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Pragmatic to Semantic Meaning: The Case of Non-Literal Use of Emojis

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Abstract While previous research has shown emojis are capable of being conventionalised as lexical items, the focus has mainly been on affective (or face) emojis, leaving traditionally non-affective (or non-face) emojis and their ability to derive non-literal metaphorical meanings underexplored. This study draws on existing pragmatic theory to explore the extent to which non-literal meanings of traditionally non-affective emojis can become lexicalised, and the paths they can take to get there. Results showed broad agreement in non-literal meaning across the emoji sample ($mean = 76.25\%$) and a significant positive correlation (Spearman Correlation Test: $p = 0.00066$) between meaning agreement and average difficulty level. This indicates present but varying progression towards lexicalisation across the emoji sample. Taken together with the theoretical processes of lexicalisation, these findings show that non-literal meanings for non-affective emojis can indeed become lexicalised and that four distinct paths to this can be identified: mirroring, extension, pure symbolic, and physical likeness.

1 Introduction

The prevalence of emojis in everyday communication (Grosz, Greenberg, Leon & Kaiser 2023) has led to increased focus on their ability to become conventionalised. That emojis can undergo lexicalisation is attested, yet the focus has primarily been on traditionally affective (or face) emojis. Subsequently, this study investigates conventionalisation of non-literal metaphorical meanings for emojis whose standard literal definition is non-affective. Drawing on existing pragmatic theory, it seeks to:

i. Test the degree of conventionalisation of traditionally non-affective emojis.

ii. Establish whether these traditionally non-affective emojis are on different paths to lexicalisation and, if so, identify the paths.

This is a questionnaire-based experimental study, utilising conceptual analysis alongside traditional argumentation. I begin by critically engaging with existing literature in pragmatic theory and relating this to emojis. Then I outline the methodology, followed by results, for the experimental section, before discussing these in relation to previously discussed existing theory and outlining paths towards lexicalisation for the emojis in the sample.

This project contributes to the study of implicatures and lexicalisation, whilst building on the current, ever-growing field of emoji studies, addressing the understudied area of non-face emojis. Using empirical data and triangulating this with existing theoretical frameworks (Levinson 1995, 2000, Traugott 2012), this study is significant as it maps lexicalisation paths of traditionally non-affective emojis, challenging the notion that they are limited to their literal interpretations. It demonstrates a dynamic process whereby emojis gain additional, non-literal meanings that are, to varying degrees, readily identifiable and understandable.

2 Literature Review

2.1 Defining lexicalisation

Over time, patterns emerge as modifications to existing linguistic systems, such as meaning change of lexical items (Traugott 2012). These changes can be internal and external, driven by social factors and languages users themselves (Croft 2000). Essentially, some people adopt new meanings for lexical items, which become popularised and conventionalised, cementing their position and, over time, leading to language change (Andersen 2001). People constantly assign meaning to signs (Duncker 2012), though not all innovations become lexicalised – that is, a dynamic process (Schmid 2020) whereby they are conventionalised and semantically fixed as entries in the mental lexicon (Blank 2001). Blank (1999) argues people make pragmatic decisions – which may not always be conscious – regarding whether to accept innovations, based on cognitive performance. For example, trash is identified as a good word for deleting computer files. Subsequently, it is adopted, as a convincing metaphor. Through this, the semantic innovation is lexicalised.

2.1.1 Literal meaning

On the topic of lexicalisation, a term of frequent use in this study is literal meaning, so it is first pertinent to discuss what literal meaning is taken to mean in this context. Recanati (2001) describes literal meaning of an expression as 'its conventional meaning'. A minimalist view places emphasis on what is said alongside sentence meaning (which Recanati (2004) describes as constituting literal meaning). This is contrasted with non-minimalist interpretations, which instead emphasise 'the commonality between what is said and what is implicated, both of which are taken to be pragmatically determined' (Recanati 2004). Subsequently, this study refers to literal meaning as the broadly pragmatically understood conventional meaning a word or utterance (or indeed emoji) carries, whilst still acknowledging the potential for other, implicated meanings to arise.

2.2 Stages of semantic change

Lexicalisation often gives way to polysemy. If an expression has two meanings (A and B), then 'B often comes into existence because a regularly occurring context supports an inference-driven contextual enrichment of A to B. . . this contextual

sense may become lexicalised to the point where it need no longer be supported by a given context' (Evans & Wilkins 2000). In other words, semantic change develops where a second meaning (B) from the same stimulus becomes independent of the original meaning (A), so contextual support to unlock B is eventually no longer required. Indeed, Grice (1975) acknowledged what began as an implicature (that is, something meant but not directly said) could become conventionalised, modelled by Enfield (2003):

	Stage 1	Stage 2	Stage 3	Stage 4
Form	f	f	f	f
Meaning	p	$p(+ > q)$	p, q	q

Table 1 Enfield's (2003) model of lexicalisation, adapted by Traugott (2012).

This aligns with claims of a bridging stage between innovation and conventionalisation (Diewald 2002, Heine 2002). At Stage 2, ambiguity is present and context plays a significant role in determining the intended meaning, because it ('q') is not yet semanticised fully. This stage has been attested in historical linguistic data – for example, the bidirectional semantic shift for 'be going to' (Eckardt 2006) – understood sometimes as literal, purposeful movement or sometimes as implied future. This process is slow, sometimes taking hundreds of years, if not more.

Sociolinguistically, three stages of this semantic change can be identified (Coseriu 1957, Croft 2000):

Stage 1	Innovation	New usage occurs in specific contexts
Stage 2	Propagation	New usage gradually spreads within the community
Stage 3	Normativity	New usage becomes widely accepted as part of the linguistic system

Table 2 The three sociolinguistic stages of semantic change.

Corresponding to these, Levinson (1995, 2000) identified three levels of meaning:

Meaning type	Description
Utterance-token meaning	Purely pragmatic and arising in specific contexts (PCIs)
Utterance-type meaning	Implicational and dependent on general expectations of language use (GCIs)
Coded (semantic) meaning	The encoded linguistic meaning

Table 3 The three levels of meaning, adapted from Levinson (1995, 2000).

Utterance-token meanings (also called particularised conversational implicatures (PCIs)) correspond to Innovation, where the item is not yet conventionalised, whereas utterance-type meanings (also called generalised conversational implicatures (GCIs)) correspond to Normativity, where conventionalisation has occurred. The aforementioned bridging stage would be propagation, with movement from PCI-GCI but without full conventionalisation. Though used in this study, PCI-GCI distinctions are contentious (Bezuidenhout 2002) and where exactly meanings stop being inferential and start being automatic cannot be delimited here without processing data. Fundamentally, though, PCIs must be actively intended (Hansen & Waltereit 2006) – requiring specific context to understand – but GCIs generally occur by default unless cancelled by further information to the contrary. In other words, GCIs are much more commonly inferred, as exemplified below:

Utterance	Literal meaning	Implied meaning	Type
A: 'Do you want to go out for dinner tonight?' B: 'My parents are visiting.'	Speaker B's parents are currently visiting them.	Speaker B cannot go out for dinner tonight with Speaker A.	PCI
A: 'Some of my friends are coming out for dinner tonight.'	Some of Speaker A's friends are coming out for dinner tonight.	Some, but not all, of Speaker A's friends are coming out for dinner tonight.	GCI

Table 4 The distinction between PCI and GCI, adapted from Hansen & Waltereit (2006).

Similarly, Traugott & Dasher (2002) developed the Invited Inferencing Theory of Semantic Change, drawing on Grice and Levison, whereby a speaker/writer invites the addressee/reader to infer meanings – some of which may be one-off (IINs, or

PCIs) interpretations and others may be more generalised (GIINs, or GCIs). GIINs can be semanticised – absorbed with the meaning of previously only pragmatically associated expressions. If an IIN is exploited by multiple community members, it can become a GIIN, having greater pragmatic impact. In other words, both Levinson (2000) and Traugott & Dasher (2002) posit semantic change comes from PCIs, via GCIs, to Coded Meaning:

Figure 1 The process of semantic change, adapted from Levinson (2000) and Traugott & Dasher (2002).

Hansen & Waltereit (2006), comparatively, suggest three paths for semantic change:

	Process	Description	Example
Path 1	PCI (⟶ *GCI) ⟶ Coded Meaning	The standard case of semantic change, whereby the PCI is directly semanticised with no GCI, due to the lack of similarity between both meanings.	'Mouse' becoming used to denote a computer device, as well as a small rodent
Path 2	PCI ⟶ GCI (* ⟶ Coded Meaning)	The PCI becomes a GCI before it is fully semanticised.	Conventionalised indirectness ('Could you open the window?' meaning 'Please open the window.')
Path 3	GCI ⟶ PCI ⟶ Coded Meaning	The GCI semanticises after being a PCI first.	'Crawl' becoming used for more specific, non-literal cases (for example, moving slowly)

Table 5 The three proposed paths of semantic change, adapted from Hansen & Waltereit (2006).

Thus, there are multiple attested paths to lexicalisation in natural language, whereby non-literal metaphorical word meanings (such as 'mouse' denoting a computer device) can be conventionalised. This can be extended to emoji use, as non-literal emoji meanings can also become conventionalised in this way. Acknowledging this, I now discuss emojis specifically.

2.3 Emojis in communication

Emojis play a significant role in digital communication (Grosz et al. 2023) and have for over a decade (Weissman, Engelen, Baas & Cohn 2023). They can compensate for lack of visual cues (Rice & Love 1987), add to verbal messages (Rezabek & Cochenour 1998), and disambiguate intention (Thompson & Foulger 1996). Emojis can be polysemous (Oslon 1970), with few having one universal meaning (Wicke 2017). Contrastively, Weissman (2024) asserted many emojis are simple enough to have 'widely-agreed upon, lexicalized meanings', whilst acknowledging context may impact this significantly. For instance, accompanying text (Logi & Zappavigna 2021), in-group usage (O'Boyle & Doyle 2023), and cultural norms (Hakami, Hendley & Smith 2021) can influence perceived emoji meanings.

Traditionally non-affective (or non-face) emojis are less researched than affective (or face) emojis, with the most prevalent area of emoji research concerning their impact on perceived message affect (Riordan 2017). This is echoed by Weissman (2024), remarking emoji linguistics is generally concerned with face emojis, potentially because they are most frequently used (Emojitracker 2025). As the focus of this study is non-face emojis, though, this literature review pertains primarily to non-affective rather than affective emojis.

2.4 Emoji lexicalisation

Much like lexical items in natural language (i.e., words), emojis too can become lexicalised when meaning is assigned, becomes popularised and conventionalised in language use and may eventually be semantically fixed as a mental lexicon entry. Unlike words, though, emoji lexicalisation is currently limited to written communication only. As emoji standardisation is still fairly new (Weissman et al. 2023), lexicalisation is actively occurring and dynamic. However, emojis depicting 'concrete concepts (most foods, animals, objects, etc.)' (Weissman et al. 2023) were thought to have little scope for ambiguity or alternative interpretations. This is echoed by Częstochowska, Gligorić, Peyrard, Mentha, Bień, Grütter, Auer, Xanthos & West (2022), who found, without context, the least ambiguous emoji categories were: food/drink; clothes/accessories; nature; hearts. Subsequently, the path to meaning for non-affective emojis (without context) may be abbreviated (Weissman et al. 2023), due to the visual link between the emoji and the real-world object. It makes sense, then, that emojis with more obvious, transparent meaning links may be more likely lexicalised as their literal meanings (a salad emoji lexicalising as meaning salad, for example) over non-literal ones. Other meanings for literal, non-affective emoji may indeed arise in certain contexts though (as per Miller, Kluver, Thebault-Spieker, Terveen & Hecht (2017) – and Weissman et al. (2023) gives the example of sexual innuendo emoji use:

Emoji	Literal meaning	Non-literal meaning
🍆	eggplant	penis
🍑	peach	buttocks

Table 6 Two traditionally non-affective emojis – the eggplant and the peach – with attested non-literal meanings, as per Weissman et al. (2023).

However, Weissman (2024) asserts it would take significantly more effort to reach non-literal meanings than literal ones. Contextual clues may be highly significant in unlocking these non-literal meanings, but these examples show some movement towards establishment as GCIs, potentially after being PCIs, for the meanings to be accessible even with little to no contextual support. This is strengthened by Holtgraves (1998), who claimed generating PCIs was time-consuming, involving activation then rejection of the literal meaning, alongside attention to context. However, for emojis with non-literal meanings, much like in natural language, these non-literal meanings could indeed become the most salient ones, whereby metaphors can be generated unconsciously (Carston 2002, Recanati 2004), accessing a GCI immediately instead. It is still pertinent, though, to acknowledge there is no set distinction between PCI and GCI along the conventionalisation process, thus it is arguably more fruitful to focus on paths taken towards lexicalisation, rather than attempting to rigidly define each one as particularised or generalised.

Additionally, most research on non-face emoji focused on those added to text (Weissman 2024). Whilst still relatively rare (Dainas & Herring 2021), sentences with words substituted for emojis – for example, 'John loves eating 🍕 every Friday' (Cohn, Roijackers, Schaap & Engelen 2018) – show emoji lexicalisation, because these substitutions made sentences no less comprehensible (Cohn et al. 2018). Similarly, Weissman (2019) found the same neural responses for incongruous non-face emojis in sentences as for incongruous words, and Barach, Feldman & Sheridan (2021) found congruent emojis were fixated on for shorter times. Similarly, Christofalos, Feldman & Sheridan (2022) found emoji recall was better for congruent emojis, suggesting they are integrated into readers' memory interpretations – a key component of lexicalisation (Talmy 1985).

Broadening the scope to include emojis without accompanying text, Holtgraves & Robinson (2020) showed participants one of three responses to 'What did you think of my presentation?' – a text-only response, a text-plus-emoji response, and an emoji-only response. They concluded emojis alone do not directly replace text, but can convey similar affective information. Subsequently, this evidences the possibility of traditionally non-affective emojis conveying beyond just their literal meaning.

3 Experimental Data

3.1 Methodology

3.1.1 Participants

20 English-speaking UK university students (18 native, 2 near-native) aged 18–25 (15 female, 5 male; 15 Undergraduate, 5 Postgraduate, 1 Doctoral/PhD; mean age 21 years [$SD = 1.64$]) were recruited via convenience sampling. Linguistics students were excluded. Participants were compensated £5 each.

The project received ethical approval from the Research Ethics Committee of the Faculty of Modern and Medieval Languages and Linguistics at the University of Cambridge. Data was collected and stored in accordance with University policy.

3.1.2 Experiment design and procedure

The experiment was run online using Gorilla Experiment Builder[1]. After giving informed consent, participants were given detailed instructions and asked basic demographic questions before commencing. Participants were warned some items may have mild emotional connotations to gender, sexuality and health.

Participants were shown 20 traditionally non-affective emojis (see Appendix A), all with attested predominantly conventionalised non-literal as well as literal meanings (aligning with Evans & Wilkins's (2000) argument for lexicalisation giving way to polysemy), one at a time in a randomised order. They were presented as text messages, with the emojis as standalone responses to questions, designed to be congruent with the non-literal meanings. Participants were asked to fill in the blanks of the sentence: 'Person B feels [blank] because [blank]', as shown in Figure 2:

[1] https://gorilla.sc/.

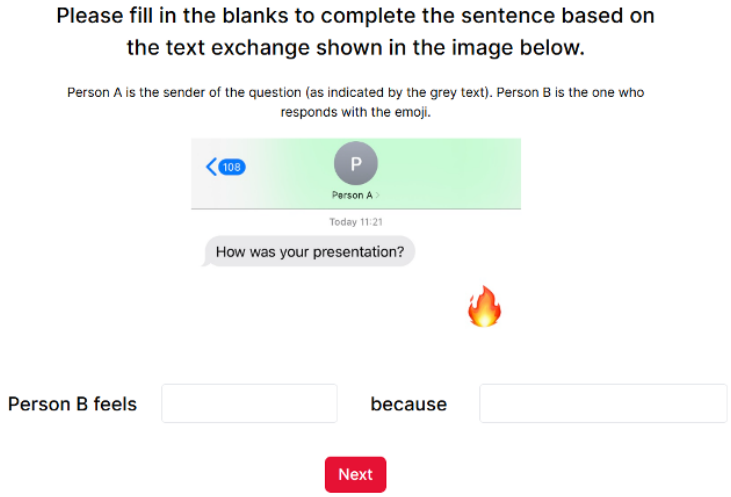

Figure 2 A screenshot from the experiment, where participants were shown a text exchange and asked to fill in the blanks.

This was asked to identify what participants considered the emoji to mean in the context, to see whether the conventionalised non-literal meanings – or indeed alternative meanings – were successfully identified.

Then, participants were asked, using a 7-point Likert scale, to rate how difficult they felt this was, indicating how readily accessible those meanings were and potentially suggesting the route taken to get there.

It was predicted emojis with greater agreement percentage on the target non-literal meaning would be perceived as easier, and that this correlation would indicate progress towards lexicalisation by showing how readily the meanings were accessed. All emojis in the sample had broadly conventionalised meanings, as the focus was not only on proving this conventionalisation but also on assessing the paths taken to get there. For this reason, emojis whose non-literal meaning would be entirely novel were excluded for this experiment, to allow for focus on paths for those emojis that have reached some level of conventionalisation already.

Finally, there was an further optional comments box:

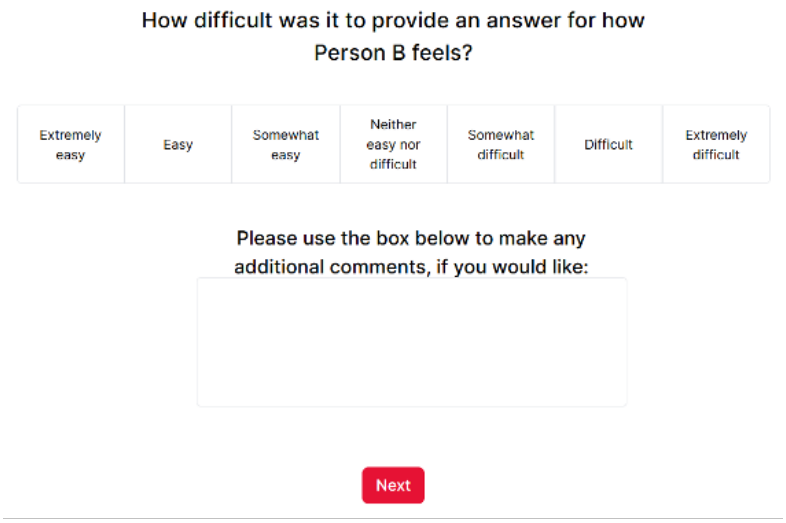

Figure 3 A screenshot from the experiment, where participants were then shown a 7-point Likert scale and asked to select a difficulty level.

See Appendix B for the full questionnaire.

3.1.3 Data analysis

Responses were manually coded by meaning and difficulty, with Spearman correlation testing (monotonic relationship) used to establish the relationship between them. This categorisation determined the most common answer for each emoji, the proportion of participants who gave that answer, and how difficult this was, offering a broad overview of each emoji's lexicalisation.

4 Results

4.1 Meaning agreement

Figure 4 shows agreement rates for each emoji (see Appendix C for corresponding identified meanings). Across all emojis, 305/400 (76.25%) of responses matched the target non-literal meaning and this target meaning was almost always the most common, ranging from $50 - 100\%$ (shown by the blue portion of each row). Secondary meaning agreement, comparatively, ranged from $5 - 30\%$. This shows a strong tendency for the target meaning to be most dominant, which is to be expected considering the emoji sample consisted of emojis with broadly conventionalised non-literal meanings, though it was important to first empirically prove such conventionalisation for this particular emoji sample, for use in later discussion of paths taken to get there.

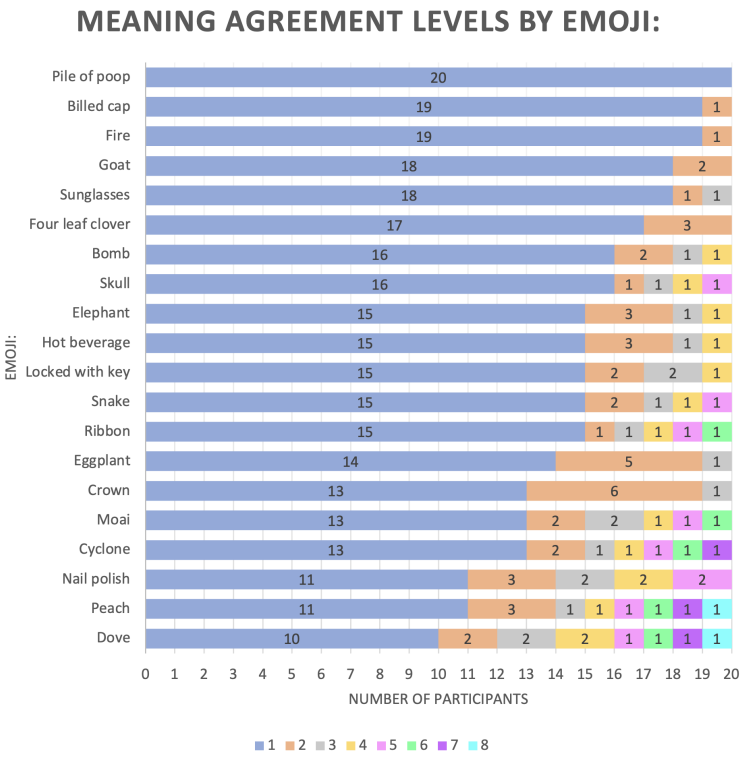

Figure 4 Graph to show the level of meaning agreement across the participant population for each emoji.

4.2 Perceived difficulty

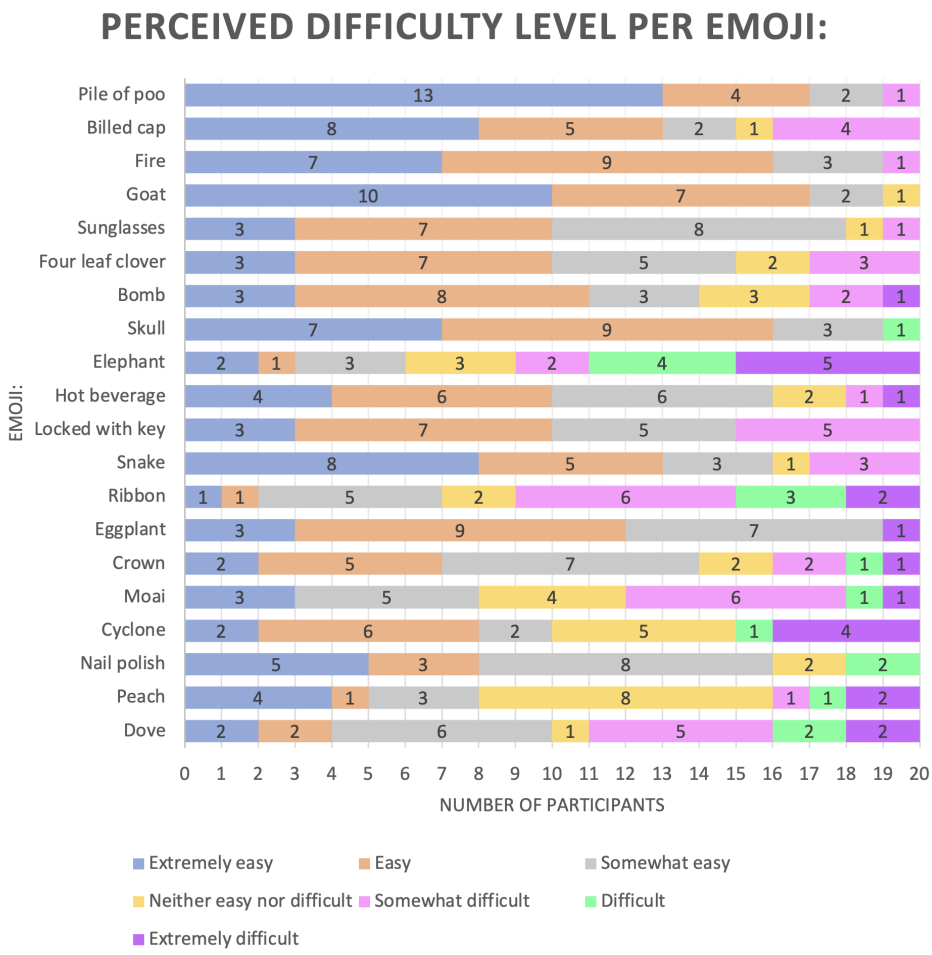

Figure 5 Graph to show the perceived difficulty level of identifying each emoji's meaning across the participant population.

Figure 5 shows perceived difficulty levels of identifying each emoji's meaning, from 'Extremely Easy' to 'Extremely Difficult', each of which were assigned a numerical value for analysis, as per Table 7:

Difficulty Rating	Numerical Value
Extremely Easy	7
Easy	6
Somewhat Easy	5
Neither Easy Nor Difficult	4
Somewhat Difficult	3
Difficult	2
Extremely Difficult	1

Table 7 The assigned numerical values per difficulty rating.

Across all emojis, the mean difficulty was 5.1 ('Somewhat Easy'). The mode was 'Easy' (25.75%), with 'Extremely Easy' (23.25%) and 'Somewhat Easy' (22%) being next most frequent, as Table 8 shows:

Difficulty Rating	Amount of Responses	Percentage of Total Responses
Extremely Easy	93	23.25%
Easy	102	25.75%
Somewhat Easy	88	22.00%
Neither Easy Nor Difficult	38	9.50%
Somewhat Difficult	42	10.50%
Difficult	17	4.25%
Extremely Difficult	20	5.00%
Total	**400**	**100%**

Table 8 The percentage of difficulty rating across the entire emoji sample.

Table 9 shows the average difficulty rating per emoji:

Emoji	Mean Difficulty
Pile of poo	6.35
Goat	6.30
Fire	6.05
Skull	6.00
Snake	5.70
Billed cap	5.60
Eggplant	5.55
Sunglasses	5.50
Hot beverage	5.30
Four leaf clover	5.25
Nail polish	5.25
Bomb	5.15
Locked with key	5.15
Crown	4.80
Peach	4.40
Cyclone	4.30
Moai	4.15
Dove	4.05
Ribbon	3.60
Elephant	3.30

Table 9 The average numerical difficulty rating per emoji.

Similarly to the meaning agreement findings, this is not surprising considering the emojis in the sample were selected because they were already displaying conventionalisation of non-literal meanings. However, once again, it was important to show this empirically before delving into discussion of lexicalisation stages and paths.

4.3 Lexicalisation stages

There was a significant positive correlation between the amount of people who correctly identified the target meaning and the average difficulty ranking (Spearman: $p = 0.00066$) – in other words, emojis with higher agreement rates were considered easier to identify a meaning for.

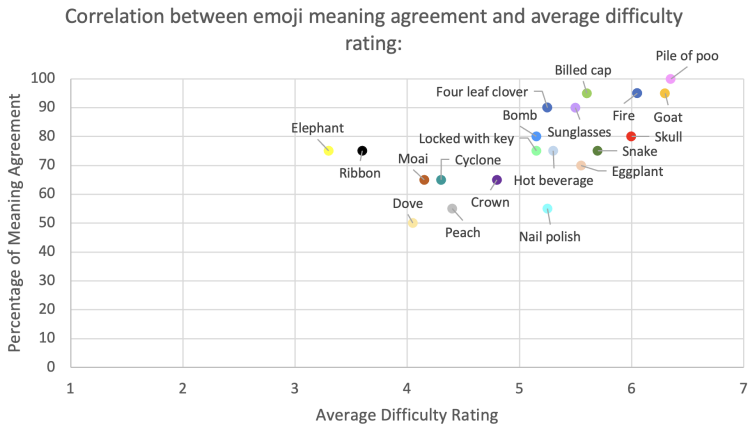

Figure 6 Graph to show the correlation between meaning agreement and average difficulty rating.

The findings in Figure 6 corroborate the hypothesis that converging on a certain meaning by a large proportion of participants positively correlates with the level of difficulty in recovering that meaning. Some emojis – for example, the pile of poo – are seemingly further along this process. Comparatively, other emojis – such as the dove – appear to have made less progress. However, it is important to acknowledge that this is not entirely linear and that there was also variation between agreement and perceived difficulty. For example, some emojis – such as the elephant – had higher meaning agreement yet were perceived as more difficult. Comparatively, other emojis – such as the nail polish – had lower meaning agreement yet were perceived as easier.

5 Discussion

5.1 Meaning identification and agreement

Whilst a context message primed the emoji's non-literal meaning, this was limited enough for some participants not to identify it. In other words, participants needed to be aware of the non-literal meaning to unlock it, even with context. This evidences that these emojis have non-literal meanings distinct from their literal meanings and generally not yet fully lexicalised, despite being conventional. The majority of the emojis fit between Stages 2 and 3 of Enfield's (2003) model; ambiguity is present and context plays a (variably significant) role in determining the intended meaning. For example:

	Stage 1	**Stage 2**	**Stage 3**	**Stage 4**
Form	f	f	f	f
Meaning	p	p $(+ > q)$	p, q	q
Form	🧢	🧢	🧢	🧢
Meaning	a literal cap	a literal cap $(+ >$ 'lie')	a literal cap, 'lie'	—

Table 10 Enfield's (2003) model of lexicalisation, adapted by Traugott (2012), with the billed cap emoji fitted to it as an example – this trend is applicable for all emojis in the sample due to the fact only those with existing conventionalised non-literal meanings were included, though some have progressed further in this process than others.

Indeed, that agreement levels were high ($mean = 76.25\%$) across the sample seemingly proves the expected conventionalisation of these non-literal meanings – much like conventionalisation of new word meanings – dynamically as per Schmid (2020) and over time as per Andersen (2001). However, some emojis (for example, the pile of poo) are further along this process than others (for example, the dove and Moai). It seems unlikely that emojis should reach Stage 4 and lose their literal meaning altogether, so it could be argued they will never be fully lexicalised, but the prevalence of the non-literal meanings' identification does indicate they are nevertheless undergoing this process.

5.2 Perceived difficulty

Additionally, the perceived difficulty was generally quite low (towards the 'Easy' rather than 'Difficult' end of the scale). This also suggests lexicalisation, the more conventionalised and accepted meanings are, the easier they would be to identify. To relate this to coded meaning (Levinson 2000, Traugott & Dasher 2002), all emojis in the sample (with the potential exception of the pile of poo which had 100% agreement and would need further study isolated from context to determine whether the metaphorical meaning had become more generalised than the literal one) indicate having reached PCI stage, where the meaning is unlockable but requires contextual support to do so (and, even then, agreement is not 100%) but being at a bridging stage, having not yet become fully conventionalised GCIs. Importantly, though, this PCI-GCI boundary is still not straightforward, with these pragmatic labels assigned for automatic, as opposed to inferential meaning retrieval, and still arbitrary. Additionally, emojis definitely not having reached GCI stage (i.e., not conventionalised at least somewhat) were excluded, meaning these findings simply confirm non-literal emoji meanings can be conventionalised.

5.3 Meaning agreement and perceived difficulty as indicators of lexicalisation

It is also pertinent to consider the significant positive correlation between meaning agreement and average difficulty rating (Spearman: $p = 0.00066$). This strengthens the argument that emojis are undergoing lexicalisation but at different stages because a higher level of meaning agreement generally corresponded to an easier rating. This is exemplified below:

Emoji	**Meaning Agreement (%)**	**Average Difficulty Rating**	**Lexicalisation Progress**
Pile of Poo	100%	6.35 (corresponding to somewhere between 'Easy' and 'Extremely Easy')	High agreement and easier rating for perceived difficulty indicates this emoji could indeed have reached the GCI stage.
Dove	50%	4.05 (corresponding most closely to 'Neither Easy Nor Difficult')	Lower agreement and more difficult rating for perceived difficulty indicates this emoji could still be closer to the PCI stage.

Table 11 The corresponding higher level of meaning agreement with the easier perceived difficulty level and the potential implications of this for markers of lexicalisation progress, exemplified with the pile of poo emoji and the dove emoji.

It is surprising not to see a stronger correlation here, though one cannot absolutely exclude the possibility of differences in degree of context interference, despite controlling for it by gauging applicable priming context messages. For example, the existence of alternative meanings, also non-literal (such as peachy (meaning 'good') for the peach emoji) seemingly accounted partially for differing agreements, and choosing a meaning when multiple were seemingly applicable would have subsequently made this more difficult. Using a 3-point Likert scale, rather than 7-point, to reduce the number of possible difficulty levels may have strengthened this correlation.

5.4 Paths to lexicalisation

Overwhelmingly, the emojis' non-literal meanings had words associated with them, also non-literal. On that, and considering the process of lexicalisation with potential variability (Hansen & Waltereit 2006), four paths to traditionally non-affective emojis gaining their non-literal meaning were identified:

5.4.1 Path 1 – Mirroring

For some, the word the emoji literally denotes remains the same but takes on an additional, non-literal meaning, conventionalised and extended to the emoji. For example, describing someone as '🐍' does not literally mean they are a snake. Rather, it refers to a metaphorical meaning for that same word form (snake = 'untrustworthy'), modelled as:

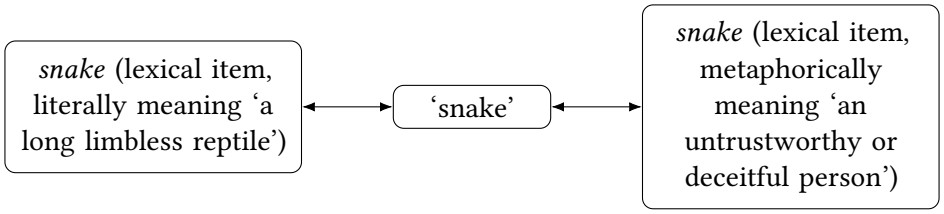

Figure 7 Two independent meanings – one literal and one non-literal – for the same word like a sort of mirror, using 'snake' as an example.

This is akin to Cohen's (1971, 1979) notion of meanings of a polyseme growing apart enough to treat the new word semantically as a homonym. This first emerges in word form, whereby the tendency in metaphor generation is cancelling incompatible essential features of the literal meaning. For example, an essential feature of snakes is reptile, which is incompatible with the metaphorical meaning because humans cannot be reptiles, so is cancelled. Perhaps a more accidental (Gibbs 1992) feature of snakes may be untrustworthy or dangerous. These are possible for humans so are retained in generating the metaphorical meaning, which then extends to the emoji. This process is modelled below for '🔥':

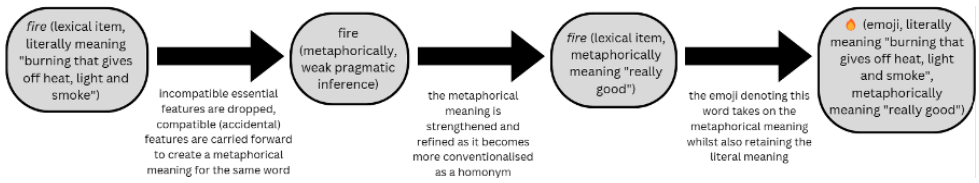

Figure 8 The progress from literal to non-literal meaning for the fire emoji, first establishing an additional metaphorical meaning for the word before extending this to the emoji.

For some emojis in the sample, the features taken from the literal meaning to construct the metaphorical meaning are more obvious (for *fire*, the feature 'hot' (based on an existing metaphorical meaning in the English lexicon meaning 'attractive') seems the basis for this). However, for others, this is more opaque; for instance, it would be difficult to create even a tangential link between the literal and non-literal meaning of *cap*. This shows further variation, even between paths, in how metaphorical meanings are established.

5.4.2 Path 2 – Extension

Needless to say, mirroring is not always available. In some cases, a word with a literal meaning takes on a non-literal metaphorical meaning by cancelling essential features and utilising compatible accidental ones (as per Cohen (1971)), as in mirroring. However, this metaphorical meaning is then extended to an emoji whose literal meaning shares a feature with the original word's literal meaning rather than extending the homonym directly to the emoji. For example, the word *dead* (literal meaning = 'no longer alive') shares a feature with the emoji's literal denotation (*skull* (literal meaning = 'the head of a skeleton')) – i.e., pertaining to having died. So, when a metaphorical meaning emerges for the word *dead* ('boring, bad'), the emoji that takes on this meaning is one whose literal meaning shares feature(s) with that word's literal meaning – i.e., the skull emoji. This path seemingly emerges as a result of the original word (for example, *dead*) lacking an emoji literally denoting it, thus rendering mirroring impossible and unlocking extension. The shared (accidental) feature(s), suggest traditional movement from PCI to GCI to Coded Meaning (as per Levinson (2000)), as exemplified below:

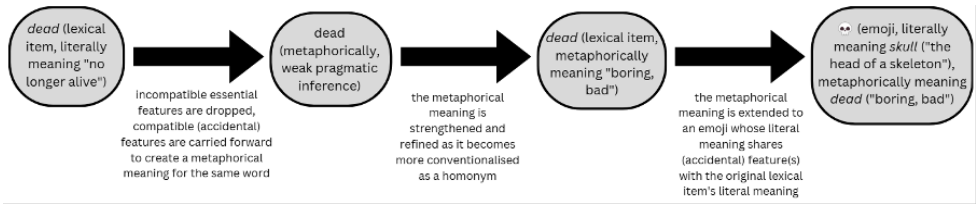

Figure 9 The progress from literal to non-literal meaning for the skull emoji.

5.4.3 Path 3 – Pure symbolic

Emojis in Path 3, unlike extension, have no apparent shared features between the emoji's literal denotation and the literal meaning of the word whose non-literal meaning it took on. Instead, a word with a literal meaning associates itself with the meaning of a different word (often an abstract concept), which is then extended to the emoji. For example, the word dove becomes associated with the abstract concept peace, leading to the dove emoji denoting both a literal dove and the concept of peace. It may be possible to map the movement from literal to non-literal meaning, though, exemplified below:

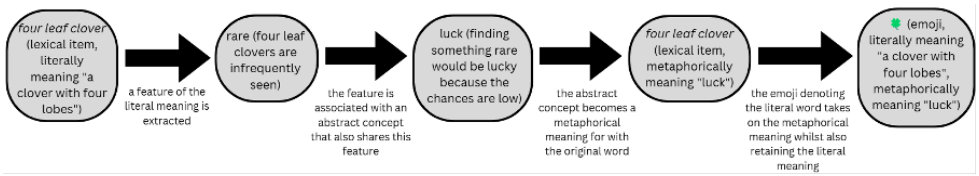

Figure 10 The progress from literal to non-literal meaning for the four leaf clover emoji.

5.4.4 Path 4 – Physical likeliness

Path 4 involves a word with a literal meaning (which may or may not be taboo) sharing a physical likeness to an emoji, so the emoji conveys both its literal meaning and the literal meaning of that (potentially taboo) word. For example, the peach emoji apparently resembles *buttocks* (taboo), so the emoji took on the non-literal meaning 'buttocks'. The Moai is a non-taboo example – it looks bored, so took on the non-literal meaning 'dry, boring'. This path is simply mapped due to overt physical resemblance, as exemplified below:

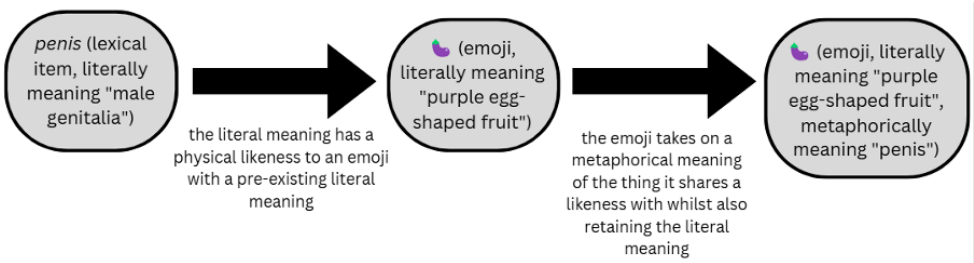

Figure 11 The path from literal to non-literal meaning for the eggplant emoji.

5.4.5 Summary

This proves not only that traditionally non-affective emojis can take on non-literal metaphorical meanings, but that there are different paths taken to get there. Table 12 summarises the paths:

Path	Description of Process	Example Emoji	Description with Example Emoji
Mirroring	A word with a literal meaning takes on a non-literal metaphorical meaning, which is then extended to the emoji for that literal meaning, allowing the emoji to not only convey the literal meaning of the word it denotes but also the non-literal metaphorical meaning of the word.	Billed cap (🧢)	The word *cap* (literal meaning = 'a type of hat') takes on a non-literal metaphorical meaning ('lie'), which is then extended to the emoji for that literal meaning (🧢), allowing the emoji to not only convey the literal meaning of the word it denotes ('a type of hat') but also the non-literal metaphorical meaning of the word ('lie').

Path	Description of Process	Example Emoji	Description with Example Emoji
Extension	A word with a literal meaning takes on a non-literal metaphorical meaning, which is then extended to an emoji of a similar/related meaning, allowing the emoji to not only convey the literal meaning of the word it denotes but also the non-literal metaphorical meaning of the similar/related word.	Skull (💀)	The word *dead* (literal meaning = 'no longer alive') takes on a non-literal metaphorical meaning ('boring, bad'), which is then extended to an emoji of a similar/related meaning (💀), allowing the emoji to not only convey the literal meaning of the word it denotes (*skull* (literal meaning = 'the head of a a skeleton')) but also the non-literal metaphorical meaning of the similar/related word ('boring, bad').
Pure symbolic	A word with a literal meaning associates itself with a literal meaning of a different word (often an abstract concept), which is then extended to the emoji for that literal meaning, allowing the emoji to not only convey the literal meaning of the word it denotes but also the non-literal metaphorical meaning of the different word (often an abstract concept).	Four leaf clover (🍀)	The word *four leaf clover* (literal meaning = 'a clover with four lobes') associates itself with a literal meaning of a different word (often an abstract concept) *luck* (literal meaning = 'success or failure brought by chance'), which is then extended to the emoji for that literal meaning (🍀), allowing the emoji to not only convey the literal meaning of the word it denotes ('a clover with four lobes') but also the non-literal metaphorical meaning of the different word (often an abstract concept) ('success or failure brought by chance').

Path	Description of Process	Example Emoji	Description with Example Emoji
Physical likeness	The literal meaning of a word (often taboo) has a physical likeness/similarity to an emoji with a pre-existing literal meaning of the word it denotes, allowing the emoji to not only convey the literal meaning of the word it denotes but also the literal meaning of the word (often taboo) it shares a physical likeness/similarity to.	Eggplant (🍆)	The word *penis* (literal meaning = 'male genitalia') (often taboo) has a physical likeness/similarity to an emoji with a pre-existing literal meaning of the word it denotes (🍆 (literal meaning = 'purple egg-shaped fruit'), allowing the emoji to not only convey the literal meaning of the word it denotes ('purple egg-shaped fruit) but also the literal meaning of the word (often taboo) it shares a physical likeness/similarity to ('male genitalia').

Table 12 The four identified paths taken by traditionally non-affective emojis towards non-literal metaphorical meaning.

Table 13 categorises the 20 emojis:

Path 1 – Mirroring	Path 2 – Extension	Path 3 – Pure Symbolic	Path 4 – Physical likeness
Billed cap	Skull	Four leaf clover	Eggplant
Fire	Elephant	Dove	Peach
Bomb	Locked with key	Sunglasses	Moai
Pile of poo	Crown	Cyclone	
Hot beverage		Ribbon	
Goat		Nail polish	
Snake			

Table 13 Categorisation of the 20 emojis in the sample into the path to lexicalisation they are seemingly on.

One final point to mention is whether the proposed lexicalisation paths are mutually exclusive or not, Whilst further data would be needed to determine with greater certainty the extent to which (if any) the paths overlap (alongside more coders to reduce potential coder bias), in this particular sample, all emojis intuitively fitted into one category more strongly than others. A potential blurring of lines between Path 2 and Path 3 in particular was identified, though. This is because it was sometimes possible to attempt to tangentially link some emojis in the Path 3 category to a potential extension that was perhaps more prevalent before the non-literal meaning had achieved any level of conventionalisation. For example, the sunglasses emoji non-literally means 'chill' but it could be argued that, as the function of the literal item of sunglasses is to protect one's eyes from the sun (i.e., something that not only emits light but also heat), there is an element of extension in the literal meaning of 'chill' (i.e., not hot) that is passed on to the emoji. However, beyond this, all paths remain markedly distinct, at least in this dataset.

5.5 Tendency towards metaphorical meaning

Interestingly, even when the target non-literal meaning was not identified, the answers given were typically also non-literal. For example, an alternate answer for '🧢' was 'thoughtful' (likely derived from the metaphor 'thinking cap'), as opposed to pertaining to a literal cap. While further research specifically would be required to determine exact processes and reasoning associated with this, this is likely due to contextual influence from the Person A texts, which Weissman (2024) acknowledged can have a significant impact on emoji interpretation. This indicates the importance of pragmatic context in potentially overriding literal meanings, indeed aligning with the notion that GCIs as default meanings do not always require going through the literal meaning stage first (Noveck & Sperber 2012), whilst acknowledging context-based cancellations could still give rise to the logical over pragmatic interpretations (Levinson 2000).

6 Conclusion and Recommendations for Further Research

This study sought to investigate conventionalisation of non-literal meanings of traditionally non-affective emojis and the paths taken to get there, drawing upon existing pragmatic theory. Overall, a significant positive correlation was found between meaning agreement and perceived difficulty, indicating progression towards lexicalisation involves emoji meanings being more readily accessed, identified and agreed upon. Across the 20 emoji sample, varying lexicalisation progress was identified, with some (for example, the pile of poo) being more lexicalised that others (for example, the dove). Finally, four different paths were identified, showing individual nuance in how emojis move towards this conventionalisation. These findings support the idea emojis can become conventionalised lexical items and show traditionally non-affective emojis can also take on non-literal metaphorical meanings, unlockable with context.

One limitation was potential subjectivity in response coding, mitigated as much as possible by asking participants to justify answers and providing an optional extra comments box for clarity. Having multiple coders could address this in future research. Another limitation was the small population size. It would be pertinent for future studies to expand this, potentially looking at other demographic groups (such as older participants) comparatively.

Further research looking at the extent to which context affects non-literal meanings being unlocked could further advance understanding of emoji lexicalisation progress. Additionally, replicating this study with more emojis would gain greater insight into the trends of non-face emoji; indeed, utilising corpus data to extract real-world examples could also be fruitful.

The language of emoji is transient so how emojis evolve may involve different speeds and mechanisms, to be explored in a future study comparing how that change occurs. Finally, focusing on non-affective emojis not broadly conventionalised could allow exploration of whether participants tend towards generating their own non-literal metaphorical meaning for these when context is applied, over the literal meaning, and to what extent.

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7 Appendices

Appendix A: The 20 traditionally non-affective emojis with broadly conventionalised non-literal meanings

Emoji	Literal meaning (as per Emojipedia (2025))	Non-literal meaning
💀	Skull	'dead' (boring, bad)
🧢	Billed cap	'cap/capping' (lie/lying)
🌀	Cyclone	confused
🎀	Ribbon	'just a girl' (cute, pretty, feminine/girly)
🍆	Eggplant	penis (sexually attractive)
🔥	Fire	'fire' (good)
🍑	Peach	buttocks (sexually attractive)
🕊️	Dove	peace
💅	Nail polish	'slay' (success, good)
🕶️	Sunglasses	'chill' (cool, calm)
🐘	Elephant	big/heavy (typically from eating a lot of food)
💣	Bomb	'bomb' (good)
🔐	Locked with key	'locked in' (secure, committed relationship)
☕	Hot beverage	'tea' (gossip)
👑	Crown	'like royalty' (good)
💩	Pile of poo	'shit' (bad)
🍀	Four leaf clover	good luck
🗿	Moai*	dry, boring
🐐	Goat	'G.O.A.T.' (Greatest of All Time)
🐍	Snake	'snakey' (untrustworthy, lies)

* Moai = a depiction of the famous Easter Island stone carving statues.

Table 14 Literal and non-literal meanings of emojis, based on Emojipedia (2025).

Appendix B: The full questionnaire

Please see the full questionnaire in the Google Docs draft (click to open).

Appendix C: The corresponding table to the emoji meaning agreement chart, showing all identified meanings

Emoji:	Colour:									
Pile of poo	"shit" (bad)									
Billed cap	"cap/capping" (lie/lying)	thoughful								
Fire	"fire" (good)	"up in flames" (bad)								
Goat	"G.O.A.T." (Greatest of All Time)	generally positive								
Sunglasses	"chill" (cool, calm)	confident	blind							
Four leaf clover	good luck	in need of luck								
Locked with key	"locked in" (secure, committed relationship)	shy	unhappy relationship (stuck)							
Bomb	"bomb" (good)	bad	funny	bored						
Skull	"dead" (boring, bad)	something bad happened	embarrassment	crazy	exhausted but happy					
Elephant	full/heavy from food	unsure	crazy	listening						
Hot beverage	"tea" gossip	"chill" (cool, calm)	good	literally drinking a hot beverage						
Snake	"snakey" (untrustworthy, lies)	evil	betrayal	jealousy	emotionally withdrawn					
Ribbon	"just a girl" (cute, pretty, feminine/girly)	fashionable	child-like	a nice person	unsure	generally positive				
Eggplant	penis (sexually attractive)	penis (negative, insulting)	happiness							
Crown	like royalty (good)	generally positive	unsure							
Moai	dry, boring	long	indifferent/ emotionless	annoyed	confused	unsure				
Cyclone	confused	unsure	creativity	overwhelmed	hypnotised	tired	relaxed			
Nail polish	"slay" (success, good)	failure	confident	nonchalant	productive					
Peach	buttocks (sexually attractive)	"peachy" (good)	buttocks (negative, bad)	fun	sweetness	"chill" (cool, calm)	generally positive	generally negative		
Dove	peace	blessings/blessed	death	relaxed	heavenly	relief	happiness	unsure		

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