

Algorithmically-Encoded Bodies

Emily Denton

Alex Hanna

Dylan Baker

Community guidelines

- ❖ There are no bad questions
- ❖ Resist assumptions about others
- ❖ Be kind to yourself
- ❖ Confidentiality

Workshop goals

- ❖ Make visible the classificatory work we are all engaged in during our own work practice

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- ❖ Make visible the classificatory work we are all engaged in during our own work practice
- ❖ Examine the (sometimes hidden) ethical and political dimensions of this work and understand the impacts and potential harms individuals from marginalized communities
- ❖ Develop a set of practices that can help researchers remain self-critical in their work creating, using, and studying classification systems

Agenda

Part I: Nov 19

- ❖ Introductory lecture
- ❖ Torquing the Individual

Part II: Dec 3

- ❖ CYO admin. violence A
- ❖ Classification analytic

Microsite

<https://alexhanna.github.io/algo-identity>

All materials and readings linked from here

Cheat sheet

Algorithmically Encoded Identities Cheat Sheet

| | |
|----------------------------------|--|
| <i>Infrastructure</i> | Infrastructure typically brings to mind the idea of the built environment, such as roads, bridges and water pipes. Here, we are typically referring to <i>informational infrastructure</i> , which refers to decentralized technologies that are embedded into and act as foundation for other social structures, tools, and technologies. Data formats, calibration test images (e.g. Lena in signal processing), and ISO standards all make up that infrastructure. When an infrastructure works, it's typically invisible. We typically see it when it breaks down. |
| <i>Infrastructural inversion</i> | Infrastructural inversion is a method of turning an infrastructure on its head and understanding what's behind it. The method deconstructs the assumptions, values, and measurement issues with particular elements which are taken for granted within elements of infrastructure. |

YOUR LOGO
HERE

Company Name

Employment Application

Applicant Information

Full Name: _____ Date: _____
Last First M.I.

Address: _____
Street Address Apartment/Unit #

City _____ State _____ ZIP Code _____

Phone: _____ Email _____

Date Available: _____ Social Security No.: _____ Desired Salary \$ _____

Position Applied for: _____

Are you a citizen of the United States? YES ☐ NO ☐ If no, are you authorized to work in the U.S.? YES ☐ NO ☐

Have you ever worked for this company? YES ☐ NO ☐ If yes, when? _____

Have you ever been convicted of a felony? YES ☐ NO ☐

If yes, explain: _____

Education

High School: _____ Address: _____

From: _____ To: _____ Did you graduate? YES ☐ NO ☐ Diploma: _____

College: _____ Address: _____

From: _____ To: _____ Did you graduate? YES ☐ NO ☐ Degree: _____

Other: _____ Address: _____

From: _____ To: _____ Did you graduate? YES ☐ NO ☐ Degree: _____

References

Please list three professional references.

Full Name: _____ Relationship: _____

Company: _____ Phone: _____

Address: _____

Example

Employment applications

YOUR LOGO
HERE

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Example

- ❖ Employment applications
- ❖ Citizenship
- ❖ Work authorization
- ❖ Felony conviction
- ❖ Graduation


"To classify is human"

[All](#) [Images](#) [Videos](#) [News](#) [Maps](#) [More](#) [Settings](#) [Tools](#)

About 1,100,000,000 results (0.69 seconds)


Human / Genus

Homo



Human taxonomy is the classification of the human species (systematic name **Homo sapiens**, Latin: "wise man") within zoological taxonomy. The systematic genus, **Homo**, is designed to include both anatomically modern humans and extinct varieties of archaic humans.

[en.wikipedia.org › wiki › Human_taxonomy](#)
[Human taxonomy - Wikipedia](#)

 Lower classifications and overview

[Feedback](#)

"To classify is human"


human classification

Search filters: All, Images, Videos, News, Maps, More, Settings, Tools

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Lower classifications and overview

Feedback



Classification
systems

What are they?

“A set of boxes (metaphorical or literal) into which things can be put to then do some kind of work”

Classification systems

What are they?

Technologies of classifying humans

→ NOTE: Please answer BOTH Question 5 about Hispanic origin and Question 6 about race. For this census, Hispanic origins are not races.

5. Is this person of Hispanic, Latino, or Spanish origin?

- ☐ No, not of Hispanic, Latino, or Spanish origin
- ☐ Yes, Mexican, Mexican Am., Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.* ↗

6. What is this person's race? Mark ☒ one or more boxes.

- ☐ White
- ☐ Black, African Am., or Negro
- ☐ American Indian or Alaska Native — *Print name of enrolled or principal tribe.* ↗

- | | | |
|---|--|--|
| <input type="checkbox"/> Asian Indian | <input type="checkbox"/> Japanese | <input type="checkbox"/> Native Hawaiian |
| <input type="checkbox"/> Chinese | <input type="checkbox"/> Korean | <input type="checkbox"/> Guamanian or Chamorro |
| <input type="checkbox"/> Filipino | <input type="checkbox"/> Vietnamese | <input type="checkbox"/> Samoan |
| <input type="checkbox"/> Other Asian — <i>Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.</i> ↗ | <input type="checkbox"/> Other Pacific Islander — <i>Print race, for example, Fijian, Tongan, and so on.</i> ↗ | |

- ☐ Some other race — *Print race.* ↗

Source: U.S. Census Bureau, 2010 Census questionnaire.

Classification systems

What are they?

- I Infrastructure
- II Embed a perspective
- III Technologies of power

I. Classification as Infrastructure

Embedded into and act as foundation for other social structures, tools, and technologies

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Contextual, situated, and shaped by specific aims

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Embedded into and act as foundation for other social structures, tools, and technologies

Contextual, situated, and shaped by specific aims

Invisible when they work; visible upon breakdown

Information infrastructures become naturalized

III. Classifications embed a viewpoint

No universal ordering of the world

Classification systems arise from situated negotiations

Classifications are political (i.e. they deal with power) – they emphasize one view of the world and not others

IV. Classifications are technologies of power

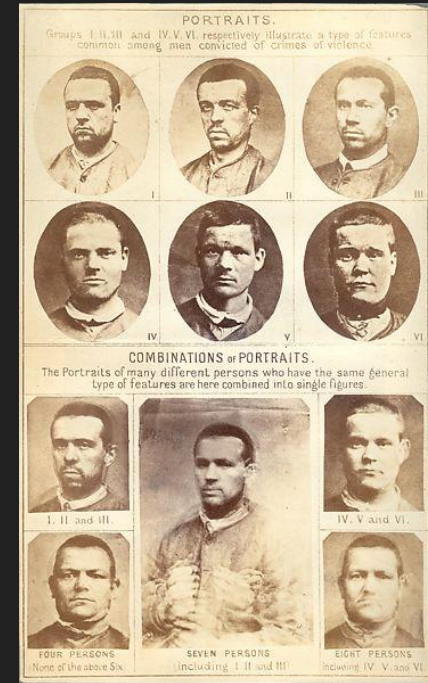
Practices of counting and sorting are
central to state-building

Imperatives to count and sort people
grew out of colonial projects

Colonial projects necessitated racial
classifications

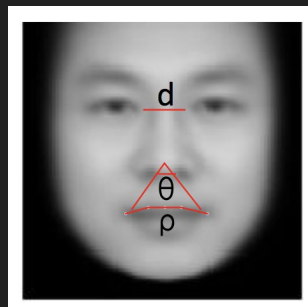
IV. Classifications are technologies of power

Pseudoscientific classifications
of types of bodies lent support
to white supremacist projects



Francis Galton (1877).
Composite portraits
of human 'types'

IV. Classifications are technologies of power



(a) Three samples in criminal ID photo set S_c .



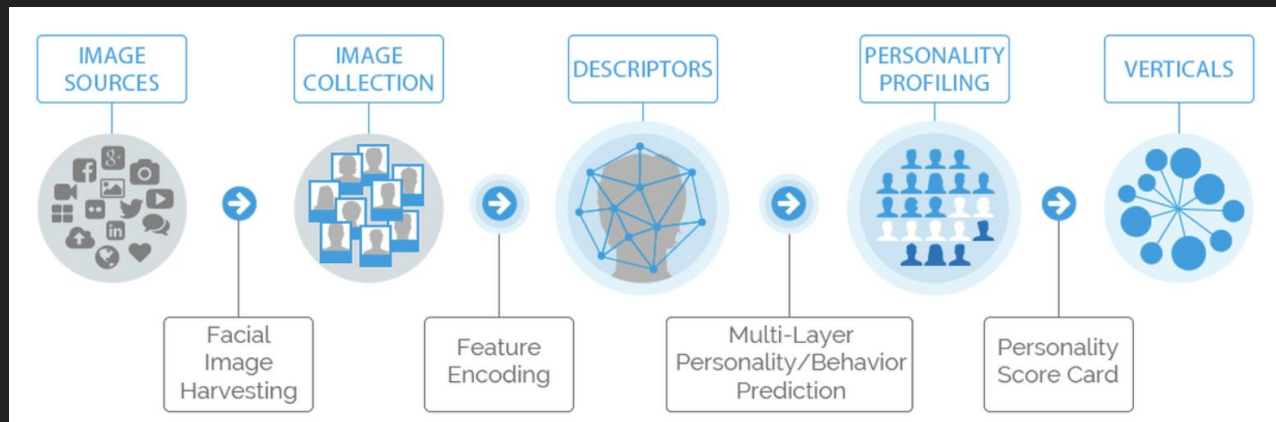
(b) Three samples in non-criminal ID photo set S_n .

Figure 1. Sample ID photos in our data set.

Wu and Zhang (2016). Automated Inference on Criminality using Face Images

IV. Classifications are technologies of power

“Facepion is first-to-technology and first-to-market with proprietary computer vision and machine learning technology for **profiling people** and revealing their personality **based only on their facial image.**”



“High IQ”

“White-Collar Offender”

“Terrorist”

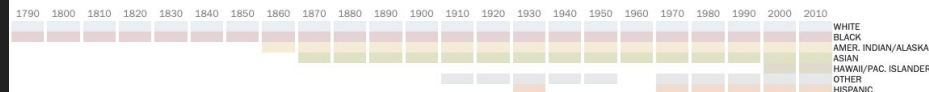
IV. Classifications are technologies of power

What Census Calls Us

Explore the different race, ethnicity and origin categories used in the U.S. decennial census, from the first one in 1790 to the latest count in 2020. The category names often changed in a reflection of current politics, science and public attitudes. For example, "colored" became "black," with "Negro" and "African American" added later. The term "Negro" was dropped for the 2020 census. Through 1950, census-takers commonly determined the race of the people they counted. From 1960 on, Americans could choose their own race. Starting in 2000, Americans could include themselves in more than one racial category. Before that, many multiracial people were counted in only one racial category. See this [related blog post](#) for more information

■ **1960 onward:** People could choose their own race

🚩 **2000 onward:** Americans could be recorded in more than one race category on the census form.



1790

AMERICANS WERE RECORDED IN THESE RACE/ETHNICITY CATEGORIES
ON THE CENSUS FORM

Free white males, Free white females

All other free persons

Slaves

2020

LATEST CENSUS

White [+]

Black or African American [+]

American Indian or Alaska Native

Chinese

Japanese

Filipino

Korean

Asian Indian

The Return for SOUTH CAROLINA having been made since the foregoing Schedule was originally printed, the whole Enumeration is here given complete, except for the N. Western Territory, of which no Return has yet been published.

[illegible]

The nation's first census was a count of the U.S. population as of Aug. 2, 1790. U.S. marshals and their assistants were supposed to visit each U.S. household and record the name of the head of household and the number of free white males, other free persons and slaves in each household. A total of 3.9 million people were counted in the first census.

Source:

<https://www.pewresearch.org/interactives/what-census-calls-us/>

Check your understanding

You're designing a survey to assess the effectiveness of a social policy intervention that is supposed to address the gender disparity in childrearing labor in your city. You need to obtain information about gender.

1. What are different considerations for gender measurement?
2. What are possible ways of designing this question?

Check your understanding

RECOMMENDED MEASURES FOR THE “TWO-STEP” APPROACH:

ASSIGNED SEX AT BIRTH

What sex were you assigned at birth, on your original birth certificate?

- ☐ Male
- ☐ Female

CURRENT GENDER IDENTITY

How do you describe yourself? (check one)

- ☐ Male
- ☐ Female
- ☐ Transgender
- ☐ Do not identify as female, male, or transgender

The GenIUSS
Group (2014)

Check your understanding

First-order gender scale

In general, how do you see yourself? Please answer on both scales below.

| | Not at all | 1 | 2 | 3 | 4 | 5 | Very |
|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Feminine | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Masculine | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Third-order gender scale

In general, how do most people see you? Please answer on both scales below.

| | Not at all | 1 | 2 | 3 | 4 | 5 | Very |
|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Feminine | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Masculine | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Sex at birth

What sex were you assigned at birth?
(For example, on your birth certificate.)

- ☐ Female
- ☐ Male
- ☐ Intersex

Categorical gender identification

What is your current gender?

- ☐ Woman
- ☐ Man
- ☐ Transgender
- ☐ A gender not listed here (please specify)

Magliozzi et al.
(2016)

Classification systems

How they work on
bodies

I Residual categories

II Torque

III Agency

I. Residual Categories

The “not elsewhere classified” categories that don’t fit into a classification scheme

No classification schema is universal and thus (labeled or not) residual categories will always exist

I. Residual Categories

- ❖ *What* are the residual categories and *why* are they residual?

I. Residual Categories

- ❖ *What are the residual categories and why are they residual?*

Gender:

☐ male

☐ female

I identify my ethnicity as:

☐ Asian

☐ Black/African

☐ Caucasian

☐ Hispanic/Latino

☐ Native American

☐ Pacific Islander

☐ Mixed Race

☐ Other

I. Residual Categories

- ❖ *What* are the residual categories and *why* are they residual?
- ❖ What happens to the residual categories

I. Residual Categories

- ❖ *What* are the residual categories and *why* are they residual?
- ❖ What happens to the residual categories
- ❖ What are the consequences of being residual?

II. Torque

The individual experience of being twisted or pulled by
classification systems

Results from misalignment between lived experience and
classifications or misalignment between multiple
intersecting/overlapping classifications

III. Agency

Who is doing the classifying and for what purpose?

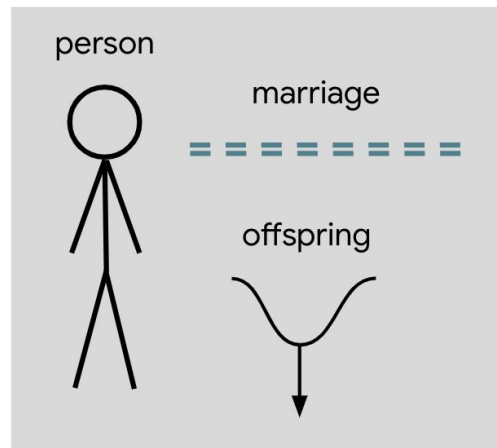
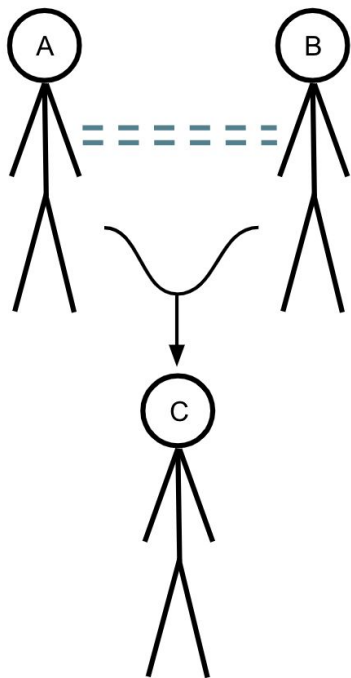
Are classifications visible? Are classification reversible? Do individuals have an opportunity for recourse?

Torquing the Individual

Suppose a government has decided to start
creating formal records of
who an individual's immediate family
members are.

Policy proposals

- ❖ Medical care
- ❖ Citizenship
- ❖ Housing
- ❖ Policing



Part 1: Defining

Family members are individuals who are your siblings, children/parents, spouse, or co-parents, as defined:

| | |
|--------------------------|---|
| Sibling | Somebody who shares the same parents as you (legally adopted or biological) |
| Child (or parent) | Somebody who is your direct offspring or somebody you have legally adopted (or somebody you are the child of) |
| Spouse | Somebody you have a legal marriage certificate with |
| Co-parent | Somebody you have biological offspring with |

Part 1: Defining

<https://bit.ly/3282NRA>


Consider Groups 1-5.

Who are family members to whom?

In which cases do people consider themselves family but are not captured by this definition?

Come up with one additional rule for Definition 1 that better captures who considers themselves family in Groups 1-5.

Part 2: Torquing

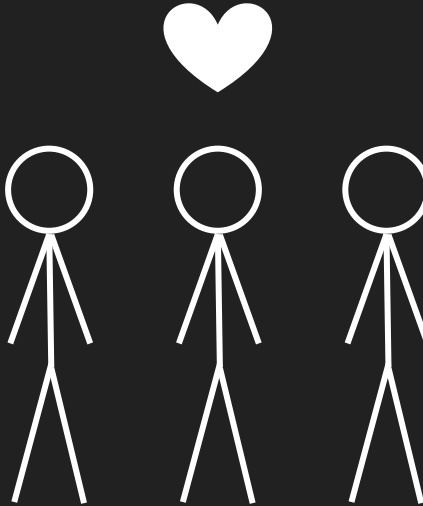
 Khor. Ror. 2

MARRIAGE REGISTRATION

Registration Office : Thalang District Province : Phu Ket .

The following married couple are fully qualified in pursuance of the Civil and Commercial Code, and, in the presence of the registrar, have openly agreed to be husband and wife.

| Description | Male | Female |
|--------------------|-------------------------|----------------------------|
| 1. Name : | Mr. Dean Adrian Daniels | Miss Natalie Jane Harrison |
| 2. Personal No. : | 0-0000-00000-00-0 | 0-0000-00000-00-0 |
| 3. Date of Birth : | 23 August 1977 | 10 December 1979 |



ADOPT-215 Adoption Order

1 Your name (adopting parent(s)):

a. _____

b. _____

Relationship to child: _____

Street address: _____

City: _____ State: _____ Zip: _____

Daytime telephone number: _____

Lawyer (if any): (Name, address, telephone number, e-mail address, and State Bar number): _____

2 Child's name after adoption: _____

First name: _____

Middle name: _____

Clerk stamps date here when form is filed.

Fill in court name and street address:

Superior Court of California, County of _____

Court fills in case number when form is filed.

Part 2: Torquing

Relationships describable by the diagram =
obvious or important distinctions.

Relationships *not* described in the diagram =
irrelevant personal details.

2.0

With family-member registration implemented with Definition 1, and this policy being enacted,
**what life changes might
your prototypical family make?**

The Complete Homebuying Guide

+ GETTING STARTED

+ BUDGETING

— FINDING YOUR HOME

How to Find and Buy Off-Market Homes

Alternatives to Zillow and Trulia

Finding a Good Location

Buying a Foreclosed House

What to look for in a Starter Home

Two-Family House Considerations

● Moving Up: Dream House or Money Pit?

Managing a Bigger Mortgage

Big houses come with big [mortgages](#). A mortgage of several thousand dollars a month is likely on the horizon if you plan to move up. It's a high number, but it won't come as a surprise so you can plan for it. Similarly, a bigger space will require more money to heat and cool. Once again, you know these expenses are coming and can prepare accordingly.

While the size of the mortgage and the cost of utilities are items that you are likely to take into consideration before making a move, there are lots of other factors to consider. They fall into two categories: time and money. These categories are closely intertwined.

The Time Commitment of Upkeep When You Upsize

The size of the responsibilities and the time commitment required to address them both rise directly in proportion to the size of your new home. What once seemed like a great idea can soon become a burden. For example, a big new deck needs to be stained, and a large lawn needs to be mowed. A big house needs to be cleaned. Without help, you may find every spare moment of your time filled with home maintenance chores from cleaning the grout in the bathroom and

The Complete Homebuying

Managing a Bigger Mortgage

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is a surprise so you can plan for it. Similarly, a bigger space will cost more money to heat and cool. Once again, you know these expenses are coming, so you can prepare accordingly.

Because the mortgage and the cost of utilities are items that you are likely to consider before making a move, there are lots of other factors to consider. They fall into two categories: time and money. These categories are intertwined.

The Commitment of Upkeep When You Upsize

More responsibilities and the time commitment required to address them increase directly in proportion to the size of your new home. What once was a great idea can soon become a burden. For example, a big new deck needs to be stained, and a large lawn needs to be mowed. A big house needs to be maintained. Without help, you may find every spare moment of your time filled with maintenance chores from cleaning the grout in the bathroom and

Moving in Together Checklist

☐ Ask Yourself Why

You both need to be on the same page before you sign the lease.

☐ Understand What it Entails

Practice first! Stay at his place for a week or two, or vice versa.

☐ Talk Finances

Discuss who pays for what, how much rent each person is responsible for, and how to handle day-to-day expenses and unexpected costs.

☐ Divvy Duties

Have a plan for handling the household responsibilities.

☐ Talk About the Possibility of a Breakup

Know upfront what your plans are in the (unlikely) event of a breakup.

The Complete Homebuying

Managing a Bigger Mortgage

Moving in



Check

☐ Ask Yourself Why

You both need to be on the same

☐ Understand What it Entails

Practice first! Stay at his place for a v

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Service
Canada

PROTECTED B (when completed)

Personal Information Banks ESDC PPU 116 and 146

STATUTORY DECLARATION OF LEGAL MARRIAGE

Social Insurance Number

SECTION A - TO BE COMPLETED BY THE APPLICANT

Canada
PROVINCE / TERRITORY OF _____

To Wit:

In the Matter of the *Canada Pension Plan* and the *Old Age Security Act* and in the Matter of Legal Marriage

I,

of the (City, Town, Village)

county of

in the province / territory of

Solemnly Declare, that:
I am/was legally married to

My spouse/former spouse and I were married at (Name of church or City Hall etc.)

of the (City, Town, Village)

county of

in the province / territory of

on the _____ day of _____, _____
(day) (month) (year)

The ceremony was performed by

household chores from cleaning the grout in the bathroom and

People also ask

What are 4 types of adoption?



What is the legal process of adoption?



Can you be legally adopted after 18?



Do you need a lawyer to adopt a child?



PROTECTED B (when completed)

Personal Information Banks ESDC PPU 116 and 146

Social Insurance Number

Matter of the *Canada Pension Plan* and the *Old Age Security Act* and in the Matter of Legal Marriage

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2.0

With family-member registration implemented with Definition 1, and this policy being enacted,
**what life changes might
your prototypical family make?**

2.1

With family-member registration implemented with Definition 1, and this policy being enacted,

**what life changes might
your prototypical family make?**

How might these life changes
change social dynamics in this world?

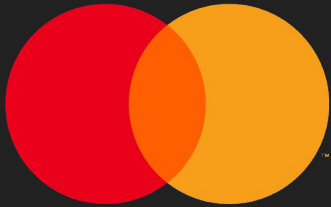
2.3 - 2.4

Brainstorm a new definition of “family member” that better captures your prototypical family.

How would this definition classify Groups 1-5?
Can it classify Groups 1-5?

Coffee break!

How are *you* being classified?



Quantcast

Choose your own administrative
violence adventure

Introducing administrative violence

You are Bo.

Discussion questions

- ❖ What are points in which administrative practices (e.g. forms + policies) caused harm to your character?
- ❖ What administrative changes could have mitigated these harms?
- ❖ What systemic changes could have mitigated these harms?

The Classification Analytic

(an exercise in critical self-reflection)

The Classification Analytic

- ❖ Identify a classification system you would like to explore
 - Ideally, a system you have some degree of familiarity with

The Classification Analytic

- ❖ Task specification
 - Defining the problem space
 - Specifying a measurement model
- ❖ Data collection and curation
 - Determining what data gets collected
 - During data cleaning, e.g. filtering out instances according to some criterion
 - Labelling or otherwise structuring data
- ❖ Model development and training
 - Determining output space of a model
 - Determining input space of a model
 - Determining model thresholds
 - Interpreting representations, clusters, and other model outputs
- ❖ Evaluating and studying algorithmic systems
 - Disaggregated analysis

The Classification Analytic

- ❖ identify a classification system you would like to explore
 - Ideally, a system you have some degree of familiarity with
- ❖ Mix of individual reflection and group based discussion
- ❖ Not everyone has to share!
- ❖ Utilize your group to help understand new and different perspectives
- ❖ This is not a test! Some questions you just won't be able to answer!

The Classification Analytic

Find a group of 3-4 people

Individually, settle on a classification system to
reflect upon and analyze

The Classification Analytic

10 minutes

Relationship to the classification system

Objects of classification

Category structure and classification process

The Classification Analytic

10 minutes
Residuality

The Classification Analytic

5 minutes
Origins

The Classification Analytic

10 minutes

Considering stakeholders // alternative futures

The Classification Analytic

How has your understanding of the classification system changed?

How did the different perspectives in your group contribute to new/different understandings the classification system?

What questions were challenging to answer? And why?

Thank you!

If you have feedback on this workshop, please contact us!

Dylan Baker (dylanbaker@google.com; @dylnbkr)

Emily Denton (dentone@google.com; @cephaloponderer)

Alex Hanna (alexhanna@google.com; @alexhanna)

Thank you!

If you have feedback on this workshop, or would like to be involved in our write-up, please contact us!

Dylan Baker (dylanbaker@google.com; @dylnbkr)

Emily Denton (dentone@google.com; @cephaloponderer)

Alex Hanna (alexhanna@google.com; @alexhanna)

Come through CtrlZ.AI tomorrow!