошо изучена, эмодзи редко рассматриваются как самостоятельный визуальный язык. В статье анализируется семантика эмодзи и способность их интерпретации людьми. Методом исследования для данной статьи послужил онлайн опрос, эмодзи-запись названия литературного произведения предлагалась для перевода на вербальный язык, в отсутствии версии нужно было дать интерпретацию в своём понимании. Участниками опроса стали 450 студентов первого курса технических специальностей. 97% которых регулярно используют эмодзи. Диапазон правильно определенных эмодзи-текстов колеблется от 20 до 92%. Варианты неверной атрибуции разделены на "буквальный перевод", "объединение признаков эмодзи в односложный ответ", "определяющие эмодзи", "название других литературных произведений", "аналогия эмодзи-записей с популярными цифровыми произведениями". Эмодзи как иконический знак обладают множеством значений, которые в случае эмодзи текста подбираются в связи с друг другом. Иногда коммуникантом определяется "главный" смыслообразующий эмодзи-знак, что может способствовать верной интерпретации или напротив, уводить от сути. Также все эмодзи могут восприниматься как однозначные на одном грамматическом "уровне".

Emojis as a Way of Transmitting Information

INTRODUCTION

Technology introduced many changes in the communication among people. One of these changes is the widespread use of non-linguistic means in computer mediated communication (CMC). Smilies, emojis, stickers have become an integral part of the language of social networks and instant messengers. More than 5 billion emoji are sent to Facebook every day (Buchholz, 2020).

The very idea of a visual language is not innovative: there are examples of ancient hieroglyphs and pictograms. As a way of social interaction in e-mail, emojis derive from emoticons, that is, combinations of graphic symbols endowed with a specific emotional connotation. Scott Fahlman, their creator, first of all assessed their functional significance in terms of economy: the inclusion of pictograms in SMS messages allowed significant savings in symbols, since the message length was limited to 160 signs. According to their creator Shigetaka Kurita, emojis – which appeared in 1999 – were primarily aimed at expressing emotions. With the advent of the possibility of exchanging electronic text messages, the need arose for the efficient replacement of oral emotional speech. Emoji became an effective solution to a problem that existed at that time. Initially, the emoji set consisted of 176 pictogram icons with a size of 12×12 pixels. Only in 2009 they were transferred to Unicode. This was an important step which meant that a user in Japan could send a message to a user in France who would see the correct display of symbols.

Although there are in 2021 already 3353 emojis in Unicode (Buchholz, 2020), this is 140 times less than the number of terms in The Oxford English Dictionary. Therefore, modern pictograms cannot be considered as analogs of words. Researchers mostly understand the meaning of emojis as expressing emotion, that is, as a way to indicate the illocutionary force or intended tone of textual utterances (Alshenqeeti, 2016; Dresner & Herring, 2010; Konrad et al., 2020), or as functioning like punctuation (Provine et al., 2007). Although there are dictionaries that associate emojis with words, including the Emoji Meanings Encyclopedia (https://emojis.wiki/), a rare user would think of using such dictionaries when communicating. Emojis as iconic signs have a floating chain of meanings, and accompanying verbal means or previously known information, for example, some shared memories, can help to interpret them correctly (Wiseman & Gould, 2018). From a visual sign can be extracted a most direct meaning, individual important elements or characteristics, attributed qualities or emotions, as well as more complex associations from a context of communication, or a figurative meaning. For example, for the emoji "Smiling Face With Horns" the literal meaning is a devil, the most characteristic detail being horns or the "devilish smile" with the characteristic color being red. The range of qualities and emotions that are evoked by it can be quite extensive: deceit, joy about a bad deed, mockery of an enemy, cruelty. At the level of general concepts and in a rather ironic sense it can signify evil as such, hell, revenge, etc. As for symbolic meaning one might consider that a brown square is used by a musician as a symbol for a rock (as his stage name is The Rock), and ▬ side by

side with the arm emoji, it would probably means "strong like a rock", like himself (Barbieri, Ronzano, et al., 2016, p. 3967).

Researchers point out that emojis can be interpreted in different ways, both emotionally and semantically (Jaeger & Ares, 2017; Miller et al., 2016, 2017). Differences are analyzed in terms of differences in the native language (Barbieri et al., 2016), in gender and age (Herring & Dainas, 2020), in the choice of communication channel (Miller et al., 2017). Although there is such ambiguity of meanings when using emoji, visual signs for interpretation do not require special training and are clear to everyone. The Oxford Dictionaries' President, Caspar Grathwohl declared that emojis are "an increasingly rich form of communication that transcends linguistic borders" (Moschini, 2016).

The meaning of emojis is most often considered in terms of the semantic differences in the interpretation of emojis (Barbieri, Ronzano, et al., 2016). However, it cannot be assumed that emojis cannot be used to convey meaning. The most global experiment in this regard is Fred Benenson's project to translate Herman Melville's "Moby Dick" into Emojis – "Emoji Dick, Or, 🐳" (Melville, 2010). It turns out that in order to practically implement the transmission of a complex message, it is enough to narrow the direction of the recipient's search for meanings. The creativity of users and organizations (for example, Royal Opera House in 2017) in the internet created a variety of emoji texts that allowed readers to interpret them unambiguously because it was known in advance that certain cultural units were meant. The use of pictures in a text can be regarded as a linguistic game, and such "riddles" that are widespread in the net are a game that expands the linguistic possibilities of emoji. Fred Benenson (2015) believes that the view of emojis as a game is just a screen that disguises their rich communication functions.

Figure 1 shows an emoji rendering of the novel by Alexander Pushkin "Eugene Onegin". The resulting sequence of emojis we here refer to as the emoji rendering or emoji script – and when it concerns only the title of a literary work we also use the term emoji title. In this case, there is an alternative of rendering either a single integral meaning as interpretation of the text as a basic unit of culture according to Yuri Lotman (2010), or of producing a complex script of verbal signs that follows the narrative.

Figure 1. Emoji recording of the novel by A.S. Pushkin "Eugene Onegin"

The aggregate of emoji creates great opportunities for interpretation, since the meaning of each of them is selected in accordance with the neighboring ones. Thus, if the meaning of a collection of emoji is not arbitrary, but some well-known expression (for example, a saying), then the task of unraveling the meaning of emoji becomes solvable. Of great interest is the process of finding the semantics of not one, but a set of emoji, which of the possible meanings will be assigned to each sign and how the overall meaning is compiled.

RESEARCH METHODOLOGY

In this study, we used an emoji recording of the names of famous literary works, which was taken from the Internet (Table 1). The research method was an online survey on the Google platform, where respondents were asked either to name the literary work, or, if they did not guess, to provide an interpretation or share their understanding. The survey was conducted at Peter the Great St. Petersburg Polytechnic University using smartphones and the Internet with each participant agreeing to the processing of personal data. The survey participants were 450 first-year technical students (81% of men, 19% of women) aged 17–20 years. Of these, 97% noted that they use emojis, and 52% that they use emojis at least once in 30 messages.

ANALYSIS OF THE OBTAINED DATA

Analysis of correctly attributed emoji recordings

Iconic emoji signs have many meanings, so an emoji recording cannot be interpreted unambiguously. However, the information that a known combination of words (in this case, the name of a literary work) has been encrypted with the help of emoji provides some guidelines for finding a given meaning.

The correct answer requires an obligatory and necessary condition: the respondent's possession of information about the encrypted literary work and the association between this name and the emoji record.

For clarity, we present Table 1. Note that the "percentage of correct answers" was taken from the absolute number of respondents.

Table 1. Emoji recordings of literary titles

№	Emoji recording	Title of the work	Percentage of correct answers
1.		"451 Degrees Fahrenheit" *Ray Bradbury's dystopian novel*	92%
2.		"Around the World in 80 Days" *Jules Verne's novel*	82%
3.		"Silence of the Lambs" *Thomas Harris's novel*	79%

4.	🐶👂	"White Bim Black Ear" *The novelette of Gabriel Nikolaevich Troepolsky*	78%
5.	😜🍊	"A Clockwork Orange" *Anthony Burgess's novel*	74%
6.	⚔️✝️🕊️	"War and Peace" *The novel of Lev Nikolaevich Tolstoy*	69%
7.	👨‍✈️⚓👩	"Captain's Daughter" *Alexander Sergeevich Pushkin's historical novel*	54%
8.	👑💍💍💍	"Lord of the Rings" *John Tolkien's epic novel*	54%
9.	👨‍👨‍👧‍👦	"Fathers and Sons" *The novel of Ivan Sergeevich Turgenev*	49%
10.	👨‍🔧&🍸	"Master and Margarita" *The novel of Mikhail Afanasyevich Bulgakov*	46%
11.	🐕❤️	"Dog's Heart" *The novelette of Mikhail Afanasyevich Bulgakov*	44%
12.	🖼️🎨🤵	"The Picture of Dorian Grey" *Oscar Wilde's novel*	42%
13.	🏇❌🧔😵	"The Headless Horseman" *Maine Reed's novel*	34%
14.	💨💏	"Gone with the Wind" *Margaret Mitchell's novel*	30%
15.	👱‍♀️🚩🔮	"Alice's Adventures in Wonderland" *Lewis Carroll's Tale*	20%

The encrypted name was most easily guessed when numbers were used along with iconic emoji signs, their unambiguous reading made it possible to "complete" the missing parts of the name. Moreover, in the case that was guessed by the overwhelming majority of respondents, there were no other words from the visually presented. The fire emoji serves rather as a clue to the content of "451 degrees Fahrenheit. "

In other cases, on the contrary, emoji reflected exactly the words from the name, and sometimes in a different meaning than in the literary work itself, as, for example,

for "The Master and Margarita", where the Master is the emoji "man with a wrench", and Margarita is the emoji "alcoholic cocktail Margarita".

The most difficult to identify were the emoji recordings of "Gone with the Wind" and "Alice's Adventures in Wonderland" with only 30 and 20 percent of correct answers, respectively. The word "gone" does not lend itself to the expression by way of emojis which primarily stand in for nouns and adjectives, not verbs and verbal elements of speech. The title of Margaret Mitchell's novel does not contain a subject, so the emoji version introduces a subject in the form of "couple in love" – and if the respondent knows the novel to be a love story, then the emoji "wind" might lead to the correct answer. The three emojis designating the name of Lewis Carroll's tale: "girl", "triangular flag" and "magic crystal ball" set the search direction towards the female character of the fairy tale, but the range of options is too large. And the "flag" only confuses, since few people realize that this is a flag on the golf course, which signifies the preposition "in".
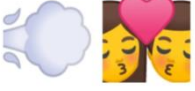
Analyzing incorrectly attributed emoji recordings

Cases of incorrect attribution of a work can be divided firstly into those where the respondents wrote their own versions of emoji decoding, realizing that they do not know the correct answer and secondly those where works other than the implied ones were indicated.

Literal translation

Quite often, failing to determine the name of a literary work, the respondents wrote words that describe the available images as accurately as possible, without worrying about coordination. Table 2 provides examples of such "literal translations" and the percentage of incorrect answers that consisted in providing such "literal translations."

Table 2. Literal translation

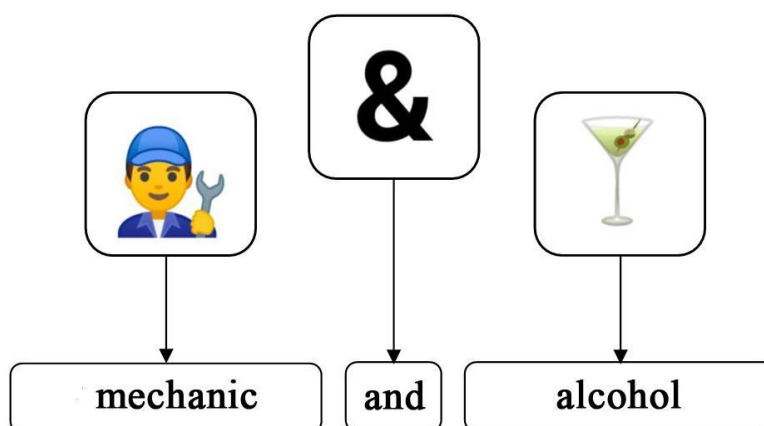| №	Emoji recording and translation	Examples of "literal translation"	Percentage
1.	"Silence of the Lambs"	1. Hush the rams 2. Hush the sheep	72%
2.	"A Clockwork Orange"	3. Fun orange 4. Madness mandarin 5. Emoji citrus	72%
3.	"451 degrees Fahrenheit"	1. Numeral fire 2. Fire numbers 3. Fire number 4. 451 flame 5. 451 fire	68%
4.	"White Bim Black Ear"	1. Dog and ear 2. Puppy ear 3. Dog with ears 4. Dog and hearing	46%
5.	"Gone With the Wind"	1. Wind and love 2. Wind kiss 3. Air love 4. Exhale love 5. Steam kiss	45%
6.	"Master and Margarita"	1. Engineer and drink 2. Master and cocktail 3. Mechanic and mojito 4. Man and alcohol 5. Repairman and tequila 6. Plumber and alcohol	33%
7.	"Lord of the Rings"	1. Crown 3 diamonds 2. King of three rings 3. Crown and 3 rings	18%
8.	"The Picture of Dorian Grey"	1. Painting palette man 2. Painting paint and costume 3. Landscape palette waiter	14%

9.	"Alice's Adventures in Wonderland"	1. Girl and magic ball 2. Girl red flag clairvoyance 3. Girl flag magic	14%
10.	"Fathers and Sons"	1. Friends 2. Men and children 3. A family	13%
11.	"War and Peace"	1. Battle plus pigeons 2. War and bird	11%
12.	"Dog's Heart"	1. Dog love 2. Dog heart 3. Dog's love	11%
13.	"Around the world in 80 Days"	1. 80 hours around the world 2. Number and globe 3. 80 earth hours 4. 80 hours on Earth 5. 80 Clock planet	8%
14.	"Captain's Daughter"	1. Captain and girl 2. Woman ship captain 3. Captain anchor girl 4. Pilot sea girl 5. Pilot anchor girl	8%
15.	"The Headless Horseman"	1. Race cross man madness 2. No horse racing man fainting	8%

The emoji recording of the title "The Silence of the Lambs" was the one which saw the most frequent attempts at literal translation. Here it is interesting to note that of the various literal but incorrect translations not a single one used the word "lamb" or "lambs", owing to the fact that the corresponding emoji does not convey information about the age of the sheep (after all, a lamb is a baby sheep), which greatly distracts from the correct answer and its derivatives. It was also found that the "silence" emoji was perceived by the respondents as a modification of the adverb "quiet/quieter", and indeed: the index finger gesture near the lips is usually used to ask for quiet and enjoin people to be quiet.

The most diverse literal translations were offered for the emoji rendition of "Master and Margarita" (table 2, no. 6). Six different responses were identified as literal

translation. Since the emoji "&" was invariantly translated as the conjunction "and", the two separate conjuncts, the emojis "man with a wrench" and "alcoholic cocktail Margarita" were perceived by respondents differently (for example, Figure 2). In the first emoji, the respondents immediately saw a "man", and some supplemented their association with a wrench and received as a result – "master", "repairman", "mechanic", "plumber", which testifies to a successful selection of emoji – the meaning was transferred. In the last emoji – "Margarita", respondents saw either just a drink or an alcoholic drink, which is also explained by the rarity of using this emoji. The total number of such answers is 80, which is 33% of the total number of incorrect answers.

Figure 2. An example of a "literal translation" of the novel "The Master and Margarita"

The fewest of all "literally translated" emoji recordings regard the title "The Headless Horseman" (table 2, No. 15) – 8% of the total number of incorrect answers. This can be explained by the fact that the record contains 4 iconic emoji signs, which imply semantic matching, that is, the respondents were more likely to answer by way of a meaningful narrative phrase, for example, "A man went crazy when he could not do races." Translating a large number of iconic emoji signs, each respondent often finds his own meaning or story in their matching. At the same time, if you look at the emoji record, you will notice that the first two emoji signs bear the main meaning – "rider without", and the last two have the meaning of "head" (Figure 3). The need for such a complex combination is explained by the fact that although the third emoji represents the head, it is not viewed as important information, and is understood as "man" by those who did not guess the name. Apparently, the last emoji "madness" is used to convey the general semantic meaning of the title. But the combination of the "man" emoji and "madness" gives room for many fanciful responses.

In the case when the respondents did not find a suitable variant of decoding the "unit of culture", the strategy of producing the most obvious literal "translation" of the emojis proved quite popular. Nevertheless, in this case, too, there was usually a search for a meaningful combination, there is "Hush, sheep ", and not "a finger pressed to the lips, rams". Moreover, when transmitting the verbal message "Hush, sheep" to a person for whom "Silence of the Lambs" is a well-known title, this leaves the possibility of correct interpretation.

*Combining emoji features into a monosyllabic response*

Sometimes respondents created new meaning by combining the features they felt were the most important in the existing emoji. It was revealed, as a result of the analysis, that 6 out of 15 groups of emoji renderings have such respond. Table 3 provides the corresponding examples and the percentage of incorrect answers that consisted in "combining emoji signs into a monosyllabic answer."

Table 3. Combining emoji features into a monosyllabic response

| №	Emoji recording and translation	Examples of "combining emoji features into a monosyllabic response"	Percentage
1.	"The Picture of Dorian Grey"	1. Artist 2. Portrait 3. Landscape painter	34%
2.	"Lord of the Rings"	1. Sultan 2. Bachelor 3. Queen	30%
3.	"A Clockwork Orange"	1. Temptation 2. Sour	10%
4.	"Alice's Adventures in Wonderland"	1. Witch 2. Fortune teller	9%
5.	"Master and Margarita"	1. Bartender 2. Plumber	6%
6.	"Gone With the Wind"	Love	4%
7.	"451 degrees Fahrenheit"	Christmas lights	2%

The "Portrait of Dorian Gray" and "The Lord of the Rings" are the leaders with a clear advantage in percentage terms – 34 and 30 percent, respectively. Here one can see that iconic emoji signs set the same theme, that is, they signify similar features. For example, the emoji title "Portrait of Dorian Gray" suggests variants of the monosyllabic answer "artist".

Imagine an associative array (Figure 3): From the "landscape" emoji – a picture, from the "color palette" emoji – paints, from the "man in a suit" emoji – a man, one gets a new word – "artist" – by combined: "Painting", "paints" and "man", we got a new word – "artist". Such answers accounted for 34% of the number of incorrect answers. In this example, it was possible to trace how each subsequent emoji sign reinforces the previous one and sets the theme.
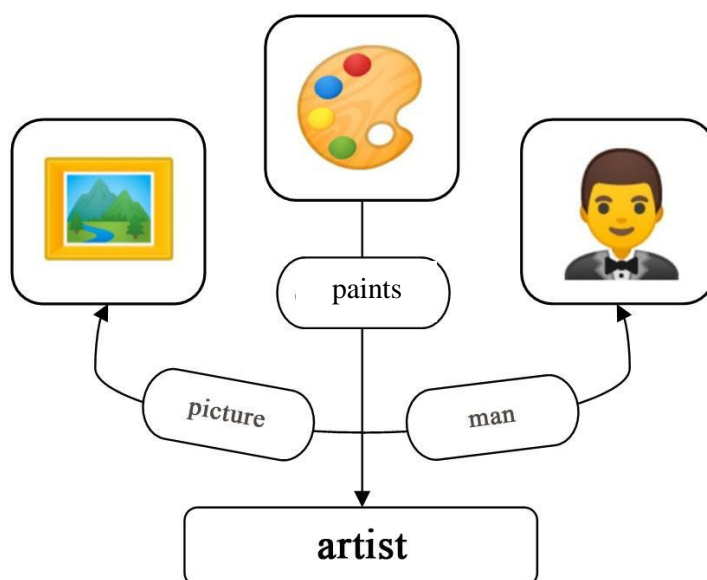
Figure 3. The associative array of the "Portrait of Dorian Gray" emoji

The respondents saw such an association in "Clockwork Orange" emoji. Imagine another associative array (Figure 5): From the "strange" emoji – a bright emotion, from the "orange" emoji – citrus, one gets a new word "sour." Such answers accounted for 10% of the number of incorrect answers. In this example, it is clearly manifested that the classic yellow heads are associated with the ability to convey emotion.
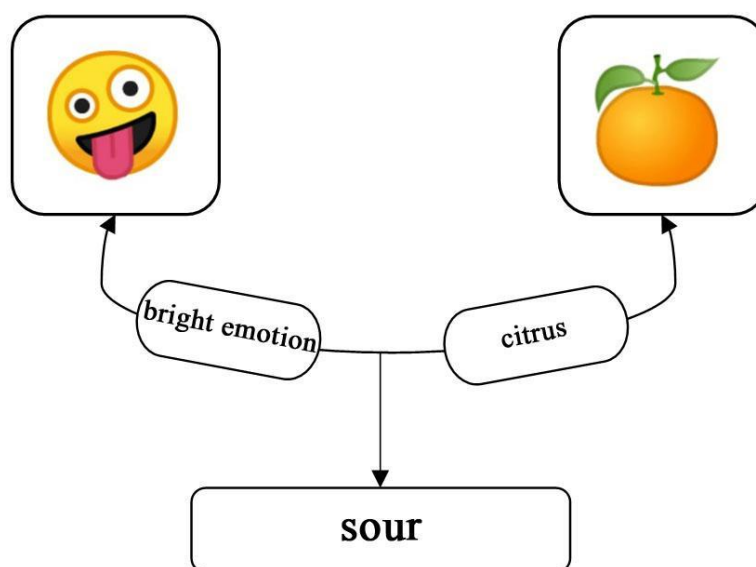
Figure 4. Associative row of the Clockwork Orange emoji

In some cases, the respondents moved from the particular to the general, so the interpretation of the "christmas lights" emoji-record "451 degrees Fahrenheit" appeared.

To understand how the respondents came to this answer, let us present another associative array (Figure 5): From emoji "451" – many or large number, from emoji "fire" – shines, one gets a new word – "christmas lights." Such answers accounted for less than 5% of all incorrect answers. As we can see, general signs were derived from emojis and a specific word was composed.

Defining emoji

In some cases, emoji entries had "defining" emoji signs that set the subject for the answers, the rest of the meanings were matched to the main one or were ignored. Let's make the observation that all emoji recordings had groups of responses that were similar in meaning, however, three emoji titles were identified that showed this tendency the most.
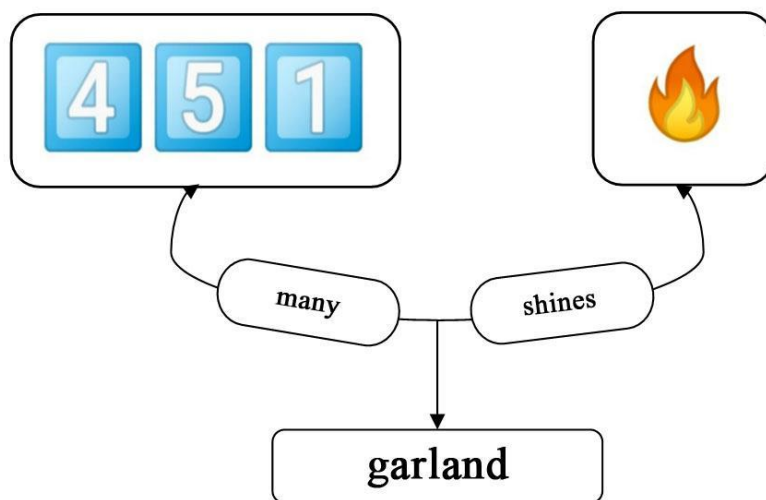
Figure 5. The associative row of the emoji record "Fahrenheit 451"

Take, for example, the "Captain's Daughter" emoji. Answers in 90% of cases were related to the theme of the sea, for example, "sailor", "Titanic", "ship captain", "admiral", "ship tour". It can be assumed that the anchor emoji crushed the other two and determined the nautical theme. However, in the novel "The Captain's Daughter" there is no theme of the sea. But for the reflection on the word "captain" the emoji "anchor" is perfect.

Second, consider "The Headless Horseman" emoji. In this case, the picture is somewhat different: the answers were divided into two sub-themes related to "head" and "horse racing", but the analysis showed that 73% of the answers were associated with "races", so that the defining emoji was the first emoji in the title. Examples of answers with this topic were: "a man went crazy when he could not do races", "there is no place for a beard in races", "no races", "races with a beard", "races are prohibited".

In the "Portrait of Dorian Gray" emoji, the answers were mainly represented by the words "artist" and "painting", however, in percentage terms, the theme "painting" prevails at 51%. Examples include the following answers: "painting", "portrait", "landscape". "The picture paints the artist." The theme is set by the first "landscape" emoji, but it cannot be said that it totally prevails over other emoji signs.

Summarizing the above, we can notice that some emoji signs are much brighter than others, they can set the theme of the emoji script, as well as "crush" the signs included in it.

Title of other literary works

The task of the respondents was to name a literary work, so as a result of the analysis of the answers, it was revealed that sometimes the emoji record was associated by the respondents with other literary works. Table 4 presents the corresponding examples and the percentage of incorrect answers that consist in "titles of other literary works."

Table 4. Title of other literary works

№	Emoji recording and translation	Examples of "titles of other literary works" and their authors	Percentage
1.	🐶👂 "White Bim Black Ear"	"Mu Mu" *Story of Ivan Turgenev*	23%
2.	👱‍♀️🚩🔮 "Alice's Adventures in Wonderland"	1. "Scarlet Sails" *The novelette of Alexander Green* 2. "The Wizard of Oz" *The novelette of Alexander Volkov* 3. "Twelve" *Poem of Alexander Blok* 4. "Little Prince" *The novelette of Antoine de Saint-Exupery*	11%
3.	👨‍✈️⚓👩 "Captain's Daughter"	1. "The Children of Captain Grant" *Jules Verne's novel* 2. "Odyssey" *Homer's poem*	6%
4.	🏇❌🧔😵 "The Headless Horseman"	1. "Crime and Punishment" *Fyodor Dostoevsky's novel* 2. "Bronze Horseman" *Poem of Alexander Pushkin* 3. "Taras Bulba" *The novelette of Nikolai Gogol* 4. "Don Quixote" *Miguel de Cervantes's novel*	4%
5.	🐕❤️ "Dog's Heart"	1. "Mu Mu" *Story of Ivan Turgenev* 2. "Kashtanka" *Anton Chekhov's story*	2%

6.	"Gone With the Wind"	"Romeo and Juliet" *The play of William Shakespeare*	1%

Most often, another literary work was offered in response to "White Bim Black Ear" – 23%, and all the answers presented the same title – the story "Mumu". In this case, the black ear was perceived as a hint about the content of the work, where the main character could not be heard due to his dumbness.

The emoji record "Heart of a Dog", in contrast, drew responses to both emojis: from the emoji "dog" one drew the meaning – a dog, from the emoji "heart" one drew the meaning – love. When the two meanings were combined, as in the previous paragraph, the stories "Mumu" or "Kashtanka" were obtained, which corresponds to the content of the works, because both stories reveal a person's love for a dog.

The most varied and interesting were the responses to "The Headless Horseman". Some suggested "Crime and Punishment". Here the emojis "red cross" and "man's head" were perceived as "no head" and sent the respondent to the plot of the novel, to the murderer Raskolnikov, the main character of the novel. The "rider" emoji is not used here in a literal sense, possibly associated with other characteristics, such as "chase" in the sense of pursuing a criminal by an investigator.

Another common response was the "Bronze Horseman". Here, the main emoji sign for the association was undoubtedly the "rider" emoji, which refers to the famous monument in St. Petersburg with Peter the Great on horseback – the main character of the poem. All other emojis are understood as clues to the content of the work, and most clearly the last one associated with the madness of the protagonist.

It can be assumed that the idea of the story "Taras Bulba" is suggestive of the presence of two people, one riding a horse, the other with a beard, between which there is a "cancel" cross, which can be interpreted as the murder of his son by the leader of the Cossacks, and the last sign is indicated as the horror in face of what is happening.

The novel "Don Quixote" is evoked by three emoji signs: "rider", "head of a man with a beard" and "dizziness." Don Quixote is a Spanish bearded man who has a horse named Rosinante. Emoji "rider" and "head of a bearded man" just pushed the respondent to the image of Don Quixote. The "dizziness" emoji confirmed this association, because it was after hitting his head that Don Quixote, according to the plot of the novel, began with his "crazy heroes".

It is interesting that many of the variants of alternative works are proper names that could not be conveyed in any way other than by indications of the main characters and storylines.

Analogy of emoji rendering to popular digital works

The analysis revealed an interesting tendency of answers: respondents in some (8 out of 15) emoji titles saw films or cartoons instead of literary texts, the former being much more popular among respondents 17-20 years old. Table 5 presents relevant examples and the percentage of all incorrect answers that consist in providing "popular digital works titles."

Table 5. Analogy of emoji notes to popular digital works

№	Emoji recording and translation	Examples of "titles of popular digital works"	Percentage
1.	🐕❤️ "Dog's Heart"	Film "Hachiko: The Most Loyal Friend"	80%
2.	👨‍✈️⚓👩 "The Captain's Daughter"	Film "Titanic"	26%
3.	🐶👂 "White Bim Black Ear"	Film "Beethoven"	11%
4.	👨‍👨‍👧‍👦 "Fathers and Sons"	The film "Twin Sitters"	10%
5.	👧🚩🔮 "Alice's Adventures in Wonderland"	1. Films "Harry Potter" 2. Film "The Martian"	4%
6.	👷&🍸 "Master and Margarita"	1. James Bond Films 2. Film "Mechanic"	3 %
7.	🏇❌🧔😵 "The Headless Horseman"	1. Cartoon "Spirit: Soul of the Prairie" 2. The film "The Shawshank Redemption"	2%
8.	💨💏 "Gone With the Wind"	The film "Irony of Fate"	1%

The undisputed leader in this category of responses is the "Dog Heart" emoji entry. 80% of the responses referred to the title of the movie "Hachiko: The Most Loyal Friend". The emoji rendering is composed of a dog emoji and a heart emoji. We note right away that the dog emoji exactly repeats Hachiko from the movie of the same

name, for many this association was enough to write Hachiko in the answer, but if the dog emoji did not convince the respondent of the "correctness" of such an answer, then the emoji heart certainly suggested such an idea, since the plot of the film is built on the love of a dog for a man. That is, the respondent had a visual association that was backed up by an emotional one: even if the respondent did not watch this film, he or she certainly heard about the boundless love of this "most faithful friend".

Interesting answers were given to the emoji title "Alice's Adventures in Wonderland." The reference to the movie "The Martian" is intelligible: The "magic ball" emoji is an element of the spacesuit, and the "red flag" emoji is a sign of conquest and presence on the plane. In contrast, the association with "Harry Potter" is more difficult but the "fair-haired girl" emoji suggests Hermione Granger as one of the main characters of "Harry Potter". The "red flag" emoji evokes the flag of the Gryffindor faculty, one of the two main faculties of Hogwarts. The "magic crystal ball" emoji" might refer to a magic ball in a lesson at Hogwarts, as well as the symbolism of magic. The most interesting thing is that the above substances are not the main attributes of "Harry Potter", that is, a black-haired boy, a scar or glasses.

To summarize, we can assume that it is easier for the generation born in the 2000s (to which the respondents belong) to name a movie that they watched than a book they have heard about or read.

CONCLUSION

After examining the answers of the respondents, we can draw several conclusions:

With the help of emojis, one can convey mega-signs, a kind of semiotic text, which constitutes a unit of the cultural code, but at the same time has a complex composition. However, it should be noted that it will be much easier to perceive an emoji script in which, in addition to iconic emoji signs, uniquely defined ones are used, in particular, "numeric" or flags. So the title "451 degrees Fahrenheit" was correctly indicated by 92% of the respondents.

Often the "main" meaningful emoji sign was determined by the reader independently and sets the vector of the entire interpretation. In the "Captain's Daughter" emoji, it was revealed that this was the anchor emoji, and misleading was the theme of the sea for many of the responses in this category.

It must also be said that at this stage of emoji development, they can most effectively communicate with people who are united by a common cultural background, who are interested in the same topics and from the same generation, which creates a deeper common field of meanings, for example, young persons can interpret an emoji rendering "Heart of a Dog" as "Hachiko" – a work better known to them.

Sometimes emoji notes could not only convey the title of the work, but also hint at its content. It is worth noting that initially the emoji recording options were deliberately selected so as to convey information only about the title of the work, and not its retelling. Nevertheless, some elements of the recordings correlated with the content, for example in "Gone with the Wind" where the emoji "couple in love" directly refers to the plot of the work, but not to the title. In the answers, the interpretation of emoji text as a storyline or an indication of the emotional orientation of the work was encountered quite often.

Thus, the conclusion suggests itself that the emoji language can become unambiguously interpreted if it contained indications of the role of syntactically unequal signs, and there were ways to concretize what quality the emojis evoke. Both, correct and incorrect readings support that actual reading of a complex of signs is taking place and that emoji writing testifies to emojis as a language of their own.

ACKNOWLEDGEMENT

REFERENCES

Alshenqeeti, H. (2016). Are Emojis Creating a New or Old Visual Language for New Generations? A Socio-semiotic Study. *Australian International Academic Centre*, *7*(6), 2203-4714. https://doi.org/10.7575/aiac.alls.v.7n.6p.56

Barbieri, F., Kruszewski, G., Ronzano, F., & Saggion, H. (2016). How Cosmopolitan Are Emojis? Exploring Emojis Usage and Meaning over Different Languages with Distributional Semantics. *Proceedings of the 24th ACM International Conference on Multimedia*, 531-535. https://doi.org/10.1145/2964284.2967278

Barbieri, F., Ronzano, F., & Saggion, H. (2016). What does this Emoji Mean? A Vector Space Skip-Gram Model for Twitter Emojis. *LREC 2016*, 3967-3972. https://aclanthology.org/L16-1626

Benenson, F. (2015). *How to Speak Emoji*. Random House.

Buchholz, K. (2020, September 25). In 2021, Global Emoji Count Will Grow to 3,353. *Statista*. https://www.statista.com/chart/17275/number-of-emojis-from-1995-bis-2019/#:~:text=Emojis&text=2020 saw the release of,up the number to 3%2C353

Bylieva, D. (2020). The Language of Human-Machine Communication. *Technology and Language*, *1*(1), 16–21. https://doi.org/10.48417/technolang.2020.01.04

Coeckelbergh, M. (2020). When Machines Talk: A Brief Analysis of Some Relations between Technology and Language. *Technology and Language*, *1*(1), 28-33. https://doi.org/10.48417/technolang.2020.01.05

Dresner, E., & Herring, S. C. (2010). Functions of the Nonverbal in CMC: Emoticons and Illocutionary Force. *Communication Theory*, *20*(3), 249-268. https://doi.org/10.1111/j.1468-2885.2010.01362.x

Guntuku, S. C., Li, M., Tay, L., & Ungar, L. H. (2019). Studying Cultural Differences in Emoji Usage across the East and the West. *Proceedings of the International AAAI Conference on Web and Social Media*, *13*, 226-235). https://ojs.aaai.org/index.php/ICWSM/article/view/3224

Herring, S. C., & Dainas, A. R. (2020). Gender and Age Influences on Interpretation of Emoji Functions. *ACM Transactions on Social Computing*, *3*(2), 1-26. https://doi.org/10.1145/3375629

Ingold, T. (2020). Back to the Future with Writing and Speech. *Technology and Language*, *1*(1), 37-39.

https://doi.org/https://doi.org/10.48417/technolang.2020.01.08

Jaeger, S. R., & Ares, G. (2017). Dominant meanings of facial emoji: Insights from Chinese consumers and comparison with meanings from internet resources. *Food Quality and Preference*, *62*, 275-283. https://doi.org/10.1016/j.foodqual.2017.04.009

Konrad, A., Herring, S. C., & Choi, D. (2020). Sticker and Emoji Use in Facebook Messenger: Implications for Graphicon Change. *Journal of Computer-Mediated Communication*, *25*(3), 217-235. https://doi.org/10.1093/jcmc/zmaa003

Lotman, Y. M. (2010). *Semiosphere*. Iskustvo-SPB.

Melville, H. (2010). *Emoji Dick, Or, The Whale* (F. Benenson (ed.)). Lulu.com.

Miller, H., Kluver, D., Thebault-Spieker, J., Terveen, L., & Hecht, B. (2017). Understanding Emoji Ambiguity in Context: The Role of Text in Emoji-Related Miscommunication. *Proceedings of the International AAAI Conference on Web and Social Media*, *11*(1). https://brenthecht.com/publications/icwsm17_emojitext.pdf

Miller, H., Thebault-Spieker, J., Chang, S., Johnson, I., Terveen, L., & Hecht, B. (2016). "Blissfully Happy" or "Ready toFight": Varying Interpretations of Emoji. *Proceedings of the 10th International AAAI Conference on Web and Social Media, 10*(1), 259-268. https://ojs.aaai.org/index.php/ICWSM/article/view/14757

Moschini, I. (2016). The "face with tears of joy" Emoji. A socio-semiotic and multimodal insight into a Japan-America Mash-Up. *Hermes (Denmark)*, *55*, 11-25. https://doi.org/10.7146/hjlcb.v0i55.24286

Provine, R. R., Spencer, R. J., & Mandell, D. L. (2007). Emotional expression online: Emoticons punctuate website text messages. *Journal of Language and Social Psychology*, *26*(3), 299-307. https://doi.org/10.1177/0261927X06303481

Wiseman, S., & Gould, S. J. J. (2018). Repurposing Emoji for Personalised Communication: Why Means "I Love You." In R. Mandryk & M. Hancock (Eds.), *Conference on Human Factors in Computing Systems – Proceedings* (152). ACM. https://doi.org/10.1145/3173574.3173726