



Algorithmic love: “Quit playin’ games with my❤️”

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ABSTRACT

Traditionally intimacy was characterized as closeness, familiarity and privacy from the Latin *intimatus*, *intimare* “make known” or *intimus* “innermost” (“*Intimae*,” n.d.). However, we wonder whether the notion of the intimate as a certain kind of closeness (and duration) has been discursively modulated and disturbed through the ubiquity, immediacy and acceleration of connection ... (David & Cambre 2016)

Together we wondered whether the nature of intimacy had somehow ironically embraced volatility, ethereality, airiness, speed, and featheriness; or levitas? Could it be through this levitas that intimacy is paradoxically being conveyed? Building on this earlier work interrogating a *screened intimacy* being

negotiated and redefined through online practices, this visual essay traces “discursive juxtapositions between depth and surface, solidity and ethereality, and temporally between duration and volatility, instability and movement” (David & Cambre 2016).



KEYWORDS

Intimacy, screen, online practices, algorithms, visual essay.

Introduction

Recently, I overheard some servers in a coffee shop talking about sending heart emoticons when texting, they were serious about the authenticity of their intentions, and how they only sent hearts when they felt strongly and sincerely about sending *love*. Curious I began to ask others when, and for what purposes, they used hearts. Instagram users I spoke to confess to feeling obliged to “heart” images or messages from others as an acknowledgement or courtesy. Approximately 150 million users registered with Instagram around the world have the heart as an icon presented to them as the mechanism for “liking” a post and thereby sending a positive message to the author. Similarly, the Periscope live streaming video platform, owned by Twitter, allows users to tap their screens so that a heart floats up on the screen of the broadcaster. However, in this case users can amplify the representation of their affective response by repeatedly tapping the screen and sending multiple floating hearts to the broadcaster’s screen, which allows a better estimate of the popularity of a broadcast. The anatomically incorrect hearts,  as more or less universalised ciphers for affection/attraction have been around for millennia, and the affective charge they are credited with fluctuates over time and space responding to both the immediate context as well as the larger societal one. Despite the cross-platform variation, social media companies increasingly seem to be honing in on hearts as the visual icons of choice as the (standardised/ing?) indicators of positive sentiment. In a recent article on *Screened Intimacies*, we wondered whether intimacy understood as closeness and duration “has been discursively modulated and disturbed through the ubiquity, immediacy and acceleration of connection” (David & Cambre 2016, p. 1). In an immersive media environment, are mediated ways to indicate attraction, affection, and passion or even desire becoming ever more ambiguous in an ocean of “likes?” And yet, as savvy users, are people not navigating in ways that permit them to make meaningful connections regardless? Feminist scholar Susanna Paasonen (2016) reminds us that affect by definition is always already interpenetrating and in-between bodies, so that rather than being seen as something individually contained, “affect, understood as networked, is that which makes things matter, gathers attention and, possibly, adds to the individual sense of liveliness as intensity” (NP). In other words, affect works through and is manifested in degrees of enmeshment.



In this consideration of cipher oriented affective communication afforded by emojis or emoticons, and more specifically the ❤️, I will *essayer*¹, or experiment with the visual essay, to create a hybrid semiotic space that provides readers with a visually informed experience by combining illustrative images, with photo-collages constructed as a mode of imagistic theorizing that is in dialogue with the text. The photo-collages do not work in a narrative progression; rather they repeatedly mine certain questions as layered variations on a theme. To examine different aspects of “heart” emoticons as *screened* relations of intimacy means thinking about how “relational and fluctuating fields of affinity ... engage on an informational plane” (Biddle 2013, p. 66) and exploring the sometimes paradoxical tensions and ambiguity of how emojis *matter* discursively and materially in influencing attitudes and behaviors through vernacular uses of mobile interfaces moving toward intimacy.💔 As we observed elsewhere, “at the heart of a screened intimacy, and what differentiates this notion from others, is precisely the ambiguity or ability to encapsulate and present *both options* in an either/or binary mode, the yes/no of possible connection” (David and Cambre 2016, p. 1). Exploring some of the rich history of the ❤️ laced with myths and monsters, reveals this particular cipher is anything but a trivial emoticon: it is loaded with affective weight and an easy target for tampering.

Besides the recent addition of “reactions” to the Facebook platform where the heart is the only non-facial emoji-based icon added to the original thumbs up symbol for “liking,” Twitter has replaced the former star icon used to “favorite” a tweet with a red heart in efforts to boost their user base, and harmonise across platforms. Disgruntled Twitter users immediately expressed their displeasure. The CEO Jack Dorsey could hardly have foreseen the outrage that burst online through “many angry tweets proclaiming the death of Twitter” (Titmarsh 2015). Thomas Ricker, writing for *The Verge* online, expresses his sentiments a bit more forcefully, hyperbolically situating the “battle between stars and hearts” as a struggle that “will define our expression of public digital affection in the 21st century” (Ricker 2015). While initially showing his displeasure, he agrees with Twitter investor Chris Sacca’s claim that a very high bar is set by using the word ‘Favourite’ because it is a superlative and that “the majority of users are baffled by favorites and they don’t end up using the star much, if at all” (Ricker 2015). However, this position ignores the ecosystem of intended messages attributed by users to the star. The range of uses included everything from using it to get followers for one’s Twitter feed; to the passive-aggressive “hate-fav” that sends a message that the tweet has been seen but will not receive a reply (Adams, ND). In a study with over 600 participants, Meier et al (2014) found that “the favouriting button is used for a range of functions and communication mechanisms” (p. 8). Detailing their study in “More than Liking and Bookmarking? Towards Understanding Twitter Favouriting Behavior,” their participants report that “many people associate Twitter’s favourite button with the Facebook’s “Like” button: “Generally use it analogously to ‘like’ on Facebook” [R183], or “almost like “liking” it on Facebook” [R191].” (p. 5) Yet Ricker (2015) insists, “stars and hearts are not synonymous...to change the icon would change the very meaning of a favoured tweet.”

¹ *Essayer*, French for “to try” situates this paper as a testing of the verbal-visual tension of a visual essay informed both by self-authored photo-collage (non-captioned), as well as illustrative photographs (captioned).

Immune to the furor, the Twitter company statement reads as follows:

We are changing our star icon for favourites to a heart and we'll be calling them likes. We want to make Twitter easier and more rewarding to use, and we know that at times the star could be confusing, especially to newcomers. You might like a lot of things, but not everything can be your favourite. (Gillmor, 2015)

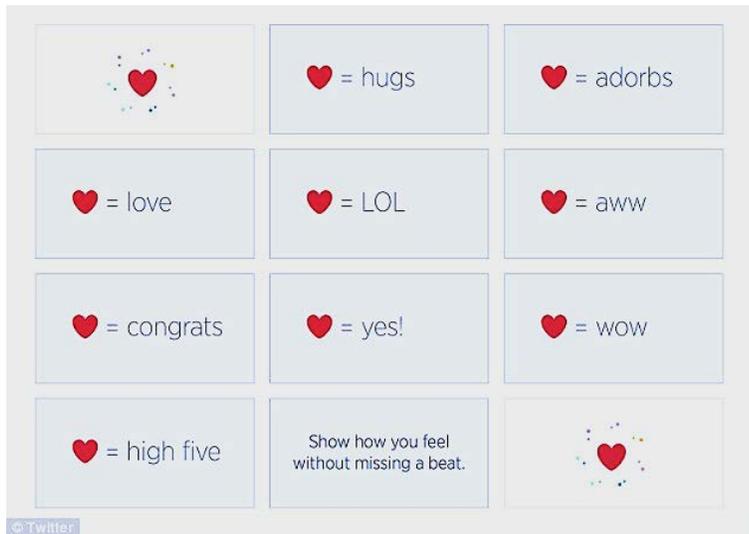


Figure SEQ Figure * ARABIC 1: Helping Hearts? (Woolloston, 2015)

This statement is a forceful reminder to users that regardless of how they feel about the change, the reality is that they don't make the rules. Companies like

Twitter and Facebook can “curate the shapes that our sociability may take” (Paasonen, 2016) or “change the 😊 nature of 😞 our conversations, because they own the platforms” (Gillmor, 2015). At the same time the Twitter company's decision to make the change may have been influenced by the aggregated data provided by users themselves, in a somewhat creepy feedback loop. When the Swiftkey predictive ‘mindreading’ app company analyzed more than one billion pieces of emoji data across 60 emoji categories to learn how speakers of 16 different languages and regions use emoji, they found the ♥ (12.5%) was the third most popular emoji after the 😊 (44.8%) and 😊 faces (14.33%) out of over 800 possible emojis². Coincidentally, Twitter's senior vice president of product announced that Twitter usage had increased by 6% about a week after the heart was introduced, and after having failed to add any users in 2015 (Woolloston, 2015). Doubtlessly adding fuel to some fires, Twitter also shared a didactic pictograph to assist with the transition.

² The findings came from an analysis of aggregate SwiftKey Cloud data between October 2014 and January 2015 from both Android and iOS devices. Notably, French speakers were found to use four times as many heart emoji than other language speakers, and was found to be the only language for which a is not number one.

Nevertheless, the appearance of participation is not identical to participation, and images participate in a relational epistemology that is formed and informed by economics, corporate culture, platforms, codes, devices, and the individuals and cultures of those engaging with the medium. The heart emoji, is part of an ecosystem of images that “ ‘do not represent an object, but rather are part of an operation’ ” (Farocki 2004 in Hoal, & Lindseth 2016, p. 177). In *Instagrammatics and Digital Methods* (2016) the authors observe that often emojis will have *other* meanings besides straightforward representational ones. For example:



The eggplant, peach, and taco emoji, for instance can represent their respective foodstuffs, but are also stand-ins for parts of the body not featured in their own emoji: the penis, the butt, and the vagina (Bonnington, 2015). The symbolism here has also meant that emoji are used for content and communication not necessarily endorsed by platforms, with the eggplant being placed on Instagram’s list of banned hashtags and not searchable on the platform (Griffin, 2015); although at the time of writing, this was only the solo eggplant, with multiple eggplants in a hashtag, along with other combinations, still present in search results. (Highfield & Leaver 2016 p. 10)



Despite the algorithmic gatekeeping manipulating the relations between viewers and what and how they see online, or “transmissive control” (McKelvey, 2008) there are still possibilities for interrupting the operation. We don’t *have* to accept information and systems the way they are presented.

As one of humankind’s most ancient signs, whether being used as icon, symbol or index, the heart continues to be a dynamic and salient cipher perpetually renewed in the creative ways people find of using it and remixing it with language and gesture. Now a globally adapted pop-culture icon, despite repeated filing of objections by New York over trademark violations, the 1977 I♥NY logo by Milton Glaser has the heart directly stand in for love in a way that is broadly translatable. As a verb, the heart made the paradoxical move back to language with David O. Russell’s 2004 film *I Heart Huckabees*, so that saying the word “heart” is now the *as-if* of saying love. The artifice, or *as-if* sign category addresses the relationship of “a message which signifies itself [and] is indissolubly linked with the aesthetic function of sign systems” (Allingham 2008, pp. 171-2). The heart as artifice comes full circle in the fractal matrix of sign types and opens up a multiplicity of possibilities. Preziosi (2003) explains that artifice “allows us to deal with the extraordinary complexities –the fluid and open-ended relativities—of visual meaning in a clear yet non-reductive manner” (p. 146).

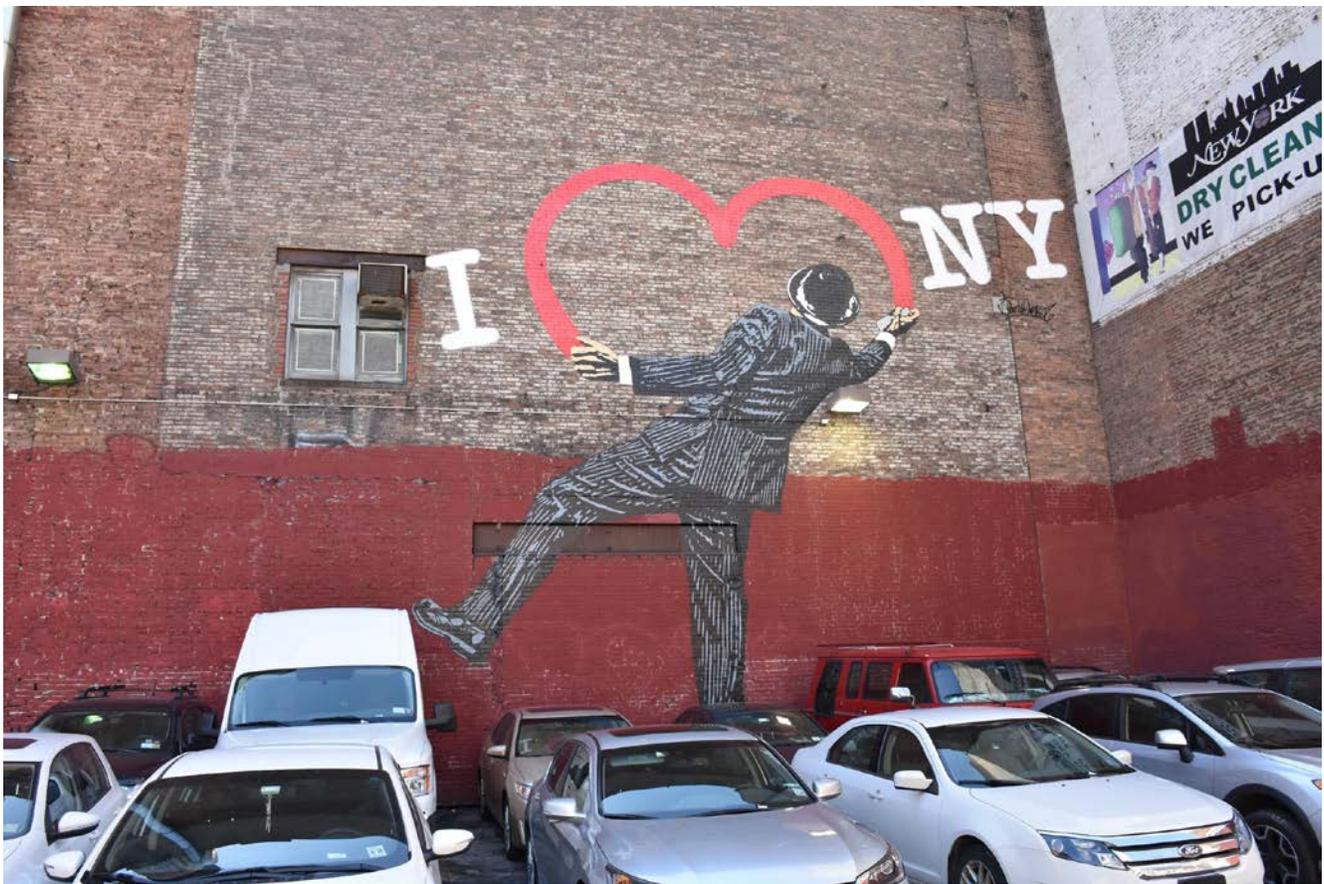


Figure 2. Nick Walker Graffiti in Manhattan, N.Y. Love Vandal at 17th and 6th Ave

Refusing to be confined to screens and text, the heart has also been incorporated in visual bodily communication as a hand gesture where both hands are joined with the fingers curved and together at the top and the thumbs coming to a point at the bottom. Known as the “hand heart” according to *New York Times* journalist Marissa Meltzer (2011), celebrities in various arenas such as sport, music, and film have been recorded making the gesture and companies have associated themselves with it by featuring it in ad campaigns. Of these people, singer Taylor Swift’s use of the gesture is seen by her fans to be a special “code” for communicating with them to the point where a controversy exploded amongst Swiftie fans in response to a photo of Lady Gaga making the gesture (Meltzer, 2011). Interestingly, this proprietary impulse is not an isolated case. On July 8, 2011, Google successfully filed a patent³ for the gesture in order to use it for Google Glass. The Glass is supposed to recognise the gesture when the wearer makes it and identify that something is “liked” (Vincent, 2013). Elsewhere, a website called PlanetHeart.com announces the trademark heart hand gesture called the *HeartMark* copyright of Tali Lehavi who claims to have named many heart hand gestures: “The poses in which any body parts combine to make a heart are protected by a US patent and available for licensing by Lehavi” as part of her “lifestyle brand of connectivity” (PlanetHeart, 2016). There are far more people in existence that possible gestures, and so we can agree with Milan Kundera’s (1992) fictional character that that no fully original gesture exists, belonging only to one individual (pp. 7-8).

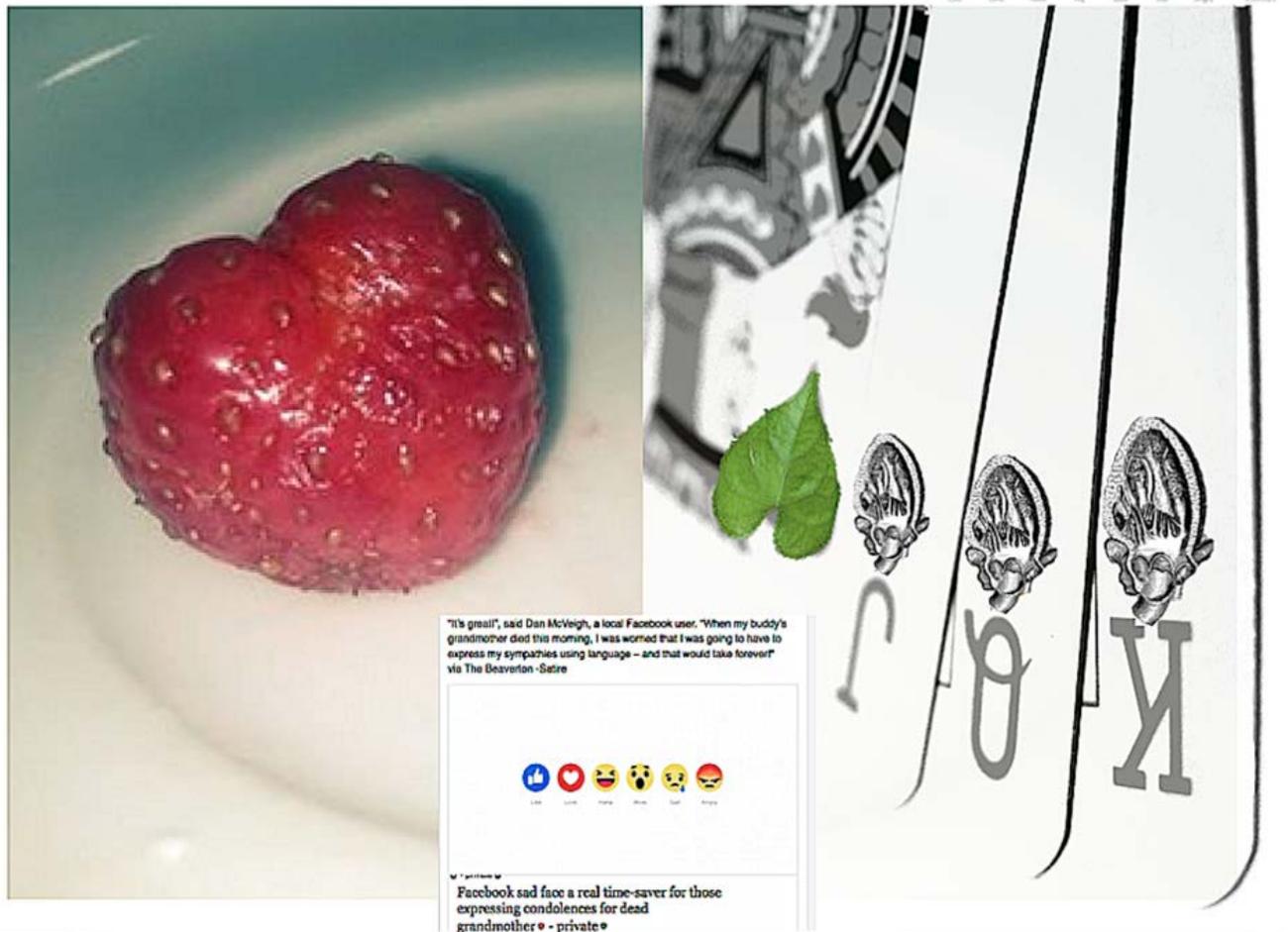
With this in mind, what can we make of these kinds of stories of seemingly bizarre patents for ephemeral and widespread gestures? By now it almost goes without saying that affect is core to value; “affective stickiness is equally intimately tied to the production of monetary value” (Paasonen 2016), but these incidents seem to give an entirely new meaning to the idea of a “performative economy” (Mack 2002, p. 598) where billions of dollars are spent investing, researching, or litigating, vis-à-vis the gestures, both visual and tactile, for navigating the different interfaces in everyday technology like smartphones (Srnicsek, 2015, p. 25). Media philosopher Vilem Flusser (2014) tells us that a general theory of gestures would be appropriately called an *interface theory* (p. 161) because one could identify different conditional, cultural, or social categories through the communicative and phenomenological⁴ aspects of gestures and how they are enacted. But are these fleshy interfaces being hijacked by the reconfiguring of the subject-object relationship? Current political economic conditions fertilise particular ontologies: “In a consumer society the body itself becomes the consuming subject and the consumed object, offering itself to change until reaching the transformation” (Palese 2012, 8). Such a transformation is precisely intended to shrink the gap between bodies and the codes governing interfaces. Structuring the field of action in this way, so that it effectively *disappears*, is an expression of biopower in the Foucauldian sense. What happens when the notion of “user” is substituted for that of a “subject”? (Drucker, 2011, p.1) Will the cyborg be domesticated?

³ Google’s patent:

[http://patft.uspto.gov/netacgi/nphParser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnethtml%2FPTO%2Fsearch-adv.htm&r=45&p=1&f=G&l=50&d=PTXT&S1=\(20131015.PD.+AND+Google.ASNM.\)&OS=ISD/20131015+AND+AN/Google&RS=\(ISD/20131015+AND+AN/Google\)](http://patft.uspto.gov/netacgi/nphParser?Sect1=PTO2&Sect2=HITOFF&u=%2Fnethtml%2FPTO%2Fsearch-adv.htm&r=45&p=1&f=G&l=50&d=PTXT&S1=(20131015.PD.+AND+Google.ASNM.)&OS=ISD/20131015+AND+AN/Google&RS=(ISD/20131015+AND+AN/Google))

⁴ Phenomenology referring to the philosophical field exploring structures of one’s consciousness of direct experience.

When something comes suddenly out like an evidence...



To understand how social power relations are embodied in technologies, being able to distinguish between “subject” and “object” (processes of subjectification and objectification) is, for anthropologist, Alf Hornborg (2015), indispensable because “human relations to things are always about relations to other humans” (p. 36). But it is not easy as intimacy, the drive for attachment, is the most powerful force in human relations: Gilles Deleuze and Felix Guattari (1987) so eloquently remind us: “Significance and interpretation are so thick-skinned, they form such a sticky mixture with subjectification, that it is easy to believe that you are outside them when you are in fact still secreting them” (p. 138). None of this is new, and it may be helpful to examine our constructions of technology by looking at different ways people have related to material artifacts in different times and places since, “different peoples have quite different ‘object regimes’” (Hornborg 2015, 45).

HOC EST ENIM

CORPUS MEUM⁵

Heart shaped signs have always been mediated on an affective register, whether or not they signified the human organ. From the early heart-shaped ivy and fig leaves (symbolizing fidelity) found on pottery from antiquity, to early Christian usage and later Roman Catholic iconography of the heart/soul (sacred heart), of Jesus (usually accompanied by a crown of thorns, a cross or a flame), to the incorporation of the symbol on playing cards, the heart shape associated constellation of meanings have remained remarkably consistent over time. Tracing its history back even further, one of the most ancient origins powerfully linked erotic love, religion and economics: In Northern African area once known as Cyrene (now Libya), numerous 2nd century coins were found in the excavations of the sanctuary of Demeter and Persephone (Buttrey, 1992); evidence of collective affective economies (Ahmed 2004). They featured the stylised depictions of the now extinct sylphium plant (often used for birth control), and on the reverse, a seedpod is depicted that is startlingly similar to today's heart symbol. The links to fertility and the goddesses are represented through the many cults and different titles attributed to both Demeter and Persephone, including earth mother, and mistress cults, and for Persephone, protector of marriage. The complexity of the titles and roles for these goddesses reveals a rich multi-faceted relational kind of knowledge capable of holding contradictory ideas together. The duality of the goddesses' connections to life and death, creation and destruction, and different and seemingly contradictory forms, guises or *aspects* is symbolised in diverse ways to reflect beliefs around their ascribed powers that both emerge from and withdraw into the earth.

Amongst the most interesting depictions of Demeter as earth goddess was the wooden icon in a Phigaleian cult depicting her with a horse head and mane with “serpents and other beasts” growing out of her head while one hand held a dolphin, and the other a dove. (Jeffery 1976, p. 23). She is “the monstrum: the object to show” (Palese 2012, p. 2). The frontality, and monstrosity of this snake-haired figure evokes the Gorgon Medusa. Her myth situates vision as power, and the “objectifying gaze as a kind of violence” (Mack 2002, p. 598) who will not be disciplined. Neither will she be seen: as the agent who is known by the petrifying results of for those who make eye contact with her, she is free to occupy the position of seer and is capable of containing irrational forces, chaos, and elements of wonder evoking times, “when monstrosity was the expression of the miraculous power of the imagination” (Palese, 2012, p. 8). In her work on *Cyborgs and Vampires*, philosopher Emma Palese (2012) considers the figure of the cyborg as a post-



Figure SEQ Figure * ARABIC 3. Cyrenian coin.
Available at: <http://i.imgur.com/tsH2MF3.jpg>

⁵ Latin for “this is my body.” Tattoo photo By Tony Alter from Newport News, USA - The Sacred (Broken) Heart Uploaded by theveravee, CC BY 2.0, <https://commons.wikimedia.org/w/index.php?curid=26943862>

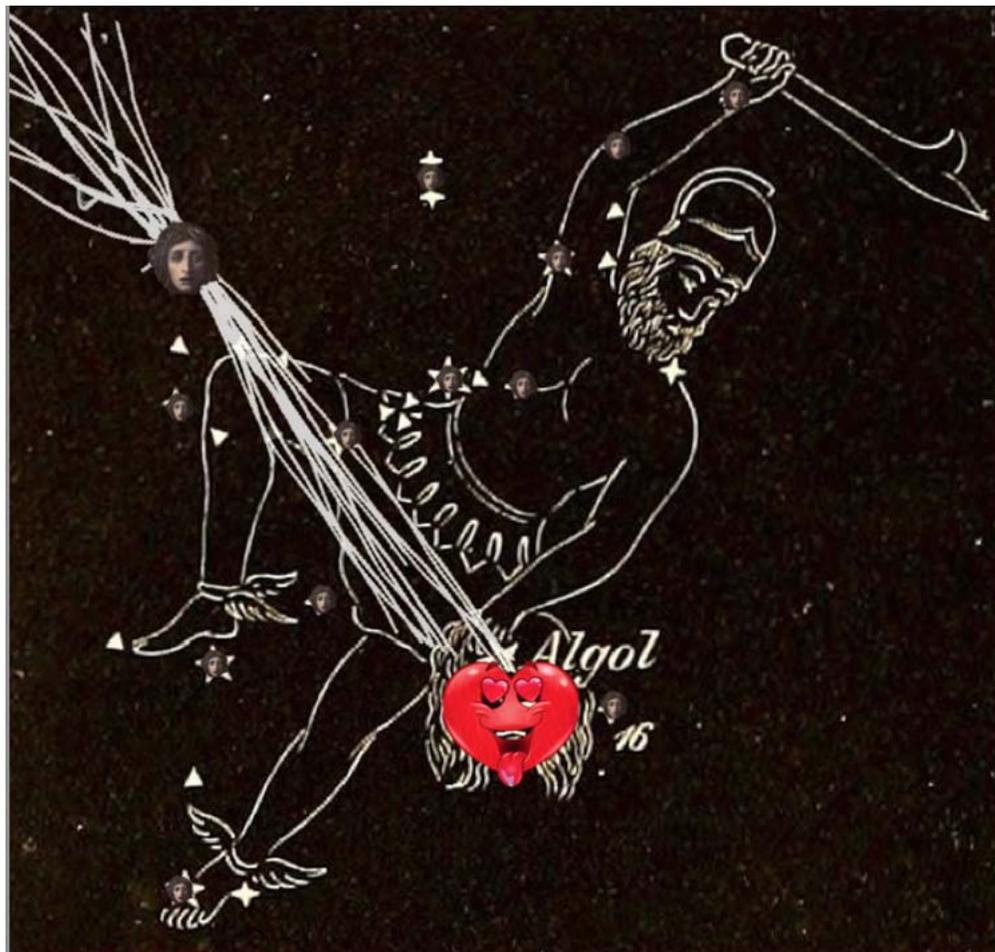
human image of the new monster symbolising the struggle to overcome human imperfectability. The cyborg is overwritten with duality in being both natural and un/supernatural, however the difference or otherness, in the language of monstrosity occupies a strategic position for Palese. In the myth, Medusa loses the struggle for the gaze, falling victim to Perseus—and his mirror. In his insightful piece on *Facing down Medusa*, Art Historian Rainer Mack (2002) also explores the paradox of monstrosity and its “double operation” in its capacity to both “stage *and* resolve a threat” (594), meaning the terrifying face has the affective power to both make viewers turn away, while tempting them to “face down” the threat.

The monstrous exceeds the mechanisms of biopower, yet the paradoxical shift at the heart of the Medusa myth hinges on the device/interface of a mirror (p. 594), an illusionist artifice aimed at avoiding direct eye-contact, while at the same time captivating/controlling the eyes, functioning at this point as image-maker.

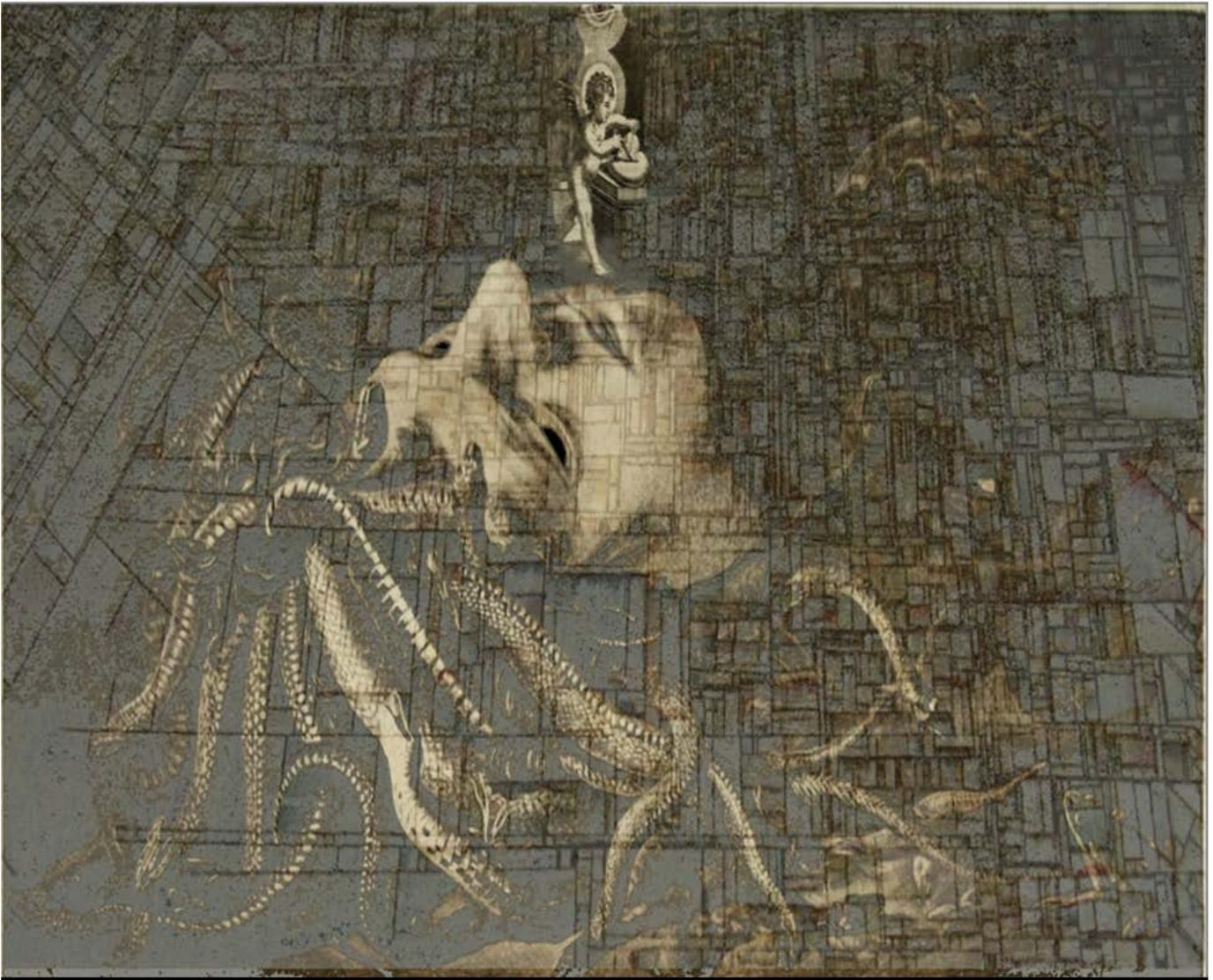


Further exploring how the image behaved for the Greeks, Mack (2002) analyses how Homer attributes affective capacity to the gorgon's head by *not* distinguishing “between the representation and the real” (573). Homer's gesture toward indicating the “transformative capacity of *techne*; the animation of inert materials” (p. 594) locates the masterfulness of the craftsmanship of its representations (that is, artifice) as the source of the gaze's fascination (p. 594) a technology of enchantment where objects were attributed autonomous agency, “obscuring the role of human perceptions and strategies” (Hornbor 2015, p. 36); magic, by definition. Homer's move opened space for any object with the representation of Medusa's face, from cups to vases and columns and decorative items, to exert social agency. Mack (2002) also explains that the face of Medusa now functions as-if a mirror, “a reflective field” in which certain viewers would identify as Perseus, “who controls the paralysing gaze” (p. 589). This performative slight-of-hand allows subjects to consume the image *as-if* re-placing Perseus, the invisible other side of that face, and constitute themselves as subjects.

Thus the hero's struggle with Medusa, a struggle for the gaze that is, precisely, a struggle for control over a certain subject position, a subject position marked by the intersection of gender and power. When Medusa holds this position, when she has the power of objectification, she is the topsy-turvy sign of patriarchy undone. (Mack 2002, pp. 595-6)



Patriarchy reasserts itself through Perseus who colonises the power of Medusa's gaze, her head always in hand, thereby allowing Perseus' becoming subject to occur by his taking power over objectification. Unruly cyborgs beware.



In the case of the image of Medusa's face, agency is distributed "differentially" (Hoal, & Lindseth 2016) across humans, objects, and ritual events vis-à-vis the *operation* of the image. What can we learn about the tensions in the *dual nature* of screened intimacies from assemblages of ritual or symbolic technologies and how they generate moments of social organization that somehow reflect human-object relations? How can we attend to the zone of "cruel optimism" where that which the object makes seemingly achievable is still always moving out of reach (Berlant 2011, p. 2)?

After spending over twenty years working on the question of technological fetishism, Hornborg (2015) asserts that: “Political economy fundamentally concerns the social organization of human-object relationships, and thus ultimately how social agency is delegated to artifacts” (p. 36) and as a result our own cultural constructions of technology are necessarily implicated. He explains how both premodern and modern economies contain key artifacts perceived to have magical agency. For him, “technology is our own version of magic” (p. 43): because “it is a specific way of exerting power over other people while concealing the extent to which it is mediated by human perceptions” (p. 51). To understand the role of human perception in giving things agency and how objects are attributed subjectivity, Hornborg advocates attending carefully to how “objects can be turned into subjects, and vice versa” or, he clarifies, as verbs—as processes of “subjectivation” and “objectivation” (p. 48). One of the keys is to make the political economy of, in this case modern technology, visible and legible. Rarely are global price relations, exchange rates, or financial strategies included in defining technology “even though, by organizing asymmetric resource flows, they are crucial for its very existence” (p. 50).

This knowledge is much needed in the case of emojis. They embody the efforts of informational capital to “instrumentalise, analyse, monetise, and standardise affect” as Stark and Crawford (2015) put it, “Representations of feeling in general, and happiness in particular, are often painted across the exterior of moneymaking ventures” (p. 8). Emojis are small, ephemeral, ubiquitous and easy to use, as well as extremely convenient to modulate the tone of text, or replace it altogether, and easy to overlook. The heart sign has become more and more significant as a central cipher in the orchestration of the appearance of positive affective gestures. How can we understand them as productive of, and yet products of a constellation of social and power relations in the ever-shifting digital waters?



Many scholars in different ways and in diverse contexts call for what I see as *algorithmic literacies*, which would address the nature of algorithmically enabled images and applications as performative, and processual. Algorithmic literacies would differentiate between discourses that create notions of what algorithms are and do, and the actual computational aspects of algorithms. Hoal and Lindseth (2016) realise that “established representational approaches fall short of accounting for the active roles of digital image applications, and this is why new theorisations of images are needed” (p. 178). Highfield and Leaver (2016) underline the increasing importance of visual elements in digitally mediated everyday life, “addressing the significant research gap in methods for tracking, analysing, and understanding visual social media as both image-based and intertextual content” (p. 2) For Graham, Zook, and Boulton (2013), who explore four kinds of power in the intersections of material and virtual spatialities, what they term “code power” is crucial given its role in mediating content (p. 477).

Acknowledging the challenges of mapping or measuring something seen as “duplicitous, ephemeral and highly personalised” they call for further explorations of diverse issues in this area asking: “What tools, methods and theories should be employed to make sense of the highly distributed ways in which

content and code are shaped and reshaped, enacted and re-enacted (p. 477)? In the field of architecture, Mario Carpo (2011) responds to the changes in the design process due to algorithmic logics by advocating designer engagement in the production of tools to best avoid the embedded limits. In a study on *Algorithmic harms*, Tufekci (ND) warns that “algorithms are able to act as stealthy, extremely potent gatekeepers: gatekeepers unaccompanied by transparency and visibility” (p. 209) and that their functionality is largely unknown by a majority of users. Additionally, they are not discrimination-free. This complaint is taken up in an article on *Machine Bias* where the authors delineate the erroneous and racial bias of algorithm generated risk assessments in courtrooms (Angwin, Larson, Mattu, & Kirchner 2016). In her dissertation on *Search Engine Bias*, Van Couvering (2009) documents her concerns not only that the first few pages in the content of search engines are highly biased, but also that many users’ searches are exacerbated by literacy issues while others cannot differentiate between paid advertising and unsponsored results. In frustration, Edelman (ND) complains about media consumption and the manipulative aspects of the “tech ecosystem” laying the blame squarely at the feet of the metrics at the heart of algorithms. He writes, “when a business like Facebook tries to maximise engagement, ... it treats us as engagement machines. We go over-consumed, but under-fulfilled.”





Figure SE
Warfield

*“Once metrics are defined,
they’re like parasites,
or undead spirits.
They take over human beings.”*
Edelman (ND)

Working in the area of education and literacies in digital environments, Aviram and Eshet-Alkalai (2006) describe how digital literacy is presented as a “mindset” that allows users to be agile and intuitive navigators online and to access information effectively. However, when they empirically studied approaches to the concept of digital literacy they

found great variance in how the term was understood and operationalised, from “the purely technical or procedural to the cognitive, psychological and sociological” (p. 1). With the goal of shifting the discourse on digital literacy toward theoretical and empirical research to better found efforts at creating instructional material, they propose a five part framework of literacy skill-types that was well received: “this model is considered one of the most complete and coherent models for digital literacy (Akers, 2005), and it was also included among the pivotal models for digital learning in the Encyclopedia of Distance Learning (p. 2). These scholars have made important steps in integrating the fragmented literature on digital literacy. Despite this they acknowledge that the “definition of digital literacy is still incomplete, and more research on the performance of effective users of digital media is required” (p. 2).

While it is important to be able to decipher graphic user interfaces, it is not just about this. *Algorithmic literacies*, broadly conceived as agility in critically discerning how platforms and algorithms inform how decision-making is presented to the individual, whole-heartedly resists the tendencies to reductionism and simplification often presented in didactic materials. Algorithmic thinking is process focused, and understands that the way to proceed is non-deterministic and driven heuristically. The logic of the kind of algorithmic literacies needed is concerned with understanding in the context of a relational onto-epistemology, like the Inca with their khipu knots capable of infinite combinations. Khipus were not only highly complex with seven possible different binary operations variously remixed, but they were also performative and amenable to repeated reconfiguration. However, they were also considered sacred, following the notion of distributed agency, the creation of possibilities for knowledge generation was deeply embedded in Incan ethics. Algorithmic literacies are nothing new. If we are serious about “exposing the unacknowledged magic of our own ontology” (Hornborg 2015, p. 51), we can learn from the Amazonians who took seriously “the risks inherent in subject-object

transformations” (p. 48).

Pulling petals from a daisy (loves me or not) is a binary decision-making game where an element of chance lets romantics dream, derive humor, or pleasure. When people communicate intimacy using ❤️, algorithmically curating the number of figurative petals and how they are presented, plays games with their ❤️❤️ and amputates their agentic power by objectifying their abilities of imagination and desire.

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