
Quantified Faces

On Surveillance Technologies, Identification and Statistics in Three Contemporary Art Projects

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Abstract

The article presents three contemporary art projects that, in various ways, thematise questions regarding numerical representation of the human face in relation to the identification of faces, for example through the use of biometric video analysis software, or DNA technology. The Dutch artist Marnix de Nijs' Physiognomic Scrutinizer is an interactive installation whereby the viewer's face is scanned and identified with historical figures. The American artist Zach Blas' project Fag Face Mask consists of three-dimensional portraits that blend biometric facial data from 30 gay men's faces and critically examine bias in surveillance technologies, as well as scientific investigations, regarding the stereotyping mode of the human gaze. The American artist Heather Dewey-Hagborg creates three-dimensional portraits of persons she has "identified" from their garbage. Her project from 2013 entitled Stranger Visions involves extracting DNA from discarded items she finds in public spaces in New York City, such as cigarette butts and chewing gum. She has the DNA that is extracted from these items analysed for specific genomic sequences associated with physical traits such as hair and eye colour. The three works are analysed with perspectives to historical physiognomy and Francis Galton's composite portraits from the 1800s. It is argued that, rather than being a statistical compression like the historical composites, contemporary statistical visual portraits (composites) are irreversible and complicated amalgams. The article furthermore examines questions regarding the agency of the technologies used by the artists.

In her book *Face Politics*, Jenny Edkins describes how much of the scientific work on "face processing" is based on the initial assumption that the face identifies someone, either as an individual or, for instance, as a member of a group, population or race, and at the same time expresses an emotional state (2015: 55). In this article I will examine the former, namely the identification of faces. Jenny Edkins further describes how face processing concentrates on how people who see a face process it (ibid). What concerns me here, however, is what I would call machinic face processing, and I will present three examples of how contemporary media art examines issues concerning new technologies and the

identification of faces, for example through the use of biometric video analysis software or DNA technology. Via a description and brief analysis of three art projects, I will investigate possible consequences that arise when the human face is transformed into numeric representations. In my critical analysis of the three works I particularly focus on questions concerning the statistical face, the bias and stereotyping associated with the identification of faces, and in continuation thereof, issues related to the agency of technologies in the monitoring of faces.

The installation *Physiognomic Scrutinizer* was designed by the artist Marnix de Nijs in 2008 and further developed under the name *Mirror_Piece* in 2010. It is an interactive installation that uses biometric video analysis software to identify who the viewer most closely resembles, out of a database of 250 notorious personalities. When I experienced the work at the transmediale festival for new media art in Berlin in 2011, I was told by the interface that I looked like the famous early developer of computer science, Alan Turing (1912-1954), who was persecuted because of his homosexuality. The work plays satirically on the historical science of physiognomy, where the face is seen as a sign system (i. e. with a connection between a special type of nose and personal character). The comparison with infamous personalities establishes references to Cesare Lombroso's physiognomical criminal anthropology of the 1800s and Otto Weiniger's misogynist and anti-Semitic theory of human morphology in the book *Sex and Character* from 1903. In this light, it is no wonder that physiognomy has been largely eradicated. In 1999, the art historian James Elkins described how physiognomy as a science had entirely vanished (Elkins 1999: 73). But *Physiognomic Scrutinizer* raises the question of whether physiognomy, or at least the practice of reading the face as a structure, is somehow returning with face recognition technologies.



Image 1: Marnix de Nijs *Physiognomic Scrutinizer/Mirror_Piece* (2010).
Photo by Lotte Stekelenburg.

Another artist who thematises this type of question regarding statistical faces is Zach Blas, who has produced three-dimensional portraits in his *Facial Weaponization Suite* project, including *Fag Face Mask* from 2012. The portraits here are blurred pink plastic masks containing data for 3D scans from 30 gay men's faces. The masks and a related video produced by Zach Blas are an explicit response to contemporary scientific experiments with the phenomenon of "gaydar", the intuitive registration of homosexuality, as carried out in the study of "Accuracy and Awareness in the Perception and Categorization of Male Sexual Orientation" by Nicholas O. Rule et al. (2008). The art project is, at the same time, a critique of the bias of biometric surveillance and the myth of objectivity in machinic face processing. It is not only machinic face processing that is programmable and works with pre-coded stereotypes. According to media scholar Bernadette Wegenstein (2013) and her theory of a human cosmetic gaze, we look at ourselves and others as incomplete and with an abstract yet ideal face outside the concrete face. The cosmetic gaze is subject to historical and media contexts, meaning that the technological possibilities at hand are likely to affect the human perception of the face. Blas himself also sees a resemblance between biometric surveillance and the historical physiognomy: "Capture technologies and their global standards of identification insidiously return us to the ableist, classist, homophobic, racist, sexist, and transphobic scientific endeavours of the 19th century, like anthropometry, physiognomy, and eugenics, albeit with the speed and ubiquity of 21st century digital technologies." (Blas 2014)

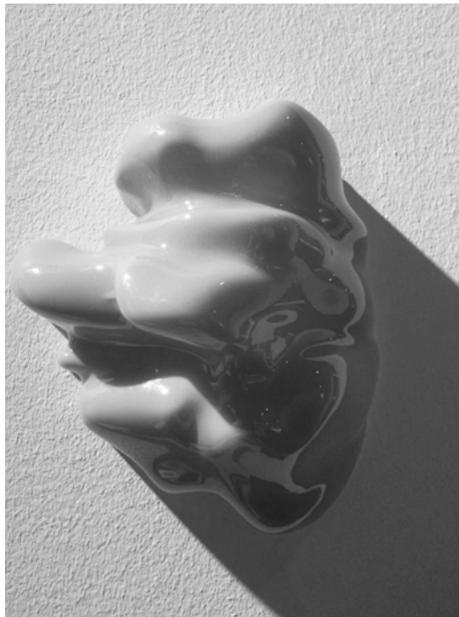


Image 2: Zach Blas *Fag Face Mask*
(Courtesy Ursula Drees)

In the *Fag Face Mask*, opacity and anonymity gained from the composite portraits of several individuals are used as a protest and a weapon. The masks are not portraits at all, according to the art theorist and philosopher Cynthia Freeland's definition of portraits as a "representation or depiction of a living being as a unique individual" (2010: 5). There is a quite explicit avoidance of the depiction of singular faces, due to the irreversibility of the relation between portrait and origin in the *Fag Face Mask*. It is not a portrait in the traditional sense, but could be characterised as a composite portrait comparable to the historical photographic composites deployed in 1865 by the eugenicist Francis Galton; his composite images were made by a series of photographs of faces superimposed so that they constitute a "single-face" which aims to reveal the common features of the faces. With the composite portrait Galton attempted to demonstrate that certain types of offenders, for example, shared the same physical characteristics (Kemp 2004: 116). His technique of sandwiching multiple faces gained new possibilities with computer-generated portraits. In 2000, Time had a front cover to illustrate the "New Face of America" by combining the features of Anglo-Saxons, Middle Easterners, Africans, Asians, etc. (ibid: 118). Bernadette Wegenstein points to the fact that while the historical examples of composite portraits display a before and after, the integrated technologies of the 21st century have "blurred the line of the assemblage" (2013: 371).

My third example of current artworks in new media art which thematise monitoring and surveillance issues by configuring statistical faces is the artist Heather Dewey-Hagborg, who creates three-dimensional portraits of persons she has "identified" from their garbage. Her project from 2013 entitled *Stranger Visions* involves extracting DNA from discarded items she finds in public spaces in New York City, such as cigarette butts and chewing gum. She has the DNA extracted from these items analysed for specific genomic sequences associated with physical traits such as hair and eye colour. Heather Dewey-Hagborg describes:

"I can tell if you have African ancestry or European, but I can't tell precise shades of darkness. From other parts of the genome, I can get some information about the dimensions of a person's face – small things about whether your eyes are close together or farther apart; other things, like eye color, or if you might have freckles. Gender, of course, and whether you might be overweight." (Wilkinson 2013)

One of the three-dimensional portraits from *Stranger Visions* (entitled Sample 2) depicts a Caucasian-looking man with dark hair and a dark eye area. He has bushy eyebrows that almost go down over his eyes. He has a fairly symmetrical face, an oval head shape, a well-formed nose and a little narrow, pinched mouth, where the lower lip is slightly fuller than the upper lip. He looks very kind, although at the same time his features give him a seemingly rather brusque appearance, perhaps due primarily to the dominant eyebrows. He makes me think of a shy athlete: healthy, strong and introverted. He is about thirty years of age and clean-shaven, but I think that he would have a thick beard, if he let it grow. Back in 2004, in the book entitled *Future Face*, Alf Linney wrote



Image 3: Francis Galton, Composite photographs of three sisters, from the second half of the 19th century. Source: galton.org

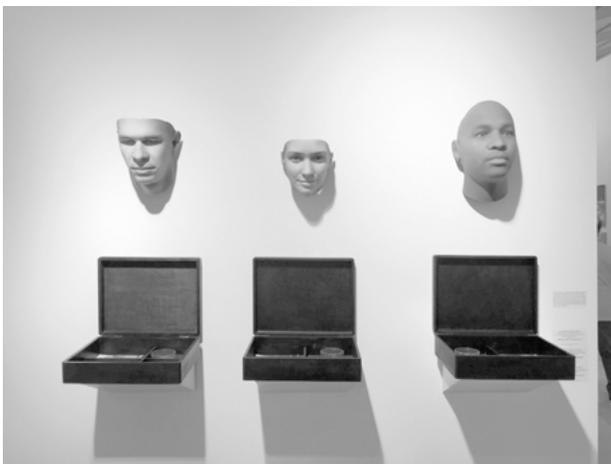


Image 4: Heather Dewey-Hagborg *Stranger Visions*, 3D face prints and sample boxes at Art Miami, 2014 (Courtesy the artist)

the chapter “medicine face” in which the following quote appears: “If we are able to learn enough about how genes control the shapes of our faces, it might even be possible one day to construct someone’s face from a sample of DNA. Just think of the impact this would have on crime scene investigations.” (2004: 176) Hagborg’s *Stranger Visions* project has been given a lot of attention, also more widely than in the art world (cf. Wilkinson 2013; Dawsey 2013), because the project has proven to resemble some potentials that may soon become reality in the scientific world. Hagborg’s own framing of the project is very much focused on the dystopian prospect of being able to use this technique for monitoring and surveillance.

Dewey-Hagborg’s faces are at best a guess about the source of the DNA. They are crude portraits with a probabilistic nature – so far nobody has recognised himself or herself. The portraits do have an origin, even though it is irreversible. The portrait-sculptures with an aura of forensics could be compared to identikits, but with new technologies in the role as the human witness. When one wishes to understand and analyse this work, it is relevant to relate to the phenomenological experience of the portraits, but also to seek to understand the technologies used to produce them, and to explain their logics by the best possible means. What are the logics of the DNA technology used by Heather Dewey-Hagborg? Can the relation between structure and singularity be discussed in a nuanced way? In my preliminary attempt to describe Sample 2, I am confronted with a number of issues that are linked to the genre of portraiture in general, and to this type of statistical DNA portraits in particular. Questions regarding the production of the face such as “does he have a beard?”, “Does he smile?” “How old is he?” (It is possible, however, to extract knowledge of age based on DNA (cf. Callaway 2010)). The portrait is based on statistical potentialities, rather than singular actualities, and the relation between structure (genes, DNA) and actual presence is complicated. Does Sample 2 smoke, does he eat many vegetables? Does he use an expensive day cream? Does he have any acquired micro-gestures? The following quote is from the biologist Kun Tang. About reconstructing faces based on DNA, he says: “One thing we’re certain of: there’s no single gene that suddenly makes your nose big or small [...] The task is complicated further [...] by environmental factors, such as exposure to specific climates, which is hypothesized to influence the structure of faces.” (Reardon 2014). The media scholar N. Katherine Hayles also describes how “recent work in evolutionary biology has acknowledged the importance of epigenetic changes – initiated and transmitted through the environment rather than through the genetic code” (2012: 10).

The relationship between the phenomenological experience of the work and an awareness of the DNA technology that has been used to carry out the portraits also pertains to a relationship between the artist and the technology used. How is agency distributed between the two agents that have control? This is an issue that we see in all the three works considered here. In Dewey Hagborg’s work we find a probabilistic nature, and thus a statistical range of possibilities and openness in the identification. The same type of openness is also seen in de Nijs’ *Physiognomic Scrutinizer* project, where the limited number of faces in the database provides a very gaping statistical space and thereby an imprecision.

The system identified me as a man, even though I am a woman. With de Nijs' performance with the biometric surveillance software, there is also a gesture aimed at showing abilities, but also to a very high degree the weakness of the technology. One can also say that the artists outsource some responsibility and this helps to identify the technologies and their logics as active participants.

Physiognomic Scrutinizer and *Stranger Visions* are types of projects in which the artists have not, as such, developed finite artworks: they have also been developing techniques for production (the use of DNA equipment in the development of the three-dimensional portraits in the work by Dewey-Hagborg, and the algorithms structuring the search of similar faces in the work by de Nijs). According to Vilém Flusser, they meet his definition of being tool-makers, as well as artists (Hayles 2014: 165). The process has moved from object to tool, as it becomes more sophisticated. With the right technologies, they trigger preconditions for the processes which their works constitute. The three art projects make use of and reflect on new technologies and their practice explores the potentials, but also the dystopian problems that arise when the human face is translated into numerical data. The projects have in common that they use the irreversible portraits as something subversive – either to demonstrate the uncertainty of the technologies or, as with Blas, to gather so much data that the collective and composite become a defence against surveillance. So the space of statistics can, paradoxically, be a place where biased and stereotypical face processing is avoided.

I have mentioned examples of composite historical, statistical portraits which, according to Wegenstein (2013), clearly display one before and one after, i. e., they display the number of parts (the singular faces), and then their compressed whole, in a single portrait. One can say that the historical composites are a visual statistic or generalisation with some sort of transparency in the representation. The three contemporary works of art, on the other hand, have a complex, irreversible or impossible relation to an “original” singular face and demonstrate how the amount of data allows for visual statistics to be complicated amalgams, rather than, as in the historical examples, being a transparent compression. It would be relevant to examine further how the implications of this potential for statistics and quantitatively complicated data volumes affect the issues briefly mentioned here with regard to the bias, stereotypes and agency of the technology vis-à-vis the human producer in face processing.

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