

## M/C Journal, Vol. 16, No. 2 (2013) - 'mining'

### The Social Media Contradiction: Data Mining and Digital Death

<http://journal.media-culture.org.au/index.php/mcjournal/article/view/625>

Tama Leaver

## Introduction

Many social media tools and services are free to use. This fact often leads users to the mistaken presumption that the associated data generated whilst utilising these tools and services is without value. Users often focus on the *social* and presumed ephemeral nature of communication – imagining something that happens but then has no further record or value, akin to a telephone call – while corporations behind these tools tend to focus on the *media* side, the lasting value of these traces which can be combined, mined and analysed for new insight and revenue generation. This paper seeks to explore this social media contradiction in two ways. Firstly, a cursory examination of Google and Facebook will demonstrate how data mining and analysis are core practices for these corporate giants, central to their functioning, development and expansion. Yet the public rhetoric of these companies is not about the exchange of personal information for services, but rather the more utopian notions of organising the world's information, or bringing everyone together through sharing.

The second section of this paper examines some of the core ramifications of death in terms of social media, asking what happens when a user suddenly exists only as recorded media fragments, at least in digital terms. Death, at first glance, renders users (or post-users) without agency or, implicitly, value to companies which data-mine ongoing social practices. Yet the emergence of digital legacy management highlights the value of the data generated using social media, a value which persists even after death. The question of a digital estate thus illustrates the cumulative value of social media as *media*, even on an individual level. The ways Facebook and Google approach digital death are examined, demonstrating policies which enshrine the agency and rights of living users, but become far less coherent posthumously. Finally, along with digital legacy management, I will examine the potential for posthumous digital legacies which may, in some macabre ways, actually reanimate some aspects of a deceased user's presence, such as the [Lives On](#) service which touts the slogan "when your heart stops beating, you'll keep tweeting". Cumulatively, mapping digital legacy management by large online corporations, and the affordances of more focussed services dealing with digital death, illustrates the value of data generated by social media users, and the continued importance of the data even beyond the grave.

## Google

While Google is universally synonymous with search, and is the world's dominant search engine, it is less widely understood that one of the core elements keeping Google's search results relevant is a complex operation mining user data. Different tools in Google's array of services mine data in different ways (Zimmer, "Gaze"). Gmail, for example, uses algorithms to analyse an individual's email in order to display the most relevant related advertising. This form of data mining is comparatively well known, with most Gmail users knowingly and willingly accepting more personalised advertising in order to use Google's email service. However, the majority of people using Google's search engine are unaware that search, too, is increasingly driven by the tracking, analysis and refining of results on the basis of user activity (Zimmer, "Externalities"). As Alexander Halavais (160–180) quite rightly argues, recent focus on the idea of social search – the deeper integration of social network information in gauging search results – is oxymoronic; all search, at least for Google, is driven by deep analysis of personal and aggregated social data. Indeed, the success of Google's mining of user data has led to concerns that often invisible processes of customisation and personalisation will mean that the supposedly independent or objective algorithms producing Google's search results will actually yield a different result for every

person. As Siva Vaidyanathan laments: "as users in a diverse array of countries train Google's algorithms to respond to specialized queries with localised results, each place in the world will have a different list of what is important, true, or 'relevant' in response to any query" (138). Personalisation and customisation are not inherently problematic, and frequently do enhance the relevance of search results, but the main objection raised by critics is not Google's data mining, but the lack of transparency in the way data are recorded, stored and utilised. Eli Pariser, for example, laments the development of a ubiquitous "filter bubble" wherein all search results are personalised and subjective but are hidden behind the rhetoric of computer-driven algorithmic objectivity (Pariser).

While data mining informs and drives many of Google's tools and services, the cumulative value of these captured fragments of information is best demonstrated by the new service [Google Now](#). Google Now is a mobile app which delivers an ongoing stream of search results but without the need for user input. Google Now extrapolates the rhythms of a person's life, their interests and their routines in order to algorithmically determine what information will be needed next, and automatically displays it on a user's mobile device. Clearly Google Now is an extremely valuable and clever tool, and the more information a user shares, the better the ongoing customised results will be, demonstrating the direct exchange value of personal data: total personalisation requires total transparency. Each individual user will need to judge whether they wish to share with Google the considerable amount of personal information needed to make Google Now work. The pressing ethical question that remains is whether Google will ensure that users are sufficiently aware of the amount of data and personal privacy they are exchanging in order to utilise such a service.

## Facebook

Facebook began as a closed network, open only to students at American universities, but has transformed over time to a much wider and more open network, with over a billion registered users. Facebook has continually reinvented their interface, protocols and design, often altering both privacy policies and users' experience of privacy, and often meeting significant and vocal resistance in the process (boyd). The data mining performed by social networking service Facebook is also extensive, although primarily aimed at refining the way that targeted advertising appears on the platform. In 2007 Facebook partnered with various retail loyalty services and combined these records with Facebook's user data. This information was used to power Facebook's Beacon service, which added details of users' retail history to their Facebook news feed (for example, "Tama just purchased a HTC One"). The impact of all of these seemingly unrelated purchases turning up in many people's feeds suddenly revealed the complex surveillance, data mining and sharing of these data that was taking place (Doyle and Fraser). However, as Beacon was turned on, without consultation, for all Facebook users, there was a sizable backlash that meant that Facebook had to initially switch the service to opt-in, and then discontinue it altogether. While Beacon has been long since erased, it is notable that in early 2013 Facebook announced that they have strengthened partnerships with data mining and profiling companies, including Datalogix, Epsilon, Acxiom, and BlueKai, which harness customer information from a range of loyalty cards, to further refine the targeting ability offered to advertisers using Facebook (Hof). Facebook's data mining, surveillance and integration across companies is thus still going on, but no longer directly visible to Facebook users, except in terms of the targeted advertisements which appear on the service.

Facebook is also a platform, providing a scaffolding and gateway to many other tools and services. In order to use social games such as Zynga's *Farmville*, Facebook users agree to allow Zynga to access their profile information, and use Facebook to authenticate their identity. Zynga has been unashamedly at the forefront of user analytics and data mining, attempting to algorithmically determine the best way to make virtual goods within their games attractive enough for users to pay for them with real money. Indeed, during a conference presentation, Zynga Vice President Ken Rudin stated outright that Zynga is "an analytics company masquerading as a games company" (Rudin). I would contend that this

masquerade succeeds, as few Farmville players are likely to consider how their every choice and activity is being algorithmically scrutinised in order to determine what virtual goods they might actually buy. As an instance of what is widely being called 'big data', the data mining operations of Facebook, Zynga and similar services lead to a range of ethical questions (boyd and Crawford). While users may have ostensibly agreed to this data mining after clicking on Facebook's Terms of Use agreement, the fact that almost no one reads these agreements when signing up for a service is the Internet's worst kept secret. Similarly, the extension of these terms when Facebook operates as a platform for other applications is a far from transparent process.

While examining the recording of user data leads to questions of privacy and surveillance, it is important to note that many users are often aware of the exchange to which they have agreed. Anders Albrechtslund deploys the term 'social surveillance' to usefully emphasise the knowing, playful and at times subversive approach some users take to the surveillance and data mining practices of online service providers. Similarly, E.J. Westlake notes that performances of self online are often not only knowing but deliberately false or misleading with the aim of exploiting the ways online activities are tracked.

However, even users well aware of Facebook's data mining on the site itself may be less informed about the social networking company's mining of offsite activity. The introduction of 'like' buttons on many other Websites extends Facebook's reach considerably. The various social plugins and 'like' buttons expand both active recording of user activity (where the like button is actually clicked) and passive data mining (since a cookie is installed or updated regardless of whether a button is actually pressed) (Gerlitz and Helmond). Indeed, because cookies – tiny packets of data exchanged and updated invisibly in browsers – assign each user a unique identifier, Facebook can either combine these data with an existing user's profile or create profiles about non-users. If that person even joins Facebook, their account is connected with the existing, data-mined record of their Web activities (Roosendaal). As with Google, the significant issue here is not users knowingly sharing their data with Facebook, but the often complete lack of transparency in terms of the ways Facebook extracts and mines user data, both on Facebook itself and increasingly across applications using Facebook as a platform and across the Web through social plugins.

## Google after Death

While data mining is clearly a core element in the operation of Facebook and Google, the ability to scrutinise the activities of users depends on those users being active; when someone dies, the question of the value and ownership of their digital assets becomes complicated, as does the way companies manage posthumous user information. For Google, the Gmail account of a deceased person becomes inactive; the stored email still takes up space on Google's servers, but with no one using the account, no advertising is displayed and thus Google can earn no revenue from the account. However, the process of accessing the Gmail account of a deceased relative is an incredibly laborious one. In order to even begin the process, Google asks that someone physically mails a series of documents including a photocopy of a government-issued ID, the death certificate of the deceased person, evidence of an email the requester received from the deceased, along with other personal information. After Google have received and verified this information, they state that they *might* proceed to a second stage where further documents are required. Moreover, if at any stage Google decide that they cannot proceed in releasing a deceased relative's Gmail account, they will not reveal their rationale. As their support documentation states: "because of our concerns for user privacy, if we determine that we cannot provide the Gmail content, we will not be able to share further details about the account or discuss our decision" (Google, "Accessing"). Thus, Google appears to enshrine the rights and privacy of individual users, even posthumously; the ownership or transfer of individual digital assets after death is neither a given, nor enshrined in Google's policies. Yet, ironically, the economic value of that email to Google is likely zero, but the value of the email history of a loved one or business partner may be of substantial financial and emotional value, probably more so

than when that person was alive. For those left behind, the value of email accounts as media, as a lasting record of social communication, is heightened.

The question of how Google manages posthumous user data has been further complicated by the company's March 2012 rationalisation of over seventy separate privacy policies for various tools and services they operate under the umbrella of a single privacy policy accessed using a single unified Google account. While this move was ostensibly to make privacy more understandable and transparent at Google, it had other impacts. For example, one of the side effects of a singular privacy policy and single Google identity is that deleting one of a recently deceased person's services may inadvertently delete them all. Given that Google's services include Gmail, YouTube and Picasa, this means that deleting an email account inadvertently erases all of the Google-hosted videos and photographs that individual posted during their lifetime. As Google warns, for example: "if you delete the Google Account to which your YouTube account is linked, you will delete both the Google Account AND your YouTube account, including all videos and account data" (Google, "What Happens"). A relative having gained access to a deceased person's Gmail might sensibly delete the email account once the desired information is exported. However, it seems less likely that this executor would realise that in doing so all of the private and public videos that person had posted on YouTube would also permanently disappear.

While material possessions can be carefully dispersed to specific individuals following the instructions in someone's will, such affordances are not yet available for Google users. While it is entirely understandable that the ramification of policy changes are aimed at living users, as more and more online users pass away, the question of their digital assets becomes increasingly important. Google, for example, might allow a deceased person's executor to elect which of their Google services should be kept online (perhaps their YouTube videos), which traces can be exported (perhaps their email), and which services can be deleted. At present, the lack of fine-grained controls over a user's digital estate at Google makes this almost impossible. While it violates Google's policies to transfer ownership of an account to another person, if someone does leave their passwords behind, this provides their loved ones with the best options in managing their digital legacy with Google. When someone dies and their online legacy is a collection of media fragments, the value of those media is far more apparent to the loved ones left behind rather than the companies housing those media.

## Facebook Memorialisation

In response to users complaining that Facebook was suggesting they reconnect with deceased friends who had left Facebook profiles behind, in 2009 the company instituted an official policy of turning the Facebook profiles of departed users into memorial pages (Kelly). Technically, loved ones can choose between memorialisation and erasing an account altogether, but memorialisation is the default. This entails setting the account so that no one can log into it, and that no new friends (connections) can be made. Existing friends can access the page in line with the user's final privacy settings, meaning that most friends will be able to post on the memorialised profile to remember that person in various ways (Facebook). Memorialised profiles (now Timelines, after Facebook's redesign) thus become potential mourning spaces for existing connections.

Since memorialised pages cannot make new connections, public memorial pages are increasingly popular on Facebook, frequently set up after a high-profile death, often involving young people, accidents or murder. Recent studies suggest that both of these Facebook spaces are allowing new online forms of mourning to emerge (Marwick and Ellison; Carroll and Landry; Kern, Forman, and Gil-Egui), although public pages have the downside of potentially inappropriate commentary and outright trolling (Phillips). Given Facebook has over a billion registered users, estimates already suggest that the platform houses 30 million profiles of deceased people, and this number will, of course, continue to grow (Kaleem).

For Facebook, while posthumous users do not generate data themselves, the fact that they

were part of a network means that their connections may interact with a memorialised account, or memorial page, and this activity, like all Facebook activities, allows the platform to display advertising and further track user interactions. However, at present Facebook's options – to memorialise or delete accounts of deceased people – are fairly blunt. Once Facebook is aware that a user has died, no one is allowed to edit that person's Facebook account or Timeline, so Facebook literally offers an all (memorialisation) or nothing (deletion) option. Given that Facebook is essentially a platform for performing identities, it seems a little short-sighted that executors cannot clean up or otherwise edit the final, lasting profile of a deceased Facebook user. As social networking services and social media become more ingrained in contemporary mourning practices, it may be that Facebook will allow more fine-grained control, positioning a digital executor also as a posthumous curator, making the final decision about what does and does not get kept in the memorialisation process. Since Facebook is continually mining user activity, the popularity of mourning as an activity on Facebook will likely mean that more attention is paid to the question of digital legacies. While the user themselves can no longer be social, the social practices of mourning, and the recording of a user as a media entity highlights the fact that social media can be about interactions which in significant ways include deceased users.

## Digital Legacy Services

While the largest online corporations have fairly blunt tools for addressing digital death, there are a number of new tools and niche services emerging in this area which are attempting to offer nuanced control over digital legacies. [Legacy Locker](#), for example, offers to store the passwords to all of a user's online services and accounts, from Facebook to Paypal, and to store important documents and other digital material. Users designate beneficiaries who will receive this information after the account holder passes away, and this is confirmed by preselected "verifiers" who can attest to the account holder's death. [Death Switch](#) similarly provides the ability to store and send information to users after the account holder dies, but tests whether someone is alive by sending verification emails; fail to respond to several prompts and Death Switch will determine a user has died, or is incapacitated, and executes the user's final instructions. [Perpetu](#) goes a step further and offers the same tools as Legacy Locker but also automates existing options from social media services, allowing users to specify, for example, that their Facebook, Twitter or Gmail data should be downloaded and this archive should be sent to a designated recipient when the Perpetu user dies. These tools attempt to provide a more complex array of choices in terms of managing a user's digital legacy, providing similar choices to those currently available when addressing material possessions in a formal will. At a broader level, the growing demand for these services attests to the ongoing value of online accounts and social media traces after a user's death. Bequeathing passwords may not strictly follow the Terms of Use of the online services in question, but it is extremely hard to track or intervene when a user has the legitimate password, even if used by someone else. More to the point, this finely-grained legacy management allows far more flexibility in the utilisation and curation of digital assets posthumously. In the process of signing up for one of these services, or digital legacy management more broadly, the ongoing value and longevity of social media traces becomes more obvious to both the user planning their estate and those who ultimately have to manage it.

## The Social Media Afterlife

The value of social media beyond the grave is also evident in the range of services which allow users to communicate in some fashion after they have passed away. [Dead Social](#), for example, allows users to schedule posthumous social media activity, including the posting of tweets, sending of email, Facebook messages, or the release of online photos and videos. The service relies on a trusted executor confirming someone's death, and after that releases these final messages effectively from beyond the grave. [If I Die](#) is a similar service, which also has an integrated Facebook application which ensures a user's final message is directly displayed on their Timeline. In a bizarre promotional campaign around a service called [If I Die](#)

First, the company is promising that the first user of the service to pass away will have their posthumous message delivered to a huge online audience, via popular blogs and mainstream press coverage. While this is not likely to appeal to everyone, the notion of a popular posthumous performance of self further complicates that question of what social media can mean after death.

Illustrating the value of social media legacies in a quite different but equally powerful way, the Lives On service purports to algorithmically learn how a person uses Twitter while they are live, and then continue to tweet in their name after death. Internet critic Evgeny Morozov argues that Lives On is part of a Silicon Valley ideology of 'solutionism' which casts every facet of society as a problem in need of a digital solution (Morozov). In this instance, Lives On provides some semblance of a solution to the problem of death. While far from defeating death, the very fact that it might be possible to produce any meaningful approximation of a living person's social media after they die is powerful testimony to the value of data mining and the importance of recognising that value. While Lives On is an experimental service in its infancy, it is worth wondering what sort of posthumous approximation might be built using the robust data profiles held by Facebook or Google. If Google Now can extrapolate what a user wants to see without any additional input, how hard would it be to retool this service to post what a user would have wanted after their death? Could there, in effect, be a Google After(life)?

## Conclusion

Users of social media services have differing levels of awareness regarding the exchange they are agreeing to when signing up for services provided by Google or Facebook, and often value the social affordances without necessarily considering the ongoing media they are creating. Online corporations, by contrast, recognise and harness the informatic traces users generate through complex data mining and analysis. However, the death of a social media user provides a moment of rupture which highlights the significant value of the media traces a user leaves behind. More to the point, the value of these media becomes most evident to those left behind precisely because that individual can no longer be social. While beginning to address the issue of posthumous user data, Google and Facebook both have very blunt tools; Google might offer executors access while Facebook provides the option of locking a deceased user's account as a memorial or removing it altogether. Neither of these responses do justice to the value that these media traces hold for the living, but emerging digital legacy management tools are increasingly providing a richer set of options for digital executors. While the differences between material and digital assets provoke an array of legal, spiritual and moral issues, digital traces nevertheless clearly hold significant and demonstrable value. For social media users, the death of someone they know is often the moment where the *media* side of social media – their lasting, infinitely replicable nature – becomes more important, more visible, and casts the value of the social media accounts of the living in a new light. For the larger online corporations and service providers, the inevitable increase in deceased users will likely provoke more fine-grained controls and responses to the question of digital legacies and posthumous profiles. It is likely, too, that the increase in online social practices of mourning will open new spaces and arenas for those same corporate giants to analyse and data-mine.

## References

- Albrechtslund, Anders. "Online Social Networking as Participatory Surveillance." *First Monday* 13.3 (2008). 21 Apr. 2013 <<http://firstmonday.org/article/view/2142/1949>>.
- boyd, danah. "Facebook's Privacy Trainwreck: Exposure, Invasion, and Social Convergence." *Convergence* 14.1 (2008): 13–20.
- , and Kate Crawford. "Critical Questions for Big Data." *Information, Communication & Society* 15.5 (2012): 662–679.

Carroll, Brian, and Katie Landry. "Logging On and Letting Out: Using Online Social Networks to Grieve and to Mourn." *Bulletin of Science, Technology & Society* 30.5 (2010): 341–349.

Doyle, Warwick, and Matthew Fraser. "Facebook, Surveillance and Power." *Facebook and Philosophy: What's on Your Mind?* Ed. D.E. Wittkower. Chicago, IL: Open Court, 2010. 215–230.

Facebook. "Deactivating, Deleting & Memorializing Accounts." *Facebook Help Center*. 2013. 7 Mar. 2013 <<http://www.facebook.com/help/359046244166395/>>.

Gerlitz, Carolin, and Anne Helmond. "The Like Economy: Social Buttons and the Data-intensive Web." *New Media & Society* (2013).

Google. "Accessing a Deceased Person's Mail." 25 Jan. 2013. 21 Apr. 2013 <<https://support.google.com/mail/answer/14300?hl=en>>.

—. "What Happens to YouTube If I Delete My Google Account or Google+?" 8 Jan. 2013. 21 Apr. 2013 <<http://support.google.com/youtube/bin/answer.py?hl=en&answer=69961&rd=1>>.

Halavais, Alexander. *Search Engine Society*. Polity, 2008.

Hof, Robert. "Facebook Makes It Easier to Target Ads Based on Your Shopping History." *Forbes* 27 Feb. 2013. 1 Mar. 2013 <<http://www.forbes.com/sites/roberthof/2013/02/27/facebook-makes-it-easier-to-target-ads-based-on-your-shopping-history/>>.

Kaleem, Jaweed. "Death on Facebook Now Common as 'Dead Profiles' Create Vast Virtual Cemetery." *Huffington Post*. 7 Dec. 2012. 7 Mar. 2013 <[http://www.huffingtonpost.com/2012/12/07/death-facebook-dead-profiles\\_n\\_2245397.html](http://www.huffingtonpost.com/2012/12/07/death-facebook-dead-profiles_n_2245397.html)>.

Kelly, Max. "Memories of Friends Departed Endure on Facebook." *The Facebook Blog*. 27 Oct. 2009. 7 Mar. 2013 <<http://www.facebook.com/blog/blog.php?post=163091042130>>.

Kern, Rebecca, Abbe E. Forman, and Gisela Gil-Egui. "R.I.P.: Remain in Perpetuity. Facebook Memorial Pages." *Telematics and Informatics* 30.1 (2012): 2–10.

Marwick, Alice, and Nicole B. Ellison. "'There Isn't Wifi in Heaven!' Negotiating Visibility on Facebook Memorial Pages." *Journal of Broadcasting & Electronic Media* 56.3 (2012): 378–400.

Morozov, Evgeny. "The Perils of Perfection." *The New York Times* 2 Mar. 2013. 4 Mar. 2013 <<http://www.nytimes.com/2013/03/03/opinion/sunday/the-perils-of-perfection.html?pagewanted=all&r=0>>.

Pariser, Eli. *The Filter Bubble: What the Internet Is Hiding from You*. London: Viking, 2011.

Phillips, Whitney. "LOLing at Tragedy: Facebook Trolls, Memorial Pages and Resistance to Grief Online." *First Monday* 16.12 (2011). 21 Apr. 2013 <<http://firstmonday.org/ojs/index.php/fm/article/view/3168>>.

Roosendaal, Arnold. "We Are All Connected to Facebook ... by Facebook!" *European Data Protection: In Good Health?* Ed. Serge Gutwirth et al. Dordrecht: Springer, 2012. 3–19.

Rudin, Ken. "Actionable Analytics at Zynga: Leveraging Big Data to Make Online Games More Fun and Social." San Diego, CA, 2010.

Vaidhyanathan, Siva. *The Googlization of Everything*. 1st ed. Berkeley: University of California Press, 2011.

Westlake, E.J. "Friend Me If You Facebook: Generation Y and Performative Surveillance." *TDR: The Drama Review* 52.4 (2008): 21–40.

Zimmer, Michael. "The Externalities of Search 2.0: The Emerging Privacy Threats When the Drive for the Perfect Search Engine Meets Web 2.0." *First Monday* 13.3 (2008). 21 Apr. 2013 <<http://firstmonday.org/ojs/index.php/fm/article/view/2136/1944>>.

———. "The Gaze of the Perfect Search Engine: Google as an Infrastructure of Dataveillance." *Web Search*. Eds. Amanda Spink & Michael Zimmer. Berlin: Springer, 2008. 77–99.

## M/C Journal Reading Tools

### About the author

#### The Social Media Contradiction: Data Mining and Digital Death

Tama Leaver

[www.tamaleaver.net](http://www.tamaleaver.net)

Curtin University

Tama Leaver is a lecturer in the Department of Internet Studies at Curtin University in Perth, Western Australia, and a research fellow in the ARC Centre for Excellence in Creative Industries and Innovation working in Curtin's Centre for Culture and Technology. His research interests include social media, online identity and media distribution, and he has published in a number of journals including *Popular Communication*, *Media International Australia*, *Comparative Literature Studies* and the *Fibreculture* journal. He is the author of *Artificial Culture: Identity, Technology and Bodies* (Routledge, 2012). Tama is @tamaleaver on Twitter, and his main web presence is [www.tamaleaver.net](http://www.tamaleaver.net).

[Close](#)