Memes and affinities: Cultural replication and literacy education

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This paper explores social practices of propagating 'memes' (pronounced, 'meems') as a dimension of cultural production and transmission within internet environments. Memes are contagious patterns of cultural information that are passed from mind to mind and that directly shape and generate key actions and mindsets of a social group. Memes include popular tunes, catch-phrases, clothing fashions, architectural styles, ways of doing things, and so on.

The concept of a 'meme' is usually dated back to ideas advanced by geneticist Richard Dawkins (1976), although mention of 'memes' as contagious or inheritable units of cultural information can be found much earlier in biological studies of memory persistence in organisms (e.g., Semon 1924) and in 'diffusion of innovations' theory (cf. Rogers 1962). Dawkins proposed an evolutionary model of cultural development and change that was grounded in the replication of ideas, knowledge, and other cultural information through imitation and transfer. Subsequently, a range of researchers interested in memetics – the study of memes – have argued that electronic networks, along with personal predilections and interests, provide ideal conditions for propagating and dispersing memes (e.g., Adar, Zhang, Adamic and Lukose 2004, Blackmore 1999, Brodie 1996). This paper takes these claims as a starting place and examines exemplars from a set of successful online memes that have been reported in mainstream media venues such as newspapers, television, online magazines and news-based forums over the past 5 years. These 'successful' memes are analyzed by means of discourse analysis methods (e.g., Fairclough 1992, Gee 1996, Kress 2003) and the concept of 'affinity spaces' (Gee 2004) to pursue three analytic purposes: (1) to identify key elements that appear to constitute each case as a meme, (2) to establish some key categories of memes, and (3) to discern qualities of 'contagiousness' and 'susceptibility' associated with these different online memes and how these are facilitated by electronic networks of communication. The paper concludes by briefly considering some possible implications of online meming practices for how we envisage literacy education.

Memes as distinct social phenomena

Even a cursory search of the internet shows that 'meme' is a popular term for describing the noticeable and often rapid uptake and spread of a particular idea in the form of written text, an image, a language 'move', or other piece or unit of cultural information (e.g., a catchphrase, a video clip, a recount of an event). Marketing strategies from the late nineteenth century onwards can be described in terms of selling memes to consumers, and advertisers themselves now use the term 'viral marketing' to describe successful advertising campaigns. However, to reduce the study of memes to marketing strategies alone is to miss the potential fruitfulness of this concept for understanding mindsets, new forms of power and social process, new forms of social participation and activism, and new distributed networks of communication and relationship, among other social phenomena (cf., Blackmore 1999, Brodie 1996, Downes 1999, Knobel 2005).

Three baseline characteristics of memes

Dawkin's account of three characteristics of successful memes, advanced in 1976, provides a useful starting point for this study of online memes. These remain the definitive set of characteristics, and comprise fidelity, fecundity and longevity. Fidelity refers to qualities of the meme that enable it to be readily copied and passed from mind to mind as a relatively intact idea. Fidelity has very little to do with truth *per se* and memes are often successful because they are *memorable*, rather than because they are important or useful (Blackmore 1999: 57).

Fecundity refers to the rate at which an idea or pattern is copied and spread. In other words, the more quickly a meme spreads, the more likely it will capture robust and sustained attention, and be replicated and distributed (Brodie 1996: 38). Susceptibility is an important dimension of meme fecundity as well, although not an element dealt with specifically by Dawkins. Susceptibility refers to the 'timing' or 'location' of a meme with respect to people's openness propensity to be infected by/vulnerability to it, the meme's relevance to current events, its relation to extant successful memes, and the interests and values of the affinity space in which the meme is unleashed. Ideal conditions of susceptibility will let the 'hooks' and 'selection attractors' built consciously or unconsciously into the design and function of the meme itself take hold more easily and in ways that maximize the possibilities for the meme to 'catch on' and be transmitted rapidly from person to person without being hindered or slowed by mental filters or other forms of cultural immunity (cf., Bennahum in Lankshear and Knobel 2003).

Longevity is also a key characteristic of a successful meme. The longer a meme survives, the more it can be copied and passed on to new minds, exponentially ensuring its ongoing transmission. Longevity assumes that optimal conditions for a meme's replication and innovation are in place.

Memes as a new literacy practice

While in one sense, memes have always been a part of human cultures, it is only relatively recently that the concept of 'meme' has been developed and become widely accepted as having explanatory power with respect to cultural development. In 2001, when we began writing what was to become *New Literacies* (Lankshear and Knobel 2003), we claimed 'memes' as an emerging 'new literacy'. By this we meant 'new' in terms of being 'newly recognized' as a form of literacy practice, although the often multimedia nature of online memes also suggested a newness in terms of chronology, too, in that ordinary people were able to create new forms of expression and communication by means of animation software, music and video editing applications, image manipulation on a scale never seen before and in ways scarcely imagined prior to digital technologies. In this early work, we roughly sketched possible implications memes might have for literacy educators with respect to enacting active/activist literacies (i.e., 'If *we* don't like *their* contagious ideas, *we* need to produce some of our *own*', p. 37, original emphases). In subsequent work (e.g., Lankshear and Knobel 2004, Knobel 2005), we have begun exploring online memes much more closely in order to better understand them as social phenomena and as new literacy practices, and to more carefully consider what they might 'mean' for literacy education. Hence, the study reported here is undertaken from the standpoint of an interest in the potential of memes as a new literacy practice with genuine potential to contribute

to the pursuit of benefits (or 'good') in the world.

Methodology

The data set for this study was generated by means of using a range of well-recognized online search engines on the assumption that successful memes will have a significant online presence that registers with well-known search engines. The selection of specific search engines used to generate this 'meme pool' aimed at maximum coverage of likely meme conduits (e.g., website archives, blogs, broadcast media sites). These search engines included in the first instance Google.com, to search websites in general, and Technorati.com, to search weblogs. These wide-ranging searches were supplemented by targeted searches, such as trawling Wikipedia.com, a collaborative, open-access online encyclopedia that has excellent coverage of popular culture phenomena (Scholz 2004) and by following up references in articles or forums (e.g., following links mentioned in the Wikipedia entry on 'memes') or trawling popular archives like milkandcookies.org and fark.org for mention of popular internet phenomena. The key criteria for identifying a meme as a meme included:

- the meme is contagious, replicable, and has longevity (i.e., is discussed or passed on for longer than a period of a days)
- the meme encodes a recognizable element of cultural information, where cultural information is defined as some kind of meaningful idea, pattern, or chunk of 'stuff' that embodies and/or shapes some aspect of the ways of doing and being that are associated with belonging to a particular practice or group
- the meme is more or less wholly transmitted via electronic vehicles (e.g., email, websites, online discussion forums, chat spaces)
- the meme passes outside the shared affinity space within which it first came to prominence (e.g., insider-jokes generated within collaborative spaces such as Fark.com or SomethingAweful.com but that do not extend beyond the members of this space are not included in this analysis, which aims at examining memes that have a wide reach)
- the meme can be deemed 'successful' because it is strong enough or salient enough to capture online and offline broadcast media attention in the form of fullblown reports through to side-bar mentions in newspapers, television news reports or talk shows, widely-read trade publications and magazines.

With respect to the final criterion above, three databases were employed to verify broadcast media reports of memes generated by the first phase of searching the internet. These databases were: Proquest (ABI/Inform), LexisNexis, and WilsonWeb. All three survey broadcast media items and require paid subscription; they are thus considered to be reliable archives of mainstream media reporting.

Finally, the initial data pool was bounded by a 5 year period in order to ensure a robust set that post-dated the widespread take-up of online internet practices by the general public (at least within developed countries), or the more widespread possibilities of access to the internet that can be dated from roughly 2000 onwards (cf., demographic reports published by Nielsen-Netratings.com). This does mean, however, that certain popular but early online memes are excluded from the pool, including the Dancing Baby (1996) and Hamster (1999) animations

along with Mahir Cagri's 'I Kiss You' website (1999). However, these 'types' of successful memes are amply represented within the final pool and their exclusion does not compromise this study.

Data set

General and focused searches identified a total of 19 artefacts or meme vehicles that seemed to be regarded by the internet community as distinct and popular 'memes' or contagious ideas that began much of their 'life' online (see Table 1).

Memes are ordered from least recent to most recent.

- Oolong the Rabbit (2001)
- Nike Sweatshop shoes (2001)
- All Your Base Are Belong To Us (2001)
- Bert is Evil (2001)
- That Tourist Guy (2001)
- Bonsai Kitten (2002)
- Ellen Feiss (2002)
- Star Wars Kid (2002)
- Black People Like Us (2002)
- "Every time you masturbate… God kills a kitten" (2002)
- "Girl A"/Nevada-tan (2003)
- Badger, Badger, Badger (2003)
- Read My Lips' Bush-Blair Love Song (2003)
- The Tron Guy (2003)
- Lost Frog/Hopkin Green Frog (2004)
- JibJab's "This is My Land" (2004)
- Numa Numa Dance (2004)
- Dog Poop Girl (2005)
- Flying Spaghetti Monster/Flying Spaghetti Monsterism (2005)

Table 1: The complete set of online memes identified as the data pool for this study.

Each of these memes was 'tested' for its presence in mainstream broadcast media as an indicator of its 'success'. All 19 memes were mentioned in regional or national newspapers at least once, with memes like The Star Wars Kid mentioned in *Time Magazine*, *Wired Magazine*, Canada's *Globe and Mail* newspaper and the U.S.'s *New York Times* newspaper. The NumaNuma Dance video meme was the focus of several *New York Times* articles, was mentioned on CNN, a major U.S. news broadcast network, and was played on the *Today Show* and *Countdown* television shows in the U.S. as well. Each of the memes in the final data pool has generated a range of homage or spoof websites or other artifacts (including merchandise available to buyers).

Although this list meets the criteria established for selecting memes for this study, this list nonetheless remains selective. Pinning down exact, substantive definitions of a meme is close to impossible, as witnessed in the long running debates and lack of consensus in articles published in the *Journal of Memetics* (jom-emit.org/past.html). Indeed, a great deal of the memetics literature has been dominated by arguments concerning what is and is not a meme. However, conceptual bickering seems to have been something of a dead end for memetics as a distinct field of inquiry, and has produced few empirical studies of actual memes in action (exceptions include: Butts and Hilgeman 2003, Chattoe 1998, Gatherer 2003). The present paper is not interested in contributing further to stale debates over what memes are, but rather, is interested in identifying the key characteristics of successful online memes and understanding these memes as new literacy practices. Focussing on reasonably well-defined, widely dispersed, and wildly successful memes helps us to better understand how they operate in everyday life. This position echoes that of Charles Simonyi, a key figure in software development and an early programmer with Microsoft. Simonyi chided Richard Brodie, now a key figure in memetics, for originally missing the point with respect to useful analyses of memes:

> "Come on!" exclaimed Charles. "You are asking the wrong question! Who cares if a yawn is a meme or not! The right question is, 'What are the interesting memes?'" (Brodie 1996: 25).

This sentiment drives the present study.

Data analysis

Each meme was scrutinised using three general axes of analysis found in discourse studies (e.g., Fairclough 1992, Gee 1996, Kress 2003): the referential or ideational system, the contextual or interpersonal system, and the ideological or worldview system as represented by a given discursive move. This analysis was facilitated by prompt questions, which are summarized in Table 1 below.

Referential or ideational system	The focus is on the meaning of a meme: • What information is being conveyed by this meme? How do we know? • What does this meme mean or signify (within this space, for certain people, at this particular point in time)? How do we know?
Contextual or interpersonal system	The focus is on social relations: • Where does this meme 'stand' with respect to the relationship it implies or invokes between people readily infected by this meme? What tells us this? • What does this meme tell us about the kinds of contexts within which this meme proves to be contagious and replicable? • What does this meme seem to assume about knowledge and truth?

Ideological or worldview system	The focus is on values, beliefs and worldviews:
	• What deeper or larger themes, ideas, positions are conveyed by this meme?
	• What do these themes, ideas and positions tell us about different social groups?
	• What do these memes tell us about the world, or a particular version of the world?

Table 1: Prompt questions for discursively analysing online memes

One of the risks associated with discourse analysis studies is that phenomena are often inadvertently reduced to static texts (cf., critiques in Knobel 1999). In order to address this potential issue, Gee's concept of 'affinity spaces' (2004) was used to ensure that analysis also focused on the meme as part of larger sets of social interactions and ways of achieving things or of getting something done. An affinity space is best described as a (usually loosely formed) set of content, interactions and people who coalesce around specific shared interests, activities or goals (Gee 2004). Affinity spaces are not so much communities that have 'members', but social and resource configurations within which and through which people participate and learn. Prompt questions for analyzing affinity spaces include:

- What is going on here and who is involved? How do we know?
- Who would recognize this meme as part of or relevant to their affinity space and what tells us this? Who would not recognize this meme and what might be some of the consequences of this?
- What kinds of affinity spaces might most readily embrace this meme, and what suggests this?
- What ways of doing and knowing (i.e., social practices) seem to be part and parcel of this meme?

Findings

(i) Constitutive elements of successful internet memes

The analysis suggests three broad features that seem closely, although not necessarily, related to the three characteristics of memes identified earlier; that is, replicability, fecundity and longevity. These include one or more of the following:

- Some element of humour, ranging from the quirky and offbeat, to chortle-worthy potty humour, to the bizarrely funny, to parodies, through to the acerbically ironic
- A rich kind of intertextuality, such as wry cross-references to different popular culture events, icons or phenomena, and/or
- Anomalous juxtapositions, usually of images

Space precludes a close examination of each meme in the pool, and indicative examples will be used instead to discuss shared characteristics of successful online memes.

Humour

Humour is a key component in at least 17 of the 19 memes in this study (acknowledging that humour is always open to interpretation on a reader's/viewer's part). Perhaps the most famous and enduring meme within the data set for this study is the All Your Base Are Belong To Us meme (2001; see Figure 1). The syntactic and semantic hiccups within the English subtitles created for a U.S. audience of gamers and used in the opening animated sequence of the Japanese video game, *Zero Wing*, seemed to resonate immediately with what a *Times Magazine* article about this meme identified as 'geek kitsch' humour (Taylor 2001).

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In A.D. 2101
 War was beginning.
 Captain: What happen?
 Mechanic: Somebody set up us the bomb.
 Operator: We get signal.
 Captain: What !
 Operator: Main screen turn on.
 Captain: It's You !!
 Cats: How are you gentlemen !!
 Cats: All your base are belong to us.
 Cats: You are on the way to destruction.
 Captain: What you say  !!
 Cats: You have no chance to survive make your
       time.
 Cats: HA HA HA HA ....
 Captain: Take off every 'zig' !!
 Captain: You know what you doing.
 Captain: Move 'zig'.
 Captain: For great justice.
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Source:
http://www.planettribes.com/allyourbase/story.shtml
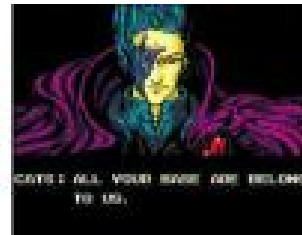
Figure 1: the dialogue to the English version of Zero wing.

The seriousness of the dialogue about a threatened global takeover coupled with language translation glitches struck a chord with people and the clip quickly caught on among video game-players and programmers first, and then later within wider audiences and interests groups. It sparked a remixing epidemic, with active meme participants generating a range of new, very funny, photoshopped takes on the 'All your base' meme, including a reworking of the iconic Hollywood sign, billboards, roadsigns, high-profile advertisements, official documents, food products and toys, and so on. These remixes are in many ways funnier than the original clip due to the creative uses of key phrases and the celebration of quirkiness that they embody. The meme's catch-phrase, 'All your base are belong to us,' now regularly appears in news or political reports in the broadcast media or the blogosphere, and is used to describe clumsy, heavy-handed take-over bids for positions of power and the like. The longevity of this meme seems assured, and recent remixes of this meme include the Danish production: 'All Your Iraq are belong to us' (mb3.dk/ayiabtu).

Other examples of humour to be found in the meme set includes the animated Badger, Badger, Badger meme, originally created by Jonti Picking (South Korea, 2003). The meme comprises sets of animated badgers – and occasionally mushrooms and a snake – dancing to trance beat music in a cartoon landscape (see: weeblsstuff.com/toons/badgers). Picking posted the animation to his website and it quickly became popular within the online world. The undeniable quirkiness of this animation caught the attention of MTV Europe, which developed an entire TV show around a range of Picking's animated characters (Silverman 2004). A *Design Week* article in London published in 2005 refers to Badger, Badger, Badger as a 'cult animation' (Jun 30, p. 19).

The Ellen Feiss meme (U.S. 2002) began as a television advertisement by Apple for its campaign to entice PC users to 'switch' to Apple. When the advertisement aired on television, 15 year-old Fleiss appeared to be quite 'out of it' (she later claimed filming had occurred close to midnight and she had taken a strong does of anti-allergy medication for her hayfever). Her out-of-it eyebrow lift, uncoordinated hand movements, and her use of sound effects to describe her computer crashing coupled with lengthy pauses in her monologue caused riotous laughter around the world. Apple cancelled the advertisement as soon as it was realized why it had become so popular, but Ellen had already reached iconic status among young, male programmers, Apple Mac users, and college students (see: ellenfeiss.net). Ellen went to ground, and turned down appearances to appear on major talkshows within the U.S., but three years later, a series of t-shirts celebrating Ellen Feiss is still available for purchase and numerous tribute and remix sites remain active (see, for example, ellenfeissgloriousnoise.com; jeffwilhem.com/files/ellen1.mov), and pictures of contestants in the Ellen look-a-like contest held in Europe are still archived online as well (see: feiss.macfreak.org/index.html).

In addition to quirky and situational kinds of humour, at least 5 of the memes examined in this study put humour to use in generating biting social commentary memes. The Nike Sweat Shop Shoes meme is a good example of this. In January 2001, Jonah Perretti forwarded to friends a series of email exchanges he had had with the Nike company concerning Nike's ID campaign that allows customers to customize their shoes (Peretti 2001). Perretti's request to have 'sweatshop' embroidered on his new shoes had been denied and came at a time when Nike was under fire for exploiting workers in under-developed countries. Despite persistent questions on Perretti's part, the company hid behind company policy statements and did not provide a proper rationale for the cancelled order. Perretti gathered these exchanges together in a single email and sent it off to a few friends. The humour and social commentary contained in the set of email correspondence caught popular attention and soon reached thousands of people via email networks. This in turn sparked mainstream broadcast attention, and Peretti's meme was the subject of a range of news and magazine reports, including *Time* magazine, and Peretti himself was interviewed on the *Today Show*, a popular news events talk show in the US.

Other examples include the oft-linked-to website known as Black People Love Us! (blackpeopleloveus.com), which is a wry, if not scathing, commentary on white American liberal paternalism towards black Americans (also created by Jonah Perretti, in collaboration with his sister). The faux 'personal' website comprises a series of 'testimonials' from a middle-class white couple's black friends that emphasise much of the condescension that can occur in naïve liberal positions on social and cultural difference (e.g., references to 'being articulate', white people speaking Black English and claiming a preference for rap music). Another well-known

social commentary meme is the Bush-Blair Love Song meme created by the Swedish group, Read My Lips (atmo.se/zino.aspx?articileID=399). Read My Lips spliced together fragments of news videos of George Bush and Tony Blair, and synched their lip movements and onscreen actions with the love song, 'Your Eyes', to produce a text suggesting an intimate romance between the two. The resulting video stands as a clear indictment of the Bush-Blair alliance in the allied invasion of Iraq and seems to be a popular clip within affinity spaces shaped by people critical of the invasion of Iraq and/or critical of the militarist alliance between Bush and Blair.

A more recent social commentary meme is the Flying Spaghetti Monster (U.S., June 2005), generated by Bobby Henderson as a touch-in-cheek challenge to the Kansas Board of Education's decision to include Intelligent Design – or creationism – as a scientific theory in science classes throughout the state. Henderson decided to take 'seriously' the Board's claim that they were open to multiple scientific theories about the origins of the world and proposed in an open letter to the Board that Monsterism also be taught as a scientific theory in schools, too. In his letter, he outlines how a Flying Spaghetti Monster really created the world and uses statistics and facts (such as how the increase in global temperatures correlates directly with a decrease in pirates) to argue that Monsterism is based in science and not faith, just as the theory of Intelligent Design is based in science, not faith. Henderson posted his letter – and the responses he received from Board members – to a dedicated website and rapidly attracted a strong following. His website (complete with t-shirts and mugs for purchase and a Spaghetti Monster online game) has been reported in the *New York Times* and the UK's *Telegraph* (see: venganza.org). This meme clearly taps into spaces mapped by ongoing debates over whether or not Creationism should be taught in U.S. schools.

Rich intertextuality

Cross-references to a host of popular culture events, artifacts and practices also characterize many of the successful memes selected for this study. Perhaps the most widely known intertextual meme is the Star Wars Kid (Canada and the U.S., 2003). This meme began when schoolmates of 15-year-old, heavily-built Canadian schoolboy, Ghyslain Raza, found a video recording he had made of himself. The tape showed him somewhat awkwardly miming a *Star Wars* movie inspired light sabre fight using a broomstick-like golf ball retriever. His friends uploaded the footage to Kazaa – a now-defunct person to person file sharing service – where it was found by millions of viewers, many of whom added music, special effects and highly recognizable Star Wars sounds (e.g., the light sabre 'swoosh-hum') to create the now-famous Star Wars Kid meme (screamingpickle.com/members/StarWarsKid). Subsequent remixes of this video clip include Ghyslain cast as Gandalf in *Lord of the Rings*, as William Wallace in the movie *Braveheart*, and as Neo from the *Matrix* movies, among others. One version mixes the Dancing Baby meme and Gyhslain in a faux trailer for a Hollywood buddy movie, while another mixes the clip with Tetris, an enormously popular, early video game. These cross-references to popular movies and games clearly tap into an affinity space that recognizes this intertextuality, while at the same time they serve to blur the line between an ordinary life and the extraordinary lives of characters in movie and game universes. The popularity of the Star Wars Kid remixes even produced an online petition to Lucasfilm to include Ghyslain himself as a character in *Episode III* of the *Star Wars* prequel series (petitiononline.com/Ghyslain/petition.html). The Star Wars Kid meme has in turn become a

popular culture touchstone and regularly appears as a reference in animated cartoon series and video games.

The Lost Frog meme also alludes to a range of popular culture phenomena as it remixes and mutates the text of a lost pet announcement (U.S. 2004). The lost pet flier (see Figure 2) was found posted in Seattle streets.

Figure 2: The original lost Hopkin Green Frog flier (<u>Source</u>: lostfrog.org)

A member of a popular image sharing forum scanned the image and uploaded it to the forum archive, where members of this group quickly picked up on the pathos and determination in the child's language and hand-drawn images and used image editing software to manipulate or 'photoshop' the original image. The remixed images produced by this group, and later, by others around the world, are always humorous, yet often touching. Collectively they narrate massive, albeit fictional, citizen mobilization in the ongoing search for Hopkin Green Frog. The remixed images include make use of typical 'missing persons' announcement vehicles (e.g., broadcast media news reports, milk cartons, road signs), crowd scenes seemingly devoted to spreading the news about the lost frog (e.g., 'lost frog' banners at a street march and at crowded soccer match), and a host of other 'remember Hopkin' scenarios (e.g., lost frog scratch-it lottery tickets, Hopkin's ID on someone's instant message buddy list, Hopkin as a 'not found' internet file image). As with the Star Wars Kid meme, references to popular culture artefacts and practices abound, and include reworked book covers, music album covers, video games, eBay auctions, fan conventions, and so on. Other images spoof advertising campaigns (e.g., an Absolut Vodka spread becomes 'Absolut Hopkin'; a Got Milk? advertisement becomes 'Got Frog?'). Many of the lost frog images refer to other memes as well. For example, an aeroplane pulling a lost frog announcement banner also appeared in an All Your Base Are Belong to Us remixed image, as did photoshopped street signs. This rich layering of cross-referencing appears to help the fecundity of a meme by encouraging subsequent photoshoppers to make their own engaging cross-cultural popular references.

<u>Anomalous juxtaposition</u>

In addition to humour and intertextual references, at least four of the memes in the data set for this study included what could be called anomalous juxtaposition as part of their 'hooks' for maximizing the susceptibility of the idea being passed from mind to mind (Oolong the Pancake Bunny, Bert is Evil, Bonsai Kitten and Tourist of Death). The kind of juxtaposition found in these memes includes incongruous couplings of images (e.g., the Tourist of Death figure set against a backdrop of a wide range of historical tragedies), deliberately provocative (e.g., the faux Bonsai Kitten website that presents illustrated—i.e., photoshopped and fake—step-by-step instructions for altering the shape of pet cats), and the simply quirky (e.g., Oolong the Rabbit who was taught to balance objects on its head by Japanese photographer, Hironori Akutagawa. Akutagawa documented these 'head performances' in photographs posted to the internet; or the Numa Numa Dance clip of a North American male lipsynching and dancing to a Romanian pop song while remaining seated in his chair throughout).

The Bert is Evil meme is a good example of this kind of anomalous juxtaposition (2001). This meme was spawned by an actual event. It began with an image of the muppet, Bert, a character from a popular and long-running children's television show, *Sesame Street*, being photoshopped into a picture of Osama bin Laden and uploaded as a joke to an online photoshopper forum. The image was subsequently downloaded and used in Bangladesh on street march banners by supporters of Osama bin Laden. The creators of the banners either did not notice Bert in the picture they downloaded or did not know who Bert was. The banner image caught wide attention and generated a series of remixed images that added evidence to the claim that Bert was actually evil, rather than a harmless children's television character (see: bertisevil.tv). These photoshopped and animated images show the muppet involved with the Klu Klux Klan, as part of President Kennedy's assassination, as connected with the Charles Manson murders, and the like. The overall tenor of these remixed images tends to be one of 'seediness' and 'scandal', with an almost 'paparazzi' or 'salacious' feel to the images in that many are staged to look as though they were taken by hidden cameras and the like. The juxtaposition of horrible, tragic or seedy scenarios with an innocuous puppet from a children's television show generates humour via documentary evidence that clearly cannot be true. The fecundity of this meme may also be due in part to real-life stories concerning the public airing of hidden seedy or immoral lives of some movie and television stars, and particularly stars of children's television.

A non-humorous example of anomalous juxaposition concerns the Nevada-tan meme (Japan 2004). This meme was also sparked by a real-life event. An 11-year-old Japanese school girl murdered a classmate by slashing her throat with a box cutter before returning to class, covered in her classmate's blood. The murderer subsequently became known as 'Nevada-tan' as images of her wearing a hooded sweatshirt emblazoned with the word, 'Nevada', were released via broadcast media and online. Nevada-tan's age and her website full of shock animations (e.g., The Red Room) and other gruesome internet culture references and artefacts sparked national debates in Japan concerning the age limit for criminal culpability and the social effects of internet use. Nevada-tan, however, has become something of an popular culture icon and regularly is depicted as a manga or anime character in fanfiction texts, has generated homage websites, and appears as a character in cosplay (i.e., in-person character role plays often built around anime storylines). Nevada-tan has also formally appeared as a character on the animated television series, *South Park*, and is mentioned in a number of Japanese pop songs. It can be argued that the juxtaposition of a young, ordinary-looking girl with a gruesome murder she did not even try to

hide created attention hooks that helped turn Nevada-tan's case and persona into a meme within affinity spaces interested in Japanese culture and popular culture texts like manga and anime.

Outliers

The characteristics of successful online memes are not cut and dried, however. One meme in the set does not display any of the three shared discursive features of the other successful memes. The Dog Poop Girl meme (South Korea, 2005) stands as an outlier, but nonetheless holds a number of significant implications for social life in general. In brief, this meme initially comprised a photograph of a young woman and her dog on a train in South Korea. The dog had fouled the train carriage and its owner had refused to clean up the mess, even after being asked a number of times to do so. A disgruntled fellow passenger took a phonecam image of the offender and her dog and posted it to a popular website. It was quickly picked up by the internet community and widely circulated online, both in its original form (e.g., japundit.com/archives/2005/06/30/808), and in remixed poster versions (e.g., pds.egloos.com/pds/1/200506/07/79/b0036579_16293022.jpg). It took only a few days for the woman to be identified from this photo and her personal information was published online as a way of punishing her for her failure to be a responsible citizen. The meme in effect became something of a witch hunt, and saw the woman hounded online and offline until she posted a very contrite apology for her actions to an internet forum. This meme attracted broadcast media attention around the world due mostly to its vigilante nature and the breaching of the woman's right to personal privacy.

(ii) A typology of successful internet memes

Although the memes analysed in this study do share common features, discursive analysis shows that they nonetheless fall into different categories of *kinds* of memes. These can be considered in terms of types and in terms of the purposes each is organized around. These differences are summarized below in Figure 3.
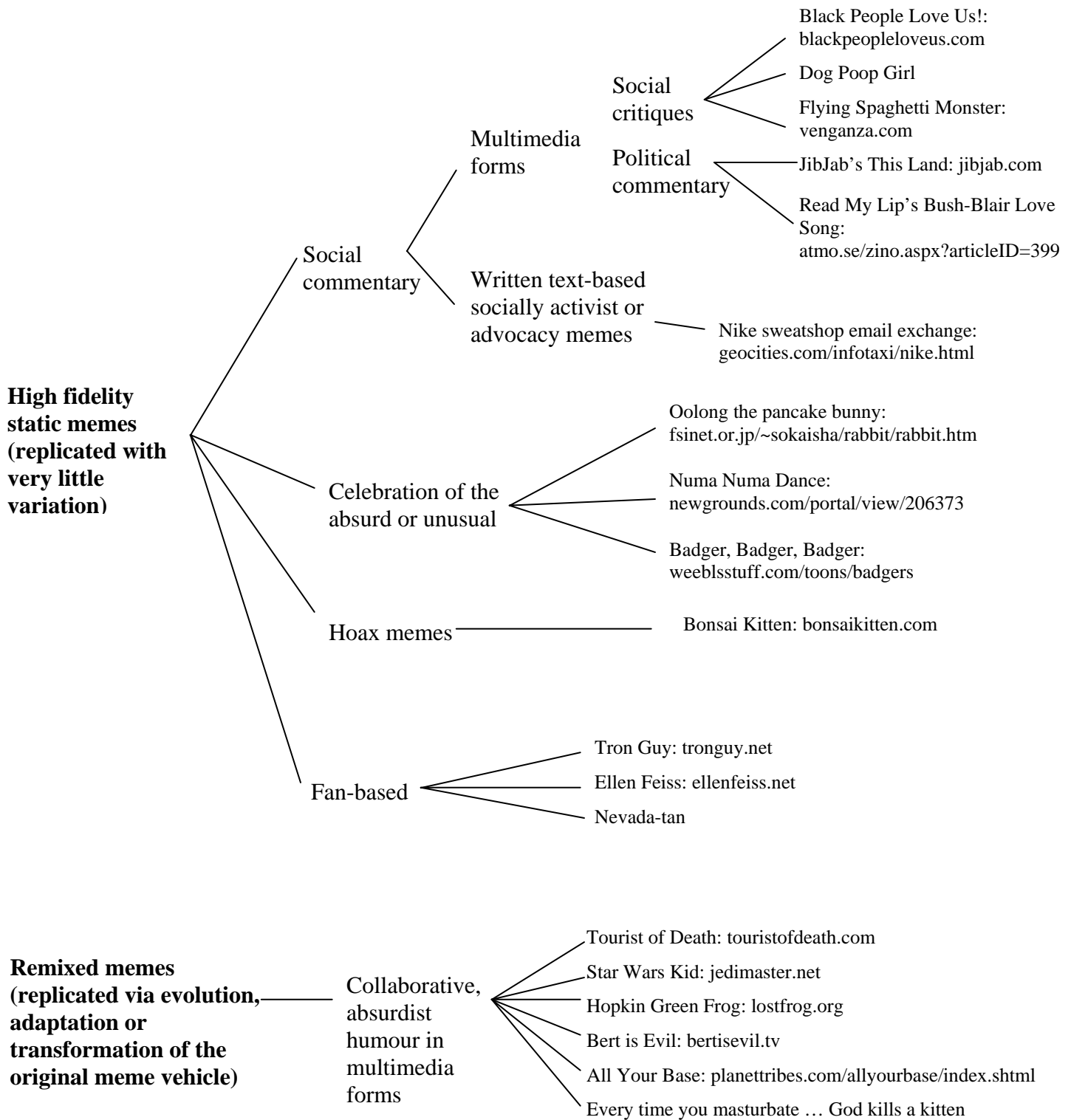
Social critiques
- Black People Love Us!: blackpeopleloveus.com
- Dog Poop Girl
- Flying Spaghetti Monster: venganza.com

Multimedia forms

Political commentary
- JibJab's This Land: jibjab.com
- Read My Lip's Bush-Blair Love Song: atmo.se/zino.aspx?articleID=399

Social commentary

Written text-based socially activist or advocacy memes
- Nike sweatshop email exchange: geocities.com/infotaxi/nike.html

High fidelity static memes (replicated with very little variation)

Celebration of the absurd or unusual
- Oolong the pancake bunny: fsinet.or.jp/~sokaisha/rabbit/rabbit.htm
- Numa Numa Dance: newgrounds.com/portal/view/206373
- Badger, Badger, Badger: weeblsstuff.com/toons/badgers

Hoax memes
- Bonsai Kitten: bonsaikitten.com

Fan-based
- Tron Guy: tronguy.net
- Ellen Feiss: ellenfeiss.net
- Nevada-tan

Remixed memes (replicated via evolution, adaptation or transformation of the original meme vehicle)

Collaborative, absurdist humour in multimedia forms
- Tourist of Death: touristofdeath.com
- Star Wars Kid: jedimaster.net
- Hopkin Green Frog: lostfrog.org
- Bert is Evil: bertisevil.tv
- All Your Base: planettribes.com/allyourbase/index.shtml
- Every time you masturbate … God kills a kitten

Figure 3: Typology of meme media and idea types

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Taking Dawkin's criterion of 'replicability' as a starting point, it is also possible to distinguish between memes that have high fidelity replication and are passed on more or less intact, from those memes where ideas are conveyed through mutating or remixed meme vehicles that both replicate and build on the original meme vehicle. Interestingly, the social commentary memes in this set, including the political and social critique memes, appear to all be high fidelity memes. That is, they are passed from screen to screen and mind to mind quite intact. In contrast, humorous memes in this data set tend in the main to be evolving memes in that their fecundity depends in large part on transforming the original meme vehicle. Understanding why this difference exists may be a fruitful avenue for further research.

Eighteen of the 19 memes appearing in the data are multimodal, rather than printed text alone. Even where a meme begins as a single image (e.g., Dog Poop Girl, the Lost Frog meme), additional texts, images and even sound or animation tend to be added to enhance the meme's contagious qualities. The meme set generated for this study can also be differentiated by looking at those memes which seem to serve more humorous or parodic purposes from those that appear to aim at social and political critique, with the ratio of absurdist to critical memes averaging close to 2 to 1.

(iii) Qualities of 'contagiousness' and 'susceptibility' pertaining to successful internet memes

It appears that the internet is indeed an effective conductor for memes, with the majority of the memes selected for this study enjoying longevity by means of archives, mirror sites and searchable hyperlinks. The blogosphere, in particular, seems to be an ideal vehicle for transmitting memes, with weblogs replacing email and discussion forums as a chief way of spreading contagious memes (see, in particular, memes emerging in 2002 and after). At least 11 of the 19 memes in this study can be said to have been made more fecund via transmission through the blogosphere. This finding resonates with the ongoing work of Eytan Adar and his colleagues at the Hewlett Packard Dynamics Lab which focuses on tracing what they call 'information epidemics' spread via weblogs, which they see as potent fields for spreading contagious ideas (Adar et al. 2004: 1).

An analysis of the memes collected for this study suggests no easy list of characteristics that ensure a meme is contagious, fecund and long lasting. It can be said, however, that the memes in this pool are either, or both, ludic and timely. That is, ludic in the sense of being seriously playful. This includes dignifying the everyday or banal with epically-scaled imagined responses or remixes that cast a minor event or ordinary person as having global import, as is the case with the Star Wars Kid and All Your Base. It can include celebrating quirkiness, as is the case with Oolong the Pancake Bunny or Badger, Badger, Badger. It can also include visual jokes that juxtapose incongruous images to create humorous final pictures that take on a life of their own, as is the case with the Tourist of Death and Bert Is Evil memes. This kind of playfulness taps into shared popular culture experiences and practices, and in many ways helps to define certain affinity spaces (e.g., gamer spaces, photoshopping spaces, manga/anime spaces, political commentary spaces) by nods and winks to those 'in the know' as it were. As such, important attention hooks and susceptibility factors in successful online memes also appear to be tied to identity matters. The memes gathered for this study seem to appeal to two broad and most likely

overlapping groups: one that enjoys playful, absurdist ideas that carry little serious content, and one that enjoys humorous ideas that carry serious content or social critique (see Figure 2 above).

'Timeliness' is associated more with those 6 memes in the data set whose purpose is to comment or critique some aspect of society. The successfulness of these memes seems attributable in a significant way to the match between them and recognizable events or issues in the larger world (and confirmed by analysis of the contextual system invoked by or embodied in the meme). The Nike Sweatshop Shoe meme was launched into a context of existing critiques of corporate manufacturing practices that made it ripe for contagiousness. The Bush-Blair Love Song was launched during a time of growing civil disquiet over the U.S. and British military coalition in the invasion of Iraq. Anti-war protestors, in particular, were willing carriers of this meme. Interestingly enough, all save one of the social commentary memes in this study have playfully serious qualities to them as well, which may further serve to enhance their contagiousness and fecundity. It may well be that participating as a carrier in passing this meme on to others marks somebody as being a person of a particular kind who has particular *desirable* characteristics and worldviews within groups or social spaces committed to critiques of power and inequity. This in itself may act as an attractor for social commentary meme infection as well.

Memes and literacy education

Memes are thoroughly social in that they require networked human hosts in order to survive. An idea generated by a single person and not passed on to others is not a meme. The study of online memes as a new literacy therefore needs to attend carefully to this social-ness and avoid reducing meme research to an examination of reading and writing processes at the level of texts. With respect to literacy education in schools, the social dimension of meme-ing translates into focussing on practices that are larger than reading and writing and which can be captured by means of distinguishing between 'big L' Literacies and 'little l' literacies. This is, of course, a shameless remix of James Paul Gee's work that draws a distinction between D/discourse and R/reading (cf. Gee 1996, 2004), but it is nonetheless a useful way of thinking about literacies in general and new literacies in particular. For us, L̲iteracy, with a 'big L' refers to making meaning in ways that are tied directly to life and to ways of being in the world (cf., Freire 1972, Street 1984). That is, whenever we use language we are making some sort of significant or socially recognizable 'move' that is inextricably tied to someone bringing into being or realizing some element or aspect of their world. This means that l̲iteracy, with a 'small l,' is the actual processes of reading and writing and using words and images that is part of these larger, more embodied L̲iteracy practices. In short, this distinction explicitly recognises that L/literacy is always about reading and writing something, and that this something is always part of a larger pattern of being in the world (Gee, Lankshear and Hull 1996). And, because there are multiple ways of being in the world, then there we can say that there are multiple L/literacies.

Using this distinction to think about *new* literacies enables us to see how producing a photoshopped image for the Lost Frog or All Your Base memes is an example of l̲iteracy that involves, for example, generating a text comprising a carefully designed montage of photographic and hand-drawn images along with written words or embedded sound effects. The multimedia dimensions of this text production are to some extent recognizably and interestingly 'new'; understanding how to generate and meld layers of images, sound and printed text into a

seamless whole that has the maximum appearance of veracity requires a range of finely-honed technical skills and competencies.

More important, however, are the 'big L' Literacy practices associated with meming that are invested in meaning making, social significance-making, and identity-making in one's life worlds. The texts and montages produced and read as part of being infected with and propagating a meme online are never free standing but are implicated in and generated out of networks of shared interests, experiences, habits, worldviews and the like that pick up on or use texts, events, phenomena, icons, cultural artefacts etc. in particular if not socially idiosyncratic ways. For example, posting a picture of a rabbit with pancakes on its head only makes sense in an online forum that celebrates quirky conversation responses. A 'big L' conception of new Literacies recognizes that everyday life is often amplified through participation of and interaction with people one may never meet and that this interaction and participation may occur in ways never possible before. The Lost Frog meme isn't simply about generating humorous images concerning the search for or the whereabouts of a child's lost frog. It plays out as a distributed collaboration that crosses national borders and languages (e.g., not all the lost frog images make use of English) and brings together people who may not know each other, but who value each other's contribution nonetheless. The 'big L' dimensions of the Lost Frog meme is include recognizing how amateurish or clumsy photoshopping will not prove to be as memorable or as contagious as something slick and well-crafted both in terms of design and technical proficiency; at the same time, it also includes knowing that a particularly humorous or conceptually clever version of the meme will win out over technical execution any day. It also includes recognizing clever intertextuality in the form of cross-references to other memes or cultural practices and phenomena (e.g., conspiracy theories, alien abduction theories, computer or web browser error messages, the social role of remembrance ribbons and 'missing persons' announcement vehicles, etc.). The Literacy practices of meming also involve people deciding on how they will choose to read or interpret a meme and the 'spin' they will give it as they pass it along. In the case of the Lost Frog meme, this decision could mean that one sees the archive of lost frog images as poking cruel fun at the 16-year-old autistic young man who was found to have posted the original flier (Whybark 2004), or as evidence that ordinary events, such as losing a pet or toy, can take on epic proportions within a person's real life and that this quality is aptly represented and dignified in the lost frog image archive.

Some of the other 'Big L' Literacy practices discernible in the meme set for this study include the practices of video game playing, enjoying Japanese popular culture icons, being a fan (which can include writing fanfiction, setting up homage websites, drawing fan manga, etc.), being privy to a plethora of online affinity space 'insider jokes', being familiar with Hollywood movies, with fan practices such as lipsynching to pop songs or cosplay, and so on. Ursula Franklin, writing well over a decade ago about researching new digital technologies, herself warned against taking an 'artifactual approach' to examining new technologies, and argued for focusing instead on technology use in terms of being part of a 'system of social practice' (Franklin 1990). Franklin's advice applies to studying new L/literacies, as well. When we examine memes as Literacy practices it is possible to see that they involve much more than simply passing on and/or adding to written or visual texts or information *per se* (i.e., literacy), but are tied directly to ways of interacting with others, to meaning making, and to ways of being in the world.

The importance of teachers having a 'big L' Literacy mindset on memes cannot be over-emphasized. Understanding successful online memes can contribute much to identifying the limitations of narrow conceptions of literacy and new technologies, as well as to understanding new forms of social participation and influence, and new ways of practicing critical literacy in everyday life. For example, online memes challenge the growing dominance of 'digital literacy' conceptions of what it means to be a competent user of new technologies and networks. Increasingly, digital literacy is being defined by policy groups and others as either technical competence with using computers and the internet (cf., accounts in Lankshear and Knobel 2005), or as the ability to evaluate information by examining sources, weighing up author credibility, assaying the quality of writing and argument building in an online text, judging the 'truth value' of a text found online, and so on (e.g., Gilster 1998). Many of the successful memes included in this study would be discounted or ignored by digital literacy advocates because they do not carry 'useful' information, despite the unquestionable fecundity and replication of each meme. Digital literacy mindsets do not pay adequate attention to the importance of social relations in developing, refining, remixing and sharing ideas in fecund and replicable ways, or the role memes themselves play in developing culture and creativity (cf., Lessig 2004).

Applying conventional information evaluation criteria and digital literacy competency checklists to websites like *Black People Love Us!* will make little sense because the website itself is a deliberate parody of personal web pages and is not meant, on the surface, to be 'true' in any conventional way. The 'testimonials' themselves may or may not be 'true' or 'authentic', but this does really matter. They nonetheless convey a significant message. From a technical standpoint, the website is painfully cheesy in its design, and no doubt deliberately so. What matters most about this meme is the challenge it offers to patronizing liberal attitudes towards racial differences that focus on ignoring or celebrating physical differences rather than on ameliorating structural and other inequities between different cultural groups. To come at this issue from another angle, a noticeable number of the remixed images in the All Your Base meme are technically sophisticated and polished, but certainly not all of them can be considered the work of proficient photoshoppers. Technical competence is clearly *not* a major criterion for including an image in a meme 'stream'. What does appear to be important is that the final image is clearly, recognisably and cleverly linked in some way to the idea being carried by the meme itself.

Meming is also a fruitful practice for educators to focus on when thinking about new forms of social participation and civic action in the wake of increasingly ubiquitous access to the internet and involvement in increasingly dispersed social networks. Brodie (1996) has long argued for more attention to be paid to the memes with which we are infected, and with which we infect others, as well as to the material effects of these infections. In the case of the memes gathered for this study, not all of them have positive material outcomes or contribute positively to rich and productive ways of being in the world. The Dog Poop Girl meme, for example, rightly roused criticisms of the vigilante way in which the woman was identified and then publicly hounded until she apologized. The power of this meme to mobilize public censure of this woman was clearly significant in its reach and has opened a Pandora's box of issues concerning to what extent memes should be used to right relatively minor social wrongs and by what authority. In South Korea, academics and journalists alike have been openly discussing the importance of understanding the dangers of witch-hunt types of approaches to public castigation of a person. Contributing to this meme by creating faux 'Wanted' posters or by passing the woman's picture

and personal details along to others is not an innocent, playful or morally clear-cut act and provides fruitful ground for teachers from which to launch discussions about the moral and civic dimensions of participating in certain memes.

The Star Wars Kid meme also provides fruitful ground for teachers and students to examine what happens when a very reluctant meme star is adopted by a wide-ranging cybercommunity who spend enormous amounts of energy identifying who he is in meatspace and where he lives, and who then broadcast his full name across the internet, focussing widespread broadcast media attention on this reluctant star. It turns out that Ghyslain himself did not find anything funny about the Star Wars Kid meme, and he and his parents regarded it as cruel and invasive. Ironically, a group of cybercitizens who banded together and raised money to buy him an iPod were offended when he not only refused to have anything to do with them and their iPod, but brought changes against certain meme participants on invasion of privacy and related counts. Although well-intentioned in all cases of this kind, the material effects of memes are not always beneficial to meme 'stars' and neither do all of these 'stars' welcome the attention directed at them (cf. the Ellen Fleiss; the father of Terry, who lost his frog; Gary Brolma of Numa Numa Dance fame). Examining memes like this can add new meaning to participating in memes that includes an ability to weigh up how far one's participation will reach.

Analysing meme processes and effects as new forms of social influence can become an important part of revising critical literacy practices in classrooms to better take account of new literacy practices and new ways of transmitting both healthy and toxic ideas rapidly and extensively. Counter-meming is a well-established practice online, and refers to the deliberate generation of a meme that aims at neutralizing or eradicating potentially harmful ideas (see, for example, the work of Adbusters.com and strategies outlined at memecentral.com/antidote.htm, allyourbrand.org/why.htm and dkosopedia.com/index.php/Meme). Mike Godwin (1994), for example, documents how he deliberately began a meme to counter what he called the 'Nazi-meme' that he saw operating in different online discussion boards to which he belonged. Godwin describes this Nazi-meme as the then widespread practice of posters drawing direct analogies between what another poster wrote and Nazism, and he felt compelled to counteract this often glib and offensive analogy. So he developed 'Godwin's Law of Nazi Analogies' and released this meme into discussion groups wherever he saw a gratuitous Nazi reference. His original 'law' stated that: 'As an online discussion grows longer, the probability of a comparison involving Nazis or Hitler approaches one' (Godwin 1994: 1). Godwin found that his meme quickly caught on and became a kind of 'marker' for judging the worth of a discussion thread. The original statement of Godwin's Law underwent a number of mutations at the word level, but the idea itself remained intact. Godwin himself recounts,

> As *Cuckoo's Egg* author Cliff Stoll once said to me: "Godwin's Law? Isn't that the law that states that once a discussion reaches a comparison to Nazis or Hitler, its usefulness is over?" By my (admittedly low) standards, the experiment was a success. (1994: 1).

Godwin proposes that this kind of 'memetic engineering' is an important component in contributing to the health of people's social and mental lives. Godwin proposes that once a harmful meme has been identified we may well have a social and moral responsibility to chase it

down by releasing a positive counter-meme within the idea-stream. Studying memetic engineering may well prove to be a fruitful component of classroom critical literacy approaches to understanding social power and influence. At least 5 of the 19 memes collected for this study can be categorized as successful and mostly deliberate counter-memes (i.e., the Nike Sweatship Shoe meme, the Black People Love Us! meme, The Flying Spaghetti Monster meme, the This Land meme, and the Bush-Blair Lovesong meme). When we began this study, we expected the ratio to be much further apart than it is. These memes provide fruitful terrain for teachers and students to examine their contagious qualities, the ideas they convey and why, and to discuss where each student stands with respect to each meme and why, as part of developing informed points of view on a range of social issues. It is also worth bearing in mind in any revision of critical literacy pedagogy to keep in mind that researchers like Adar and his colleagues are starting to argue that the most socially powerful or *influential* people online are not necessarily high profile persons and groups, but rather, are those people those who *cause* idea epidemics (Adar in conversation with Asaravala 2004: 1).

The power of memes to spread contagious ideas and to infect minds with particular ideas is widely recognized, and different groups have begun experimenting with meme engineering and distribution on quite significant scales. This work offers a range of models for working with memes from within classroom spaces. The critiques of mainstream media, marketing, and consumption memes propagated by the non-profit group, Adbusters (adbusters.org), provide excellent models of the kinds of memes students can participate actively in as part of dynamic approaches to resisting corporate-manufactured identities and consumption mindsets (see, for example, unbrandamerica.org). Non-profit community groups are also beginning to look to the grassroots mobilization that occurs around remixed or evolving multimedia memes as a viable model for mobilizing commitment to social causes (e.g., Surman and Reilly 2003).

A recent meme engineering contest hosted by Eyebeam, a non-profit digital arts and education outfit in New York City, and titled the 'Contagious Media Showdown' (showdown.contagiousmedia.org) awarded prizes to meme-based websites developed explicitly for a contest that awarded prizes to the idea (presented via a website) that generated the most unique visitors, was linked to most by weblogs, or that scored highly on a well-known popularity index (Alexa.com) which 'measures' the websites traffic. The content of the winning memes was more bizarre than socially aware (e.g., a hoax website advertising underwear with built-in satellite tracking devices for keeping track of loved ones was the overall winner; another winner was a website comprising video clips of people crying while eating); however, the motivation behind the contest and its outcomes (the tracker panties website attracted well over 20 million unique visitors during the three week contest time period; collectively, the 60 entries in the contest attracted over 50 million unique visitors in the same period) are instructive with respect to the effectiveness of the internet as a meme carrier and the accessible processes by which one can generate and disseminate memes online.

Conclusion

Within literacy education, analysis and dissection of online memes can be used to explore why some ideas are more easily replicated, are more fecund and have more longevity than others, and what the consequences of this are or might be. Studying online memes that aim at promoting social critique can help educators to rethink conventional approaches to critical literacy that often operate at the level of text analysis without taking sufficient account of the social practices, ideas, affinities and new forms of social participation that generated the phenomenon under examination. Engaging with online memes as examples of new L/literacies can help educators to equip students with important strategies for identifying the memes that infect their minds, and for evaluating the effects these memes have on their (ethical) decision-making, social actions and their relations with others. Well-informed and savvy online meming may well provide students with a fruitful and accessible practice for bringing about positive social changes in the ways people think and, perhaps, act towards others.

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