

# Art of the Masses: From Kodak Brownie to Instagram

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## ABSTRACT

In history of photography, new technological developments often provide a basis for new forms of imagery. These, in turn, are followed by new ways of theorizing the photographic image. For example, the cheapness and ease of use of the Kodak Brownie camera around 1900 gave rise to a massive movement of amateur photography, introduced the snapshot, and established a tradition of family photograph albums. Similarly, around 2010 we saw a rise in popularity of a new kind of image-making, image-sharing, and image-viewing device, which I propose to call the networked camera. This networked camera is a curious hybrid consisting of a smartphone with a built-in camera, wireless internet connection, and online image-sharing platforms and other social media. The availability of such devices have provided the technological basis for the formation of a new sub-genre of amateur photography – the selfie. The selfie continues the tradition of photographic self-portraiture yet at the same time presents us with a radically new type of image that demands equally new ways of analyzing it.

Arguments put forward in this article are grounded in the research project *Selficity* (2013-2014) led by Lev Manovich and his research lab *Software Studies Initiative*. This project was based on a dataset of 3,200 selfies posted to Instagram during one week from five global cities: New York, Moscow, Berlin, Sao Paulo, and Bangkok. Research methods included computational analysis (such as software-driven face recognition and use of custom-made data visualization tools) as well as formal and content analysis of each individual image. The article reveals some of the inherent complexities in understanding the selfie that the methods and findings of *Selficity* have helped to articulate. Seeking for valid methods of theorizing and contextualizing the selfie, the article attempts to combine insights from the perspectives of history of photography and art history, digital humanities, and software studies.

## KEYWORDS

amateur photography, selfie, social media, Instagram, software studies

## **Burning with Desire to Make and Post this Selfie**

One of the best inventions of 2014 might really be the selfie stick, an accessory that facilitates producing better selfies (Time 2014). Since Oxford Dictionaries legitimized the word selfie on November 2013 (Oxford Dictionaries Blog 2013), it has been discussed widely enough to become part of the industry of electronic gadgetry. In this article, the selfie is understood according to the definition put forward by the Oxford Dictionaries, as it precisely points to the processes and tools that set the selfie apart from other types of self-portraits and photographs in general: the selfie is ‘a photograph that one has taken of oneself, typically one taken with a smartphone or webcam and uploaded to a social media website’ (Oxford Dictionaries Blog 2013). In addition, taking and sharing selfies is understood as a popular, even mass phenomenon. Early observers in summer 2013 tended to emphasize this aspect, talking about ‘millions’ of selfies that allegedly are ‘filling our albums and feeds’ (Cep 2013, see also Wortham 2013).

From the perspective of history of photography, the selfie represents an unskilled and unschooled amateur activity. This sort of vernacular image-making practice seems to be the antithesis of anything artistic and creative, as it appears in popular imagination as an embodiment of banality, an endless and unimaginative repetition of a rigid formula. Selfies can be interpreted as an instance of ‘monotonous conformity’ (Batchen 2008, 20) of formally similar and unoriginal amateur images that usually have no place in the grand historical narratives of photography. Or, they exemplify the meaningless flow of collective consciousness totally under the control of globalized consumerism, if we agree with Vilém Flusser (2010, 58). This practice can also be seen as an expression of the voluntary and beneficial creativity of people, exactly what the artist Josef Beuys envisioned with his notorious slogan ‘everyone is an artist’. Or perhaps it is just a byproduct of the advancement and accessibility of digital image-making and image-sharing technologies. For example, the cheapness and ease of use of the Kodak Brownie camera around 1900 gave rise to popular and amateur photography, introduced the snapshot, and established a tradition of family photograph albums. Similarly, around 2010 we saw a rise of a new kind of image-making device, the smartphone with a built-in camera and wireless connection to the Internet. The availability of such devices on the mass market was followed by a formation of a new sub-genre of amateur photography – the selfie. Scholars have noted that ‘self-portraits did not become a mundane practice until the digital camera converged with the mobile phone’ (Lüders et al. 2010, 959). This, however, could happen only because a demand for such technological innovations has already been articulated in society. Thus also the appearance of the selfie as a new sub-genre of amateur photography is historically time-specific: it could materialize only in the moment when several technologies had reached a certain level of development and accessibility and when a ‘burning’ human desire had evolved (Batchen 1997).

The networked camera is a description I propose to use for these image-making, image-sharing and image-viewing devices. Unlike Kodak Brownie in the early twentieth century, several brands of smartphones are available on the global market. Although some scholars have focused on the iPhone as an exemplary case (Gómez-Cruz and Meyer 2012, Chesher 2012), the manufacturer and operating system of the device are not relevant to the present study. The networked camera is a curious hybrid, an image-making, image-sharing, and image-viewing device whose necessary features include hardware such as easy to use smartphones with built-in cameras, the availability of wireless Internet connection, the development of online image-sharing platforms, and software; the ‘invisible hand’ that drives these devices and service platforms. This combination

facilitates a streamlined production, dissemination, and consumption of visual information that bears a distant resemblance to the effects of Kodak-driven amateur photography of the early twentieth century. The concept of the networked camera in this article helps to describe the selfie as a hybrid phenomenon that merges the aesthetics of photographic self-portraiture with the social functions of online interpersonal communication. Already before Instagram and the selfie, some scholars noted this dualism of online image-sharing practices and observed that most researchers tended to focus on the ‘social life of the networked image’, while overlooking the image itself (Rubinstein and Sluis 2008, 17, 23). Social sciences and media studies indeed provide a solid theoretical and methodological basis for thinking about identity construction and performance in social network sites (see, for example, Papacharissi 2011). Our task remains to connect the medium with the message, aesthetics with functionality, and image with identity. Therefore this article attempts to prioritize the image over its social functions.

Just like the networked camera is more than only a new type of camera, the selfie is more than an image. Although the selfie is reminiscent of traditional photographic self-portraiture, its other essential attributes include metadata, consisting of several layers such as automatically generated data (like geo-tags and time stamps), data added by the user (hashtags), and data added by other users (comments, re-shares). Another important attribute is the instantaneous dissemination of the image via Instagram or similar social networks that makes selfie significantly different from its earlier photographic precursors (Rawlings 2013). As Sonja Vivienne and Jean Burgess have observed, ‘much more important than digital photography’s influence on the practice of *taking* photographs, then, are the ways in which the web has changed how and what it means to *share* photographs’ (2013, 281, emphasis in original). Thus selfie contributes to the current condition of the globalized and completely born-digital visual culture, described by Lev Manovich using terms such as ‘softwarization’ and ‘the new global aesthetics’ that ‘celebrates media hybridity and uses it to engineer emotional reactions, drive narratives, and shape user experiences’ (Manovich 2013, 179).

### **When a Word is Worth a Thousand Pictures**

The research project *Selfiecity* (2013-2014) was led by Lev Manovich and his research lab *Software Studies Initiative* based in The Graduate Center, City University of New York. The object of the research was a dataset of 3,200 selfies posted to Instagram during one week from five global cities: Bangkok, Berlin, Moscow, New York, and Sao Paulo. Various computational analysis methods (such as software-driven face recognition and use of custom-made data visualization tools) were applied as well as formal and content analysis of each individual image. Computational methods were used to analyze characteristics such as pose (for example, looking up/down, left/right), facial expression, and mood. Research tools included media visualizations, imageplots, blended video montages, and a custom-made interactive web application *Selfieexploratory*.

This application as well as examples of other methods are available online at [www.selfiecity.net](http://www.selfiecity.net), and major findings of the research have been discussed elsewhere (Manovich et al. 2014, Manovich and Tifentale 2015). The following discussion focuses on those aspects that have not yet been addressed in depth.

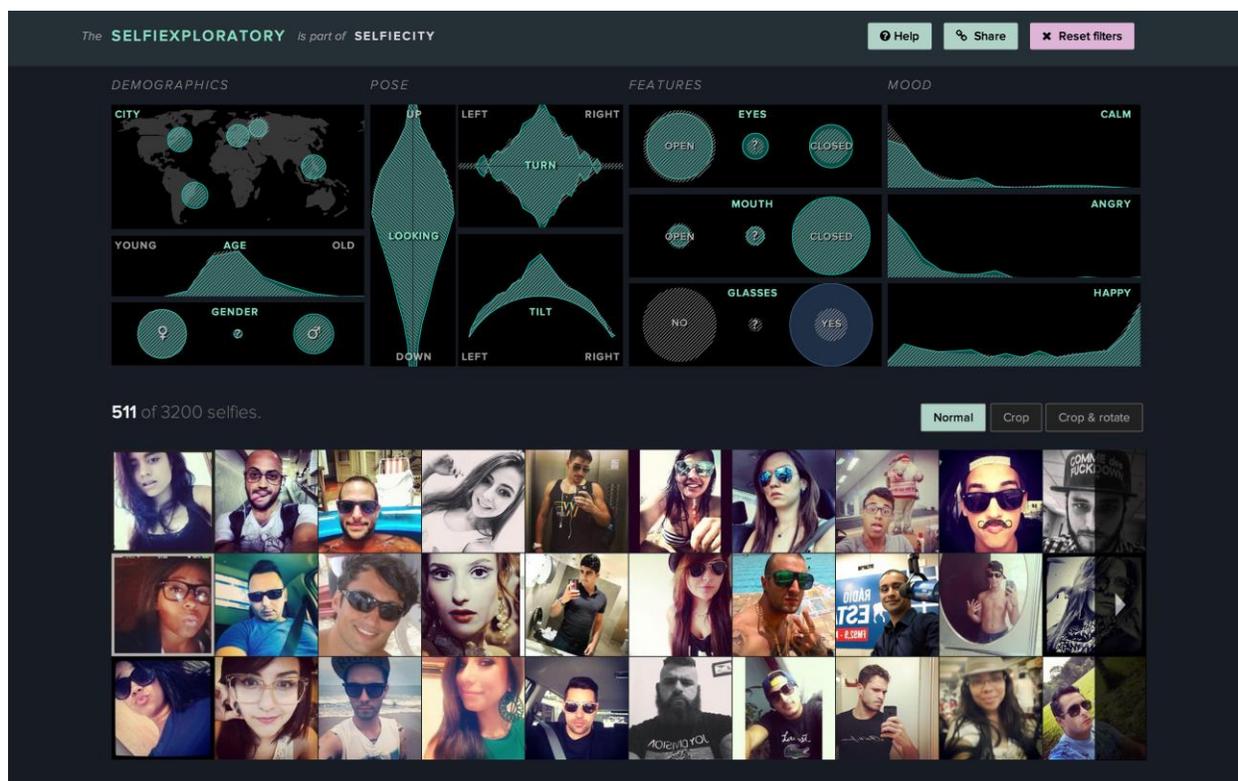


Figure 1: Screenshot of the interactive application *Selfieexploratory*, part of the *Selfiecicity* project (<http://selfiecicity.net/selfieexploratory>).

The diversity of opinions about selfies indicated that the alleged millions of selfies cannot be the same, although the uniformity of the genre and the restrictions of the medium (such as the square format in Instagram) might suggest so. Sometimes claims are made based on outstanding exceptions that catch people's attention, go viral, and easily become a symbol of the whole phenomenon. Yet such symbolic images are not necessarily representative of larger trends. Some singular images – like celebrity or scandalous selfies – tend to be reproduced by numerous major and minor news and gossip sites. The repetition and high visibility of the few selected selfies can create an illusion that they represent a typical example of the genre, when in reality they are the opposite – highly untypical exceptions that overshadow masses of more 'ordinary' images (Cep 2013, Saltz 2014).

Acknowledging that, Manovich initiated *Selfiecicity* to find a way how to make sense of thousands of pictures that seemingly repeat and mimic each other, yet bear the marks of individual self-expression. How to find a method that would let us inspect individual selfies and at the same time search for overarching trends and patterns in hundreds of selfies? According to Manovich, new research tools and methods are required for analysis of the new media objects such as photographs shared via social media, and also the 'the goals of digital humanities' analysis of interactive media will be different – to understand how people construct meanings from their interactions, and how their social and cultural experiences are mediated by software' (Manovich 2013b). The existing research methods have their advantages but also their shortcomings. For example, analysis from the perspective of history of photography and art history is problematic. These disciplines are object-based: regardless whether the object is a singular piece or a vast

collection of items, the object has certain limits, one can describe it, analyze it, and reproduce it. It is possible to describe selfies, but where is the selfie as an object of study? As a social media phenomenon, it originally appears randomly in individual users' feeds in their accounts on Instagram, Facebook or other social media services and is visible to other users who are approved to receive updates from these accounts. In order to gather a sample of objects to study, researchers can choose to follow one user or a specified number of users and focus on items filtered out from other content shared online by these users. Similarly, one can search for all content that is tagged with a specified hashtag in specified languages. Studies based on this method have investigated the use of social media such as Facebook and Twitter in moments of social uprisings and protest movements such as the Arab Spring (Harlow 2013) or Occupy Wall Street (Gleason 2013, Tremayne 2014).

For example, in order to apply content analysis, a standard method used in communication studies, researchers should be able to answer the following: what is the source of the images to be analyzed, what is the total amount of images inspected, what kinds of categories are used for analysis, what is the statistical breakdown within this set of images supporting and contradicting the preliminary hypothesis, etc. Among multiple social media where selfies could be found, *Selfiecity* focused on Instagram because this online image-sharing platform supports many requirements for an appropriate dataset for research. For the purposes of *Selfiecity*, several features of Instagram were essential, for example the automatically generated metadata (geo-tags and time stamps) and the uniform square format and resolution of all images (Hochman and Manovich 2013). In addition, most of earlier research about photographs shared on social media was based on another image-sharing platform Flickr (Davies 2007, Murray 2008, Burgess 2009, Lasén and Gómez-Cruz 2009), and the different functionality of Instagram seemed to be especially susceptible of sharing selfies in large numbers.

*Selfiecity* aimed at developing new hybrid methods of research that would allow exploring the mass character of making and sharing selfies and at the same time encourage aesthetic and formal analysis of individual selfies. In retrospect, one of the major concerns of *Selfiecity* was the exploration of the relationship between a genre and individual units belonging to this genre. The patterns that *Selfiecity* revealed are attributes of the emerging genre of the selfie. At least in the context of this research, these attributes are not interpreted negatively, as lack of originality or individuality, but rather as a format, a framework or template that provides certain given elements while also leaving enough room for individual creativity. In agreement with the concept that 'genres operate dynamically as interaction between expectations and conventions' (Lüders et al. 2010, 954), *Selfiecity* attempted to discover some of the conventions of the selfie genre. Conventions are 'making the genre distinguishable and recognizable, in spite of variations' (Lüders et al. 2010, 953), and this understanding of the selfie helps to reduce the tension between the affirmative viewpoint and the more skeptical art historical perspective. The concept of genre presupposes a certain level of conformity to the rules of the format in order to make it possible to recognize an image as a selfie. The ordinariness and banality of the format thus is necessary for each individual act of communication to take place while also serving as a backdrop of possible exceptions.

## Empowerment or Entrapment of Women

For the purposes of *Selfiecity*, the results of face recognition software were combined with human input, tagging all selfies in the dataset as ‘male’ or ‘female.’ Among major findings of *Selfiecity* was the fact that within our dataset more selfies were identified as depicting a female subject than a male, ‘from 1.3 times as many in Bangkok to 1.9 times more in Berlin. Moscow is a strong outlier - here, we have 4.6 times more female than male selfies’ (Manovich et al. 2014). Further reflection of these findings leads to a discussion about the methodology as well as the research question itself. Computer scientist Mehrdad Yazdani, the data analyst of *Selfiecity*, has addressed the difficulties of ‘measuring the ambiguity of a selfie’s gender’ (2014): within the human researchers’ gender guesses, Yazdani discovered a gray area of approximately 5% where these guesses became less confident. Besides, data showed that ‘the average gender confidence for males is *less* than those of females’ (Yazdani 2014, emphasis in original). Yet, as Elizabeth Losh has rightly pointed out, ‘categories for transgender, cisgender, and gender queer now being adopted even by commercial social network sites were nowhere to be seen on the *Selfiecity* website, and ways to tag images more appropriately would seem to be essential tools for those studying how gender and sexuality are performed online’ (Losh 2014).

Self-representation and performance of gender identities in online image-sharing environments can be theorized from different perspectives. As one solution, Losh has suggested ‘a feminist selfie theory’ where ‘the selfie as genre serves as a means for disciplining the body, quantifying the self, marking time, and regulating the value of affective labor’ (2015, 1651). Before selfies, Hille Koskela has discussed private webcams and introduced the concept of exhibitionism as a measure of counter surveillance and an attempt to ‘reclaim the copyright of their own lives’ (2004, 206). Julie Levin Russo has linked theories of surveillance and the psychoanalytic understanding of exhibitionism with practices of ‘online self-display’ and ‘cyber-exhibitionism’ in erotic webcams (2010). Meanwhile Amparo Lasén and Edgar Gómez-Cruz have observed that the public exposure of nude or erotic self-portraits ‘challenge the modern view of sexuality and the body as the ultimate private domains’ (2009, 206). These and similar research projects, however, are often based on a relatively small group of case studies or interviewees (for example, see also Lee 2005, Burgess 2009, Vivienne and Burgess 2013). This anthropological approach provides an in-depth insight into people’s motivation and expectations regarding their image-sharing practices, yet it does not tell so much about the masses of shared images themselves: aesthetic qualities of the images are rarely discussed in detail, and the publications contain few images. While *Selfiecity*, on the contrary, focused on image analysis, this approach, when applied exclusively, cannot provide tools for exploring what Losh calls ‘the rich and messy information about social history and personal context that accompanied the original upload’ (2015, 1653). Thus, among major methodological questions that *Selfiecity* raised, were these: how to reconcile the ‘big data approach’ with a close study of an object and how to balance aesthetic inquiry with sociological analysis?

The existing findings of *Selfiecity*, as incomplete as they might be, nevertheless suggest a continuity in the history of amateur photography. During the nineteenth century it most often was a gentleman’s favorite pastime. Around the turn of centuries, however, a feminization of photography can be observed: according to art historian Douglas Nickel, it started with Kodak cameras that were marketed as simple enough for women and children to operate (1998). Since the early twentieth century, amateur photography is associated with women especially as

custodians of the family photograph albums and also as photographers themselves. Furthermore, Nancy Martha West has discovered how the marketing and advertising strategies of Kodak constructed an image of the ‘Kodak Girl’ in 1910s and early 1920s. She was the New Woman of the early twentieth century, independent and single, ‘whose pretty face and stylish costumes would contextualize photography within contemporaneous discourses on fashion and feminine beauty [...] and whose youthful image would signify the ease, pleasure, and freedom of snapshot photography’ (2000, 53). This aspect tempts to draw parallels between the ‘Kodak Girl’ of the 1910s and the ‘selfie girls’ of 2010s. The attractive images of the New Woman in Kodak advertisements served as role models, camera became a fashion accessory, and snapshot taking – a feminine pastime. Instagram selfies as well are a product of leisure commodification, and smartphones, which often appear in mirror selfies, function as fashion accessories or status symbols. Furthermore, within the *Selfiecity* dataset, selfies tagged as ‘female’ indeed appeared to create a distinctively ‘youthful image’: first of all, ‘men's average age is higher than that of women in every city’ (Manovich et al. 2014). Second, the estimated age of women in selfies from some cities was even below the median age of 23.7 years: 20.3 years in Bangkok, 22.3 in Sao Paulo, and 23.3 in Moscow.



Figure 2: Median ages per city and gender. The *Selfiecity* project (<http://selfiecity.net>).

Unlike the 'Kodak Girls', whose snapshots usually remained in personal and family albums available for a limited and intimate circle, many Instagram users post their selfies publicly. They circulate as a visual currency in social network sites: they are being 'liked,' re-shared, and commented upon.

The woman who took photographs with her Kodak Brownie in 1913 was in a completely different social and economic position within her respective society than the woman who takes selfies with her iPhone in 2013. But one issue seems relevant in both cases: the nature and meaning of women's image-making. The question oscillates between the woman's passive role of a consumer (of equipment and ready-made pictorial devices, formats, and poses) and the more active and liberating role of a producer. The critical viewpoint would presume that there can be no real production, real participation in any kind of cultural endeavor if the structure is already given and governed by the interests of capital, to which feminist critique would add patriarchal oppression and gender-based chauvinism. The more affirmative viewpoint would place the emphasis on participation, empowerment, and control over the self-representation that the access to image-making and image-sharing tools can provide to women (Lee 2005, Senft 2008). The limits of such empowerment as well as the moment when it turns into entrapment, however, still have to be defined regarding the making and sharing selfies in social media.

### **Performance and Spectatorship**

Some of the findings of *Selfiecity*, mostly based on computational methods, were related to some aspects of self-representation in selfies within our dataset. First, selfies from all the five cities were ranked according to the 'smile score'. This score was the highest in Bangkok (0.68 average smile score) and Sao Paulo (0.64), whereas the lowest smile score was found to be in selfies posted in Moscow (0.53) (Manovich et al. 2014). Second, selfies were ranked according to the degree of head tilt, and that ranking was further split into groups of selfies identified by face recognition software and human researchers as 'female' and 'male'. Accordingly, it was concluded that 'women's selfies have more expressive poses; for instance, the average amount of head tilt is 50% higher than for men (12.3° vs. 8.2°). Sao Paulo is most extreme - there, the average head tilt for females is 16.9°' (Manovich et al. 2014). These findings so far have been mostly viewed as a comparison among the five cities, arguing for preferred 'styles' of selfies in different cultural contexts.

Yet these results point to other issues as well. Smiling and striking an 'extreme' pose in front of one's smartphone camera can be discussed also as examples of actively performing the self, as cases of self-fashioning that takes place within the limitations of the genre and with a specific audience in mind. The performative aspect is there even when the person is not smiling or not striking an extreme pose, as even doing nothing in front of the camera is a performance too. Furthermore, performance of the self takes place in front of the camera in the moment when the photograph is taken, and also later, through the individual's editorial authority while selecting particular images for sharing online.



Figure 3: Average head tilt angles. The *Selfiecity* project (<http://selfiecity.net>).

The selfie can be addressed as a tool for constructing and performing the self. Photographic self-portraits offer a certain degree of control over our image, allowing us to present ourselves to others in a way that we approve of. According to Martha Langford, ‘performance or self-presentation through photography derives, even when it deviates, from social and cultural convention’ (2001, 154). Thus apart from the conventions of the genre mentioned earlier in this article, selfies can also be studied as part of broader social conventions, both online and offline. Scholars who have been involved in similar work tend to emphasize the performative nature of photographs in social media: ‘making, showing, viewing and talking about images are not just how we represent ourselves, but contribute to the ways that we *enact* ourselves, individually and collectively, and reproduce social formations and norms’ (Van House 2011, 131). Many aspects of the performative nature of amateur photography in general have been widely discussed regarding earlier, non-digital instances. For example, Julia Hirsch has pointed out the editorial authority that is ‘exercised [...] whenever we take family photographs’ (1981, 13), thus revealing the importance of seemingly invisible or obvious step of choosing, first what to photograph and second, which photographs to share.

Smiles and extreme poses found in the dataset of *Selfiecity* belong to the conventions of the selfie genre. Another convention that became apparent while inspecting each image in the dataset individually, was the repeating sub-genre of a selfie in the mirror. An attempt to identify mirror selfies from large data sets using computational image analysis methods, however, was decided to be too challenging to be included in the list of major research questions of *Selfiecity*. Because *Selfiecity* aimed to focus on demonstrating the capabilities of computational analysis, the project did not focus on the analysis of the background environment in the photos. In this follow-up discussion, however, the trope of the ‘mirror selfie’ is worth exploring further. Mirror in general is a site of exercising control over one’s image, over one’s self-representation. Self-portrait in

mirror is a well-known formal device in photography. Many artists and photographers of the twentieth century have made photographic self-portraits using mirrors, and these images subsequently have entered the canon of self-portraiture, or at least became curious examples of artists' side activities. As Dawn M. Wilson has summarized, '[i]n self-portraiture, an artist seeks to have the same kind of access to her own face as she has to the face of any other person whom she might choose to portray; this is why mirrors are invaluable: it is not possible to see my own face directly, but I can see my own face in a mirror' (Wilson 2013, 58).

Mirror selfies from *Selfiecity* dataset appear to be located in public spaces (such as gyms and elevators), private spaces (bedrooms, hotel rooms) as well as in semi-private, semi-public spaces such as restrooms of restaurants, shopping malls, or movie theaters. The performance of the self has taken place first in front of the mirror in a more or less private setting and then in the more public space of social media, thus suggesting a kind of 'renegotiation of the public and private divide' (Lasén and Gómez-Cruz 2009, 206). Art historian Jean-François Chevrier has observed that 'the most intimate place for narcissistic contemplation, the room with the mirror – a bathroom for example – becomes in this context the most common of places, where every distinction of the self is in the end abolished' (1986, 10). Interestingly enough, the mirror selfies from private and semi-private spaces in the dataset of *Selfiecity* neither relate to particular intimacy, eroticism or sexuality in the pose or style of the image (as the self-portraits discussed by Lasén and Gómez-Cruz) nor speak of anything like Chevrier's narcissistic contemplation. Instead, majority of these images rather imply that the sheer availability of large enough mirror has triggered to make and post a selfie.

If that is really the motivation behind many of these mirror selfies, then it seems worth asking, does the background of the selfie matter at all? The chosen background or surrounding environment has been discussed widely in context of early photographic portraiture and self-portraiture. Photographers like Roger Fenton have spent a considerable amount of effort to perform themselves for their own camera, including dressing up in costume and careful arranging of props and accessories. The background of a self-portrait has been a signifier of nationalism too: James Lingwood has observed that '[i]f a European staged himself outside the studio, the site was most likely a classical or Egyptian ruin. The American pioneer ('The American Adam') situated the self in space – unquestioned, unquestioning, claiming the ultimate otherness of the wilderness, building the American Self' (1986, 6). But what is so significant, so special about that elevator? That gym? That bathroom? The triviality of these backgrounds sometimes is simply striking. But then we have to keep in mind that ordinariness is part of the conventions of the genre, and should try to find out more about the characteristics of the genre, instead of applying criteria of other genres from other historical time periods. Furthermore, we also have to remember that in such a dataset we inspect singular images that are filtered out of multitudes. The same image perhaps could have a different meaning when viewed in its original habitat, i.e. as part of the image flow of a particular Instagram user as experienced in real time by the user's followers.

A note about the structure of the dataset of *Selfiecity* is in order. During the first stage of research, all Instagram photographs were downloaded that were shared publicly during one week (December 5 – 11, 2013) and geo-tagged in the central areas of Bangkok, Berlin, Moscow, New York, and Sao Paulo. From all 656,000 images, 120,000 photos (20,000 or 30,000 photos per city) were randomly selected for further analysis. From this pool, all selfies featuring one person

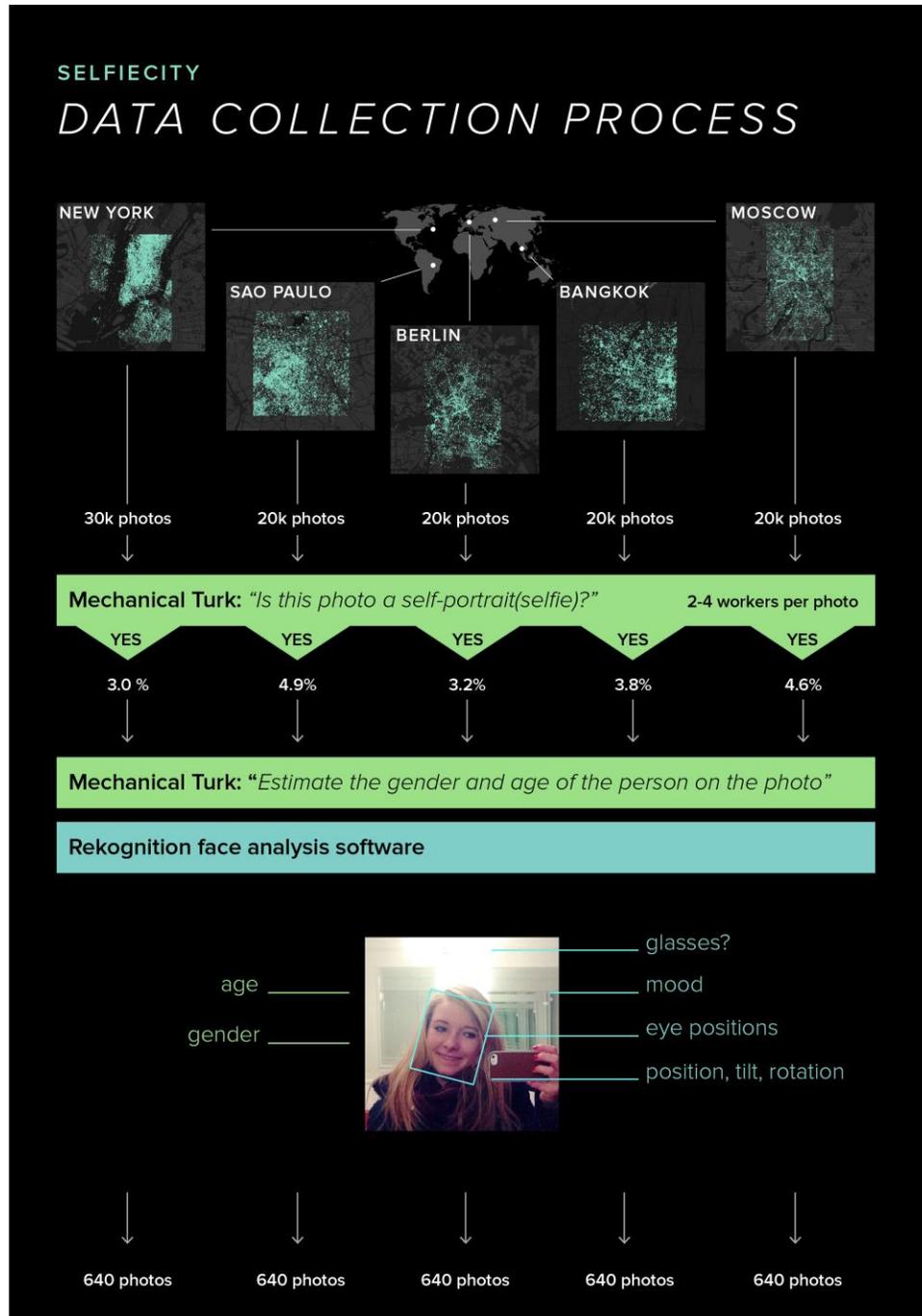


Figure 4: Data collection process. The *Selfiecity* project (<http://selfiecity.net>).

were filtered out using manual tagging, done by Mechanical Turk workers as well as the project team members (Manovich et al. 2014). This labor-intensive and time-consuming procedure was given preference over filtering by hashtags in order to avoid confusion with use of multiple languages, different hashtags that could mean the same or not (#selfie or #me?), and also incoherent use of hashtags (not all selfies on Instagram would be marked with a hashtag

explicitly saying that it is a selfie, and not all images with such a hashtag would necessarily be selfies). Finally, a set of 640 selfies per city was set up from these results.

By analyzing a large sample of selfies taken in specified geographical locations during the same time period, *Selfiecity* aimed at seeing beyond the individual agendas and noticing larger patterns. At the same time, such method differs from the original mode of existence of selfies. They 'live' in different environment that can be described as a real-time flow of collective consciousness. Selfies in *Selfiecity* are extracted from this original context. They are removed from their authentic online narrative. They lack the connection to the larger body of images and textual input from each user that makes their Instagram accounts a communication tool that is meaningful for their followers. Such dataset is an example of 'imaginary communities' (Hochman and Manovich 2013), an artificially constructed set of samples, which none of the users of Instagram have ever experienced directly. Thus the broader question about the specific modes of spectatorship in social media remains open. At least one aspect is clear, however: if for earlier moments in the history of photography image-making, image-sharing, and image-viewing required different apparatuses, then now one device, the networked camera fulfills all three functions.

## Conclusions

Debates surrounding photography have always been oscillating between extremes such as the mechanical nature of the photographic image versus the creative agency of the camera operator, the individuality (or originality) of the output of a singular image-maker versus the typicality and banality of images produced and owned by the anonymous masses. Similar extremes become apparent while examining a selfie. Discussing some of the findings of the multidisciplinary research project *Selfiecity* (2013-2014), it becomes clear that new and hybrid methods can be helpful to study a selfie or any type of photography in social media. The selfie is more than a photographic image that we recognize as a self-portrait and that may or may not bear formal resemblance to canonical photographic self-portraits from the nineteenth and twentieth centuries. The selfie is more than an image: besides the visual information it equally consists of multiple layers of metadata. Furthermore, this hybrid unit cannot be separated from the conditions and means of its production, dissemination, and consumption. Some of the urgent questions to be asked about selfies are the following: do selfies represent a form of self-expression and self-fashioning of individuals, or rather a communal and social practice that can represent a whole city? Do selfies serve as a form of individual empowerment, or are they just another sign of complete entrapment in the circulation of commodities? Can a single random selfie tell us something meaningful? Or a thousand selfies? *Selfiecity* was an attempt to address some of these questions, and the results and findings of the project suggest areas of further research. One of the prospective directions leads to an in-depth analysis of self-representation in social media using approaches informed by gender studies and feminist theories. Another important line of inquiry focuses on the performative aspects of photographic self-representation in selfies viewed in the context of the history of photography. Finally, the question about the spectatorship and consumption of selfies is yet another field of further study, as the current research methods have proven to remove individual images from their original context.

## Acknowledgments

The issues addressed in this article are based on my involvement in the research project *Selfiecity* (2013-2014) led by Lev Manovich and his research lab *Software Studies Initiative* based in The Graduate Center, City University of New York. Other members of the research team were: Dominikus Baur, Jay Chow, Daniel Goddemeyer, Nadav Hochman, Moritz Stefaner, and Mehrdad Yazdani. The development of the project was supported by The Graduate Center, The City University of New York, California Institute for Telecommunication and Information (Calit2) and The Andrew W. Mellon Foundation. I wish to thank the editors, Laura Busetta and Valerio Coladonato, for their valuable comments. I am grateful to Hon Sun Lam for his never-ending inspiration and support.

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