SPECIAL FEATURES

POLITICAL RESEARCH IN THE DIGITAL AGE

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INTRODUCTION: COMPUTATIONAL OR DIGITAL TURN?

There is currently a debate at hand over aligning political and social research with the digital age (boyd and Crawford 2012). How to cope with the challenges the Internet and the digital, including newly available online data, bring to research? Concomitant with the rise of the term Big Data, certain methods and tools appear to drive research as well as the complex of what could be called the programmatic agenda, e.g., special issues of journals, funding calls, conference titles, lecture series and so forth. For some, it has been termed the computational turn, meaning the importation of computer science techniques into social research practices (Berry 2011). More dramatically, that turn supposedly comes with paradigm-rending consequences such as pattern-seeking supplanting interpretation (Savage and Burrows 2007; Watts 2007; Lazer et al. 2009). Another, subtly different means of phrasing the arrival of the stickered laptops and hacking workshop culture could be the digital turn, where the study of digital culture informs research that makes use of online data, software and visualizations. To make this distinction between the computational and the digital turns is also a means of resisting a monolithic, or unitary, understanding of the changing nature of research in the digital age (Lovink, 2014). More specifically, there are variegated approaches across the digital humanities, e-social sciences as well as digital media studies that could be seen as having distinctive ontological and epistemological commitments and positionings. Here I briefly situate and discuss a series of digital research practices called cultural analytics, culturomics, webometrics, altmetrics and digital methods, providing short examples of what they could offer in terms of political research (Manovich 2011; Michel et al. 2010; Priem et al. 2010; Rogers 2013). First, each may be differentiated according to their preferred materials as well as methodological outlook, which I have previously described in terms of working with the digitised (materials and methods), the natively digital or some combination (see also Rogers 2009). Second, instead of translating political research practices for the web (e.g., searching for the public sphere in forums, striving to locate public debate in the comment space or undertaking online surveying and polling), the invitation issued by the digital turn is more experimental, and perhaps interdisciplinary. How to repurpose the computational and digital techniques for political studies? Finally, I concentrate on a new space for political expression (Facebook), and briefly put forward an analytics approach to studying engagement, a typical concern in political research that is operationalized as a digital method combining counting and interpretation.

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DIGITISED, NATIVELY DIGITAL OR SOME COMBINATION

To begin, an ontological distinction may be made between the materials "of the medium" and those that have migrated to it (Blood 2007). Blogs, considered of the web, are in this rendering natively digital, whereas a scanned book, made available through Google Books, is a digital newcomer, or digitised material. Another conceptual means of making the distinction are webpages that cannot be printed, but rather screen-grabbed only (Latour 2004). The distinction between the natively digital and the digitised also may be applied to methods. There are those methods that have been migrated to the web, such as online surveys, and those written for it, such as Google's PageRank (privileging one website over another in a ranking) or Facebook's EdgeRank (privileging friends over others in terms of closeness). Approaches in digital research thus may be arrayed in terms of which materials are the preferred data (digitised or born-digital) and where the methods are situated (emulated or native) (see table below).

Table One: Situating five approaches to digital humanities and e-social sciences according to their preferred data and method types.

DATA \ METHOD	DIGITISED	NATIVELY DIGITAL
DIGITISED	► Culturomics* ► Cultural Analytics*	► Altmetrics
NATIVELY DIGITAL	► Webometrics	► Digital Methods

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DIGITAL RESEARCH FIVE WAYS

Over the past decade the methods and techniques developed for digital research (using both digitised as well as online data) have been couched in a variety of descriptors, with notions of analytics, metrics, -nomics or methods appended, providing rather different emphases in what is being measured. Analytics is most closely associated with the platform industries (Google, YouTube, Facebook, Twitter, Pinterest, Adobe and others), connoting pattern recognition in (user) data. One captures and analyses user (interaction) data, populating dashboards and other interfaces with visualizations aiming to provide "actionable insights," as the software company Adobe phrases it (Adobe 2014). Metrics are standards of measurement and take their nomenclature from counting techniques in library and information science, including bibliometrics and scientometrics. One is concerned with such measures as impact, salience, and resonance, meaning not only the brute force, but its relative strength and endurance. The choice of the suffix -nomics is perhaps furthest from online industry-science relations, and refers to law, as in the laws of nature, connoting fundamental discovery or basic pursuits. It has in common with the term "methods" a more open-ended epistemology. However one goes about the study, and with whichever approach, methods emphasize a procedure or research protocol with steps. When described as such, digital methods could cover the range of procedures to study digital materials, not merely online methods for studying web data, as I come to after a brief discussion of cultural analytics, culturomics, webometrics and altmetrics, providing means to rework each for political research.

Cultural analytics, the first of the named approaches in digital humanities, often uses as its materials digitised collections, such as the covers of a tone-setting magazine like *Time* or the oeuvre of an artist. It has a preferred piece of software, ImagePlot, which groups images according to formal properties, including hue and saturation. It may be used to make chronologies, such as of the images made of the Gezi Park protests in Istanbul in May and June 2013. Using the technique, one notes the transformation of Turkey's so-called "tree revolution," where, as one eyewitness explained it, "the conversion of public space into private space explain[s] why the occupation of Gezi Park is not just meant to save trees, but to save Turkey's democracy" (see Figure One ong page 81.) (Turkey EJOLT Team 2013). Green imagery gradually declines, yielding to images of protesters being pepper-sprayed and more generally to rights fights.

Culturomics, a second digital humanities approach, queries Google's collection of digitised books (via the Google Ngram Viewer)

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for words, thereby displaying cultural or societal trends, most robustly from English-language books published between 1800 and 2000, though there are collections of books from other languages, too. The outputs are keyword graphs, showing frequency of mentions over time. In technique and visual style, the graphing echoes the earlier Google Insights tool, which showed the incidence of keywords users sought in search queries. Searches may be political, for particular queries may land on right-leaning or left-leaning websites. For example, in the run-up to the American presidential elections in 2012, users who queried for "obamacare" landed predominantly on right-leaning websites, and for "obama student loan forgiveness" on left-leaning sites (see Figure Two on page 83) (Borra and Weber 2012). Keyword query analysis may also include users' geolocation, thus inviting work on the use of terms by geography. One could consider geolocating hate speech (via queries for particular language) and observing its steadiness or fluctuation longitudinally.

In the e-social sciences, webometrics are citation analysis methods using web links (mainly) as if they were academic citations, where a link is treated as an endorsement or impact metric (Thelwall et al. 2005). Webometric approaches are built into software such as IssueCrawler and VOSON that crawl websites, locate linking and visualize relationships as network graphs, thereby showing the characteristics of the network, including the centrality or peripherality of one or more specific actors. It may also show an online strategy, as depicted in the IssueCrawler network graphs made of Barack Obama's online campaign in 2008 (Venturini 2010). The exceptional star shape of the network is caused by the campaign's strategy of linking (see Figure Three on page 84). The core of the network is formed by barackobama.com and its subsites, such as latinos.barackobama.com, faith.barackobama.com and students.barackobama.com. The periphery consists mainly of social media sites about Obama, and features his pages on LinkedIn, Facebook, Flickr, etc. The network also crowds out other websites, thereby displaying not the grassroots, new media campaigning style employed by Howard Dean in 2004 (which allowed users to create their own narratives during sponsored meet-ups), but rather a stay-on-message approach (Rogers 2005).

Altmetrics inverts traditional scientometrics, counting citations of academic work that appear not in published journals, but rather in blogs, on Twitter or in other online spaces. Counting (and interpreting) references in social media is part of a larger analytical approach to the substance and source commitments of a topical, issue or ideological network, e.g., on Facebook or Twitter. For example, one may note the top

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referenced content (in this case most linked-to webpages) by Ministry-level Dutch civil servants on Twitter. It was found that civil servants tend to follow news, politicians and new media and political trend-watchers, as opposed to citizens, who are absent (see Figure Four on page 85). The work that is most referenced, moreover, concerns civil servant use of new media as well as innovative online campaigns and initiatives, meaning the content shared is self-referential and medium-related, in the first instance, rather than otherwise topical.

As mentioned above, some may employ the term digital methods to cover the entirety of the digital turn techniques described above, or, increasingly, "mainstream" research techniques (Venturini 2010). More specifically, it refers to repurposing online devices and platforms (such as Google searches, Facebook and Wikipedia) for social and political research that would often have been otherwise improbable. Among

DIGITAL METHODS ENCOURAGE A SOCIOLOGICAL OUTLOOK OR IMAGINATION ABOUT RESEARCH OPPORTUNITIES THAT EXIST IN ONLINE CULTURE.

the tools developed is the so-called Lippmannian device, a Google Scraper that detects bias or leaning of an actor on the basis of the type of keyword mentions (see Figure Five on page 86). Thus one may query a set of climate change websites for mention of the names of climate change skeptics, thereby finding skeptic-friendly actors (as well as watchdog sites that also follow and mention them). In the above case, Google is repurposed as a research machine rather than its typical use as a consumer information appliance.

CONCLUSION: FOLLOWING THE MEDIUM AS A STARTING POINT FOR DIGITAL RESEARCH

Digital Methods, either generally or more specifically as the practice of repurposing devices, are not just toolkits or operating instructions for software packages; they deal with broader questions about how to do research online. They encourage a sociological outlook or

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imagination about research opportunities that exist in online culture by following the medium rather than asking it to do one's disciplinary bidding. One case in point, by way of conclusion, is the study of political activism. One could critique the rise of slacktivism or clicktivism, online activities that require little in the way of commitment but give one the feeling of having done something for the cause. Alternatively, one might study how liking, sharing and commenting on particular content show engagement, thereby studying (for instance) which videos or photos are currently animating anti-Islam groups and pages in Facebook (see Figure Six on page 87). The study of engagement borrows here from an analytics framework that captures clicks as well as comments, and identifies the content that animates, opening up opportunities for further interpretation. Here the call is to rely at the outset on medium activity measures and ask what might be learned from them.

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Figure One: Image characterization of top images returned from Google Images, query [Gezi] according to "save the trees" (green outlines) or "bring down the government" (red fills), June 2013. (cc) Digital Methods Initiative, Amsterdam, 2013.

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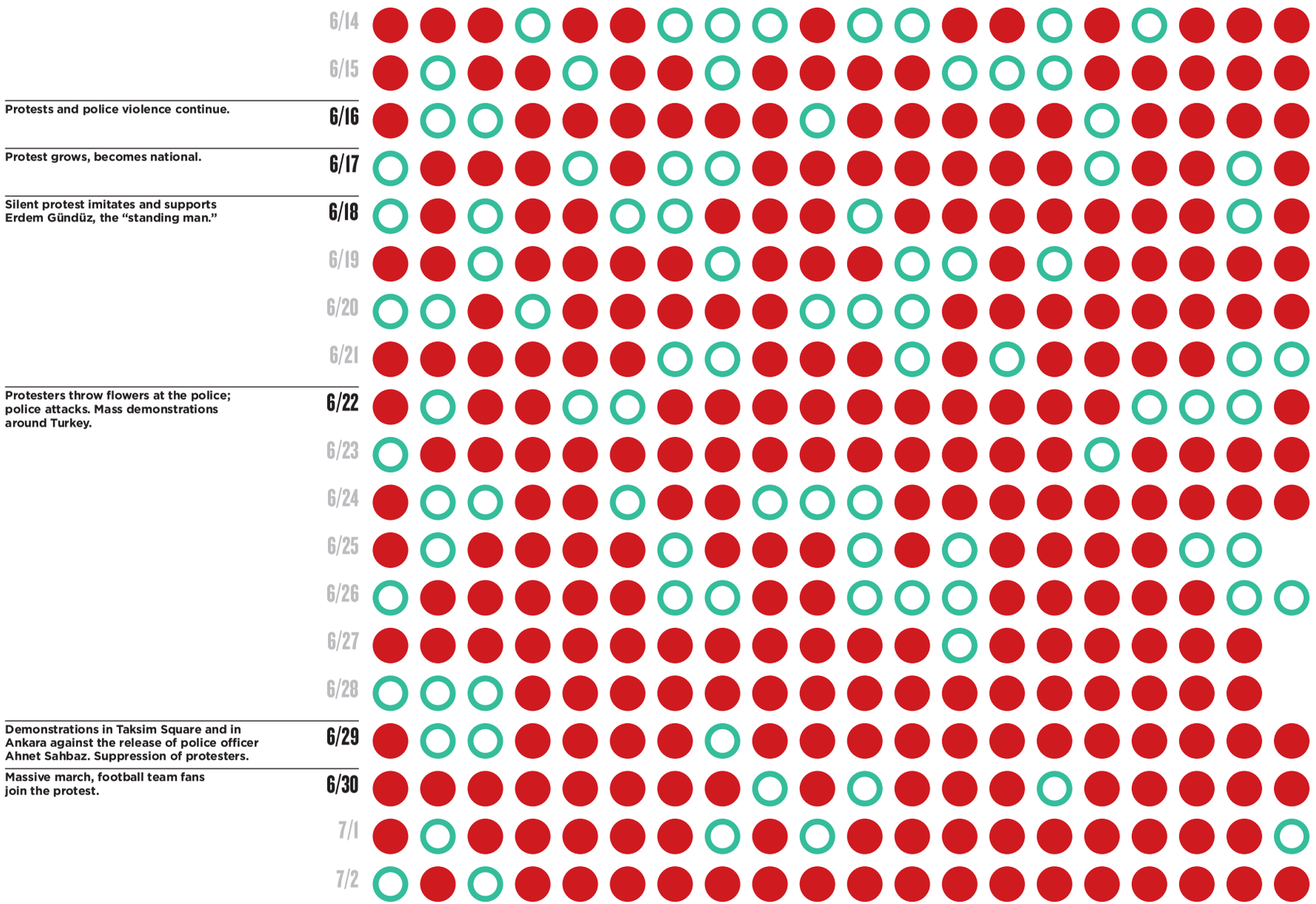

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Figure Two: Political Insights, Yahoo! Labs, showing right-leaning and left-leaning queries related to Obama, 2011. Source: Borra and Weber, 2012.

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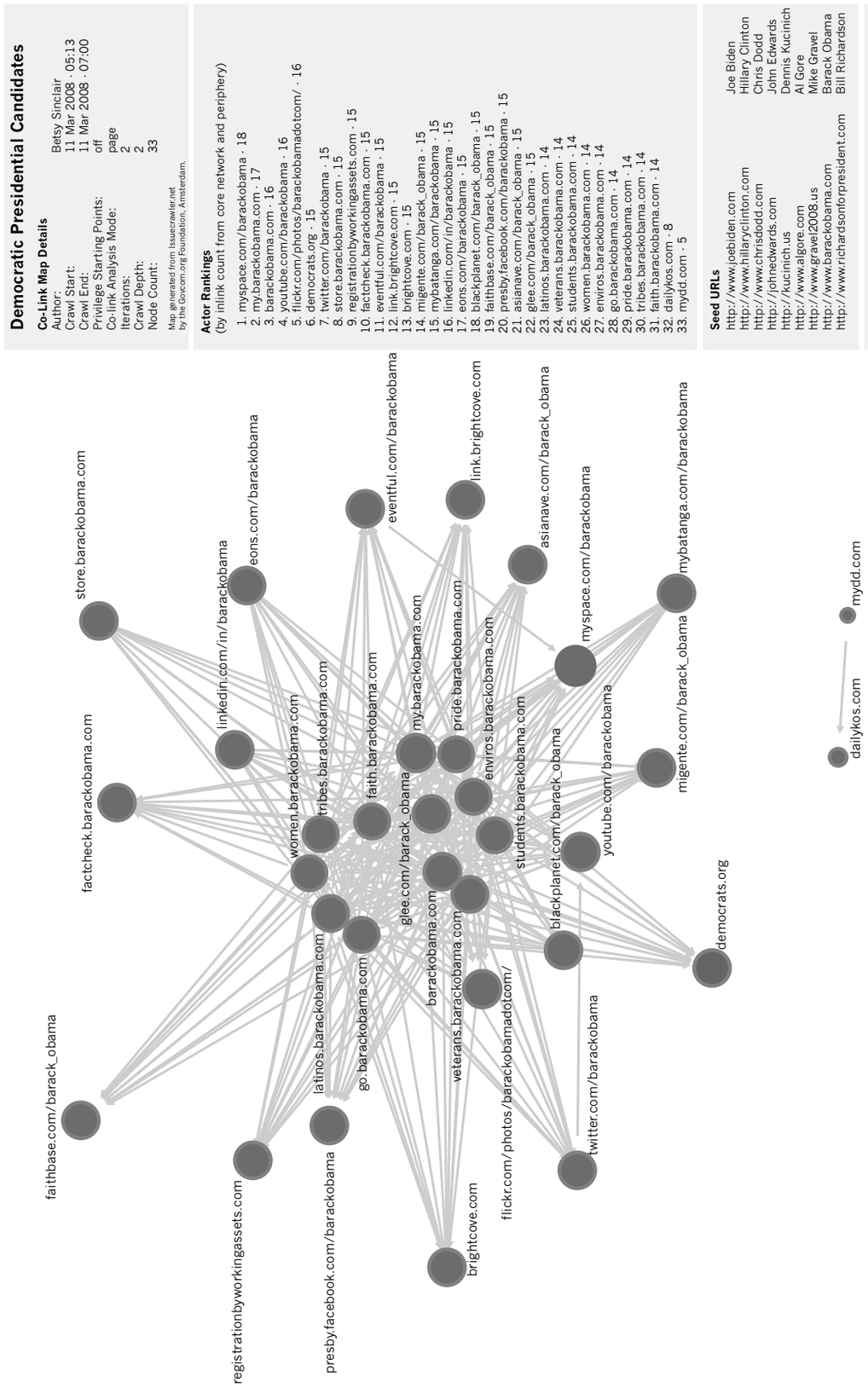

Figure Three: Issuecrawler graph of interlinking among Obama-related websites, 2008. Source: Issuecrawler.net, © Govcom.org Foundation, 2008, published in Krippendorff, 2012.

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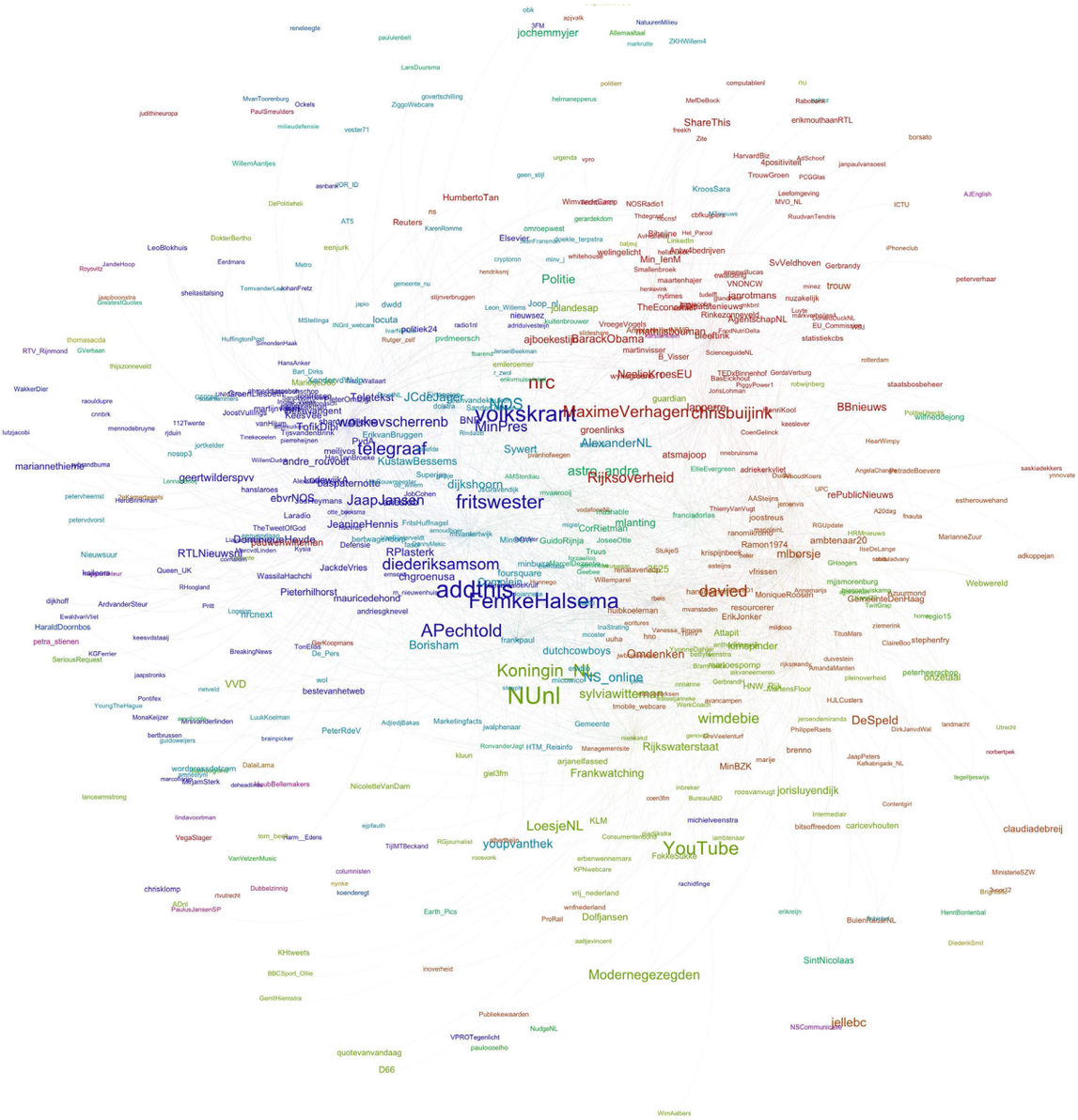

Figure Four: Extended follow-follower network of Dutch Ministry-level civil servants, March, 2013. Data captured by TCAT, DMI Amsterdam, and Visualization by Gephi. Source: Baetens et al., 2013.

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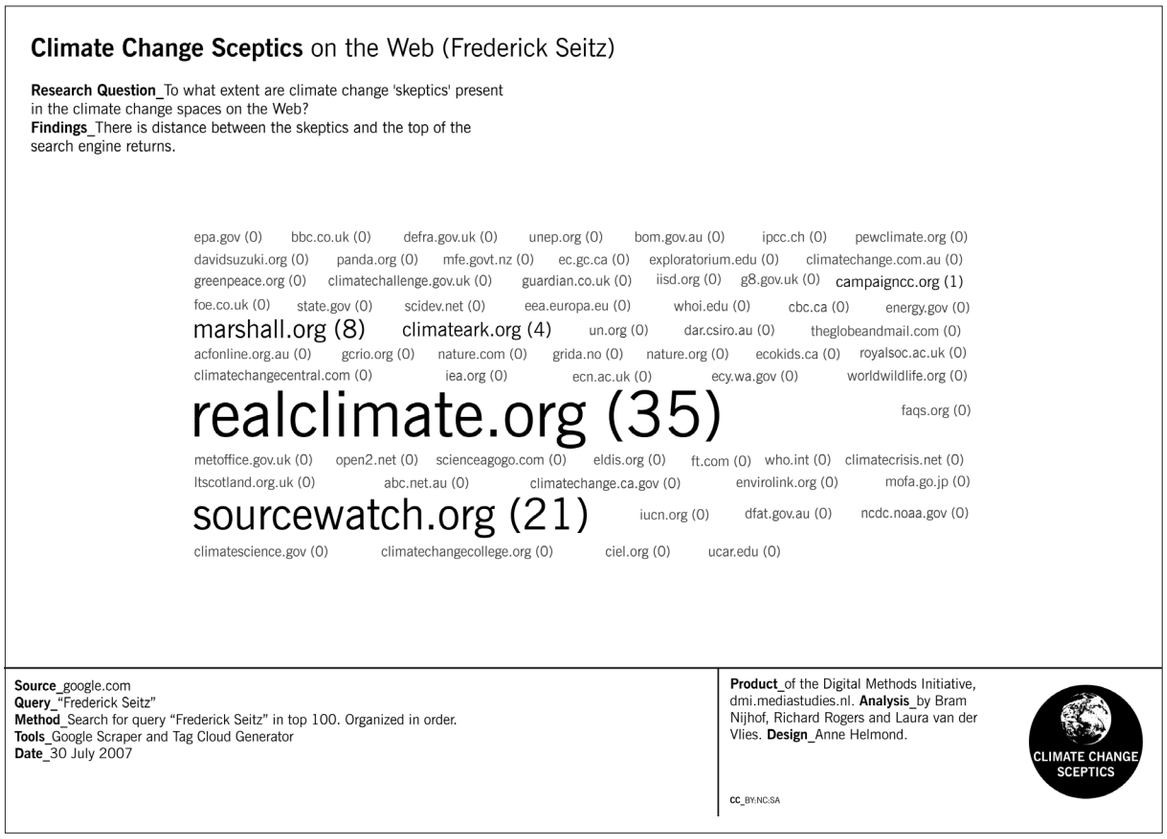

Figure Five: Climate change skeptics' presence in the leading climate change websites, according to google.com, July 2007. Source distance analysis by the Google Scraper, aka the Lippmannian Device. (cc) Digital Methods Initiative, Amsterdam, 2007.

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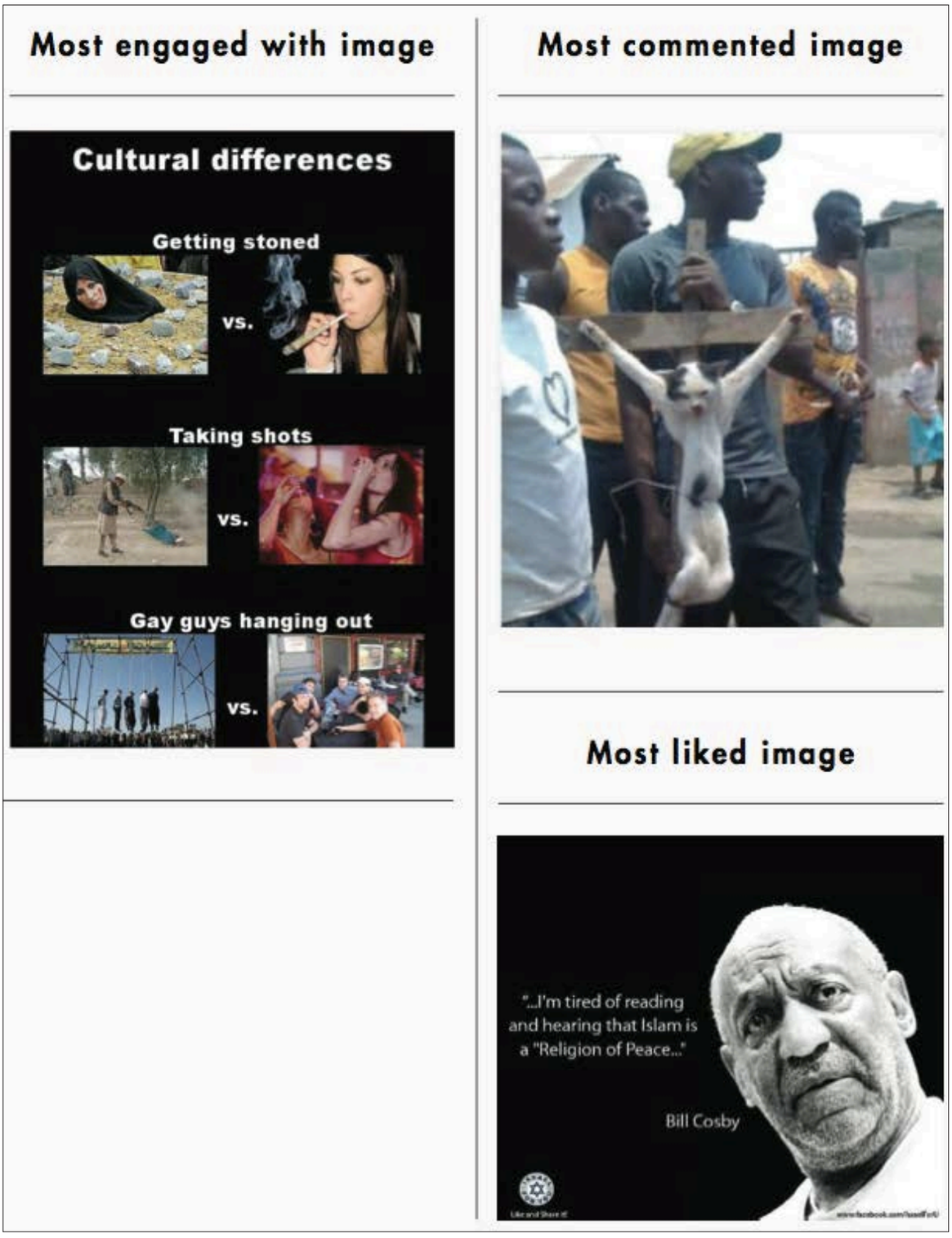

Figure Six: Most engaged with content in European counter-jihadist networks on Facebook, January 2013. Product of "What does the Internet add? Studying extremism and counter-jihadism online," International Workshop and Data Sprint, (cc) Digital Methods Initiative, Amsterdam, 2013.

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