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Unmasking Biometrics' Biases: Facing Gender, Race, Class and Ability in Biometric Data Collection

Abstract

The article investigates the role of identity and the body in biometric technologies, contesting the conception that biometrics are neutral. It discusses biometrics' exclusionary effects with regards to gender, race, class and ability, among others, by unveiling its historical links to nineteenth-century pseudoscientific practices. It does so through an analysis of Zach Blas' *Facial Weaponization Suite,* an artistic critique of this dominant conception that draws attention to biometrics' contested history and its current implications for marginalised identities.

Introduction

Biometric technologies that measure information from faces, fingerprints and irises have become increasingly popular over the past two decades.[1] Aiming to render 'bodily parts into binary codes', these technologies promise to verify or identify someone's identity.[2] Biometrics are marketed as the technological solution for the identification of suspicious individuals, and therefore it is not surprising that they have acquired an important role in security measurements instated to control and prevent risk after 9/11 and the start of the 'War on Terror'.[3] In split seconds, these biometric machines can identify suspect individuals in large crowds – much faster than the time required for human guards to achieve the same objective. However, despite these possibilities, biometrics are not free of bias and failure. As Shoshana Magnet has shown, these technologies are built around whiteness, maleness and ability as default categories, which has implications for marginalised identities.[4,5] With this growing popularity of biometrics, it is 'not feasible to remain naïve to the politics of such a powerful technology', and further scrutiny of these technologies and their political economies is necessary.[6]

In this article, I explore an artistic response to biometrics that commences such scrutiny – namely, the work *Facial Weaponization Suite* by American artist Zach Blas (2011–2014). I thereby aim to investigate what this installation piece unveils about the social implications

of biometrics, and in what medium-specific way it does so. By using the technology of facial recognition systems, Blas has created a video and four masks that critically engage with the dynamics between body and identity in biometrics, and the history and social context of this technology. Approaching the face as a site of contest and weaponisation, Blas problematises biometrics' neutrality and supposed innocence of reading faces. His work focuses particularly on marginalised identities and their precarious position in front of the biometric machine.

First, I introduce the relevant theoretical debates on biometrics and its politics, focusing on the analyses by gender studies scholar Shoshana Magnet, critical race scholar Simone Browne, surveillance studies scholar Ingrid van der Ploeg and anthropologist Amade M'charek. Next, I conduct a visual and semiotic analysis of *Facial Weaponization Suite*. In doing so, I propose *Facial Weaponization Suite* as an urgent contribution to theoretical discussions on the social impact of biometrics, because it makes biometrics' complex and abstract implications tangible. I argue that the work enables spectators to understand biometrics as situated in a political context of securitisation and profiling, and in connection to the technology's roots in nineteenth-century research practices that supported the marginalisation of particular groups of people. Finally, in the last section of the article, I explore the political potential of *Facial Weaponization Suite* by relating it to a set of historical practices and debates, including the guerrilla tactics of Algerian women in the French–Algerian war. In that form, this artistic imagination pushes us to experience and think differently about these technologies that are dominantly represented as neutral and as contributing to a future of progress.

Biometrics and Its Contestations

Biometric technologies collect large amounts of data about human bodies, which are saved in databases such as Eurodag in the EU, Next Generation Identification (NGI) in the USA and Aadhaar in India. These databases are then used for further risk profiling; they form the benchmark against which new biometric information is compared. In the process of collecting biometric information, these technologies construct a personal 'biometric identity', which can be understood as a digital passport that captures someone's bodily features. In the case of facial recognition systems, an image of an individual face in need of identification is compared to several 'standard face' templates. From this comparison, certain deviations will arise that are used to construct someone's individual 'face identity'.[7] Other systems of facial recognition work with geometry feature-based algorithms. These algorithms construct personal face nets based on the distance between nodal points in the face, such as the eyes and nose. Turned into binary data, the information about these facial features can be stored in a database and used for future identity checks.

The abovementioned systems of identification and verification rely on the idea that biometric information cannot be falsified; one can alter a passport or make up a story about who one is, but information about one's body will always be 'true'. This points to a trust in the objectivity and truth-function of biometrics, which in turn links two fundamental assumptions about technology, bodies and identity. Firstly, it assumes that technologies produce objective information

about individuals. While we assume that people have biases when they look at a face (e.g. we find faces attractive, unique, suspicious-looking), technologies that capture such information are considered to be value-free.[8] Information provided on the US government's visa website illustrates this clearly, and the reasoning behind the use of biometrics at international borders is outlined on the website of the US Department of State:

> A biometric or biometric identifier is an *objective measurement* of a physical characteristic of an individual which, when captured in a database, can be used to verify the identity or check against other entries in the database. [...] The use of these identifiers is an important link in U.S. national security, because fingerprints taken will be compared with similarly collected fingerprints at U.S. ports-of-entry. This will verify identity to reduce use of stolen and counterfeit visas, and protect against possible use by terrorists or others who might represent a security risk to the United States.[9]

We see here how biometric technologies are laden with an assumption of objectivity, and consequently, how the reading of physical characteristics by these biometric technologies is presented as a neutral and merely technological practice that exists outside of politics.

This example also illustrates a second assumption that is inherent to biometric technologies, which is the implied direct connection between biophysical features and identity. Through a digital measurement of the body, the biometric apparatus can find out who one is and whether or not one is allowed to travel. As Liljefors and Lee-Morrison argue, 'the biometric body, as it is constructed through rigorous screening regimes in geopolitical contexts today, is intended to become precisely an undoubtable biophysical source of certainty about an individual's identity, which will allow for the determination of his or her societal statuses.'[10] Biometrics equate the body with identity – and the body thus becomes the most important signifier of identity.[11] Therein, it is also assumed that both bodies and identities are fixed and coherent phenomena that stay the same over time. However, in reality, the body ages and succumbs to disease and injury or self-initiated changes.[12] Furthermore, identity is more than physicality. Identities and bodies have a social dimension denied by biometrics.[13] In this process, the subject's own experience of identity is ignored and identity becomes reduced to a collection of physically measured information. As bodies are increasingly described as information rendered processible as digital data, identity is understood in a simplified manner, ignoring decades of research in fields such as gender studies. Scholars' contributions to the discourse on the topic have shown, in various ways, how identity is not reducible to bodily appearance, arguing that (gender) identity is something that we 'do' and repetitively perform until it *seems* natural and a fixed given.[14]

As Magnet points out, biometrics show disproportionate failure at 'the intersection of racialized, queered, gendered, classed, and disabled bodies.'[15] It could thus be argued that biometrics' attempt to reduce identity to a bodily characteristic is especially problematic for subjects who are already in a marginalised position. An example of biometric error can be found in the failure to recognise effaced fingertips or fingertips with fine skin. Because of age, manual labour such as construction work or cleaning, or even the fine structure of skin – which is often

the case for Asian women – the technological readability of the fingerprint can disappear.[16] This biometric failure also manifests itself for persons without fingers or (functioning) eyes, who are inherently excluded from correct recognition by these machines. Another instance of biometric failure is the higher false-rate of facial recognition and iris recognition technology for people with dark skin and dark eyes.[17] We see here how factors such as class, ability, gender, skin colour and age – and the intersection of these factors – can negatively influence someone's ability to be recognised by the biometric apparatus.

Since the use of biometric technologies has become increasingly common, for instance at the airport and when applying for a passport, a failure of these technologies can have serious consequences for people's ability to travel, apply for a passport, or even gain access to a smartphone that requires biometric identification. Moreover, due to certain built-in standards 'to which normalcy gets affixed (…) those whose facial characteristics differ are implicitly construed as abnormal and targeted as potential "risky subjects".'[18] People who are falsely recognised because of their differentiation from certain norms thus risk being marked as a 'potential threat' and become subjected to heightened scrutiny. I would argue here that the invisibility that follows from a failure of recognition actually leads to a form of hypervisibility as the misrecognised individual is subjected to additional scrutiny and is likely to become marked as a potential threat.

The biases in biometric machines can be explained by the fact that algorithms are designed by people with certain biases and are influenced by the way in which these algorithms are 'taught'.[19] As Browne and Magnet show, most of these systems are built around whiteness and maleness as default categories and are designed from the idea that people are able (at least have functioning eyes and hands) and have identifiable fingertips.[20] This influences elements such as lighting settings, including the amount of light cast upon the body when measured, which can impact the visibility of the person in front of the biometric machine. Furthermore, 'scientists themselves decide upon the gender and race of an individual before using algorithms to train their computer to do the same'.[21] In such a way, dominant norms and stereotypes are becoming installed in the 'black box' of biometric technologies.

Also, in cases where recognition is successful, we can see that biometrics are not as neutral as they might seem. As Magnet and Browne point out with regards to the USA, biometrics are disproportionately used for migrants and travellers from certain regions, especially Arab countries.[22] In the context of the EU, comparable dynamics can be found.[23] In 2001, the European Council published two lists specifying for which countries the use of biometrics was obligatory. Citizens from 138 countries on the 'negative list' are required to apply for a visa when entering the EU, while citizens from countries on the 'positive list' are not.[24] To enter the Schengen[25] area, citizens of countries on the negative list need to provide their biometric data, which is saved in the Visa Information System (VIS), the databank of the Schengen area. The negative list consists of mostly African, Asian, and Arab countries, as well as Russia. On the positive list are Australia, New Zealand, the Americas, Japan and Eastern European countries.[26] In line with Magnet and Browne's argument, we can thus see that in the EU, as well as in the US, the use of biometrics takes place within a specific political context that influences which subjects

are targeted by the technology. According to Magnet, this can be understood as a form of racial profiling, 'while using the rhetoric of technological neutrality and mechanical objectivity to obscure this fact'.[27] Thus, while biometrics are often promoted as an ideal means to prevent profiling practices at the level of the security guard, the politics behind the installation of these systems can lead to profiling of a much larger scope.[28]

In an investigation of European border policies, M'charek, Schramm and Skinner show how such targeting of biometrics on specific groups produces and reproduces racialised differences and inequalities.[29] People from the countries on the negative list are often defined as problem groups, such as '"illegal" migrants, non-resident guest workers, unwelcome settlers from former colonies, people from "Muslim countries" who are represented as "Islamists", and so on'.[30] These same subjects are also often regarded as 'phenotypical others', which shows how the use of biometrics at borders is used indirectly to racialise certain subjects – and their bodies.

Biometrics' failure to recognise non-normative bodies (which often marks them as a potential threat), and the increased use of biometrics on subjects belonging to the negative list, leading to racialisation, understood as both discrimination and classification, shows the lack of neutrality in biometrics and how they aim to tie identity to the body.[31] The artwork *Facial Weaponization Suite* by Zach Blas explores the assumptions that biometrics rely on, unveiling some of its implications, which affect mostly marginalised individuals. Before I turn to these implications, and the medium-specific ways in which the artwork engages with them, I will first introduce the work and briefly discuss its key visual features.

Facial Weaponization Suite and Biometric Biases

Facial Weaponization Suite presents an artistic response to biometric technologies that deviates from dominant representations of biometrics as the solution for societal security risks. The work draws attention to the inherent danger of being surveilled and captured through facial recognition, pointing to the possibility of masking the face to evade such capture. *Facial Weaponization Suite* is a collection of masks and a video, which Blas created in response to – and by making use of – biometric technologies (Figure 2). The installation work is exhibited in museums and galleries but also extends beyond these sites as the masks are used in public interventions and performances. The masks were created during community-based workshops, during which the artist combined aggregated facial data from the workshop participants with 3D modelling software. While facial recognition systems create individual face nets, or aim to construct unique 'face identities' through determining how a face deviates from a standard face, Blas has combined biometric information in an unconventional manner by emphasising the collectivity of the identities from which the masks are generated. Thus, the masks carry information about the features of multiple faces, creating an amorphous 'collective face'. This collectivity has a political character, as in the video it is stated: 'We propose to use our faces as weapons, we can create an army of many faces and wear them interchangeably.' The masks that enable this 'army of faces' cannot be tracked and recognised by facial recognition systems (Figure 1).

Figure 1. Zach Blas, Facial Weaponization Suite: Fag Face Mask – *October 20, 2012, Los Angeles, CA. Photo by Christopher O'Leary. Copyright: Zach Blas. The video of* Facial Weaponization Suite *can be found via the artist's website: www.zachblas.info/works/facial-weaponization-suite/.*
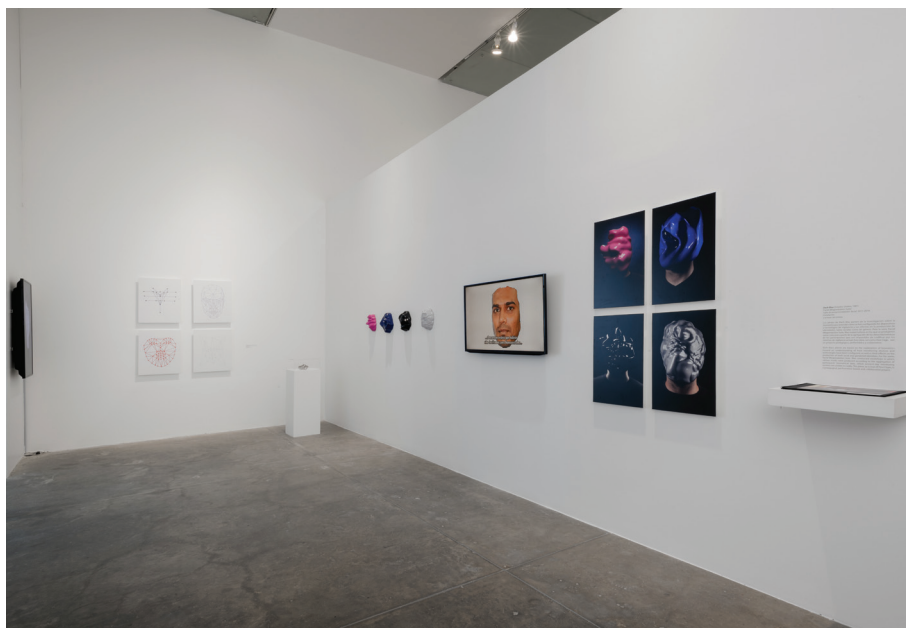

Figure 2. Zach Blas, Installation view. The Theory of Colour, *curated by Cuauhtémoc Medina, Helena Chávez, and Alejandra Labastida. Museo Universitario Arte Contemporáneo (MUAC), Mexico City, Mexico (27 September 2014 – 7 February 2015). Copyright: Zach Blas.*

Blas created four masks, naming only the first: *Fag Face* (Figure 1). This mask is constructed from the generated data of men who self-identify as queer. The conscious use of the offensive term 'fag' foreshadows the critique that Blas aims to communicate through this work. As is explained in the video, he designed this specific mask as a response to recent scientific studies that measured the speed of participants' ability to estimate someone's sexual orientation based on their face.[32] While these studies did not use biometrics specifically, they do point to the assumption that it is possible to 'read' identity from the body – which, as I have shown in the previous section, also underlies biometrics.

The masks of *Facial Weaponization Suite* have round and soft shapes and are made of painted and opaque plastic. When exhibited, the masks do not have any holes for the eyes, but when worn during protests or performances, small peepholes are cut into them. Without being aware of the process and context behind the masks, the viewer might miss the link to biometric technologies, as their appearance does not clearly reference aesthetics typically found in the biometric industry. In order to access this information, the spectator needs to watch the eight-minute video that explains what biometric technologies are, how they are used, and how they affect marginalised identities.[33] Two robot-like voices explain the process of creating *Fag Face*, and at the end of the video, the voices propose a 'politics of escape' as a way to counter biometric control. The video shows images of various biometric technologies, ranging from facial recognition systems to iris scans. This is alternated with shots of a person (presumably the artist himself) with a mask covering his face, holding a piece of paper and moving his head as if he is speaking. The video is a mixture of footage from biometric surveillance technologies, clips from online videos, and images that Blas created himself. The latter consist of shots of the masked person and a 3D model of the *Fag Face* mask moving as if it speaks. The masked person explains to the viewer that biometric technologies are part of a system of control. Next, biometrics' structural failures with regard to gender, race, ability, and class are explained.

The amorphous masks do not clearly depend on the figuration of a face, but their colours and forms elicit different connotations. At the same time, the masks clearly form a unity and evoke the image of a collective of warriors – a collective that aims to resist biometric control. *Facial Weaponization Suite* thus explores the relation between biometrics and different marginalised identities, while also creating a form of collective (non-)identity that dismantles the biometric system.

The first mask, *Fag Face* (Figure 1), has an aesthetic that is light and bubbly. The round shapes in a bright pink colour look similar to chewed bubblegum, which gives the masks a playful and light appearance. Together with its name, *Fag Face,* the pink colour of the mask can be read as a satirical use of the sign of queerness, as pink is often associated with queer organisations and protests. The second mask has a royal blue colour (Figure 3). On a denotative level, the shapes that make up the mask can be described as folds, thereby creating a connotation of lips and labia and signifying femininity. Furthermore, the folds are visually reminiscent of folded cloth, which together with the connotation of femininity can be read as symbolising a religious veil. The inward folds, together with the calmness of the colour blue, evoke feelings of containment. Blas created the mask to engage with feminist questions of concealment and imperceptibility, especially in

Figure 3. Zach Blas, Installation detail from The Theory of Colour*, curated by Cuauhtémoc Medina, Helena Chávez, and Alejandra Labastida, Museo Universitario Arte Contemporáneo (MUAC), Mexico City, Mexico (27 September 2014 – 7 February 2015). Copyright: Zach Blas.*

relation to veil legislation in France through which certain forms of visibility are forced upon citizens by the state.[34] The third mask, in grey, has a much more aggressive appearance. It looks as if someone has punched the middle of the round shape, leaving a bumpy surface that resembles wrinkles and frowning eyebrows on an angry face. The dark grey colour strengthens this connotation and helps to create a threatening figure. This mask was constructed in response to the imposition of biometrics at the Mexico–US border and addresses questions of nationalist violence and migration.[35] The fourth mask is painted black, and its details are harder to recognise than the shapes of the others. On a denotative level, the shape of the mask can be described as the most angular of the four. The black colour of the mask connotes darkness, danger, and the unknown. It recalls militant aesthetics and motor helmets that cover the face completely, as well as the iconic mask of science-fiction villain Darth Vader in the *Star Wars* movies. Blas intended the mask to explore the implicit racism of biometrics' failure to recognise dark skin, the high presence of black in militant aesthetics, and that which obscures information.[36]

In Blas' *Facial Weaponization Suite,* awareness is created of marginalised identities who are especially vulnerable to biometrics, both through the fact that they cannot be correctly 'read' – and the intense scrutiny to which they are respectively subjected – and through their position as targets of profiling practices. While Magnet emphasises the issues at stake with biometric failure, in *Facial Weaponization Suite* a more complex understanding of the problem is presented. Magnet argues that biometric failure needs to be eliminated in order for everyone to be recognised equally, but Blas' work questions whether we should want to be made visible at all. His work emphasises the dangers of visibility, as it enables enhanced forms of state control and fixates identity on the body. Moreover, it positions the machine's attempt to 'know' people through a uniform set of techniques as a form of violence, against which the face needs to be weaponised.

In a grotesque manner, *Facial Weaponization Suite* engages with the biometric approach to identity as something that is fixed and can be captured by a technical apparatus. Each of the four masks represents aspects of identity that biometric technologies approach as 'core': gender, race, religion, ideology, nationality or sexuality. The masks play with the assumption that it is possible to extract and codify such aspects by exaggerating signs connected to these categories – such as the colour pink as a symbol of 'queerness'. For the masks, this idea of extraction is deployed in a subversive manner, as Blas has created a range of artefacts emphasising the collectivity of the participants' identities. The result is a mask that is no longer recognisable as a singular human face, thereby demonstrating the artist's ridicule of the generalisations that

biometric technologies use and produce. This collective basis turns the mask into a biometric database itself, while at the same time showing the impossibility of representing one clear 'core' or identity. The installation work dismantles the functionality of a biometric machine, as the aggregated data becomes useless for biopolitical means and now only serves an aesthetic and resistant purpose.

Biometrics' Historical Roots

The measurement of bodies as 'containers' of identity is not new. Especially in the nineteenth century, Western scholars published studies on anthropology, eugenics and criminology, using technology to classify humans on the basis of their outward appearance. These classifications had a hierarchical order and stood at the foundation of discriminatory ideologies. These studies were used by police officers to identify and apprehend criminals in Europe, and later for civil control over the population of colonised countries. Various scholars have pointed out how aspects of biometric technologies resemble and are based on historical pseudoscientific practices and theories, which suggested that traits like moral character and intelligence are visible in genes and physical appearances. These research practices were used as tools for the marginalisation of particular groups of people. While current biometric technologies are not identical to these historical methods – for example, because they make use of self-learning artificial intelligence systems that process much larger amounts of data – 'both the roles these technologies perform and the forms they take can only be adequately understood in relationship to that history', which is why I will now further explore them.[37]

In his investigation of practices of body surveillance, surveillance scholar David Lyon makes a connection between biometric technologies and historical practices of criminal anthropometry. In this nineteenth-century field of research, it was assumed that 'body shapes, especially the head, could spontaneously reveal the unlawful proclivities of the person'.[38] A similar argument is made by visual culture scholars Liljefors and Lee-Morrison, who connect biometric technologies to the eugenics of Francis Galton.[39] Galton used fingerprint analysis for recognising criminals, and investigated his hypothesis that fingerprints contain genetic information that shows differences between people, such as race and intelligence. Nowadays, fingerprints are still analysed by biometric technologies for identificatory purposes – not only for criminals, but also for people who cross borders or apply for a passport. Differences such as race and intelligence are no longer analysed on the basis of a fingerprint, but the fingerprint as a bodily feature is still considered a unique identifier of one's identity, and it is through the reading of this bodily sign that surveillance takes place.

Anthropometry and fingerprinting were methods that – by the use of technology – were deployed to affirm assumptions about differences between humans and supported the marginalisation of certain groups of people. They contributed to an understanding of 'race' as a biological given and subsequently connected different moral capacities and levels of intelligence to different races.[40] These 'scientists' looked for empirical evidence to affirm their claims, which lies at the basis of racist ideologies that defend a hierarchical difference between races and have

functions as justifications for colonialist violence and oppression. Such studies were later critiqued as racist and unscientific.[41]

In *Suspect Identities: A History of Fingerprinting and Criminal Identification* (2002), Simon Cole presents a historical analysis of anthropometry and fingerprinting, showing how both techniques were developed for criminal identification in the nineteenth century.[42] While they had similar purposes, they were developed in different socio-political contexts. Anthropometry emerged in Europe, while fingerprinting was initially designed for countries colonised by Western imperial states. The first modern system for the identification of criminals based on bodily measurements was called 'bertillonage', after its creator Alphonse Bertillon. The bertillonage system used identification cards with detailed descriptions of a criminal's bodily features – mainly those of the face. In order to find a match, these 'identification cards' were compared to a nineteenth-century 'database' that contained cards of people with a criminal record. The information was translated to a 'universal language' as designed by Bertillon, which made it possible to transfer information via telegram and to identify suspects without seeing them in real life.[43] Similar to today's case of biometrics, with this use of anthropometry, the body is dissected into numbers and transformed into a piece of information that can be transferred across borders.

Bertillon's techniques and anthropometric data were taken up by anthropologists, who used it to sustain 'scientific' research on the bodies of criminals:[44]

> Nineteenth-century anthropology was most concerned with 'scientific' observations of 'savages' and people of 'other' races. The assumption underlying these inquiries was that human nature – intelligence, savagery, race, ethnicity, heredity, evolutionary history, and so on – would be manifest in the body.[45]

Bertillon's anthropometric technique enabled 'scientists' to quantify their research and continue spreading the assumption that identity manifests itself in the body. In 1885, anthropometry was introduced in the colonised area of India, both as an identification technique and as a scientific tool for 'investigating the physical bias of castes and race'.[46]

However, in the colonies, the practice of anthropometry was not always considered successful. Since Bertillon's categorisations (including hair and eye colour) were developed for the recognition of individuals in Europe, the colonised population appeared rather homogeneous in the eyes of the colonisers. Around the same time that anthropometry was being developed, Francis Galton developed a system for recognising identity through measuring the patterns of fingerprints. This technique was not intended to replace the anthropometric system, but rather it was designed for colonial governance.[47] In this way, a system originally designed for the identification of criminals became a technique for controlling colonised subjects.[48] Despite this history of oppression, fingerprinting is now dominantly understood and represented as an unobtrusive tool for recognition.[49]

As I have stated before, biometric technologies are, of course, not identical to these historical methods, but it is important to be aware of their roots in a history of marginalisation

because it enables critical investigation of the extent to which similar dynamics are repeated in the current use of biometrics. Despite the colonial and racist applications of anthropometrics throughout history, these practices are still used in the development of biometric technologies today, especially for enabling the recognition of 'racial difference'.[50] Referring to a study by Li, Zhou and Geng, who propose a method for improving facial recognition technology, Browne shows that biometric technologies use archaic racial categorisations, such as 'Mongolian' and 'Caucasian', which are founded in anthropometrics.[51] This is highly problematic, as these ideas are based on a hierarchical understanding of race that has been used to justify discriminatory ideologies and have functioned as claims that supported the violent project of colonialisation.

Having established this historical framework to today's biometrics, I propose to read the masks of *Facial Weaponization Suite* (2011–2014) as a contemporary response to the use of anthropometry in the nineteenth century. Instead of photographic information or descriptions of appearances, Blas uses biometric data of different people to create a 'collective face' within which it is impossible to recognise the individuals from which it is composed. The masks serve to work through the stereotyping aspects of generalisations about identity on the basis of a face. *Facial Weaponization Suite* thereby opens up a possibility of understanding biometric technologies in relation to historical practices of anthropometry, in which 'scientists' assigned character traits to groups of people based on their appearances. I regard the masks as a subversive reworking of these historical research practices, both in the design of the work and in the masks' use in protests and performances. When they are worn by activists and performers, they deny the enhanced control sought after by both biometrics and historical forms of this technology. As I have argued, the masks of *Facial Weaponization Suite* enable the wearer to become partly invisible and to hide from visually stereotyping practices.

Weaponising the Face as a Politics of Resistance

While biometric technologies have an aura of being soft and unobtrusive, Blas' work makes us aware that there is a particular violence inherent in these technologies. *Facial Weaponization Suite* positions this violence at the site of the face, as it is the site from which biometric face-tracking technology tries to read the subject's identity.[52] The work highlights the face as a site where this passive violence is targeted, and turns it into a possibility of resistance, thereby working through the violence of facial recognition technology. The video explains how the masks transform the face into a weapon, thereby referring to a large history in which the face was used as a site of resistance. The video shows images from the film *The Battle of Algiers* (1966) by Pontecorvo, in which we see Algerian women during the French–Algerian war (1954–1962) fighting against the oppression of French colonisers by transforming their appearance as a tactic of resistance. These Algerian guerrilla fighters removed their religious veils and dressed in a stereotypically 'French' way. By 'wearing the faces of their oppressors', they managed to escape the control of security guards and place bombs in strategic enemy locations.

By unveiling themselves, the women made themselves look 'harmless' in the eyes of the French soldiers, as if they were not able to hide weapons underneath the 'mystery' that was the veil.[53] The video also refers to Pussy Riot, the Russian punk band and feminist activist group, whose members cover their faces with colourful balaclavas – both for anonymity and as an aesthetic tool that represents collectivity.

By positioning the masks of *Facial Weaponization Suite* in this history of political activism and resistance by marginalised people against oppression, the video demonstrates why biometric control is a political issue that needs to be protested. Furthermore, the piece invalidates the idea that bodies signify a core identity. The masks' obscuring capacity creates a form of agency at the site of the individual, because the wearer regains the freedom of self-identification. Thereby, it becomes possible to refuse recognition and visibility under the scope of the biometric machine, and to resist the biometric violence of 'knowing' the body as a source of identity without considering the subject's individual feelings and statements about this, as well as the subject's permission to know this information.

Facial Weaponization Suite thereby extends beyond a critique of biometric technologies, as it enables the wearer to actively resist biometric control. This resistance relies both on the way in which the masks render the wearer invisible to the biometric apparatus and in the medium-specific dismantling of the system by transforming the 'input' into a 'non-productive output'. The first strategy of invisibility is referred to by the artist as 'informatic opacity'.[54] Blas borrows this notion from the work of Martinican philosopher Édouard Glissant who wrote about opacity in his book *Poetics of Relation* (1997). Glissant understands opacity as an ethical stance, arguing that it is an important right that we must defend.[55] Developed in the postcolonial context of Martinique, his theory of opacity can be read as a refusal of imperial domination – which makes it especially relevant considering biometrics' historical roots in systems of oppression. Opacity is that which we cannot fully know and grasp, 'an alterity that is unquantifiable, a diversity that exceeds categories of identifiable difference', and thus cannot be reduced to universalisms.[56] We must defend our opacity against the imperial project of transparency, which Glissant sees as the basis of 'the process of "understanding" people and ideas from the perspective of Western thought'.[57] He is critical of this 'understanding' because it entails an evaluation of people against 'universal values' that have been formulated from the perspective of the West. Glissant critiques transparency as a universal model, arguing that placing a universal model onto someone will render that person transparent – thus fully knowable – which is an act of violence.[58] Opacity, then, allows a refusal of this understanding and an acceptance of the unquantifiable alterity of the other.

Both in his art and in his writings, Blas uses this notion of opacity to make sense of the relationship between identity and technology. More specifically, he sees in opacity a potential for feminist and queer politics, exploring it as a tactic and material condition that can address questions of technological control and embodied reality: '[A] feminist and queer opacity not only operates as a tactical evasion of the gaze of digital machines, like drones and biometric systems, but also accounts for the specificities of subjects – and their particular relationalities of concealment and visibility.'[59] Glissant argues that we must not allow our identities to be essentialised;

Figure 4. Zach Blas, Facial Weaponization Suite: Procession of Biometric Sorrows*, Museo Universitario Arte Contemporáneo (MUAC) Mexico City, Mexico (5 June 2014). Photo by Orestes Montero Cruz. Copyright: Zach Blas.*

rather, we should fight for the right to be opaque. With the rise of biometrics, the essentialisation of identity has taken on a new meaning, which is why Blas states that we are – maybe more than ever – in need of a right to opacity. In the context of biometrics, we need an 'informatic opacity', which prevents biometric technologies from capturing us within essentialised notions of identity.

While marginalised subjects are usually underrepresented in the media and the political arena, biometrics make them hypervisible. This hypervisibility results from either a failure of the biometric machine, which is likely to mark subjects as potential threats, or from the use of biometrics for profiling. Informatic opacity thus becomes a strategy of resistance that aims for opacity (as invisibility) instead of visibility and recognition.

In addition to being exhibited, the masks of *Facial Weaponization Suite* are used in protests and performances, where this abstract idea of informatic opacity becomes concretised. The masks function as both a means for opacity (and anonymity) and as a collective transformation. As we see in Figure 4, which was taken during a public performance in the form of a 'procession of biometric sorrow' in Mexico City, the masks create a sense and image of collectivity – both through the present collectivity of bodies wearing the masks and through the presence of the aggregated faces that construct each mask itself. At the same time, the differences of the participants are not denied as they are clearly visible when considering their other body parts.

The juxtaposition of collectivity and individual difference that arises when the masks are worn in protests and performances allows for what Judith Butler and Athena Athanasiou call a 'performativity of plurality'. In their book *Dispossessions: The Performative in the Political*, they formulate an understanding of a performative account of the plural, which is a social form of agency that starts from collaboration without erasing the individuality of the individuals that constitute this plurality (which is the risk in identity politics). They argue:

> One has one's own story and claim, but it is linked with the story and claims of others, and the collective demand emerges from those singular histories, becomes something plural, but does not in the course of that transformation efface the personal from the singular. This means shifting from a view of rights that calls upon and reinforces forms of individualism (and sees social action as nothing more than a collection of individuals), to a social form of agency, or performativity in plurality.[60]

I read the work of Blas as an example of how this performativity in plurality can be given shape.

In *Facial Weaponization Suite*, there is a possibility of a plurality as the mask itself contains multiple faces without being reduced to a single face. The plurality from which the masks were constructed is preserved, and this plurality can be extended when the masks are worn in group manifestations. I read this as a performativity in plurality since the masks emphasise a shared call for social action, while hiding the face of the individuals partaking in the gathering. This may seem like an erasure of the personal, but in times of biometric surveillance it becomes precisely about maintaining the personal, as it provides a possibility of preserving the freedom of identity whilst refusing the violence of biometrics.

The possibility of opacity that the masks offer resists a reduction of identity to biometric algorithms, and thus allows for an embracement of 'what is always transforming, what is always unknown within us'.[61] Due to their opacity, the masks enable a containment of the personal in times where participation in activism comes with the risk of biometric control and standardisation of identity. They produce an embodied collectivity, as the bodies of those who wear the masks – and especially the differences between those bodies – remain visible while the uniformity of the masks connects them. At the same time, the masks allow people to stand up in the position of those who do not have the privilege and ability to go out on the streets to protest. We can thus see *Facial Weaponization Suite* as a work that enables a site of resistance within the spaces controlled by biometric technologies.

It can of course be argued that the artwork itself is also implicated in the violence of biometrics, as it works with biometric data of workshop participants and thus does not completely refrain from using datafied techniques to 'read' the body. However, I read the work and its medium specificity as a form of 'working through' the violent structures of biometrics and its history rather than as a radical break with it, which is necessary to create change and renewal, as without it one risks reproducing them.[62] With his colourful masks, Blas works through biometrics' assumption of a core identity that can be read off the body, by subversively creating a collective face out of biometric data. It is a form of representation that in itself questions the role

of representation. Instead of refraining from using the technology, Blas consciously uses it to insert a difference and dismantle its original functionality, thereby elucidating biometrics' history in anthropometry whilst creating something new. This 'new', then, can function as a strategy for resistance.

Conclusion

In this article, I have argued that it is important to be critical of the belief in biometrics as the new principle for acquiring a safe and secure society, and that it is critical to ensure that biometrics are not used as an alibi to perpetuate exclusionary practices. As follows from my analysis of *Facial Weaponization Suite* and the theoretical and historical context in which I have positioned this work, biometric technologies are currently not free of such exclusionary dynamics. While they are widely regarded as neutral and objective, they rely on simplistic and problematic understandings of the relation between identity and the body, and disproportionally focus on some bodies over others. This forms a critical problem of inequality, especially for people who are already in a marginalised position.

As I have argued, these exclusionary aspects of biometric technologies are complex and abstract, and are rooted in problematic nineteenth-century research practices. In this article, I have proposed *Facial Weaponization Suite* by Zach Blas as an artistic critique of biometrics that makes these exclusionary aspects tangible and subverts the standardisation of faces that can be found both in current biometrics and in its contested history. The artwork does so in a somewhat utopic manner that is idealistic and conceptual but that can also be used in a practical manner during protests and performances, thereby enabling us to visualise strategies of resistance against biometric control.

Notes

1. The technology that measures biometrics is called biometric technology and consists of facial recognition systems, iris scanners, gait recognition systems and fingerprint scanners.
2. Max Liljefors and Lila Lee-Morrison, "Mapped Bodies: Notes on the Use of Biometrics in Geopolitical Contexts," in *Socioaesthetics: Ambience – Imaginary*, ed. A. Michelsen and F. Tygstrup (Leiden, Boston: Koninklijke Brill NV, 2015), 80.
3. This governmental strategy of risk predicting and preventing has been defined as a 'securitisation of society', in which the fear for terrorism is treated as an 'existential threat' that 'enables a call for urgent and exceptional measures to deal with the threat' (B. Buzan and O. Wæver, *Regions and Powers: The Structure of International Security* (Cambridge: Cambridge University Press, 2003), 491.
4. Soshana Amielle Magnet, *When Biometrics Fail. Gender, Race, and the Technology of Identity* (Durham, London: Duke University Press, 2011), 41.
5. Within the scope of this article, I use 'marginalised identities' to emphasise the relationship between identity and structures of power. Those in a marginalised position do not inhabit dominant positions of political, economic, social and cultural power. I understand these marginalised forms of subjectivity as coming forth from what bell hooks has formulated as a 'white supremacist capitalist patriarchy' (bell hooks, *Writing Beyond Race: Living Theory and Practice* (London, New York: Routledge, 2013). With this concept, hooks refers to an understanding of systems of oppression (imperialism, white supremacy, capitalism and patriarchy) that considers them as

interlocking. I use the term marginalised specifically to denote individuals that have been marginalised on the basis of their gender, race, class or ability, or do not fit within the normative categories of identity as constructed by biometrics – which are formulated by feminist surveillance scholar Shoshana Magnet as white, male, able, and cis (Magnet, *When Biometrics Fail*, 50).

6. Lucas D. Introna and David Wood, "Picturing Algorithmic Surveillance : The Politics of Facial Recognition Systems," *Surveillance & Society* 2 (2004): 196.

7. Introna and Wood, "Picturing Algorithmic Surveillance," 185.

8. Louise Amoore, "Biometric Borders: Governing Mobilities in the War on Terror," *Political Geography* 25, no. 3 (2006): 343, doi:10.1016/j.polgeo.2006.02.001.

9. (Italics added). U.S. Department of State, "Safety & Security of U.S. Borders: Biometrics," 2018, https://travel.state.gov/content/travel/en/us-visas/visa-information-resources/border-biometrics.html.

10. Liljefors and Lee-Morrison, "Mapped Bodies," 55.

11. Emily Gilbert, "Eye to Eye: Biometrics, the Observer, the Observed and the Body Politic," in *Observant States: Gepolitics and Visual Culture*, ed. Fraser McDonald, Rachel Hughes, and Klaus Dodds (London, New York: I.B. Tauris, 2010), 225–246.

12. Paisley Currah and Tara Mulqueen, "Securitizing Gender: Identity, Biometrics, and Transgender Bodies at the Airport," *Social Research* 78, no. 2 (2011): 568.

13. L. Sharp, "The Commodification of the Body and Its Parts," *Annual Review of Anthropology* 29 (2000): 287–328.

14. Candace West and Don H. Zimmerman, "Doing Gender," *Gender and Society* 1, no. 2 (1987): 125–51, doi:10.2307/189945. Judith Butler, *Bodies That Matter* (London, New York: Routledge, 1993). Irma Van Der Ploeg, "Genetics , Biometrics and the Informatization of the Body," *Ann Ist Super Sanità* 43, no. 1 (2007): 47.

15. Magnet, *When Biometrics Fail*, 50.

16. Simone Browne, "Digital Epidermalization: Race, Identity and Biometrics," *Critical Sociology* 36, no. 1 (2010): 135, doi:10.1177/0896920509347144.

17. Magnet, *When Biometrics Fail*; Simone Browne, "B®anding Blackness: Biometric Technology and the Surveillance of Blackness," in *Dark Matters: On the Surveillance of Blackness* (Durham: Duke University Press, 2015), 113; Michael Nanavati, Samir Thieme and Raj Nanavti, *Biometrics: Identity Verification in a Networked World* (New York: John Wiley & Sons, 2002).

18. Gilbert, "Eye to Eye," 234.

19. Magnet, *When Biometrics Fail*, 47.

20. Ibid., 41; Browne, "B®anding Blackness" 113.

21. Magnet, When Biometrics Fail, 42.

22. Browne, "Digital Epidermalization"; Magnet, *When Biometrics Fail*.

23. Irma Van Der Ploeg, "The Illegal Body: 'Eurodac' and the Politics of Biometric Identification," *Ethics and Information Technology* 1 (1999): 295–302.

24. Amade M'charek, Katharina Schramm, and David Skinner, "Topologies of Race: Doing Territory, Population and Identity in Europe," *Science, Technology & Human Values* 39, no. 4 (2014): 473, doi:10.1177/0162243913509493.

25. The Schengen area is a zone within the EU, within which citizens of the Schengen countries can cross borders without being subjected to border checks. As the website of the European Commission states: 'The Schengen Area encompasses most EU States, except for Bulgaria, Croatia, Cyprus, Ireland, Romania and the United Kingdom. Of non-EU States, Iceland, Norway, Switzerland and Liechtenstein have joined the Schengen Area.' https://ec.europa.eu/home-affairs/what-we-do/policies/borders-and-visas/schengen_en.

26. The full list can be found via the following link: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:32001R0539.

27. Magnet, *When Biometrics Fail*, 47, 48.

28. Ibid., 47.

29. M'charek, Schramm, and Skinner, "Topologies of Race," 469.

30. Ibid., 474.

31. Ibid., 469.

32. This research was done by scientists of Tufts University and the University of Washington. See, for example: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0036671.

33. This video can be found on the artist's website: http://www.zachblas.info/works/facial-weaponization-suite/.

34. Zach Blas, "Facial Weaponization Suite," accessed July 7, 2018, http://www.zachblas.info/works/facial-weaponization-suite/.

35. Blas, "Facial Weaponization Suite".

36. Ibid.

37. Kelly A. Gates, *Our Biometric Future* (New York, London: New York University Press, 2011), 193.

38. David Lyon, "Under My Skin: From Identification Papers to Body Surveillance," in *Documenting Individual Identity: The Development of State Practices in the Modern World*, ed. J. Caplan and E. Torpey (Princeton: Princeton University Press, 2001), 291.

39. Liljefors and Lee-Morrison, "Mapped Bodies," 59.

40. Fenneke Sysling, *De Onmeetbare Mens* (Nijmegen: Uitgeverij Vantilt, 2015), 13, 14.

41. Marita Sturken and Lisa Cartwright, *Practices of Looking: An Introduction to Visual Culture*, second edition (New York, Oxford: Oxford University Press, 2009), 363, 364; Stephen Jay Gould, *The Mismeasure of Man*, revised edition (New York: Norton, 1996).

42. Simon Cole, "Measuring the Criminal Body," in *Suspect Identities: A History of Fingerprinting and Criminal Identification*, 2002, 32.

43. Cole, "Measuring the Criminal Body," 49.

44. Ibid., 57.

45. Ibid.

46. Simon A. Cole, "Native Prints," in *Suspect Identities: A History of Fingerprinting and Criminal Identification* (Boston: Harvard University Press, 2001), 70.

47. Cole, "Native Prints," 95.

48. Ibid., 65.

49. Introna and Wood, "Picturing Algorithmic Surveillance," 178.

50. Browne, "Digital Epidermalization," 138; Magnet, *When Biometrics Fail*, 39.

51. Browne, "B®anding Blackness," 111.

52. Introna and Wood, "Picturing Algorithmic Surveillance," 178.

53. Frantz Fanon, "Algeria Unveiled," in *The New Left Reader*, ed. Carl Ogesbly (New York: Grove Press, 1969), 174.

54. Zach Blas, Interview by Rosa Wevers (Amsterdam, 23 February 2017).

55. Édouard Glissant, *Poetics of Relation*, trans. Betsy Wing (Ann Arbor: University of Michigan Press, 1997), 189, doi:10.1057/9781137089359.

56. Zach Blas, "Opacities: An Introduction," *Camera Obscura: Feminism, Culture, and Media Studies* 31, no. 2 92 (2016): 149, doi:10.1215/02705346-3592499. Glissant, *Poetics of Relation*, 191.

57. Ibid., 190.

58. Zach Blas, Interview by Rosa Wevers (Amsterdam, 23 February 2017).

59. Blas, "Opacities: An Introduction," 150.

60. Judith Butler and Athena Athanasiou, *Dispossession: The Performative in the Political* (Cambridge, Malden: Polity Press, 2013), 157.

61. Zach Blas and Jacob Gaboury, "Biometrics and Opacity: A Conversation," *Camera Obscura: Feminism, Culture, and Media Studies* 31, no. 2 92 (2016): 162, doi:10.1215/02705346-3592510.

62. Rosemarie Buikema, *Revoltes in de Cultuurkritiek* (Amsterdam: Amsterdam University Press, 2017), 15–20.

Biography

Rosa Wevers is an interdisciplinary scholar with specialisations in gender studies and visual culture. She graduated from the research master of Gender & Ethnicity (cum laude) at Utrecht University. Her thesis on artistic explorations of biometrics was awarded the Bright Mind Award and was nominated for the Vliegenthart thesis award. Her research focuses on surveillance technologies and surveillance art and explores the political potential of the arts. Rosa currently works as a research assistant and project coordinator for MOED: the Museum of Equality and Difference.