



THE UNIVERSITY of EDINBURGH
informatics



THE UNIVERSITY of EDINBURGH
Edinburgh Futures Institute

**Centre for
Technomoral Futures**

Equity Around the Corner

On the Promise of Equitable machine learning Technologies

05/Nov/2024

Zeerak Talat
z@zeerak.org | [@zeeraktalat](https://twitter.com/zeeraktalat)
www: zeerak.org

Past

B.Sc. Computer Science & M.Sc. in IT and Cognition @ University of Copenhagen

Ph.D. Computer Science @ University of Sheffield

Postdoc @ Digital Democracies Institute

Research Fellow @ Mohamed Bin Zayed University of Artificial Intelligence

Current

Visiting Researcher @ Alexander von Humboldt Institute For Internet and Society

Chancellor's Fellow in Responsible ML and AI (~Assistant Professor) @ the Centre for Technomoral Futures & School of Informatics - Edinburgh University

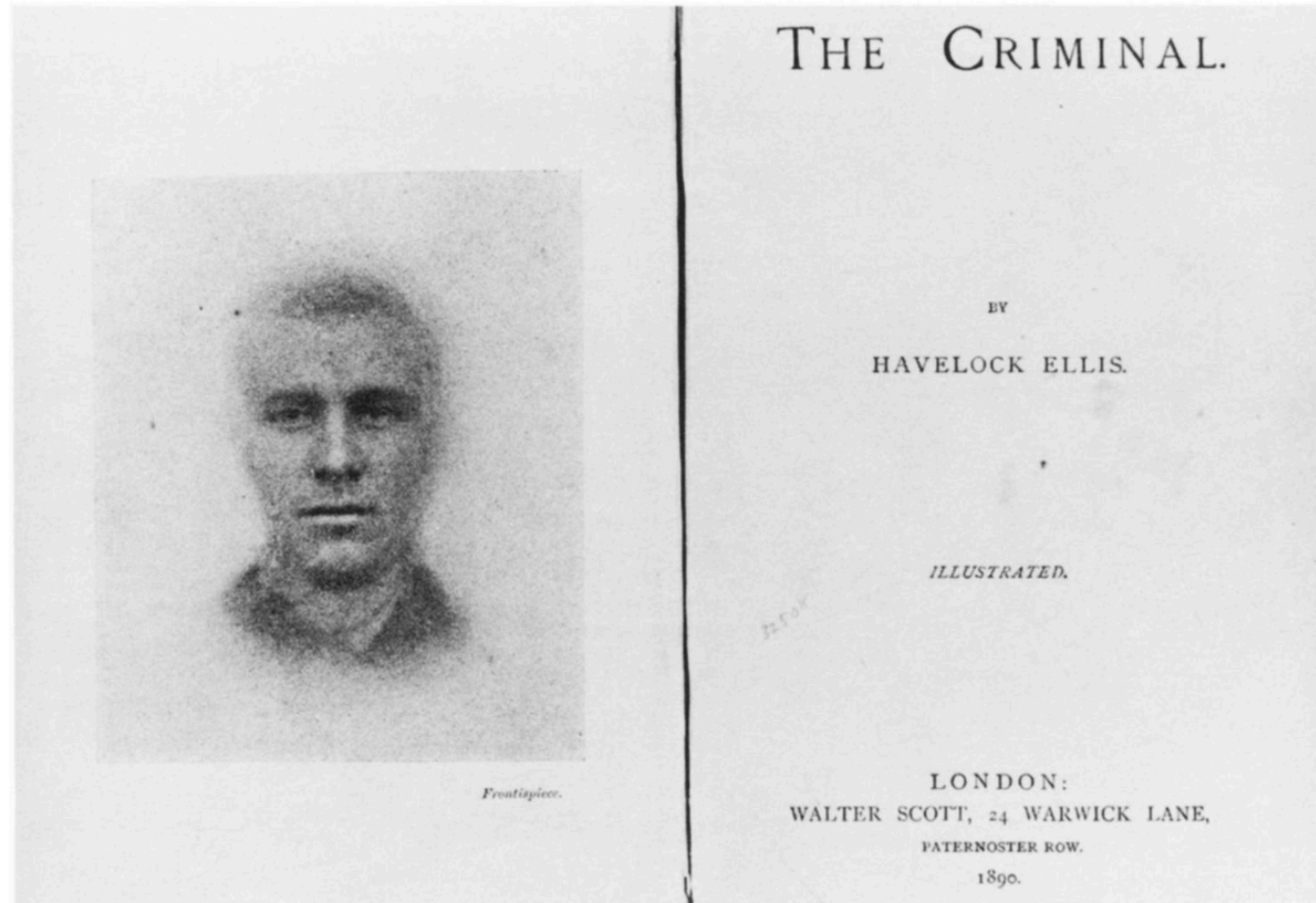
Overview

Can Equitable ai and machine learning exist?

Mechanistic Equity



Boris Karloff as Frankenstein's Monster.
Source: Frankenstein (1931)

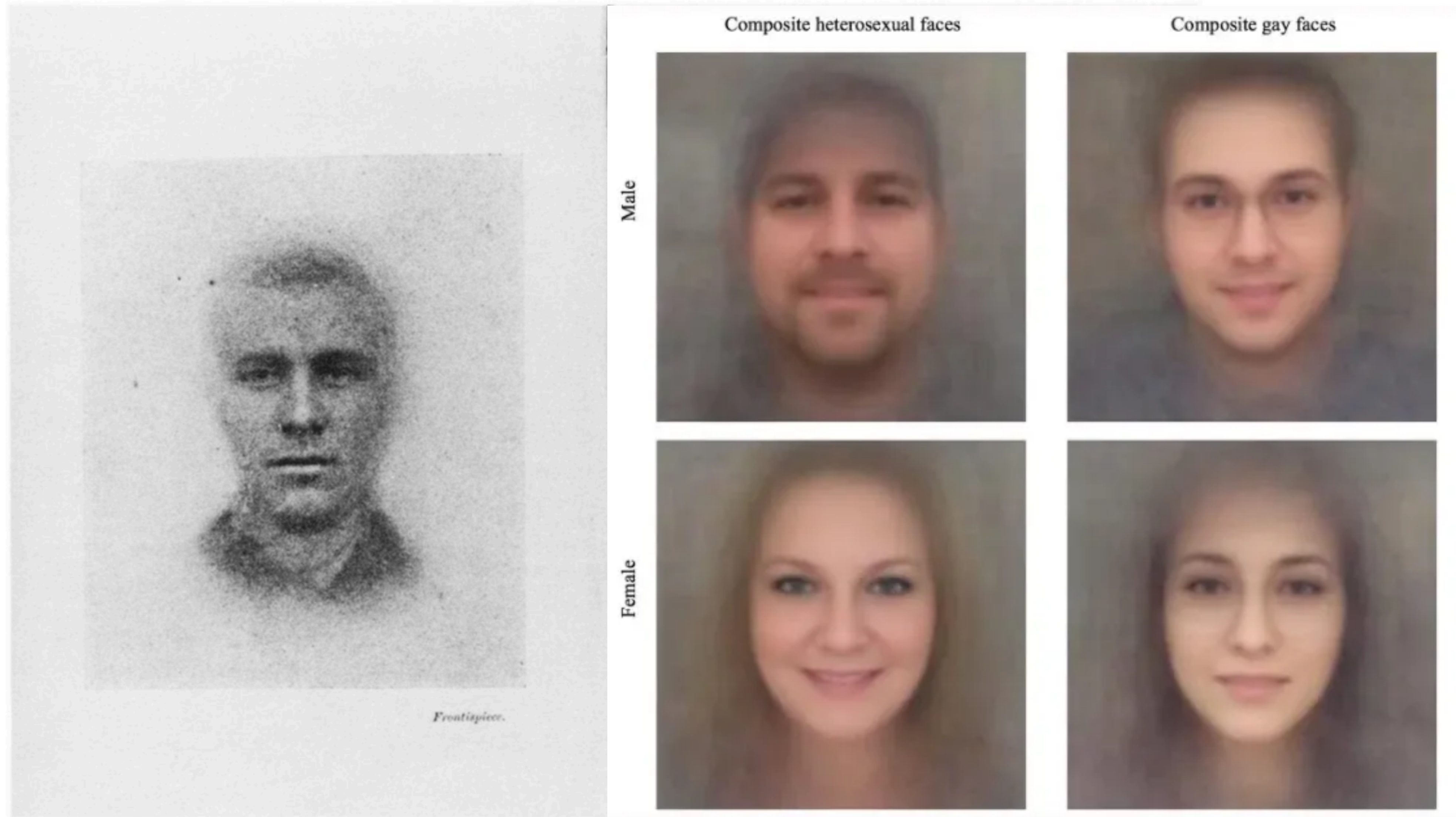


A Galtonian Composite

Source: Alan Sekula (1986). *The Body and the Archive*. October. MIT Press

Composite of “heterosexual” and “gay” faces.

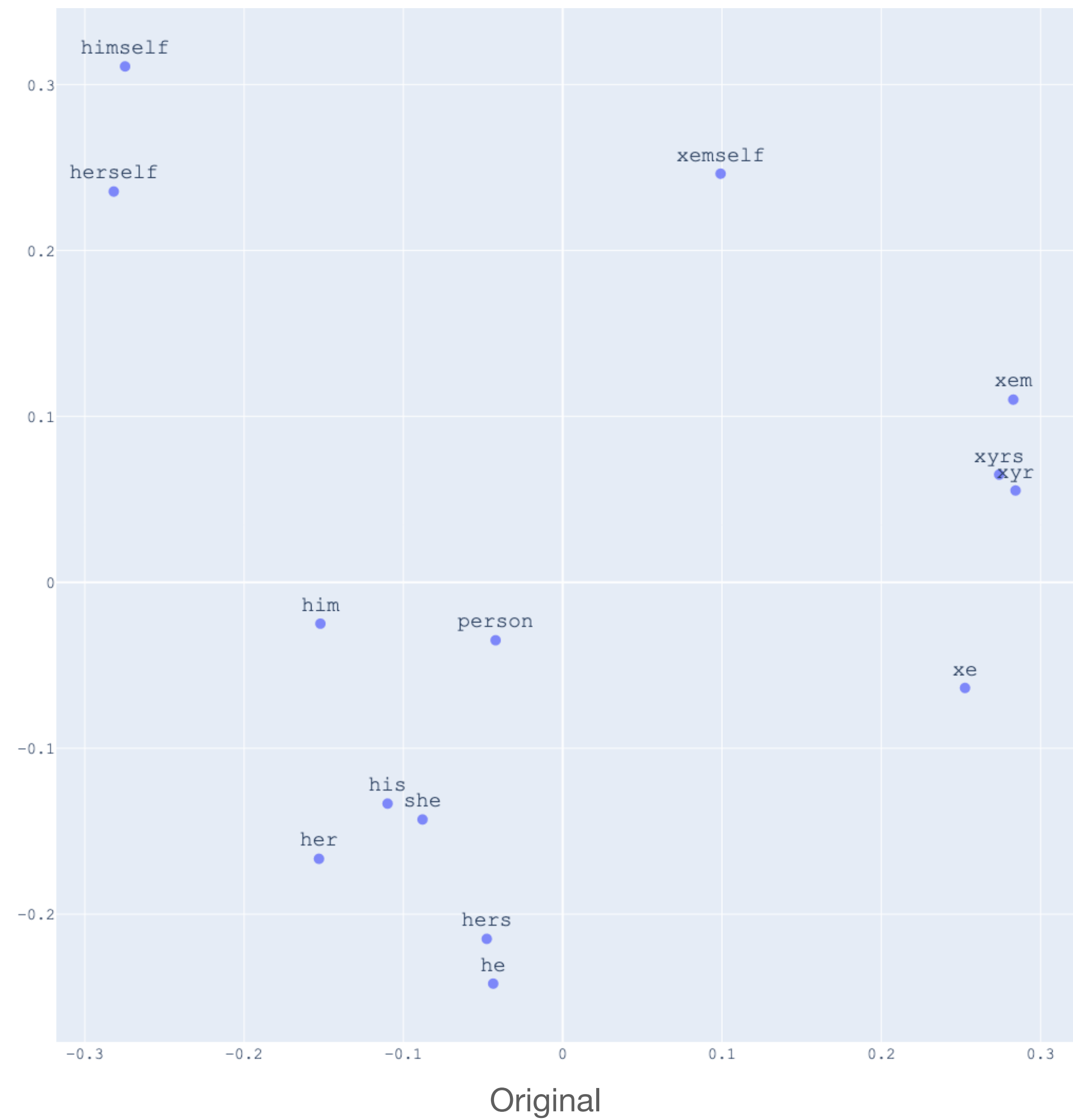
Source: Blaise Agüera y Arcas, [Alexander Todorov](#) and [Margaret Mitchell](#) (2018). Do algorithms reveal sexual orientation or just expose our stereotypes?



A Galtonian Composite

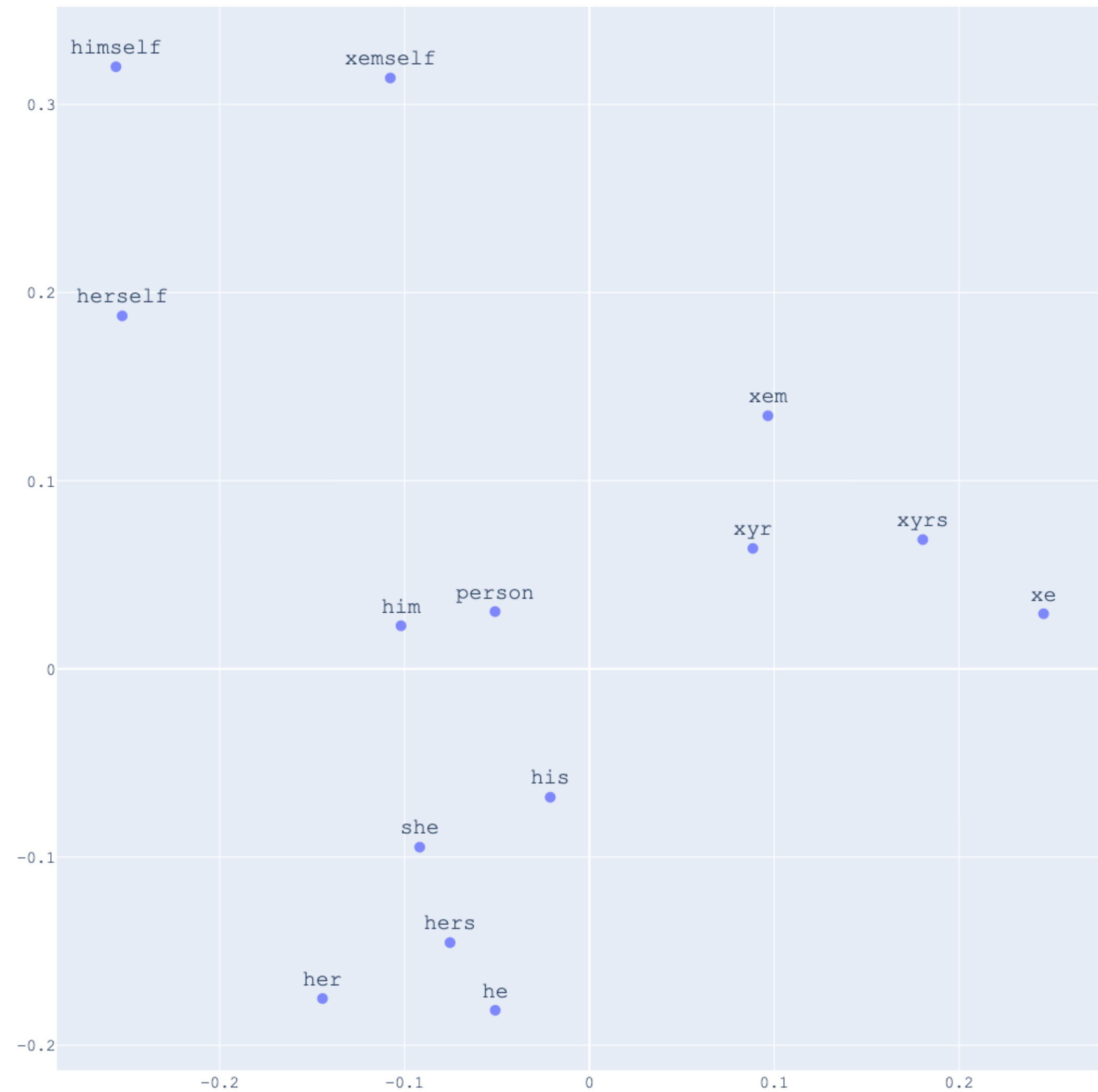
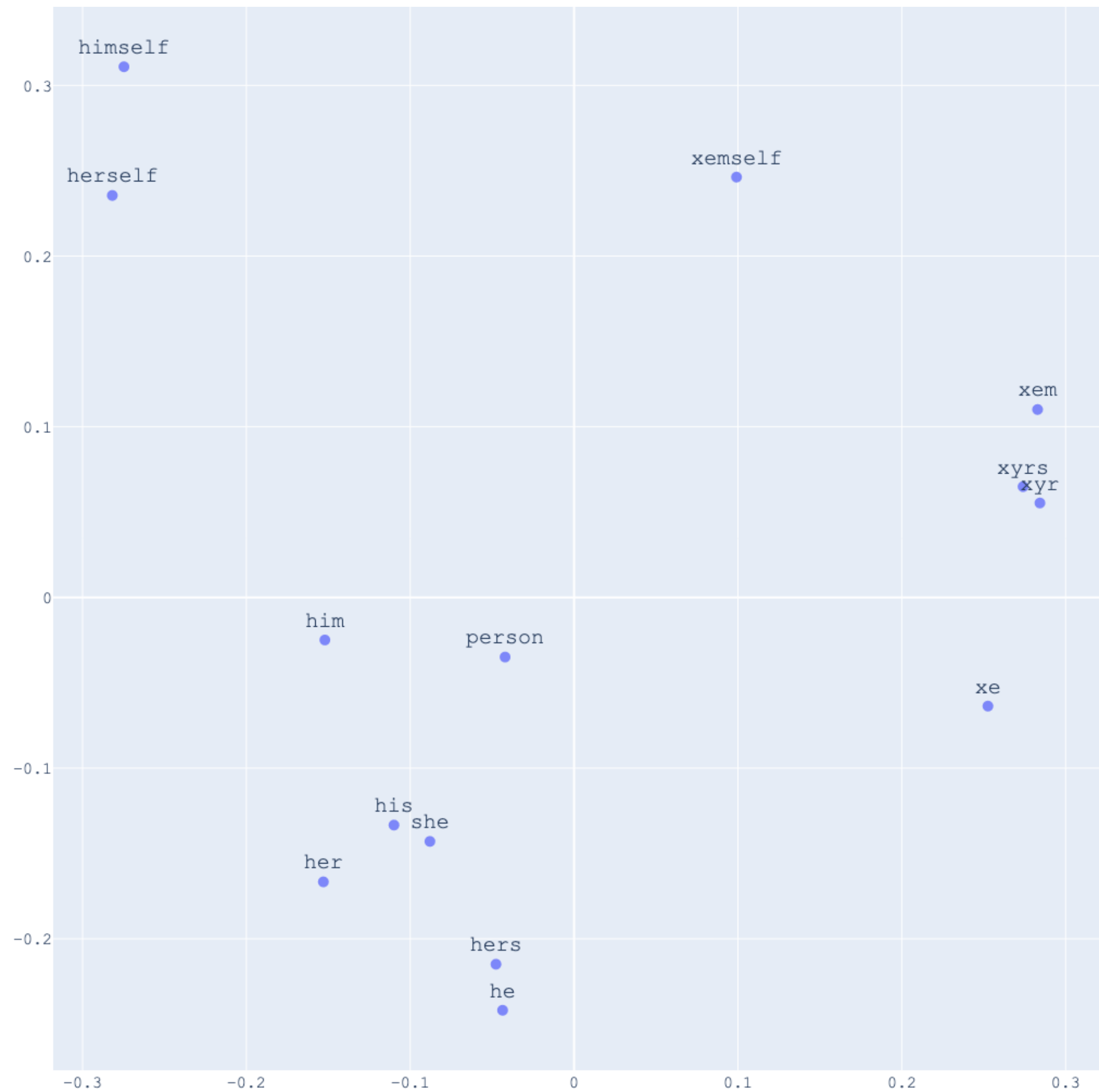
Source: Alan Sekula (1986). *The Body and the Archive*. October. MIT Press

Equity Around the Corner: Mechanistic Equity



The Goals of Work in Fairness

Equity Around the Corner: Industry-orientated Work



**Preventing Fairness Gerrymandering:
Auditing and Learning for Subgroup Fairness**

Michael Kearns¹ Seth Neel¹ Aaron Roth¹ Zhiwei Steven Wu²

Stereotyping **Norwegian Salmon: An Inventory of Pitfalls in Fairness
Benchmark Datasets**

**Su Lin Blodgett, Gilsinia Lopez, Alexandra Olteanu,
Robert Sim, Hanna Wallach**
Microsoft Research

The Illusion of Artificial Inclusion

William Agnew
wagnew@andrew.cmu.edu
Carnegie Mellon University
Pittsburgh, PA, USA

Mark Díaz
markdiaz@google.com
Google Research
New York, NY, USA

Shakir Mohamed
shakir@google.com
Google DeepMind
London, UK

A. Stevie Bergman
steviebergman@google.com
Google DeepMind
New York, NY, USA

Seliem El-Sayed
seliem@google.com
Google DeepMind
London, UK

Kevin R. McKee
kevinrmckee@google.com
Google DeepMind
London, UK

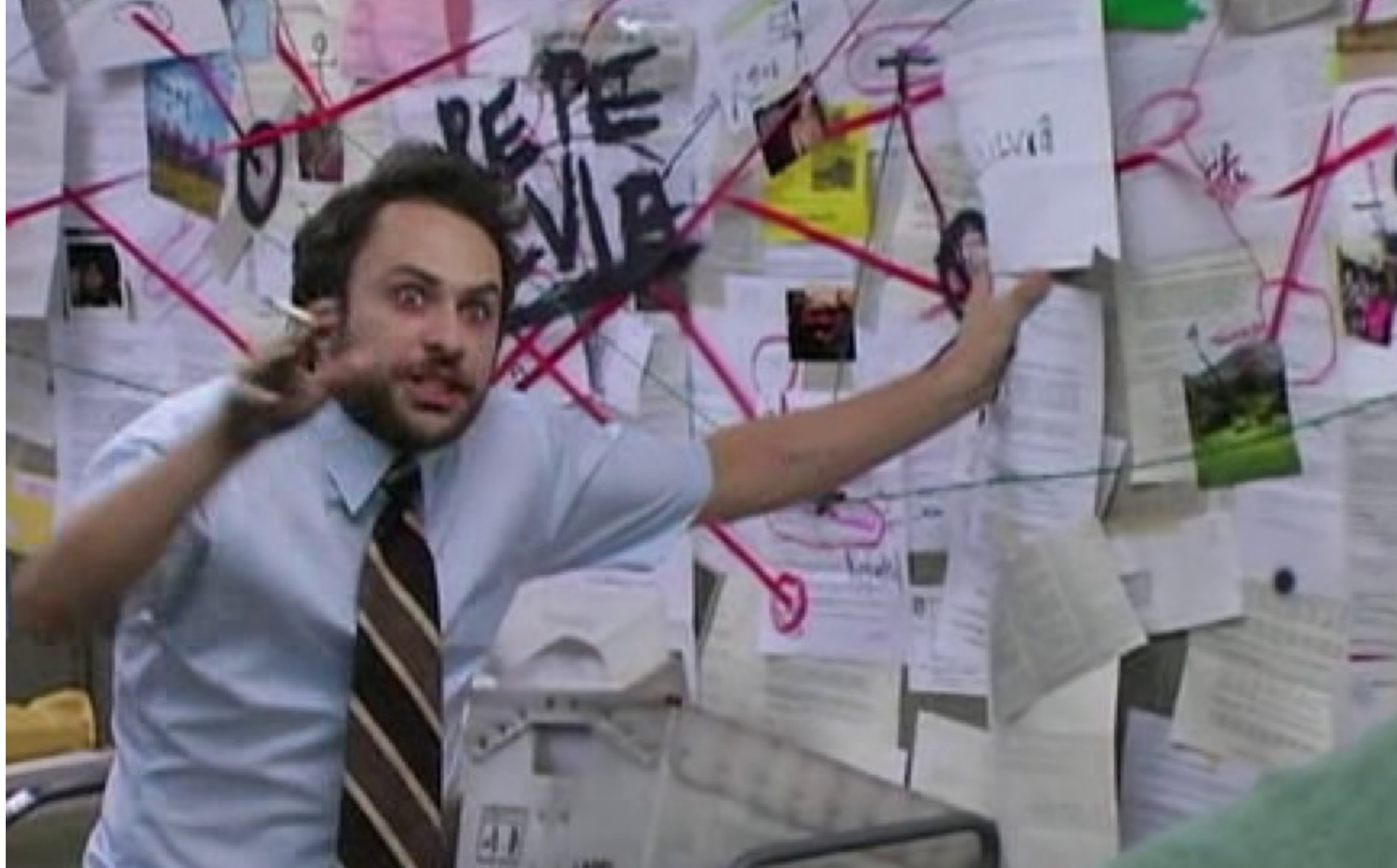
Jennifer Chien
jjchien@ucsd.edu
University of California San Diego
San Diego, CA, USA

Jaylen Pittman
jaylen@stanford.edu
Stanford University
Stanford, CA, USA

Scaling Laws Do Not Scale

Fernando Diaz^{1,2}, Michael Madaio¹

¹Google Research
²Carnegie Mellon University
diazf@acm.org, madaiom@google.com



The Political Contexts of machine learning

Te Hiku Tech

kōrero
māori

Kōrero Māori

Help teach computers te reo Māori!

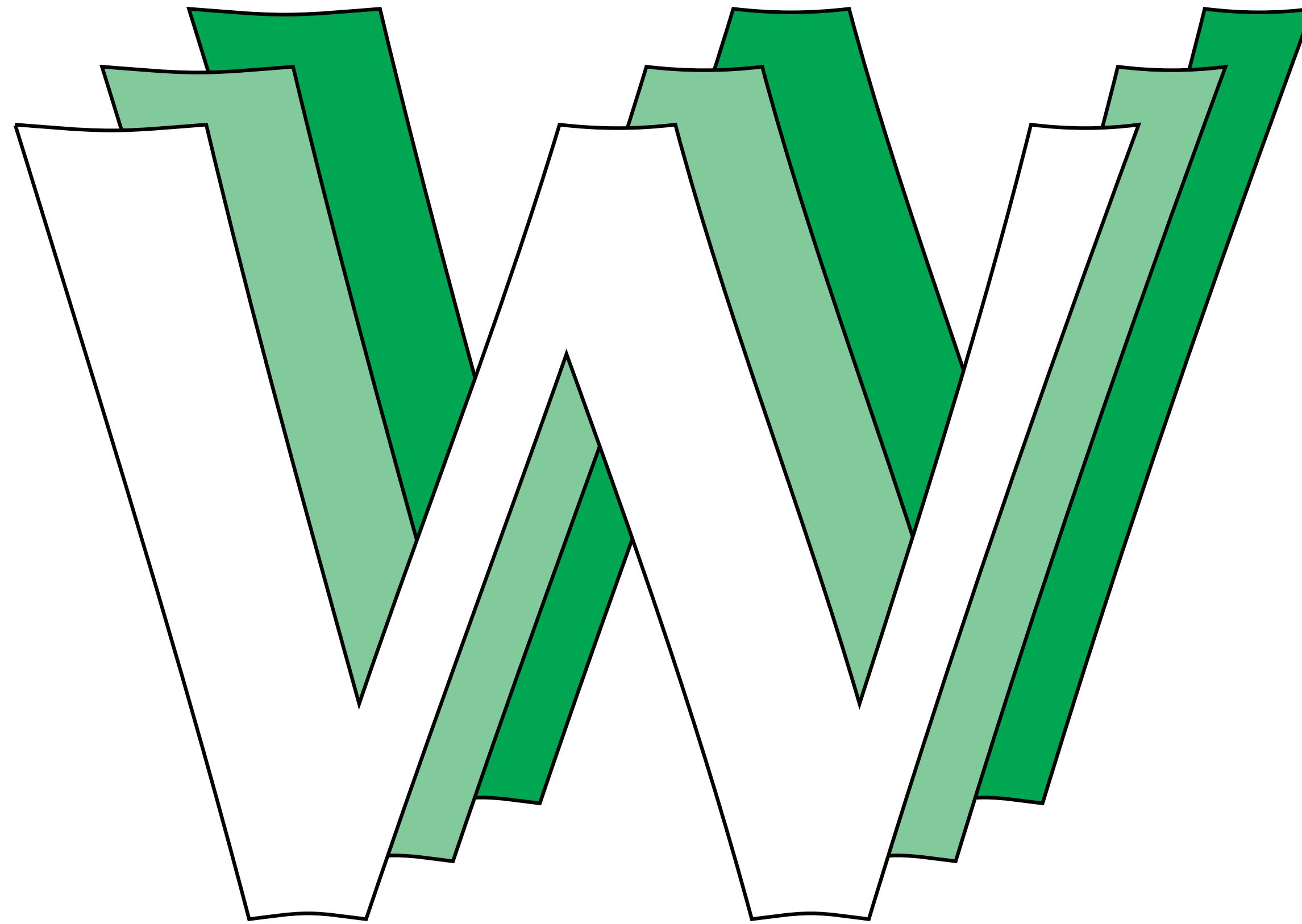
Latest

[Speak Demo](#)

[Audio Transcription Demo](#)

[Kia Kaha Te Reo Māori](#)

Let's Share What We Know



World Wide Web

Source: [WWW](#)'s "historical" logo, created by [Robert Cailliau](#) in 1990. Wikimedia.

No Language Left Behind

Driving inclusion through the power of AI translation

Source: Meta (n.d.) <https://ai.meta.com/research/no-language-left-behind/>

Concluding Remarks