January 24th 2017

A new invisible non-human actor is framing politics, but who is it?

A Non-Participatory Observational Research of Facebook's Newsfeeds

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Words

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Content

A facebook stalker is one that comments or "likes" every status or picture one person posts. What I do is called investigating quietly.

your*e*cards
someecards.com

By Some-ecards.[1]

Abstract

The article that you are about to read investigates how content on Facebook´s newsfeeds is framed and to what extent this constructs filter bubbles, wherein encountering difference is not facilitated. This is done in a case-study of two constructed Facebook accounts in the context of the recent American Election: pro-Trump and pro-Clinton. This is relevant because popular discourse indicates that encounters with the other side of the political spectrum on the personalized newsfeeds are rare. This research shows that this is problematic, because reality turns into a constructed personalized image of the real in digital filter bubbles and these bubbles do not represent western society's heterogeneity. Besides, the emergence of fake news makes this even more problematic, because it turns out to be difficult to check the truthfulness of the newsfeed's content on the newsfeed itself. Therefore, fake news can be acted upon as if it is real. The newsfeeds are observed as if they are a digital city where people move through, thereby this analysis builds on theories of a correlation between the surrounding structure wherein people act and the way that people act in it. However, the focus does not lie on movement, but on the framing of meaning in the shared space. Therefore, a non-participant observational research method is applied, because then the way that the newsfeed's technologies construct filter bubbles can be isolated. The research findings are that hidden technologies of the personalized newsfeeds frame meaning in it, thereby the pro-Trump newsfeed only consists of content in favor of Trump and the pro-Clinton account only consists of content in favor of Clinton. Thus, the newsfeed's hidden technologies are virtual gatekeepers that decide what an individual sees and what not. The results are personalized filter bubbles, that do not contest the users thoughts, but merely affirm them. The article builds towards a feature that should be added to the newsfeeds in order for Facebook to claim their responsibility as gatekeepers, because Facebook is responsible.

Introduction

Donald Trump has been elected the new president of the United States of America. How do I know this? I just read it on my Facebook newsfeed. Just like many others probably, because Facebook has 1.79 billion monthly active users and as a *The New York Times* article states: "Facebook has 50 minutes of your time each day."[2] Based on the content on my newsfeed, I thought Trump did not stand a chance against Hillary Clinton. He did win though, so why did my newsfeed say something else? International newspapers like *de Volkskrant*, *the Guardian*, the *BBC*, *The New York Times,* and others, stress the assumed influence of Facebook's newsfeeds on the American election.[3] These sources state that the personalized newsfeeds only provide their users affirmation of their political taste, leaving out political difference and thus creating "filter bubbles" wherein merely Clinton or Trump content is shown.[4] However, another article in *de Volkskrant* states that the owner of Facebook, Mark Zuckerberg, finds this assumed influence a ridiculous idea, but is it?[5]

Western urban society is characterized by heterogeneity; many different people are thrown together in a shared space and they can encounter difference both in the physical and in the digital realm, according to new media scholar Koen Leurs.[6] Matters of common concern, like the American election, are debated about in what philosopher and sociologist Jürgen Habermas calls: the "public sphere."[7] This is where different people come together, to form a public and to achieve consensus, according to him.[8] The emergence of digital filter bubbles, however, could constrain the public sphere. Media scholar Eli Pariser underlines that encounters with difference are not facilitated by the communicative context of social networking sites like Facebook; instead Facebook's technologies act as non-human digital

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[2] "Number of monthly active Facebook users worldwide as of 3rd quarter 2016 (in millions)," Statista, accessed December 25, 2016, https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/.
James B. Stewart, "Facebook Has 50 Minutes of Your Time Each Day. It Wants More," *The New York Times*, May 5, 2016, accessed December 10, 2016, http://www.nytimes.com/2016/05/06/business/facebook-bends-the-rules-of-audience-engagement-to-its-advantage.html?_r=0.
[3] Lisa van der Velden, "Heeft Facebook de Amerikaanse kloof vergroot?," *de Volkskrant,* November 10, 2016, accessed December 10, 2016, http://www.volkskrant.nl/buitenland/heeft-facebook-de-amerikaanse-kloof-vergroot~a4412787/.
Jonathan Albright, "Stop worrying about fake news. What comes next will be much worse," *the Guardian*, December 9, 2016, accessed December 10, 2016, https://www.theguardian.com/commentisfree/2016/dec/09/fake-news-technology-filters?CMP=fb_gu.
"US Election 2016: Trump's 'hidden' Facebook army," *BBC News*, November 15, 2016, accessed December 11, 2016, http://www.bbc.com/news/blogs-trending-37945486.
Paul Mozur and Mark Scott, "Fake News in U.S. Election? Elsewhere, That's Nothing New," *The New York Times*, November 17, 2016, accessed December 11, 2016, http://www.nytimes.com/2016/11/18/technology/fake-news-on-facebook-in-foreign-elections-thats-not-new.html?_r=0.
Olivia Solon, "Facebook's failure: did fake news and polarized politics get Trump elected?," *the Guardian*, November 10, 2016, accessed November 26, 2016, https://www.theguardian.com/technology/2016/nov/10/facebook-fake-news-election-conspiracy-theories.
Helen Lewis, "Did fake news on Facebook swing the US election?," *NewStatesman*, November 17, 2016, accessed December 11, 2016, http://www.newstatesman.com/world/2016/11/did-fake-news-facebook-swing-us-election.
Issie Lapowky, "Here's How Facebook Actually Won Trump The Presidency," *Wired*, November 15, 2016, accessed December 10, 2016, https://www.wired.com/2016/11/facebook-won-trump-election-not-just-fake-news/.
Noah Kulwin,"Don't blame me: Zuckerberg denies Facebook helped elect Trump. But is social media hurting democracy?," *Vice News*, November 11, 2016, accessed November 26, 2016. https://news.vice.com/story/mark-zuckerberg-denies-facebook-helped-elect-donald-trump.
[4] Ibidem.
[5] Lisa van der Velden, "Zuckerberg: 'Trump door ons gewonnen? Belachelijk'," *de Volkskrant*, November 11, 2016, accessed December 10, 2016, http://www.volkskrant.nl/tech/zuckerberg-trump-door-ons-gewonnen-belachelijk~a4413377/.
[6] Koen Leurs, "Digital Throwntogetherness: Young Londoners Negotiating Urban Politics of Difference and Encounter on Facebook," *Popular Communication: The International Journal of Media and Culture* 12.4 (2009): 254.
[7] Jürgen Habermas, introduction to *The structural transformation of the public sphere: An inquiry into a category of bourgeois society*, trans. Thomas Burger and Frederick Lawrence (Cambridge: The MIT press, 1991).
[8] Idem, xii.

gatekeepers that constructs personalized "filter bubbles," where conceptions are affirmed instead of contested.[9] What may seem like an achieved consensus in the digital realm, is in fact a state of dissensus, wherein different ideas and ideals exist next to each other, in the words of political scientist Chantal Mouffe.[10] The problem of the filter bubbles is that the awareness of difference is completely left out on the newsfeeds, therefore there is no debate. Professor of journalism and media studies Regina Marchi states that this phenomenon does not constrain the public sphere per se, but merely prepares individuals to engage in the public sphere.[11] To test these ideas, this analysis aims to uncover the role of the newsfeed, as a non-human actor, in the making of meaning for the American election. Therein the focus lies on to what extent the newsfeeds, as digital gatekeepers, facilitate encounters with difference in relation to political preference.

This not a question of content, but a question of framed meaning. How content gets meaning "is not simply a human affair," as Ganaele Langlois states, it also depends on the way content is framed in the communicative context.[12] According to Langlois, the communicative context consists of hidden "semiotechnologies" that act as a non-human actors in the construction of meaning.[13] Building on philosopher Michel de Certeau's notion of blind walkers, this research investigates the problematics of these semiotechnologies; namely that users of the newsfeeds are blind for the way meaning is subjected to them.[14] Therefore, analyzing the newsfeeds content is a way to critically analyze the output of its "black box," in the words of philosopher of science Bruno Latour, in order to grasp the way it frames meaning.[15]

In this project, how meaning is framed by the newsfeed's semiotechnologies is investigated in a case-study of two constructed accounts: one pro-Clinton and the other pro-Trump. It investigated to what extent the newsfeed of either account facilitated encountering difference. This was done with a non-participant observational research method, as social scientist Uwe Flick describes it, done solely online. This allowed the researcher to critically analyze the newsfeeds without influencing their processes.[16] Hence, the main research question could be answered: how are the semiotechnologies in Facebook's personalized newsfeeds of two opposing Facebook accounts in the American political debate framing meaning, and to what extent does this construct a filter bubble that constrains the public sphere? The analysis showed that both newsfeeds are filter bubbles, affirming instead of contesting political

[9] Eli Pariser, *The Filter Bubble. What the Internet is Hiding from You* (New York: The Penguin Press, 2011).

[10] Chantal Mouffe, "Artistic Activism and Antagonistic Spaces," *Art and Research. A Journal of Ideas, Contexts and Methods* 1.2 (2007).

[11] Regina Marchi, "With Facebook, Blogs, and Fake News, Teens Reject Journalistic 'Objectivity'," *Journal of Communication Inquiry* 36.3 (2012): 257.

[12] Ganaele Langlois, "Meaning, Semiotechnologies and Participatory Media," Culture Machine 12 (2011), 13.

[13] Ibidem.

[14] Michel de Certeau, "Walking the City," in *The practice of everyday life* (Minneapolis: The University of Minnesota Press, 1984).

[15] Bruno Latour, introduction to *Science in action: How to follow scientists and engineers through society* (Cambridge: Harvard University Press, 1987), 2-3.

[16] Uwe Flick, "Part 5: Observation and Mediated Data," in *An Introduction to Qualitative Research. Fourth Edition* (London: Sage publications, 2009).

preference, thus constraining the public sphere. However, it also uncovered the newsfeed's potential to be a scene of preparation before an individual enters the public sphere. Note that the newsfeed is not there yet. Therefore, this thesis advocates for one additional feature to the newsfeed, a daily encounter with difference, in order to secure the quality of the public sphere.

What if Facebook were a city? – Theory

Overall, this section provides a framework with which the way semiotechnologies frame meaning on the newsfeeds can be grasped. This research focusses on how this might influence the (online) "public sphere" wherein the American political debate takes place. In order to better understand how a public sphere functions in general, the first part of this section compares the newsfeed to the original physical space of the public sphere, namely the public space of the cities. Building on the concept of blind walkers in the city this section introduces how behaviour, like moving through the newsfeed's content, is interrelated with the surrounding structure. Since this study is not primarily concerned with content, but framing, this notion is then applied to the realm of meaning by building on the "anti-content thesis" that allows a researcher to investigate in what way "semiotechnologies" of a communicative context frame meaning. The second part takes a closer look at how the newsfeed functions in the public sphere. It does so by elaborating on "filter bubble[s]," "throwntogetherness," and "fake news" theories that try to grasp the way such sites function in the public sphere. Together, these theories show that a better understanding of the newsfeed's surrounding structure is necessary, because it constructs filter bubbles that limit the public sphere and thereby does not represent society's characterizing throwntogetherness.

A new non-human actor is emerging

What if Facebook were a city? People would move through the digital spaces of the newsfeeds as if walking through streets in a city. Michel de Certeau states that practices of the citizens organize a city, but because "[i]t is as though the practices organizing a bustling city were characterized by their blindness," they are blind walkers.[17] With this quote he stresses two things: first that a city is organized by a multitude of different practices from different individuals, and second, that the practices are characterized by a non-

reflexive way of using public space. Yet, what are the practices then? "Their story begins on ground level, with [myriad] footsteps," which can be traced into different paths and trajectories.[18] Herein, the paths refer to the structure of the city and the trajectory refers to the specific route that is taken, why am I turning left and not right here?[19] De Certeau argues that the structure of a city shapes behaviour in it, as a non-human actor. Hereby, he introduces the interrelation between the surrounding structure and the practice.[20] However, a nuance is necessary because

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[17] De Certeau, "Walking the City," 158.

[18] Idem, 161.
[19] Ibidem.
[20] Ibidem.

this might be how a city is planned, but according to him, these space can be differently appropriated by individuals.[21] This research does not investigate to what extent the newsfeeds can be or are appropriated by the users. It is mostly inspired by De Certeau's notion of blind walkers, and the interrelation between structure and the practices in it.

In contemporary cases, there is another dimension added to this structure of a city, namely the digital realm, and this changes the western understanding of what a city is and how it shapes behaviour in it. Play scholar Miguel Sicart calls this new dimension a "computational layer," that is placed on top of the physical city and thereby becomes part of the city. Media artist and theorist Jordan Crandall at the same time denotes that the agency in how cities function is moving away from people in the physical realm towards algorithms in the digital realm.[22] Hence, you could say that Crandall and De Certeau agree that the (hidden) structures are related with urban practices. However, the difference in Crandall's understanding is that for him it is not the physical structures per se, but the digital structures that construct the way the city works. This is not necessarily a bad thing, as Crandall advocates, because the problem does not lie in the interrelation, but more so in the blindness for the hidden

structures.[23] He stresses, how it is very difficult for citizens to grasp how the hidden structures of the digital realm of the city shape their behaviour, because the processes cannot be seen with the bare eye.[24] There is an interesting difference between these digital structures and the physical structure that De Certeau writes about, because the digital structures cannot be seen at all and thus not be appropriated. Digital structures are not visible, while a building or a bench is, therefore it is increasingly difficult for a user of such a space to see how it frames behaviour in it as a non-human actor.

This new non-human actor does not only construct movement through a space, but it also frames meaning. A famous phrase from media scholar Marshall McLuhan, introduced this line of thought: the "medium is the message."[25] With it he introduced the anti-content thesis, wherein he advocates that the medium itself is more important to the perceived meaning than the content on the medium, thus the structure is the message. A more nuanced understanding originates from sociologist Bruno Latour. He introduces what came to be known as the actor-network theory (ANT), which states that meaning is also dependent on the communicative context.[26]

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[21] Idem, 159.
[22] Jordan Crandall, "The Geospatialization of Calculative Operations," *Theory, Culture & Society* 27.6 (2010): 74-78.

[23] Idem, 70.
[24] Ibidem.
[25] Martin Lister et al., *New Media: A Critical Introduction* (New York: Routledge, 2009), 93-94.
[26] Bruno Latour, "On Actor-Network Theory: A Few Clarifications," *Soziale Welt*, 47.4 (1996): 369–381, accessed December 3, 2016. www.jstor.org/stable/40878163.

This is the context wherein, and with which, human actors act and perceive. So, the communicative context is the new non-human actor that has emerged.

Building on this notion, social media researcher*,* Ganaele Langlois investigates meaning in digital media by looking at the communicative context of the platform, in this case Facebook. She denotes that "meaning is not simply a human affair," and that "semiotechnologies" of the communicative context shape and structure what you see and how you see it.[27] She borrows the latter concept from Friedrich A. Kittler (1997):

> a range of techno cultural assemblages that work with and through signs to organize the mediations and translations between data, information and linguistic symbols. Semiotechnologies establish regimes of the production and circulation of meaning according to specific power dynamics, and modulate the parameters of the relationships between language and the world.[28]

Thus, uncovering these semiotechnologies will allow a researcher to uncover (invisible) processes that frame meaning. These "semiotechnologies can serve to organize a reality, or a set of common expectations, and therefore maintain, or challenge, relations of power."[29] Thus this concept enables a researcher to look at meaning and meaningfulness as something

more fluid, that is influenced by (invisible) power relations. This research questions how these semiotechnologies frame meaning and meaningfulness on the newsfeeds.

Building on the anti-content thesis allows a researcher to uncover non-human processes that frame meaning. Uncovering such processes can be compared to opening a black box. Bruno Latour uses the metaphor of a black box in the following interesting way:

> [t]he word black box is used by cyberneticians whenever a piece of machinery or a set of commands is too complex. In its place they draw a little box about which they need to know nothing but its input and output. […] That is, no matter how controversial their history, how complex their inner workings, how large the commercial or academic networks that hold them in place, only their input and output count. When you switch on the Eclipse it runs the programs you load.[30]

With this notion, he elaborates on technology's consequences on and influences in society. He underlines technology's complexities, and therein its dangers. Referencing to sources like *the Guardian*, *The New York Times*, and *de Volkskrant*, the introduction underlined the widespread concern about the assumed influence of Facebook's technology on governmental elections, because Facebook's newsfeed is designed to show

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[27] Langlois, "Semiotechnologies," 13.
[28] Idem, 3.
[29] Idem, 13.

[30] Latour, *Science in action*, 2-3.

each individual user only what they like most and thus it does not challenge their beliefs.[31] Therefore, this research critically analysis the output of the newsfeed's black box, in order to grasp how meaning and meaningfulness in this political debate are framed on the personalized newsfeeds.

The newsfeeds act in the public sphere

This part elaborates on how the newsfeed's semiotechnologies function in the public sphere. It underlines that a critical reflection towards the output of the newsfeed's black box is necessary in order to secure the public sphere's quality. The public sphere is where matters of common concern, like the American election, are discussed, according to philosopher and sociologist Jürgen Habermas. As critical theorist Nancy Fraser denotes, he describes that this entails that people with different ideas and ideals meet in a space, wherein they interact about matters of common concern, with consensus as the ultimate goal.[32] The recent American election is the matter of concern that this analysis focusses on. However, as the analysis will show a consensus was not reached, and instead there were two opposite sides: pro-Trump versus pro-Clinton. Political scientist Chantal Mouffe's interpretation of the public sphere explains this phenomenon.

She elaborates on her so called "agonistic approach" to the public sphere, wherein opposing sides can exist next to each other, in a state of dissensus, without excluding the other.[33] Her model thus, acknowledges that western societies are characterized by heterogeneity. Both Habermas and Mouffe describe that these matters are discussed in physical public space; the difference between their conceptions is that Habermas describes it as a peaceful discussion in a coffeehouse where a consensus is achieved, while Mouffe states that public space is a "battleground" where opposing sides fight for their beliefs.[34] However, both theorists agree that these societies hold many people with different ideas and ideals, and that they meet in public space. Now that public space is expanded to the digital realm in forms like Facebook's newsfeeds, it is relevant to investigate if, and how people are confronted with difference. In other words, how do the newsfeeds function in the public sphere: as coffeehouses, or as a battleground?

Understandings of how the structure of the newsfeeds function are disparate. Koen Leurs for instance advocates that Facebook is a characterized by society's heterogeneity, but media scholar Eli Pariser, on the other hand, underlines how sites like Facebook construct "filter bubbles," wherein people are no longer

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[31] "Hoe werkt het nieuwsoverzicht?," Facebook, accessed November 10, 2016, https://www.facebook.com/help/327131014036297/.
[32] Nancy Fraser, "Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy," *Social Text* 25.26 (1990): 127-148, 143.

[33] Mouffe, "Antagonistic Spaces," 1-5.
[34] Fraser, "Public Sphere," 143.
Mouffe, "Antagonistic Spaces," 1-5.

confronted with difference.[35] Leurs elaborates on how public space is characterized by heterogeneity and difference.[36] He describes this with a reference to Doreen Massey's concept of "throwntogetherness," which means that different people are thrown together in the same space, wherein they "can encounter a wide range of identity narratives."[37] It is true, Facebook is definitely characterized by throwntogetherness, because there are 1.79 billion people in this digital space each month.[38] However, the way that the newsfeeds are designed and thus the way the semiotechnologies function, do not show individuals this present difference, but instead only serve them "a la carte news" that fit their taste, in the words of professor of journalism and media studies Regina Marchi.[39] This constructs "filter bubbles," according to Eli Pariser, wherein meaning is limited to acknowledgments of existing beliefs of individuals.[40] Pariser underlines how this problem has become even bigger, now that these social networking sites are designed to fit personal needs, as Facebook affirms on their website, because a user is completely alone in this bubble, not aware of the difference present in the same platform.[41]

Therefore, this research investigates how these filters work, in other words the structures of Facebook's digital city, and to what extent the newsfeeds allow their users to be confronted with difference. Thus, it examines to what extent these structures support the public sphere and its characterizing heterogenic discussion.

Sources like *the Guardian, The New York Times*, and the Dutch national news broadcaster NOS, state that next to this assumed filter bubble, the bubbles are also full of so called "fake news."[42] One fake news item for instance claimed that Clinton set up a child sex network, which actually led to a shooting in America.[43] This underlines that what happens in the digital realm can have serious impact in the physical realm. This is very problematic, as the example shows, especially now that two sides are growing further apart due to the filter bubble. New media researchers Aditi Gupta et al. recognize this problem, but also state that it is not a new phenomenon.[44]

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[35] Leurs, "Throwntogetherness," 254.
Pariser, "Filter Bubble," 10-11.
[36] Leurs, "Throwntogetherness," 254.
[37] Ibidem.
[38] "Number of monthly active Facebook users worldwide as of 3rd quarter 2016 (in millions)."
[39] Marchi, "Journalistic Objectivity," 257.
[40] Pariser, "Filter Bubble," 10-15.
[41] Ibidem.
"Hoe werkt het nieuwsoverzicht?"

[42] Albright, "Stop worrying about fake news. What comes next will be much worse."
Mozur and Scott, "Fake News in U.S. Election? Elsewhere, That's Nothing New."
"Facebook pakt nepnieuws aan," *NOS*, December 15, 2016, accessed December 15, 2016, http://nos.nl/artikel/2148565-facebook-pakt-nepnieuws-aan.html.
[43] "Nepnieuws leidt tot schietpartij in restaurant VS," *NOS*, December 5, 2016, accessed December 15, 2016, http://nos.nl/artikel/2146586-nepnieuws-leidt-tot-schietpartij-in-restaurant-vs.html.
Cecila Kang and Adam Goldman, "In Washington Pizzaria Atack, Fake News Brought Real Guns," *The New York Times*, December 5, 2016, accessed December 15, 2016, http://www.nytimes.com/2016/12/05/business/media/comet-ping-pong-pizza-shooting-fake-news-consequences.html.
Kevin Bohn, Daniel Allman, and Greg Clary, "Gun-brandishing man sought to investigate fake news story site, police say," December 5, 2016, accessed December 15, 2016, http://edition.cnn.com/2016/12/04/politics/gun-incident-fake-news/.
[44] Aditi Gupta et al., "Faking Sandy: characterizing and identifying fake images on Twitter during Hurricane Sandy,"

Their research on the spread of fake news on the social networking site Twitter, during the Hurricane Sandy in 2012, revealed that only a few people produce this content, while many share it despite whether or not they know the producer of the content.[45] Therefore, this analysis also investigates how semiotechnologies of the newsfeeds provide users a way to check content's validity.

Concluding, the academic relevance of this research is that it adds to the discourse on the role of online social media in the construction of meaning in society; therein it searches to what extent the newsfeed's black box constructs a social "filter bubble," and to what extent it shows individuals society's "throwntogetherness," in order to secure the public sphere's quality.[46] These findings can help to reinforce the Latour's conclusions about the ANT and it can help to get a better understanding of contemporary's functioning of the public sphere in the digital context of the newsfeed, disputing Habermas conception that one consensus can be reached.

Walking through Facebook's newsfeed – Method

This next section aims to introduce the non-participant observational research method for this analysis. It does so by first introducing digital ethnography, a perspective not directly undertaken in this research, but which nonetheless underlines how doing observational research solely online can be productive. Second, it elaborates on the non-human focus of this research using the concept of semiotechnologies. Third, it provides a five-step plan of non-participant observational research, which is performed in the next section. Hereby, it builds a frame wherein an answer to the main research question can be found: how are the semiotechnologies in Facebook's personalized newsfeeds of two opposing Facebook accounts in the American political debate framing meaning, and to what extent does this construct a filter bubble that constrains the public sphere? This section shows that only analyzing the non-human aspect of the newsfeeds, provides a clear image of how meaning is framed by semiotechnologies, which means that non-participant observation, which can detect the outcome of non-human actors' actions, is the correct methodological choice.

Although, this is not a ethnographic research, sociologist Dhiraj Murthy's elaboration on digital ethnography supports the non-participant observational method that was used. In his words: "Ethnography is about telling social stories;" however, "[w]ith the introduction of new technologies, the stories have remained vivid, but the ways they were told have changed," and that is where his conception of "digital ethnography" emerges.[47] Murthy investigates "the potentialities, limitations, and ethical considerations of four new technologies," but the focus of this research is on only one of them: social networking sites.[48] Investigating Facebook can be useful, according to Murthy, because these sites are "virtual gatekeepers," with which he underlines the agency of such technologies.[49] Then, he states, using a limited, observational interpretation of ethnography to investigate sites like Facebook allows the researcher to "invisibly observe social interactions," because then the social context is not (or scarcely) influenced by the researcher, it thus allows the researcher to determine the communicative context and how this frames meaning.[50] Hence, Murthy's version of digital ethnography is a useful approach for this research because it recognizes the important role of non-human actors in the

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telling of stories and the framing of meaning.

So, the way that stories on a platform such as Facebook are told, are no longer merely told by human actors, but also by non-human ones, as also Langlois states in her elaboration on "semiotechnologies."[51] Focusing solely on non-human actors can be fruitful, as also underlined by Latour with his ANT; he advocates that the non-human actors in a communicative context are just as important to the way people act and perceive as the human actors are.[52] According to Langlois, the semiotechnologies of a communicative context actively frame meaning and meaningfulness, and thereby assert their own form of agency upon the situation.[53] She states that platforms like Facebook are characterized by the "ability to accommodate and manage an open-ended field of meaning," with which she means that every content put on such platforms has the potential of becoming meaningful.[54] However, the question then becomes how some content becomes more meaningful than others. She states that semiotechnologies are operators of power in this process of meaning, and that this concept:

broadens the focus to include not only questions regarding meaning as content, but, more importantly, ways of setting up regularities and patterns out of which the production and circulation of meaning can develop – or, out of which sense can emerge from the massive amounts of information, according to specific logics that serve, oftentimes, a for-profit motive.[55]

In other words, an analysis that focusses on semiotechnologies allows the researcher to uncover how meaning is framed on the newsfeeds.

In order to isolate the semiotechnologies' output, a non-participant observational research method, as elaborated on by social scientist Uwe Flick, was applied to the analysis. Flick describes that this method allows the researcher to produce an image of the social reality from an external perspective, not interrupting the "flow of events."[56] In relation to Murthy's "digital ethnography" this means that this research is not about how one can tell stories, but about how the communicative context frames the stories that are told. Not participating in the communicative context, and thus not placing any content on the newsfeeds, allows the researcher to analyze content that is put there solely by semiotechnologies, therefore a non-participant observational research suits this analysis. Such a focus is limited, because it does not hold the heterogenic

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51 Langlois, "Semiotechnologies," 25.
52 Latour, "Actor-Network Theory," 378-379.
53 Langlois, "Semiotechnologies," 13.
54 Idem, 11.

55 Idem, 11.
56 Flick, "Observation," 223, 225.

interpretations of the stories by actual people into account, but at the same time it provides an understanding of why stories like the fake story about Clinton can be interpreted as meaningful.

Flick distinguishes six phases in this method, but only five of them are relevant for this research. This irrelevant step concerns the training of observers "in order to standardize such focuses," but because this research concerns only one observer this is not necessary.[57] This limits the analysis to the extent that one observer can more easily overlook specific aspects, but on the other hand it enables the researcher to focus on the aspects that stand out the most for one external observer, which in itself can be an interesting research. The other five steps are the following: first, a "selection of the setting" must be made, then, what is to be documented must be defined, third, general observations of the objects of analysis must be described, the fourth step concerns "focused observations that concentrate on aspects that are relevant to the research," the fifth and last step consists of "selective observations that are intended to purposively grasp central aspects."[58] What this means in relation to this research's case-study is outlined in the next paragraphs.

In order to determine to what extent the newsfeed constructs filter bubbles in relation to the American election, two

opposite accounts are designed as the setting for this analysis: a pro-Trump and a pro-Clinton account. These accounts are framed by 'liking' and 'sharing' content that is shared by the official Facebook accounts of respectively Trump or Clinton, and by joining respectively pro-Trump or pro-Clinton Facebook groups. In order to isolate the semiotechnologies as much as possible, the accounts are only accessed on the Google Chrome web browser, using the incognito mode that prevents cookies and other data gathering technologies that might influence the framed meaning on the newsfeeds. Because this is a non-participatory observational research design, none of the accounts are used to place content, thereby all the content was put there by semiotechnologies. During the structuring of the accounts an end to the newsfeeds was found. A sign at the end of the newsfeeds read: "You'll have more stories in News Feed if you add more friends," together with a button that said: "find friends." Therefore, the first ten accounts that were recommended by the newsfeeds with the phrase "you might know [name]" were invited. These two newsfeeds were then subject to comparison, questioning to which extent both accounts are confronted with difference in relation to their political preference.

Subsequently, the actual analysis begins with the next four phases. The second phase is determining what is to be

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[57] Flick, "Observation," 223.
[58] Idem, 223-224.

documented. This concerns anything that is seen on the newsfeeds, the pages, accounts, events and advertisements that are proposed on the newsfeeds, including explanations of why this is seen. This is possible because this information can simply be discovered by clicking on the top right part of specific content and by reading Facebook's explanation on how the newsfeed works. The outcome of this documentation is kept apart for both newsfeeds. This process is done every day for a week on both newsfeeds. This restrains the analysis in so far that one event outside this timeframe could completely change the outcome of the analysis. However, such a short timeframe enables the researcher to grasp how these semiotechnologies directly frame meaning as soon as one starts using a newsfeed.

Then the actual analysis starts. The third step is describing what the observations are. Therefore, the data gathered in the second phase was labelled as pro-Trump, pro-Clinton, neutral, non-political advertising, etcetera, depending on where the content originated from. For example, the newsfeed might propose a certain account that a pro-Trump account user might know or like, and this account might be from a pro-Trump activist; the label then becomes pro-Trump. In the fourth phase, the focused observations concentrate on how content is visually framed on the newsfeeds. In other words, how do differences in content relate to the political taste of the newsfeeds? The fifth and last phase aims to grasp the findings of the previous phases. This is done by relating the findings to the theoretical framework. In relation to the research question, this phase questions to what extent a filter bubble is constructed that constrains the public sphere. The content on the newsfeeds is constantly updated. Therefore, the analysis is not a linear process, but a constant moving back and forth between the phases to fully grasp how semiotechnologies frame meaning on the two opposing newsfeeds.

Concluding, the analysis focuses on how the non-human actors, the newsfeed's semiotechnologies, frame meaning and how this constrains the public sphere. However, many aspects of Facebook are disregarded. Think about the search bar, or the messaging application. Nevertheless, as underlined in the introduction, the newsfeed specifically is accused of constructing a filter bubble. Hidden semiotechnologies construct its content, therefore this research uses a non-participant observational research method, inspired by the digital ethnographic approach, which together provide insights in the newsfeed's role in the American election by critically analyzing the black box' output.

Trump vs. Clinton, let the games begin – Analysis

This next section is a presentation of the findings from the analysis to the question: how are the semiotechnologies in Facebook's personalized newsfeeds of two opposing Facebook accounts in the American political debate framing meaning, and to what extent does this construct a filter bubble that constrains the public sphere? It does so, by answering the following sub-questions: first, how can a user move through the personalized newsfeeds in a manner that actually facilitates encounters with difference? Secondly, how is the meaningfulness of content visually framed on the newsfeeds, and to what extent does this facilitate encountering difference? Lastly, to what extent do the findings of the previous steps restrict Facebook's newsfeeds to a filter bubble and constrain the public sphere? Spoiler: it does. The analysis showed that the newsfeed mostly shows content that a user probably already agrees on; thus their ideas, ideals, and habits are not contested, but affirmed. However, it also suggests that the newsfeed can serve as a useful tool in the political battleground.

I – How can a user move through the personalized newsfeeds in a manner that actually facilitates encounters with difference?

This first part of the analysis takes a closer look at the interrelation between practice and the surrounding structure, as stressed by De Certeau, Latour, and Crandall.[59] Thus, it questions how movement on the newsfeeds is framed by the newsfeed's visual design and how this frames meaning. The analysis showed that movement through the newsfeed is partly structured by movement through physical space, but it is much more limited than movement through physical space. Specific limitations, however, stimulate the quality of the public sphere.

Movement on a social networking site like Facebook is movement through its content; what the content on the newsfeeds is, according to Facebook, depends on both online and offline behaviour.[60] It can for instance see where in the physical realm Facebook is accessed and use this data to put specific advertisements on the newsfeeds. Moving through the newsfeeds is thus influenced by movement in physical space. The result of this connection was seen on both newsfeeds, in the form of suggestions. The research was executed in the city of Utrecht; this explains that both newsfeeds consist of suggestions like "Are you looking for a place to live in Utrecht?," and also some advertisements from local

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[59] Crandall, "Geospatialization," 74-78.
De Certeau, "Walking the City," 161.
Latour, "Actor-Network Theory."

[60] "Hoe werkt het nieuwsoverzicht?"

shops. Thus, moving through the digital space of the newsfeeds does not completely isolate its users in the digital domain, it also suggests multiple connections with the physical world which people physically move through. The latter is relevant for this research, because it shows that the content on the newsfeeds is very diverse and also dependent on movement in the physical realm; it thereby enhances the possibility of encountering difference, as long as one's real world surroundings are pluralist rather than segregated.

Difference can namely be encountered, both online and offline, as Leurs underlines with the concept of "throwntogetherness," but the analysis showed that online encounters on the newsfeeds are very different from offline encounters.[61] This has to do with the limited ways one can move through the newsfeeds. Navigating through the content starts at the top of the newsfeed, scrolling down. There are no buildings or traffic lights, that influence movement, or people a user might bump into. Hence the newsfeeds look like endless tunnels of information, which people digitally move through, and more importantly, do so alone. The latter is an argument Pariser makes in advocating for the idea that social networking sites create "filter bubbles."[62] While a policeman can stop a person in physical space from entering a specific street, or a bouncer can

stop (under aged) people from entering a strip club, there are no such obvious limitations in the digital space of the newsfeed. There is no direct contact, so no one who can stop you from going where you are going. If one tries to stop you, by for instance sharing their disbelief in a comment on your posts, you can simply block this account and continue moving further into the tunnel; that filters information into a personalized bubble while moving through it. It is simply easier to click on a button that says "block this account" or "do not show me this again," compared to ignoring an actual person in physical space. Even though, difference can be encountered on the newsfeeds, the users' interface makes it very easy to filter out difference, and thereby the next time the newsfeeds are accessed more difference is filtered out.

The tunnels seemed endless, but moving through them revealed specific "red lights" in its construct, capable of stopping the flow like a traffic light on the street, of which one is outlined below. During the structuring of the accounts, as described in the method section, an end to the newsfeeds was found. A sign at the end of the newsfeeds read: "You'll have more stories in News Feed if you add more friends." Therefore, accounts that were recommended by the newsfeeds were invited. After this event took place more accounts were recommended on top of the

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[61] Leurs, "Throwntogetherness," 254.
[62] Pariser, "Filter Bubble," 13-15.

newsfeeds every time they were accessed again; these accounts were also invited to be friends. Red light. A pop up appeared urging the user to only invite real friends. Facebook's algorithms noticed that simply every suggestion was clicked on, and reacted with a warning, as if it tries to secure truthful interactions only with people that are familiar to users in physical space. Crandall suggested that the problem of the way technologies shape everyday life is because of the blindness for the way these structures construct behaviour.[63] From this perspective, the warning on the newsfeed is actually a way that this technology makes its users aware of its structure, and it thus undermines blindness. Besides, it makes the spread of fake news less easy, because as Gupta et al. noticed in their analysis of the spread of fake news on twitter; much fake news was only made by a few, but shared by many and often the ones who shared this content did not even know, or have direct contact with, the ones that made it.[64] Hereby, knowing a person in real life frames meaningfulness of content on the platform.

Why are these recommendations made? Tracking this reveals that the recommendations were made when these accounts were also members of specific groups like "Joined Hands Across America For Trump," or when these are also befriended with accounts that the pro-

Trump account in this case is friends with.[65] So on one side, the newsfeed shows recommendations based on existing relations who are presumed connections in the physical world, as argued in the previous paragraph. But, on the other hand recommendations seem to be made based on joined groups, groups that are clearly politically biased for one of the two sides. Hence it builds on the "filter bubble" thesis, because now political sameness is recommended instead of facilitating encounters with difference.

II – How is the meaningfulness of content visually framed on the newsfeeds, and to what extent does this facilitate encountering difference?

This second part focusses on what is seen on the two newsfeeds. Visual framing is key to this part, because this proved to largely frame the meaningfulness of content related to each other. The content, and also its meaningfulness, on the two newsfeeds turned out to be very opposite with no overlap. However, the world is not lost yet, because Facebook's built-in peer-based verification system, and thus the presence of others, may help protect the truthfulness of the content. Hereby the quality of the public sphere is enhanced, a process that seems to progress even further with the

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[63] Crandall, "Geospatialization," 70.
[64] Aditi Gupta, "Faking Sandy," 734.

[65] "Joined Hands Across America For Trump," Facebook, accessed December 20, 2016, https://www.facebook.com/groups/1589078594747112/?hc_ref= NEWSFEED.

emergence of a new technology on the newsfeeds: livestreaming.

Both newsfeeds consist of posts from liked pages, joined groups, liked accounts, and befriended accounts, of which far from everything is clearly political, like a video of a puppy that was shared from a befriended account of the pro-Trump account, or a shared video of someone saving baby bears, as is the case on the pro-Clinton newsfeed. The content on both newsfeeds originates from befriended accounts and sources like "CNN," "1 Million Strong for Hillary Clinton in 2016," and "Democratic Party" in the case of the pro-Clinton account, and sources like "Fox News," "Trump For President," and "Donald Trump News" in the case of the pro-Trump account. This underlines how fragmented the news environment is, as Regina Marchi also stresses.[66] Both newsfeeds show, as she calls it, "a la carte news," with content that only fits the political taste of the account.[67] The content of the opposing newsfeeds are very opposite and there is no overlap in content. Hence, both newsfeeds frame an information bubble where content only represents one political side.

Taking a closer look at how the content on the newsfeeds is related to each other in terms of visual framing revealed how the issue of fake news has emerged. The following post from the Democratic Party appeared on the pro-Clinton newsfeed: "We are better off. It's up to all of us to protect that progress," together with a video of Obama: "Obama holds final news conference of 2016."[68] After watching the video, it became clear that the quote is a quote from Obama, stressing that every American citizen is responsible for the progress of the country. Scrolling further down there was the next post: "BREAKING 'Trump 2016' and other racial slurs were found written on a car in Philadelphia," shown together with pictures of the car.[69] These posts are very different, but much alike at the same time. They are different in actual content, but look the same in how they are framed. They are shown on the same format, as if written in the same newspaper, with the same colors, the same exact visual frame, and the picture and video have precisely the same measurements on the newsfeeds. Therefore, in terms of visual framing on the newsfeed every news source is as meaningful as others, which makes it hard to check which sources are giving "real," and which sources are spreading "fake" news in this fragmented news environment on Facebook.

However, a peer based verification system may save the day. After one day, there was not one reaction to the latter post

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[66] Marchi, "Journalistic Objectivity," 257.
[67] Ibidem.

[68] "Democratic Party," Facebook, accessed December 16, 2016, https://www.facebook.com/democrats/.
[69] "Hillary Clinton Fan Club," Facebook, accessed December 15, 2016, https://www.facebook.com/groups/685749104864859/permalink/10153963685667966/.

and the post was only shared once, while the former post had more than 3300 reactions and it was shared almost 300 times. This introduces an interesting perspective to Pariser's statement that moving through this digital space is done completely alone, because this example shows that there are hints towards the presence of others.[70] At the same time, this assumed presence of others can contribute to the meaningfulness of specific content, where more reactions give it more meaning.

The new technology of livestreaming takes the presence of others on the newsfeeds one step further. A post on the pro-Trump account from Donald Trump News said: "DO YOU WANT TRUMP TO BUILD THE WALL!!! LIKE = YES!," this account used the livestream to show what others answered including how many votes are on either side.[71] While the "yes" side has many more responses than the "no" side, this example shows that even in a (pro-Trump) filter bubble there is difference present. Presumably, the no side would have more responses when individuals in pro-Clinton bubbles would see it. Therefore, this technology has the potential to facilitate encounters with difference if a feature would be added where both filter bubbles would see the same political items.

The above examples show that movement through the newsfeeds is not done completely alone, because (representations of) others are present. However, the analyzed semiotechnologies are still creating filter bubbles, more so than facilitating encounters with difference, therefore the public sphere is constrained.

III – To what extent do the findings of the previous steps restrict Facebook's newsfeeds to a filter bubble and constrain the public sphere?

This part is used to argue how the newsfeed's semiotechnologies are on one side indeed constructing meaning and meaningfulness in filter bubbles, but on the other side how it has great potentialities to enhance the quality of the digital realm of the public sphere.

The "a la carte" way of receiving news is clearly constructing filter bubbles as shown in the previous steps.[72] To make it even more complex, visual framing of the content makes it difficult to verify the truthfulness of the content. However, moving through the newsfeeds uncovers that a newsfeed does not put its user into complete isolation. A filter bubble is not completed, because of semiotechnologies like recommendations based on the physical location where the newsfeeds were accessed, and representations of others and difference.

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[70] Pariser, "Filter Bubble," 13-15.

[71] "Donald Trump News," Facebook, accessed December 14, 2016, https://www.facebook.com/DonaldTrumpNews.Co/videos/1841730599417742/.

[72] Marchi, "Journalistic Objectivity," 257.

Even though others and to some extent difference are present on the newsfeeds, there is still a filter bubble being constructed; there are still two camps that have no obvious comprehensive overlap. The newsfeeds are part of the bigger, worldwide platform that is called Facebook. As mentioned in the introduction Facebook has 1,79 billion monthly active users all around the world and therefore it can be characterized as a throwntogetherness platform of different people that share the same, digital, space.[73] Yet, different from movement in physical space where people physically move through crowds, in the words of De Certeau, people move alone through digital spaces like Facebook, as Pariser stresses.[74] This difference is important to underline, because speaking about content on Facebook makes it sound like it is one space shared by everyone when it is not. It is the same door, that opens up a tunnel that visually looks the same, but what is in it is completely different for different accounts, as stressed by the analysis of the two opposing accounts.

What lacks, according to Marchi, is "the ability to hold common conversations."[75] Thus, interaction between different political sides is necessary, something that is not happening on the newsfeeds yet. In Marchi's understanding,

this is not a problem, because "there has never been only one public sphere."[76] Smaller public spheres like the newsfeeds, according to her, act as a space for experimenting with, and developing your individual political self; in order to prepare yourself for debating in the larger public sphere. These debates are executed in public space, that Mouffe describes as "the battleground" of the public sphere.[77] This idea combined with the understanding of smaller digital public spheres by Marchi, transforms newsfeeds into training courses where individuals can prepare for battle. Therefore, it is difficult to simply claim that the semiotechnologies construct filter bubbles on the newsfeeds that constrain the public sphere, because from this perspective the role of this platform may not yet be one in the public sphere, but more a non-human actor that is preparing individual users for it.

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[73] "Monthly active Facebook users."
[74] De Certeau, "Walking the City," 157.
Pariser, "Filter Bubble," 13-15.
[75] Marchi, "Journalistic Objectivity," 257.

[76] Ibidem.
[77] Mouffe, "Antagonistic Spaces," 3.

Conclusion

This research was built on De Certeau's notion of blind walkers, which he uses to stress that moving through a space is often done without an awareness of how its structure frames behaviour in it.[78] Subsequently, Latour's "actor network theory" in combination with McLuhan's "anti-content thesis" were invoked in order to transform De Certeau's notion to the realm of meaning, because meaning and meaningfulness are dependent on the surrounding communicative context.[79] The non-participant observational research method proved to be effective in revealing how the newsfeed's semiotechnologies are framing meaning and meaningfulness, in relation to the recent American election. The framed content of the newsfeeds could be isolated and analyzed, because neither one of the accounts were used to place content on the newsfeeds; thus, all of the content was put there by the semiotechnologies. Next, the newsfeeds could be observed and their framing mechanisms revealed by analyzing visual framing, inquiring how one can move through the content, and using Facebook´s tool to check why specific content is there. The research resulted in a better understanding of the role that the newsfeeds, as non-human actors, can play in relation to the public sphere.

The semiotechnologies of the communicative context framed meaning on the two newsfeeds into filter bubbles, wherein difference is rarely encountered. Therefore, there remains a dichotomy between the newsfeeds: Trump versus Clinton supporters. However, the analysis revealed opportunities in the newsfeed that can facilitate encounters with difference. Reactions and comments represented the presence of others on the newsfeeds, and as the elaboration on fake news showed, this also constructs a peer-based verification system that may support a more nuanced filter bubble. Especially the development of the new technology of livestreaming showed that, even in these filter bubbles, other people are present that might not agree on everything. However, in the way that it is applied right now, difference is overshadowed by sameness; thereby the filter bubbles are preserved. This problem lies in Marchi's observation that what is missing is "the ability to hold common conversations and debates."[80] These livestreams are part of either a Trump or a Clinton filter bubble, wherein mostly either Trump or Clinton supporters are present. Therefore, there is not a conversation between the different people that are thrown together on Facebook, but only one side is well represented.

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[78] De Certeau, "Walking the City."
[79] Lister et al. "New Media," 93-94.
Latour. "Actor- Network Theory."
[80] Marchi, "Journalistic Objectivity," 257.

Future research, but then with a focus on human interpretations of content on their newsfeeds, can result in a better understanding of how this framing of meaning is actually perceived and dealt with. Such research might for instance reveal that specific livestreams are present in both filter bubbles, but that one side has specific reasons not to respond to the content. In other words, such research can answer the following question: what are the perceived meanings and meaningfulness of the presence of otherness and difference on the newsfeeds? While this research is a focus on the constructed meaning and meaningfulness.

This research offers a more nuanced understanding of how meaning is framed on Facebook's newsfeed. There are filter bubbles constructed, nevertheless, these filter bubbles can serve a stimulating purpose that can enhance the quality of the public sphere. As was stressed, inspired by Marchi, the newsfeeds can serve as training courses where individuals can "develop political learnings," before they enter the larger political debates in the public sphere.[81] However, as the fake news example underlined, right now the newsfeeds do not offer enough encounters with difference. Hence fake news could be understood as real news, and as the example showed, this can result in extreme misconceptions. Therefore, a feature should be added to the newsfeeds that secures daily encounters with difference on every newsfeed.

Imagine if the same matter of concern, or the same news item, is shown on top of every newsfeed, every time a newsfeed is accessed. In order to secure that individual thoughts from both sides of the political spectrum are contested, different items originating from opposing sources should be shown. If voting mechanisms are added, like the livestream technology, then the newsfeeds one step closer to the public sphere, because then the users will again be thrown together in a shared space and being aware of the present difference. When the newsfeeds systematically facilitate encounters with difference in such a way, then Facebook finally takes ownership of their responsibility as virtual gatekeepers.

Thank you for reading!

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[81] Marchi, "Journalistic Objectivity," 257.

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Do you think Mark Zuckerberg will consider the proposed feature?