WALLS TURNED SIDEWAYS

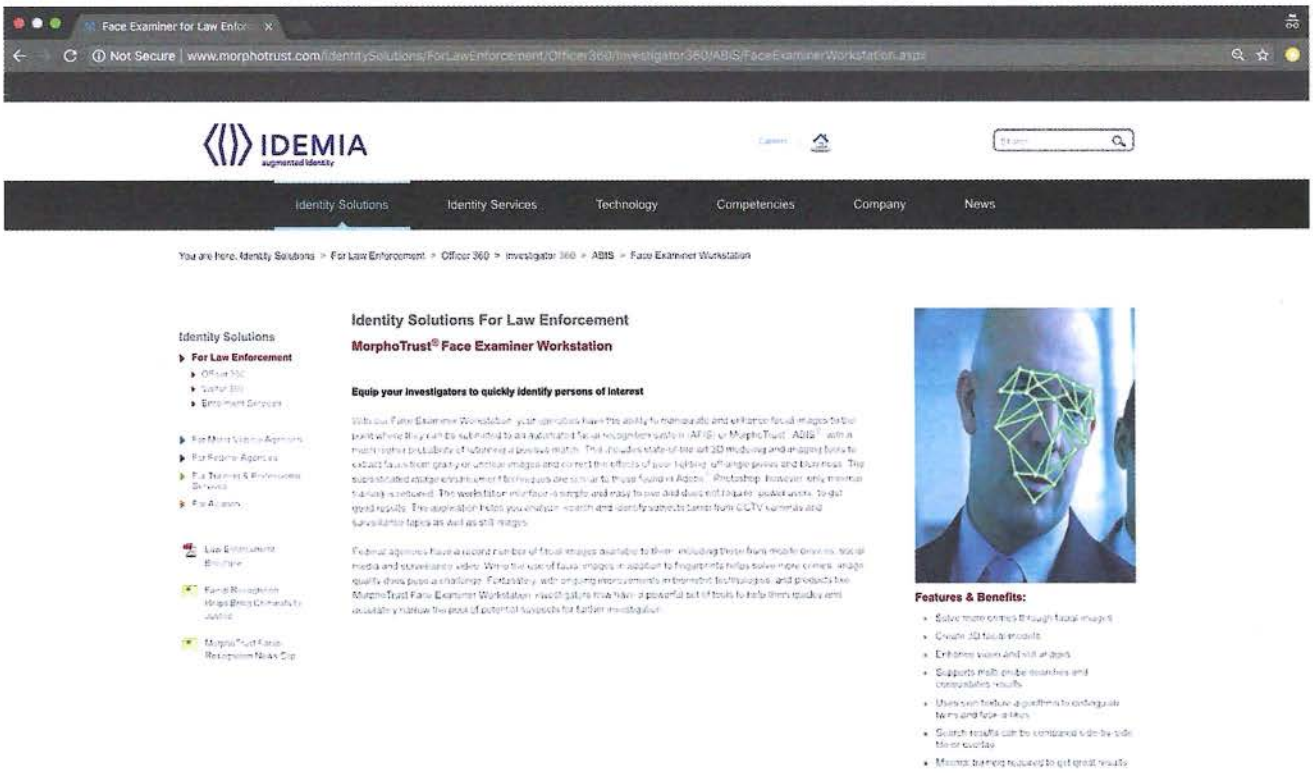
ARTISTS CONFRONT THE JUSTICE SYSTEM

Contemporary Arts Museum Houston

Shoshana Magnet

FLATTENING THE BODY: BIOMETRICS AND THE REDUCTION OF IDENTITY

The process of translating a three-dimensional human body into two dimensions is too often depicted as painless.[1] From artistic portraits that conceal the discomfort of holding still for hours in order to be captured in a painting to the graphically rendered results of biometric screenings, flattening messy and unruly bodies looks simple, but is, in reality, complex.



Screenshot of Morphotrust.com

Biometrics is the process of transforming a unique bodily attribute—whether retina, fingerprint, or the way you type—into binary code for the purposes of identification. That means, like all translations from one language (the material body) to another (a representation of the body), it's filled with misprints, missteps, and instances of failed

[1] As researcher Rachael Jack notes, "The human brain also does this—a massive data reduction from a 3D display projected onto a 2D sheet (the retina). The brain then uses cues such as occlusion to construct a 3D percept." Email message to the author, April 10, 2018.

communication. These are dramatized in Zach Blas's work *Face Cages* (2013–16), in which four artists wear face masks shaped like the biometric diagrams used to market such technologies. Biometrics commonly uses "minimal, colorful diagrams that visualize over the face for authentification, verification and tracking purposes"—graphics whose aesthetic terms are meant to suggest that an ethical scientific process has taken place.[2] Blas's piece creates a real-life extension of this practice, as four artists (micha cárdenas, Elle Mehrmand, Paul Mpagi Sepuya, and Blas himself) generate physical biometric masks of their own faces and then wear them in a video performance. It's clear how much the masks weigh upon their wearers' faces: People's heads appear to falter from the effort of holding up the contraptions as they lick their lips and try to carefully blink their eyes. The faces of those with darker skin almost fade into the black background, making the mask the most visible part of their bodies. The work actualizes the cruel imprisonment of biometric data.

Blas's work indicates that, rather than the aesthetic, ethical, and discrimination-free process promoted by both scientists and industry proponents of these technologies, the rendering of the body as "transparent" in biometrics is deeply painful and confining.[3] *Face Cages* links the literal iron muzzles and bits worn by enslaved Africans in U.S. history to the ways in which biometric technologies are used to facilitate the incarceration of people in the prison-industrial complex.

In fact, biometric technologies got their start in the prison system. In my book *When Biometrics Fail* (2011), I demonstrate that they were developed for use on prisoners—a community of people who could not refuse them.[4] One of the first widespread rollouts occurred towards the end of the 1970s, when improvements in digital identification technologies were being heavily marketed to the law enforcement and corrections industries. Although the prison-industrial complex in the United States has collected both criminal histories and ink fingerprints since the early 20th century, the huge number of files held in different repositories across the country made the process of finding a match both laborious and slow. As the law enforcement community complained about the supposed ease with which repeat offenders could give false identities and thus evade capture, those in the biometric industry claimed that their technologies could significantly improve policing and guarantee matching. This resulted in an increase in research funding. By the end of the 1970s, law enforcement bureaus throughout the U.S. were buying biometric scanning technologies, which became more widely adopted in prisons in the 1990s and early 2000s.[5]

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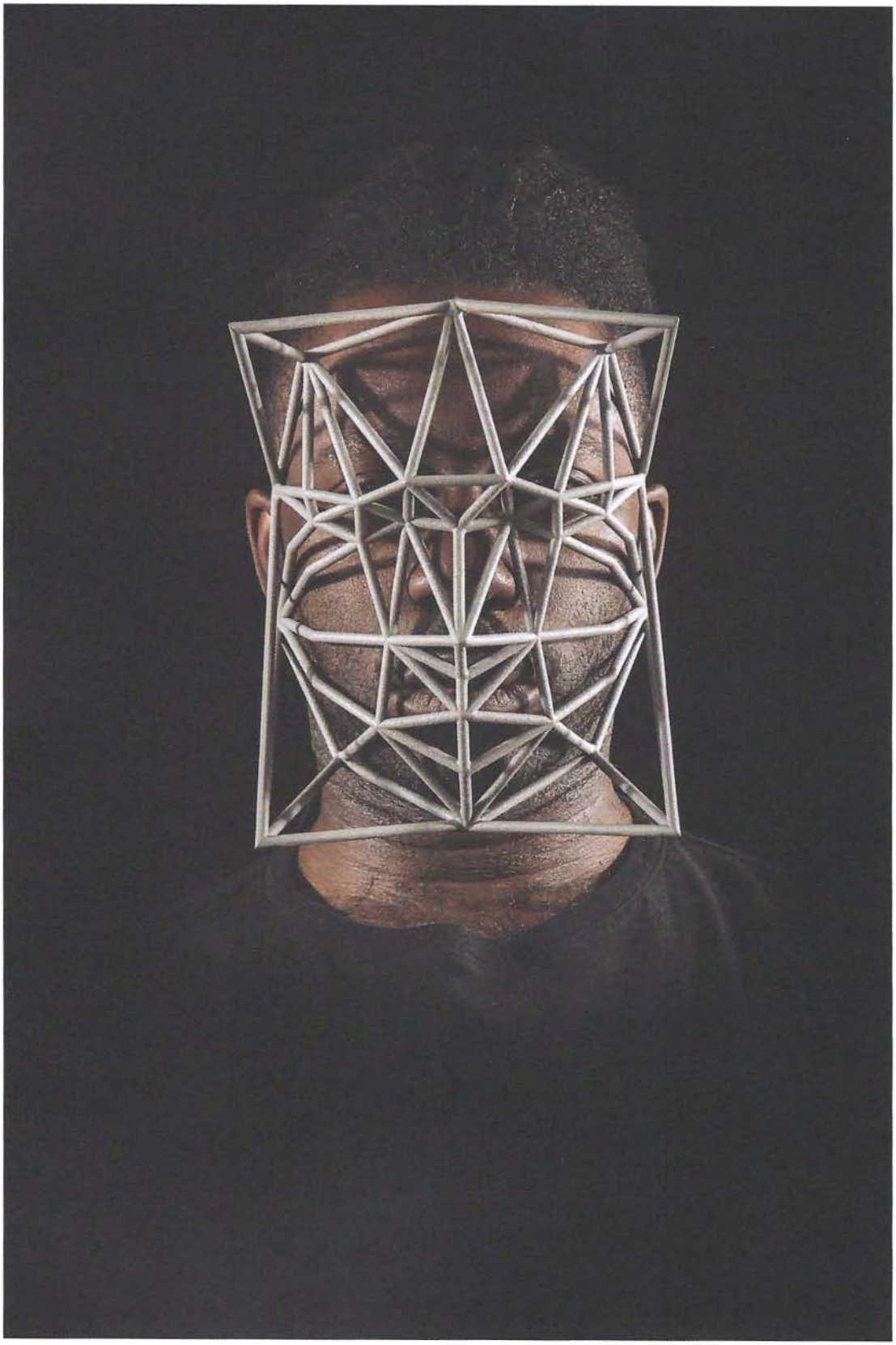
[2] Zack Blas, "Face Cages (2013–16)," artist's website, accessed May 11, 2018, http://www.zachblas.info/works/face-cages/.

[3] Rachel Hall, *The Transparent Traveler: The Performance and Culture of Airport Security* (Durham, NC: Duke University Press, 2015), 3.

[4] Shoshana Magnet, *When Biometrics Fail: Gender, Race, and the Technology of Identity* (Durham: Duke University Press, 2011).

[5] Jim Ritter, "Eye Scans Help Sheriff Keep Suspects in Sight," *Chicago Sun-Times*, June 22, 1995; Vince Beiser, "Biometrics Breaks into Prisons," *Wired*, August 21, 1999, https://www.wired.com/1999/08/biometrics-breaks-into-prisons/; "State Lines: Digital Prison Stripes," *Government Computer News*, January 22, 2004.



Zach Blas, *Face Cage #4* (video still), 2016

Biometric technologies render the body in binary code. They include a wide range of processes—including iris scanning, biometric fingerprinting, and facial recognition technology—that reduce bodily parts to a series of ones and zeroes. Part of the way that they do this is through what feminist theorist Lisa Cartwright refers to as "flattening." In fact, biometric technologies are just the latest in a long line of those aimed at flattening bodily complexities. In her book *Screening the Body*, Cartwright describes the history of the microscope as a similar quest on the part of scientist Francis Watkins to take the narrowest, thinnest part of the body and flatten it still further on the microscope's "aptly named stage."[6] This penchant for flatness helped to dispense "with the complexity of the corporeal body by selecting as its representative segment a structure which only exists in two dimensions." Cartwright argues that this process is a violent form of simplification, "symptomatic of a more pervasive cultural disavowal of the physical body as phantasm, as nightmarishly visceral and disorderly—a denial rationalized by a modern demand for order, simplicity, particularity, and clarity . . . it might be said that microscopy was popularized in response to a general abhorrence and revulsion regarding the physical body in its complexity/depth."[7] As pieces of the body are excised for the microscope, the body "is apparently stripped of its corporeality, its function, and its history"—or, it is stripped of precisely what makes it human. Reminding us that there is a relationship between "graphic inscription and the cultural agenda of disciplining and regulating bodies," Cartwright helps to lay the theoretical groundwork for understanding how industry proponents and state programs use biometrics to mine the body for information.[8] They hold it tight in a virtual cage from which people cannot escape, creating a prison that confines those on the margins most painfully.

From the outset, biometric machines disproportionately failed to recognize people of color, people with disabilities, trans people, and women. And still, despite more than two decades of use and development, the technologies continue to fail to identify racialized, gendered, queer, working-class, and disabled—in other words, society's most vulnerable—bodies. This happens in part because of a continued reliance on soft biometrics, which are aimed at improving identification but explicitly reinforce stereotypical understandings of race, class, disability, and gender. In the article "Learning Race from Face: A Survey" (2014), for instance, authors Siyao Fu, Haibo He, and Zeng-Guang Hou reinvigorate an outdated and false biological understanding with their claim that there are seven racial categories: "for practical computer vision based race classification system we suggest that seven most commonly encountered and accepted racial groups (African/African American, Caucasian, East Asian, Native American/American Indian, Pacific Islander, Asian Indian, and Hispanic/Latino, all these cover more than 95 percent world population) will be enough."[9] In other studies aimed at everything from skin-color identification to eye tracking, race is reified as something essential and inherent, rather than acknowledged as a societal construct.

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[6] Lisa Cartwright, *Screening the Body: Tracing Medicine's Visual Culture* (Minneapolis: University of Minnesota Press, 1995), 81.

[7] Cartwright, *Screening the Body*, 91.

[8] Cartwright, *Screening the Body*, 110–11.

[9] Siyao Fu, Haibo He, and Zeng-Guang Hou, "Learning Race from Face: A Survey," *IEEE Transactions on Pattern Analysis and Machine Intelligence* 36, no. 12 (December 2014): 2483–2509, http://doi.org/10.1109/TPAMI.2014.2321570.

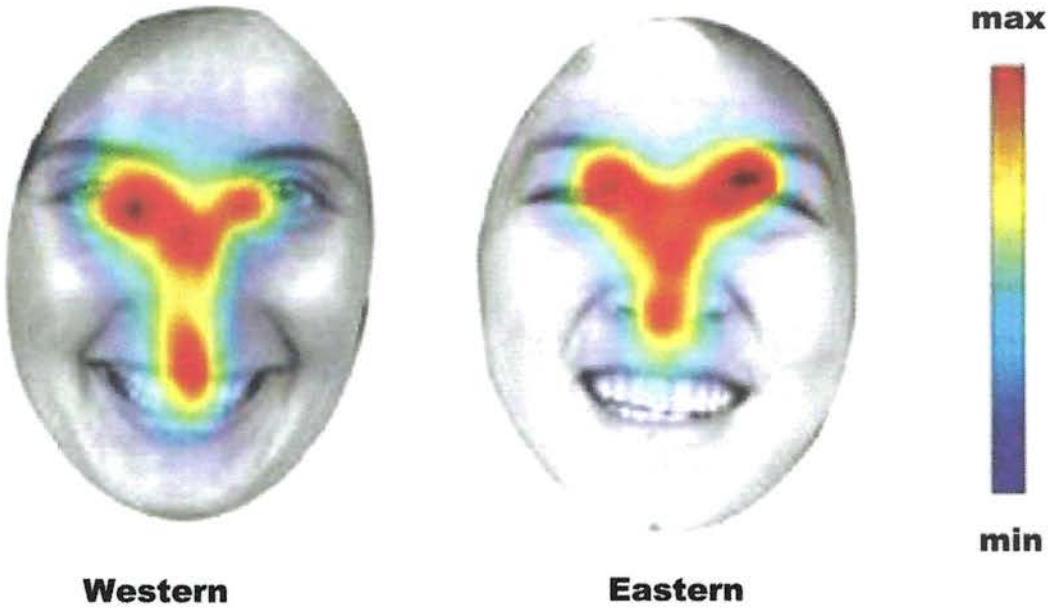

Figure from Rachael E. Jack et al., "Cultural Confusions Show That Facial Expressions Are Not Universal," *Current Biology* 19, no.18 (September 2009).

For example, Rachael Jack and her collaborators completed a study in which they show that eye tracking depends on cultural norms. Though the emphasis on cultural norms is a positive step, the paper still includes the claim that there exist categories such as "same race and other race faces."[10]

In these biometric studies we see a reliance on outdated biological understandings of race, disdaining decades of social scientific, feminist, and cultural studies research. Nor are gender norms exempt from reification in the field. Biometrics frequently uses facial-hair analysis to perform gender recognition. In their aforementioned paper, Fu, He, and Hou claim that "most females do not have beard or moustache. Therefore, detecting facial hair helps to distinguish male against female with high confidence in the gender classification problem."[11] Disregarding how gender-nonconforming and trans people would be classified, the authors simply assert that facial hair is a determining characteristic.

Other studies claim to be able to reliably divide people into gendered categories using biometric behavioral technologies.[12] One paper asserts that gender can be read off the body from the way that a person walks—contradicting more than thirty years of feminist research, from Anne Fausto-Sterling to Rebecca Jordan-Young, that definitively shows the impossibility of doing so.[13] One has to ask what the implications are for those subjects

[10] Rachael E. Jack et al., "Cultural Confusions Show that Facial Expressions Are Not Universal," *Current Biology* 19, no. 18 (September 2009): 1543–48, http://doi.org/10.1016/j.cub.2009.07.051.

[11] Fu, He, and Hou, "Learning Race from Face."

[12] Ankita Jain and Vivek Kanhangad, "Gender Classification in Smartphones Using Gait Information," *Expert Systems with Applications* 93 (October 2017): 257–66, http://doi.org/10.1016/j.eswa.2017.10.017.

[13] Richa Shukla et al., "Gender Identification Using Gait Biometrics," *Intelligent Computing, Networking, and Informatics* 243 (December 2013): 191–97, http://doi.org/10.1007/978-81-322-1665-0_18.

who do not have normative performances of gender and who must be identified by this type of biometric scanner. How would the mobility of a genderqueer person who's trying to pass through an airport security scanner be affected? How would the gait of a butch lesbian be coded by the scanner? In this way, biometric technologies may be used by the state to codify fallacious assumptions and impose them on human bodies, in ways that imprison already vulnerable people within cages of faulty information.

Rather than simply scanning bodies for efficient recognition, biometric technologies have long-term consequences for people's everyday lives. From their use in smartphones and passports to the necessity of being biometrically identified in order to receive certain forms of aid from the state, they are increasingly ubiquitous. In the course of my work interviewing biometric scientists and trying to have a more nuanced conversation about the implications of this field for vulnerable communities, I realized I lacked an image to present to them, something to dramatize what I meant when I said that these technologies operate as a new form of confinement for those unable to refuse them. In showing the endurance test created by biometric control, *Face Cages* provides that image. It reveals how the flattening of the body is a brutalizing and exhausting experience—one that counters the narratives of carefree consumption put forward by the industry.

As more bodies are routinely identified and then biometrified in order to ease their being fed into the insatiable machine of the prison system, artists like Zach Blas remind us that we must find another way. We have a continued and urgent need for art that helps to visualize the consequences of these technologies, not as salespeople claim they will be, but as the painful realities that they are.

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