PUBLIC INTEREST TECHNOLOGY

What can your genetic portrait tell the world?

This transcript is from a video featuring artist and biohacker Heather Dewey-Hagborg. It's part of the *Public Interest Technology* series, celebrating Ford-supported visionaries working at the intersection of art, design, and technology to help shape a future that serves justice and the public interest.

Transcript begins.

HEATHER DEWEY-HAGBORG: We use computers, we use phones, we use the internet. We. see these things, and so we have some kind of tangible relationship to them. But when you go to your doctor and they take some fluid out of your body and then come back and tell you about it, we don't see all the biotechnology that's happening behind the scenes. We don't see the whole market in fluids and data that's behind that. It's totally invisible to us.

> [Heather Dewey-Hagborg, Artist. A white woman with short sandy-blonde hair, wearing a loose-fitting black-and-gray-pinstripe dress.]

Heather Dewey-Hagborg, take one. I studied visual art alongside computer science. And so my work is really trying to ask deep questions about technology and how it functions and its impact on society.

In "Stranger Visions," the question was how much can I learn about a stranger from a hair. I collected genetic artifacts, so things that strangers left in public, like chewed-up gum and cigarette butts and fingernails. I extracted DNA from them and analyzed it. And then what came out of that were these 3D printed portraits that represented one genomic interpretation of what a stranger might look like based on their genetic material.

> [Footage of Heather in a lab, wearing disposable gloves, examining a tiny test tube. A series of full-color, racially diverse, lifelike 3D portraits hangs on a gallery wall. Heather's laptop screen displays JavaScript code, which turns into a 3D model of a face generated by genetic code. With gloved-hands, Heather retrieves a freshly printed mask from a bed of gypsum powder at a 3D printer.]

One aspect was the kind of genetic surveillance aspect, that there was this vulnerability of the body. And then the second thing was this new technology was emerging of DNA phenotyping. DNA phenotyping is the attempt to create an actual picture of a person's face from nothing more than their DNA. Two years after I exhibited "Stranger Visions," a company called Parabon NanoLabs launched a product called DNA Snapshot that claims to do just this—to take DNA from a crime scene and make a picture of "the criminal."

[At the words "the criminal," Heather gestures air quotes.]

And this, I knew from my work and "Stranger Visions," was just not possible; it was too subjective. There were many possible interpretations of one person's face based on their data. It wasn't this reductionist process. Actually, it was complex and nuanced and messy.

[Close-up shots of 3D portraits show different interpretations of DNA samples, revealing dramatic variations in the size and shape of facial features, skin tone, and facial structure.]

The biotechnological universe is growing all around us all the time. DNA phenotyping, recreational genetics, databases like 23andMe and Ancestry.com, GEDmatch, the criminal database. We have to really radically think about what it means to live in a time where there is no genetic privacy. We have to be hackers. We have to, like, DIY the whole thing. I would really like to see more artists and creative people working in public interest technology, making visible this kind of hidden world of biotechnology.

[This is tech at work for the public! Hashtag Public Interest Tech. Ford Foundation dot org forward slash tech. Ford Foundation logo: a globe made up of a series of small, varied circles.]

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