Dystopian Futures: Murder, Genealogy Databases, DNA, Ethnicity and Privacy

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Introduction

- Popularity of Genealogy, Esp. in Hawaii
- Popularity of using DNA tests with genealogy research
- Advances and other (non-genealogical) uses for those advances
- Databases Pros and Cons
- The Reliability of those resources and whether or not they are protecting privacy
- Myths and fun facts
- More Resources
A flood of interested patrons!

- *Who do you think you are, Finding your Roots*
- DNA tests- Where (and how recently) your ancestors/matches lived (not really “race” or “ethnicity,” Which is culturally signified)
- Health and Diet
- Skin
- Dog DNA tests!

-Unintended result of this popularity
- DNA Advances Genetic Genea.- Cold cases solved!
We are all 40th cousins,  
1 common ancestor since 800AD (at least!) 
We are all 99.9% alike
Smoothies

50% With Bananas
Genealogy Resources - Hawaii

- Bishop Museum Archives
- Bureau of Conveyances
- DAGS, DLNR
- Family Search Wiki, Family History Center
- Hawaii Historical Society Archive
- Hawaii State Archives
- **Hawaii State Library** - Newspapers, yearbooks, Databases, City Directories, Mahele Index, passenger manifests, *Microfilm Vital stats and Census records* (Surnames not common until mid 1800s, Census in Hawaii starts 1830s, surnames recorded- 1870s)
- Hawaii State Dept. of Health
- Papakilo Database
- UHM Special Collections, Libguides, Center for Oral History
- Ulukau – Hawaiian Genealogy Indexes
Genealogy in Hawaii

- Tradition of Oral history and tracking lineage, hiapo
- Recovering info
- Practical Reasons- documentation vital:
  - to attend Kamehameha Schools
  - Apply for homestead land, or other programs
- Now starting to use Genetic Genealogy
Ancestry - $20 per month 20b records from 80 countries, DNA ($50-150) Easy to use, can’t add 2\textsuperscript{nd} marriages

23andME – DNA only More for health than Genea.

Family Search- Free- owned by the Mormon Church, easy, only 1 tree, fewer records, no DNA, great wikis

My Heritage- $120 entire yr, 9bil records, DNA but they retain ownership rights to results.

African Ancestry – DNA only $300 Industry’s largest database - 30,000 indigenous African samples (Y & mtDNA), DNA never searched but no autosomal

GEDCOM is a file format you can use to save your family tree and use on another site. (can load it into GEDMatch)

Web Sources- RootsWeb, American Ancestors, USGen Web, Newspapers.com, Freedmen’s bureau, Papakilo, Ulukau, Family Tree.com
COLD CASE CRIMES SOLVED!

THE GSK/EAR Case- What happened?
• Joseph James DeAngelo, 72 captured 40 years later.
• 12 murders 45 rapes over the years ransacked 100 home
• Used DNA database outside of CODIS (10 mil felons or suspects)
• Examine 13-20 markers vs. 70,000
• Police- what is unique, Genies-matches
• Used crime scene evidence to sequence whole genome, created pseudo kit, uploaded to GEDmatch
• Found relative, traced tree, found him
• Then got sample from his trash, entered it back into CODIS for match

Golden State Killer, Joseph James DeAngelo
Database Dilemmas

• Will this technique work in court? Precedent
  • Quality of the read
  • Chain of custody
  • How DNA processed
  • Illegal search and seizure (doesn’t seem to apply)

• CODIS has stringent protections, (only DNA from convicted felons or suspects)
  • CODIS is only used by authorized govt. officials
  • CODIS only uses familial searching in limited circumstances & jurisdictions

• GEDmatch pretty open, though primarily for genealogical research
Rules for DNA Use

• 23andMe or AncestryDNA
  • Substantial clean saliva sample
  • Hard to get at a crime scene
  • Consent of the DNA contributor before testing

• GEDmatch
  • Only requires upload raw genetic data (DNA sequence) generated after DNA test of a sample
  • Changed their policies to explicitly state they support the use of their site for this purpose
April 28, 2018 While the database was created for genealogical research, it is important that GEDmatch participants understand the possible uses of their DNA, including identification of relatives that have committed crimes or were victims of crimes. If you are concerned about non-genealogical uses of your DNA, you should not upload your DNA to the database and/or you should remove DNA that has already been uploaded. Users may delete their registration/profile and associated DNA and GEDCOM resources.
Privacy and Civil Rights

• Genetic surveillance – but solving crimes=GOOD!
  • (Solve lots of crimes if you did random searches) (Illegal search and seizure)
• Only serious crimes?!
  • 2009 CO. used familial DNA from crime database to convict petty thief
• 0 Policies in Law enforcement
• DNA at crime scene doesn’t prove guilt
• GSK- Man’s DNA subpoenaed -didn’t match. Still must prove he committed crime.
• DNA is yours??… but whole family owns/shares parts of it too
Privacy?

Me Today-

Bought medium sized trash bags today. #adulting

My 3X GGF 1900s
Philo - mentioned in the Desoto Newspaper 650 times

Some high points were...
2/20/1909 Whole news story- "Philo D. was seen walking downtown on Saturday".
4/27/1900 Philo was rebuilding his barn.
1/23/1903 Philo finished gathering his corn.
2/23/1907 Philo purchased a phonograph.
1/21/1909 school closed due to scarlet fever & diphtheria, one of Philo's kids had diphtheria.
DNA DYSTOPIA-

• Reveals secrets! Unexpected parentage, crimes, divorce and other secrets
• DNA not the only way to learn secrets!
• Genetic exceptionalism - DNA isn't that special?
• But...
  • International uses- Crime solving... Adultery?
  • Other purposes- health coverage denial, debt?
  • Scholarships, if based on ancestry, tribal membership?
  • Elizabeth Warren – social pressure to prove background
DNA Utopia-

- Adoptees
- Identify remains- DNA Doe Project
- Concerns led to better policies
- More active notices Can opt out of research
- You still own your DNA (monetize it!) but they own it too
- Delete your DNA after results
- You can keep your tree private or use a fake name or hide the living- ...but then hard 2 find relatives
- Many diseases could be cured/identified by this tech.
- 250,000 DNA tests per year so tests getting more accurate
- Learn we are all cousins, all related, all travelers
Composite sketches

They knew he would look like this and his last name would be Ewing!! Come. On.

Guess based on Genetic phenotyping

Actual suspect
parabon-nanolabs.com/genealogy
Solving Cold Cases!

parabon-nanolabs.com
Solving Cold Cases!

Featured Cases

- **Case Summary**
  - Anne Arundel County, MD
  - 2017 Unidentified Remains

- **Case Summary**
  - Costa Mesa, CA
  - 1997 Sexual Assault and Murder

- **Case Summary**
  - Lake Brownwood, TX
  - 2016 Sexual Assault and Murder
Genealogy Databases- Are they reliable?
NOPE GOAT

SAYS NOPE
OH WOW
IS MYSTERY
WHO?
WUT
DO TELL
Database Reliability

Hints can be crowd sourced, like wikis (Cooperative Research)

- Back up tree with DNA matches and/or documentation like census records
- The databases are getting better but...
- Misspelling, wrong dates & lies!
- Mistakes, Folklore, the Sagas, poetry
Case Study: I “traced” my Line to Royalty and Gods
William the Conqueror

If you have a Euro. Ancestor (6) you are related to all Euros alive in the year 1000
Starts getting ...odd

King Bernard II Plantevelue
"Hairy Foot" 'Count of Autun
Rodez Auvergne Toulouse
Narbonne, Marquis of
Gothlie, Prince Nasi', Aqui
Auvergne Hairy Foot
B:
D:

Profile  Search  Quick edit  🔍
Dwarfs and Trolls!
The Night, Lightning!

Nótt "night" Narfadóttir
Jötunn
B:
D:

Fárbauti Cruel Striker-Lightning Jötunn
B:
D:
Poets on Pain of Death made relatives up
Case Study: Existential crisis on Facebook

• 46 vs. 700,000 markers!

• Diff. databases=different results, more samples in an area = more accurate the guess- “updates”

• DNA passed on & recombines over time- Ex. Shakes. In line but share 0 DNA= possible

• Your Genome-180yrs, 6 generations

• AND we all have so many ancestors- we all have to share them (because math)

• DNA does not equal identity/ethnicity but can help you people trace their family tree
So many good books!!
Bibliography


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Kalani. “Hawaiian DNA.” Hawaiian DNA, hawaiiandna.wordpress.com/.


https://www.toptenreviews.com/services/home/best-genealogy-websites/
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Podcast: Extreme Genes

*King Liholiho Led the Hawaiians' Amazing Rise to Literacy in the 1820s | Ka'iwakiloumoku*, apps.ksbe.edu/kaiwakiloumoku/makalii/feature-stories/finding_your_roots.
Genealogy Resources - Hawaii

- DAGS - ags.hawaii.gov/archives/about-us/genealogy-research-guide/
- Family History Center - familysearch.org/wiki/en/Honolulu_Hawaii_Family_History_Center
- Hawaii State Archives - ags.hawaii.gov/archives/
- Hawaii State Dept. of Health - health.hawaii.gov/
- Papakilo - papakilodatabase.com/main/sourcesearch
- UHM - http://www2.hawaii.edu/~speccoll/hawaii.html
- Ulukau – Hawaiian Genealogy Indexes- www.ulukau.org
THANK YOU!

DONE!
Fun Facts!

- 8% of our DNA – viruses
- Your sibling could be more – than you!
- 1300s Polynesians visited Chile
- You can have 2 DNA profiles- twin, bone marrow