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Filtered Reality

Abstract: *This chapter proposes using the term 'filter' as an analytical term to understand algorithmic culture. In everyday speech, we filter our photos and filter our news. In today's algorithmic culture the filter has become a pervasive metaphor for the ways in which technology can remove certain content and how it can alter or distort texts, images and data. Filters can be technological, cultural or cognitive, or they can be a combination of these. Examples discussed are the skin tone bias in photography, Instagram filters and the genres of social media as filters that embed a drive towards progress, and baby journals and the apps that automate them.*

Filters have become an important part of popular visual culture. Instagram was one of the first sites to really popularise filters, and now they are everywhere, allowing us to make our selfies and other photos look brighter, more muted, more grungy, or more retro than real life. We don't just filter our images before we post them to Instagram, though: filter has become an important and far more general concept in today's digital culture. We filter our images, our email and our newsfeeds.

In academia, we have been used to talking about how any technology comes with certain affordances and constraints. In an algorithmic culture where we have far more data than we can possibly use, we need to start thinking more about how algorithms filter our content, removing or altering our data. We need to think about how these filters work. What is filtered out? What flavours or styles are added?

The word filter has been used in many domains, but usually to describe a process where something is removed. A filter can be a piece of felt or a piece of paper which filters out dust, dirt or other impurities when water is poured through it or air blows through it. A screen can filter out certain colours in light. On a cigarette a filter stops some of the harmful substances from reaching the smoker's lungs. In electronics a filter is 'A passive circuit that attenuates all signals except those within one or more frequency bands,' the Oxford English Dictionary (OED) states. In radiology a filter can block out certain wavelengths in an x-ray beam. In March 2014, the OED published a draft definition of the word filter as used in computing: 'To process or reformat (data) using a filter esp. so as to remove unwanted content.' Instagram filters are not mentioned. Instead the examples given refer to filtering your email, filtering the results from sports events and filtering performance data to compare it with other data.

It is interesting that all the definitions and examples the OED lists for filter as a noun or as a verb emphasise the removal of unwanted content or impurities. Instagram filters may in fact remove data, for instance by making a colour image black and white, but often the perceived effect is of adding to the image: boosting the colours, adding borders, creating a vignette effect or blurring parts of the image. A coffee filter does something similar, though coffee filters are not mentioned in the OED's list of usages for filter. Technically the coffee filter does stop the ground coffee beans from getting into the pot beneath, but the *point* of a coffee filter is to add flavour to water by slowing its flow through the coffee beans.

Filters can get worn out or clogged up over time, letting more particles through than before, or altering the flow of the water, air, rays or words,

images, numbers and behaviours that pass through them. We can change, clean, adapt, resist or remove filters. But most of the time we simply take them for granted, not even noticing that they are there.

Technological and cultural filters

By using the popular cultural term 'filter' as an analytical term, I want to emphasise the similarities between the visual filters we apply to our photographs, the technological filters we apply to our blogs and other social media feeds and the cultural filters (norms, expectations, normative discursive strategies) that teach us, for instance, to mimic photo models in fashion magazines or Instagram selfie stars when we photograph ourselves.

The terms we use to analyse our world and our culture matter. As Kenneth Burke wrote,

> Not only does the nature of our terms affect the nature of our observations, in the sense that the terms direct the attention to one field rather than to another. Also, many of the 'observations' are but implications of the particular terminology in terms of which the observations are made. In brief, much that we take as observations about 'reality' may be but the spinning out of possibilities implicit in our particular choice of terms. (1968, 46)

Burke wrote about 'terministic screens', the terms in our language through which our understanding of the world is filtered (Markham 2013b). Language can certainly be understood as a technology, and it is another of the filters that surround us. Using the term filter to understand today's digital culture is a conscious choice: let us use the terms that are popular in our culture to understand it.

In her 2007 book *Mediated Memories*, José van Dijck writes about '*normative discursive strategies* that either implicitly or explicitly structure our agencies,' giving pre-formatted baby journals as an example (7). A preformatted baby journal can be seen as a technological filter. It is a conventional codex book, which means you cannot easily add very large photos or video or sound, and it has written prompts and spaces allocated to specific kinds of photographs. You can tear out pages or glue photographs over prompts you don't want to use, but the journal does provide very clear rules for how you should represent your baby's first year.

An app like Sprout Baby (for iPhone and iPad by Med ART Studios) provides even clearer rules. Baby journals have always had an element of quantitative tracking: it is common to include dated notes about achievements (first smile, first steps), weight and height charts and even information about which teeth came in on which date. But Sprout Baby encourages even more detailed tracking, letting parents track each feeding, each nappy change and each nap. Sprout Baby also prompts parents to add photos of milestones: First Smile, Found His Hands and Feet, Laughed Out Loud and so on. The iPad version of the app generates a newspaper style layout of all the latest journal notes, photos and numbers under the title (for a baby named Jack) 'Jack Today' in a newspaper-style headline font. Personal data, notes and photos are combined with standard advice to parents with babies of this age, for instance as shown in the demonstration screenshots in the iTunes store: 'Baby and household chores can add up. Make sure you divvy up the load by listing everything you need to do and dividing it equally so no one is trying to handle more than their share.'

Sprout Baby App is an example of how an app can streamline and limit our options for personal expression even more than pre-digital media. A pre-formatted baby journal may constrain our creativity, but Sprout app does so even more. You cannot tear out a page or glue an extra photograph over pixels.

Technological filters allow us to express ourselves in certain ways but not in others. We can apply certain filters to an image we post to Instagram but not others. We can post animated gifs to Tumblr or Reddit but not to Facebook, although this may change. With Photoshop or programming skills and a self-hosted website of course we can express ourselves in other ways, but most of us do not have these resources and simply choose between different available filters. Twitter filters out long form writing, requiring us to limit ourselves to 140 characters at a time. Reddit uses upvotes and downvotes to filter out posts and comments that are not popular with a large number of its users. You can still see the posts if you dig deep enough, but not as easily. If we follow Alice Marwick's (2013) argument in her ethnography of developers of social media in Silicon Valley, we could say that social media in general filters out people who are not effective neoliberal subjects. Perhaps in this case, social media is not simply the kind of filter that removes impurities, but also shapes them and flavours people as the ground coffee beans flavour the water that passes through them. An effective neoliberal subject,

Marwick argues, 'attends to fashions, is focused on self-improvement, and purchases goods and services to achieve "self-realization." He or she is comfortable integrating market logics into many aspects of life, including education, parenting, and relationships. In other words, the ideal neoliberal citizen is an entrepreneur' (2013, 13). These are the people most likely to succeed in social media, most likely to gain followers on Twitter and most likely to have their Facebook posts filtered into your newsfeed.

In the July 2014 debates around the 'emotional contagion' experiment in which nearly 700,000 Facebook users were shown posts including more or less positive words than previously (Kramer, Guillory and Hancock 2014), we learned that this minor tweak to the way in which the newsfeed filters our friends' posts actually changed the users' own status updates. Users who saw posts with more positive words used more positive words in their own posts, and vice versa. Whether this affected users' actual emotional state or not, it is clear that the way Facebook filters our newsfeeds affects the way we express ourselves on Facebook. Facebook filters our newsfeed, and it also filters our behaviour.

Cultural filters are as important as technological filters. Our cultural filters, the rules and conventions that guide us, filter out possible modes of expression so subtly that we often are not even aware of all the things we do not see. Whether we create a baby journal for our baby's first year or not, most parents will take photos of certain moments. There'll be photos of the newborn baby, photos of the baby smiling, the baby with its first tooth, the baby crawling, walking and of course its first birthday, preferably showing baby with the birthday cake. We filter out many of the other aspects of life with a baby when we create a photo album. Usually we will not take as many photos of the baby screaming, of endless nights trying to get the baby to go back to sleep, of the baby in a onesie that has spitup all over it although baby has only worn it for an hour. Partly this is because we would prefer to remember the good moments, but it is also because we know what we are supposed to document from having seen other baby journals and photo albums and from having seen which photographs and stories our friends and family share with us, offline or on social media. Our shared ideas about what moments and milestones should be documented in life act as a cultural filter that affects our choices.

We cannot represent our lives or our bodies without using or adapting, resisting and pushing against filters that are already embedded in

our culture, whether those filters are cultural or technological. Cultural filters change over time and are different in different cultures. We can and often do resist or change cultural filters, but most of the time we simply act according to the logic of the filter without even realising that that is what we are doing.

Aestheticising, anesthetising and defamiliarising

Photo filters have become a cultural phenomenon that goes far beyond social media. Many photojournalists for mainstream media have taken to using smartphones and filters in their work, both as an aesthetic choice and because the look of a quick, filtered smartphone photo carries with it a sense of realism that documentary photographers may desire.

The millions of people on Instagram and other photo sharing sites may have no qualms in editing their photos, but photojournalists and theorists do sometimes object. In an article discussing the ways in which Instagram-style filters have been applied to photojournalism, Meryl Alper (2013) writes that

> Lowy's concession to his critics – 'toning down' the illustrative style of the very Hipstamatic photo filters that won him acclaim – touches upon an endless discussion about understanding all photography as a manipulated interaction between style and substance, and a timeless debate over the ethics of combining photojournalism with aesthetics. ... [S]cholars such as Luc Boltanski (1999) have argued that the aestheticization of what we see in the media emotionally and morally insulates viewers from the suffering of others.

In a project such as #365grateful, where participants share daily photographs of something they are grateful for, aestheticising the everyday is an explicit goal: a method to become more mindful of our daily experiences. Beauty can be seen in anything, and we can learn to be grateful for anything: after all, we are lucky to have clothes that need washing and should be grateful if we have a family to create that untidy mess of shoes in the hallway. When we see our pile of dirty laundry framed in a photograph we may be better able to see the beauty of the bright colours, and if it does not look beautiful to us, we can easily add a filter to the photograph to enhance its aesthetic qualities.

The photo filter both aestheticises and perhaps, as Sontag wrote of images of war , the filter anesthetises our everyday lives (1973, 20). At the

same time filters show us images that look *different* than the world we are used to seeing.

One reason the filter fascinates us is that it gives the image that strangeness that defamiliarises our lives. The filter makes it clear that the image is not entirely ours. The filtered image shows us ourselves, or our surroundings, with a machine's vision. As Bianca Bosker (2014) writes about the wearable lifelogging camera the Narrative Clip, it 'lets me see my life through someone else's eyes – or in this case, the unfocused and impartial eye of a machine'.

In saying that filters 'defamiliarise' our lives I am referencing Victor Shklovsky, a literary theorist who wrote an influential article in 1917 titled 'Art as Technique'. Shklovsky argued that 'defamiliarisation' (*ostranenie* in the original Russian) is the key device in literature and art. 'Habitualization devours works, clothes, furniture, one's wife, and the fear of war,' Shklovsky (1988) wrote, and continued,

> The purpose of art is to impart the sensation of things as they are perceived and not as they are known. The technique of art is to make objects 'unfamiliar,' to make forms difficult, to increase the difficulty and length of perception because the process of perception is an aesthetic end in itself and must be prolonged.

Instagram-style filters may make our selfies and photos of our everyday life seem unfamiliar, but the filter itself is repeated so often that the defamiliarisation effect wears off and becomes a cliché. For the most part, however, our everyday photos are not intended as art. They are a way of heightening our own daily experiences and making them special to ourselves. Shklovsky (1988) wrote, 'After we see an object several times, we begin to recognize it. The object is in front of us and we know about it, but we do not see it – hence we cannot say anything significant about it. Art removes objects from the automatism of perception in several ways.'

When we take a selfie (or any photograph) with a phone, the phone suggests running it through a filter. After Instagram and apps like Hipstamatic popularised filters, almost every camera or photo sharing app now comes with built-in filters. When you snap a photo on your iPhone, there is a filter icon at the bottom of the screen. When you upload a photo to Instagram, Facebook or Flickr you click through a screen that asks whether you want to filter it, crop it and adorn it. Taken together, filtered selfies are clichés. But for each individual *me*, seeing ourselves though a filter allows us to see ourselves anew.

Selfies can be raw and revealing. They can feel too authentic, too honest. Perhaps running them through a filter to boost the colours, overexpose the skin to hide its imperfections or give them a retro tinge is sometimes the only way we can bear to share these images of ourselves. Putting a filter on our selfies, or framing them by placing them in a blog or an Instagram feed, gives them a distance that makes them new to us. We see ourselves and our surroundings as if we are outside of ourselves, through a retro filter or in the same poses and layouts as we see fashion models or homes in magazine spreads.

Choosing what technology can do

Filters can appear to be deeply technological: a new iPhone can count our steps with its M7 or M8 motion sensor and its accelerometer, gyroscope and compass, and it can use its microphone to measure how loud our surroundings are, but it cannot measure – at least not directly – our emotions. Our cameras know when we point them at a face, and can even wait until the person smiles before shooting a photo, but they cannot measure whether we love that person or not. Our bodies themselves are technologies with their own constraints and affordances: we can see colours and use language but cannot hear as well as dogs or navigate using biomagnetism and sonar as whales and dolphins do. Our brains and senses filter our perception of the world. In addition to technological and cultural filters, we have these cognitive filters that we cannot completely escape, although drugs, diseases, surgical implants and body modifications can alter them to some extent.

Individual devices have technological filters that are themselves influenced by cultural filters. For instance, an iPhone can track motion but not heart rate or the sweatiness of the palm holding it. It could have been designed differently, and we can study reasons why the choice has been made to build it only to perceive certain inputs. Of course cost and technological development are very important factors in determining what kinds of technological filters are built into a device, but many technological filters, whether they are built into hardware or software, are very deliberate cultural choices. For instance, the creators of the app SkinneePix, which lets you take selfies that show you looking skinnier than you are, wrote in a comment to an article about the app in *The Guardian* on 4 April 2014: 'We developed SkinneePix as a result of friends (mostly

women, some overweight, some not) who would say: "Use the Skinny lens" when taking photos. So we made "the skinny lens." ' The results are not necessarily as flattering as the developers' friends might have hoped, but the idea of the 'skinny lens' is an example of how we are aware that technology filters our visual representations, just as Parmigianino highlighted the distortions in the self-portrait I described at the beginning of this book. There are many other apps similar to SkinneePix that will let you make your eyes bigger or your waist thinner or your skin more even.

Many filters are both technological and cultural, and often we are not aware of these filters. An example that is particularly relevant for selfies and photography in general is that of the bias towards white skin in most twentieth-century photography (Roth 2009; McFadden 2014). Early camera film was calibrated to provide good detail for white faces, but the light sensitivity was so narrow that faces with darker skin were shown with hardly any detail, with eyes and teeth often the only discernable features. Lighting and balance were calibrated by using 'Shirley cards': images of a pale skinned woman with dark hair against a white background. It is only in the last couple of decades that calibration cards have reflected all skin tones, for instance by including images of a range of people with different skin tones, as well as objects in a range of colours. Even today it can be difficult to take a photo of a light skinned and a dark skinned person together without losing all detail in one or the other face.

Lorna Roth writes that in the 1950s some parents did complain to Kodak that class photos lit for the white children did not show the faces of the black children, but despite this there were no organised campaigns for Kodak or other companies to improve film. It wasn't until the 1970s, when companies selling chocolate and dark woods complained that they couldn't get good photos of these dark items that Kodak developed their Gold Max film with better light sensitivity. Roth (2009) speculates that the reason that the change came from pressure from advertisers' rather than from the African-American community was that 'at the time, it was assumed by the public that such things were based on science and could not be changed, and so battles were fought on issues of economics, poverty, and other civil rights matters that were of higher priority to the African-American and African-Canadian communities' (120). This kind of technological determinism (the belief that technology drives cultural change) is a common assumption, often criticised by scholars but still

frequently taken for granted by everyday people who have not had the assumption challenged (Winner 1980; Wyatt 2007). Photographers and the people who developed the technology were not likely to be deliberately creating the skin tone bias, at least not on an individual level, but the effect was far-reaching: people with darker skin tones rarely saw good or natural photographic images of themselves. And nobody thought of simply calibrating film to suit dark skin better. Even today, lighting and photography techniques tend to be taught to suit light skin tones, and as photographer Syreeta McFadden writes in her article 'Teaching The Camera to See My Skin' (2014), the skill of photographing people of colour well is often hard-learned and self-taught.

The skin tone bias of photography is a technological filter that distorts photographic representations of many people, but it isn't just about technology. The common stereotypical drawings of Africans in the mid-twentieth century show that the visual distortion was not just embedded into camera technology, it was also a strong cultural filter. In many ways, the skin tone bias in cameras is equivalent to an Instagram filter, but not a flattering one – rather, this filter dehumanises people. And importantly, it wasn't, and isn't, a filter we *choose* to apply, it is a filter or distortion that is almost inescapable using conventional technology.

Feeling misrepresented by the camera is one common reason for beginning to take selfies instead of being the subject of other people's photographs. Photographer McFadden (2014) describes how one of her driving motivations to begin taking self-portraits and to become a professional photographer was her horror at seeing photographs of herself:

> I couldn't help but feel that what that photographer saw was so wildly different from how I saw myself. Is that how you see me? Could you not see blackness? Its varying tones and textures? And do you see all of us that way? … I started taking pictures to self protect. I just couldn't bear seeing anymore shitty pictures of me. I didn't know what I wanted these images to say, but I knew I could make something beautiful.

Comments to another article on the same topic in the online magazine *Jezebel* (Stewart 2014) speak of similar experiences and motivations, as commenters talk about their dislike of the 'skin tone bias filter' as an explicit motivation for taking selfies. One commenter writes,

> Growing up all of my girlfriends (and immediate female relatives) were white. I would watch them effortlessly take a photo or get their photo taken and in

return get an image that looked just like them. I never really felt that way. I still don't – unless I take my own photo. And people call it vanity but really I just want to be able to see myself in a picture. I don't see myself in other people's photos, I just don't.

Another commenter responds:

I've always felt this way too. Some people laugh at me for wanting to take selfies rather than have someone take the photo but I've always felt kind of shitty pre smartphone era when the photos would come back developed and I just wouldn't look like me.

For McFadden and the commenters, taking selfies can be a way of avoiding cultural and technological filters that you don't like or that don't represent you in a way that feels real to you.

Genres as filters

Another kind of filter is the genre. When we choose to share our stories in a photo album or a blog or a handwritten diary or a pre-formatted baby journal, these choices carry with them sets of genre expectations. Some of the rules of a genre are flexible while others are absolute requirements. A photo album is not a photo album if there are no photos in it, and it is not a family photo album if all the photos are of landscapes.

Not all the rules in a genre are as obvious as photo albums requiring photos. For example, a blog must have dated posts in reverse chronological order (Walker 2005a, 45), but beyond these formal rules there are more subtle expectations that *can* be rejected but usually are not. Diane Greco noted in her blog, *Narcissism, vanity, exhibitionism, ambition, vanity, vanity, vanity*, on 25 February 2004, that the ongoingness of diet blogs (and by extension, any other blog with a goal) requires them to aim for success.

By and large, the blogs tell success stories. They have to – blogging as a literary form supports the idea of eventual success. When there's bad news from the bathroom scale, the open-endedness of blogging makes it possible to cast the gain as just a temporary setback, not a failure. Diet blogging recasts or reimagines the yo-yo effects of a diet as a surface, a space, a site for potentially endless re-inscription. Dieting as Etch-a-Sketch, very postmodern.

So long as the blog is not ended or deleted, any setback can only be a step on the way to some as yet unknown future. I discussed goal-oriented

narratives and the ongoing and episodic narration of blogs in the chapter on blogs as narratives in my book *Blogging* (2014). Blogs are written in real-time, and therefore, unlike the narratives in many novels, the narrator usually doesn't know what is in the future. But many bloggers do write about clear goals, hopes or dreams.

Facebook functions as a filter that echoes this story of constant progress, especially with the strong structure embedded in the life events in its Timeline. As Roberto Simanowski (2012) points out, Facebook lists weight loss as a kind of life event you can add to your time, but it doesn't list weight gain. It suggests you might like to add quitting a habit to your Timeline as a life event, but does not suggest sharing that you have started a habit (23).

The progress narrative can be inverted, as in the many communities online where people support each other in what mainstream society sees as destructive practices. While a diet blog may always point towards an imagined future success, pro-anorexia blogs are examples of a drive to self-improvement that can become dangerous. If you look at the recently published photos on a visual social network site such as We Heart It, you will quickly see that popular images include not only beautiful photos with inspirational quotes about love and beauty but also a great many melancholy images with superimposed texts about depression, heartbreak and anxiety. The site We Heart It was actually designed to avoid online bullying and negativity: there is no option to comment on images and the only act a user can take is to upload an image or to 'heart' an image. But many images either include text or consist of nothing but text, of course saved as an image file so as to fit the format of the site – effectively circumventing the technological filter of not allowing text that the site apparently intended. The progress narratives of social media can be inverted, with progress still a drive that calls for more and more, but where that 'more' may lead to ever stronger depression, self-harm or hatred of others.

A filtered world

I have used the term filter in different ways in this chapter. I began by talking about literal filters: the felt or paper that water is filtered through to remove impurities and the piece of coloured glass that blocks certain frequencies of light. I moved on to talk about technological filters, ways

in which our devices and algorithms have certain technical affordances and constraints that cause them to act much as literal filters do: straining out certain information and making other information more visible. We can think of our body and mind's ability to perceive certain things and not others as a set of cognitive filters. And we are part of cultures that also have their sets of filters: rituals, customs, terminologies, assumptions and prejudices that are sometimes visible to us and sometimes taken for granted.