

FORENSIC INVESTIGATIVE GENETIC GENEALOGY

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Citizen science at the roots and as the future of forensic genetic genealogy

[Rafaela Granja](#) [View all authors and affiliations](#)

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Articles

Long-range familial searches in recreational DNA databases: expansion of affected populations, the participatory turn, and the co-production of biovalue

[Rafaela Granja](#)

Pages 331-352 | Received 28 Sep 2020, Accepted 06 Nov 2020, Published online: 08 Dec 2020

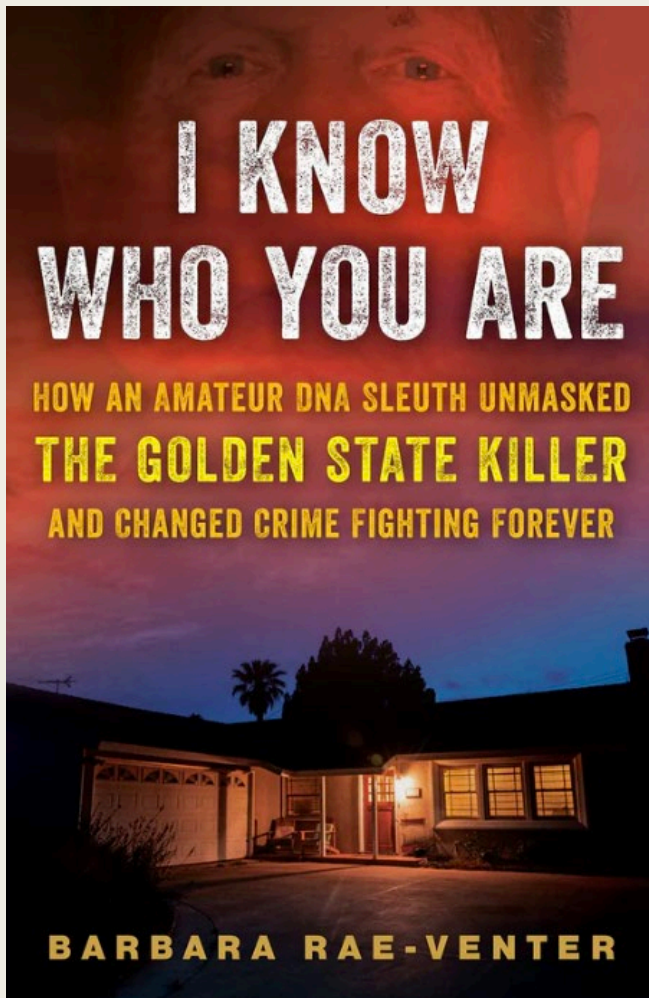
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Wienroth, Matthias; GRANJA, Rafaela (2024, forthcoming) “Dissolving boundaries, fostering dependencies. The new forensic genetics assemblage”. *Science, Technology & Human Values*.

Origins and Developments

- It was in the aftermath of the Golden State Killer criminal case that FIGG gained traction and was considered to “mark the start of a new era in forensic genetics” (Curtis et al., 2019, p. 1483)
- Although usually marked as beginning in 2018, the 'story' of FIGG has longer roots (Granja, 2023)
- FIGG is constantly marked by significant incremental changes, resulting from the highly dynamic relationships between police forces, forensic scientists and commercial companies (Wienroth and Granja, forthcoming)





Origins and Developments

- The emergence of genetic genealogy as a form of citizen science, driven by "passion" and solidarity, led to the establishment of a new field of expertise that remained relatively unregulated and open to all interested citizens, regardless of their particular aims
- This remained the case even when genetic genealogy started to be used to advance missing persons cases, a situation that mobilised the first contacts between genealogists and law enforcement agencies in 2011

In what began as a postretirement hobby, I was volunteering as a genetic genealogist—a “search angel” who uses DNA matches to build family trees and help solve unknown parentage issues.

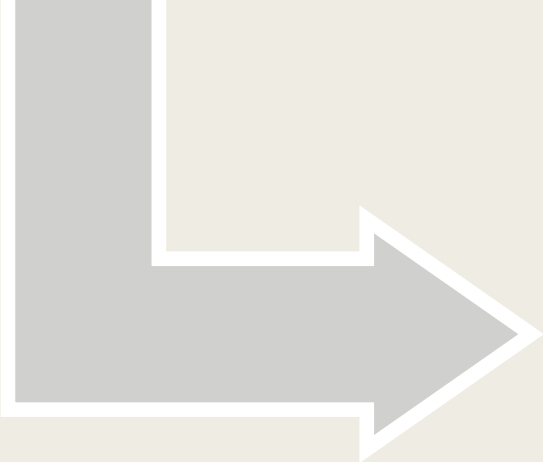
(Rae-Venter, 2023: 6)

Origins and Developments

- Following the impact of the Golden State Killer case, several people who had been doing genetic genealogy as a hobby became an untapped source of expertise for criminal investigations
 - *That is, citizens with diverse educational backgrounds and professional activities*

Genealogy- as-hobby

- Notion of affect plays a major role
- Individuals usually work on cases related to their family history or other individuals with whom they have some type of relationship



Genealogy- as- investigation

- Individuals pick up cases flagged by police forces that might not have any direct or indirect link to them

GROWING INTEREST IN EUROPE

The United Kingdom

- In 2020, the Biometrics and Forensics Ethics Group in UK stated in report that the initial use of FIGG in the identification of unidentifiable human bodies would allow to test its potential
- Thomson and colleagues conducted a study to assess the likely effectiveness of genetic genealogy techniques if applied to investigations in the UK



Forensic Science International: Genetics
Volume 46, May 2020, 102263



Research paper

An empirical investigation into the effectiveness of genetic genealogy to identify individuals in the UK

[Jim Thomson](#)^a  , [Tim Clayton](#)^a, [John Cleary](#)^{b c}, [Maurice Gleeson](#)^b, [Debbie Kennett](#)^{b d}, [Michelle Leonard](#)^b, [Donna Rutherford](#)^b

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This confirms that, despite the over-representation of US citizens on publicly accessible genealogy databases, there is still potential for effective use in investigations outside the US where legislation permits.

(Thomson et al., 2020, p. 1)

Sweden

- Sweden was the first European country in which an arrest took place based on forensic genetic genealogy



Forensic Science International: Genetics
Volume 53, July 2021, 102525



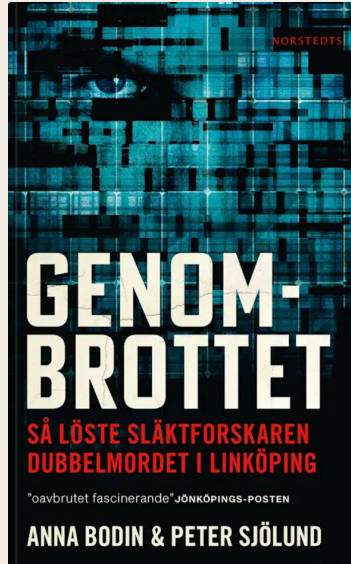
Research paper

Getting the conclusive lead with investigative genetic genealogy – A successful case study of a 16 year old double murder in Sweden

[Andreas Tillmar](#)^{a b}  , [Siri Aili Fagerholm](#)^c, [Jan Staaf](#)^d, [Peter Sjölund](#)^e, [Ricky Ansell](#)^{c f}  

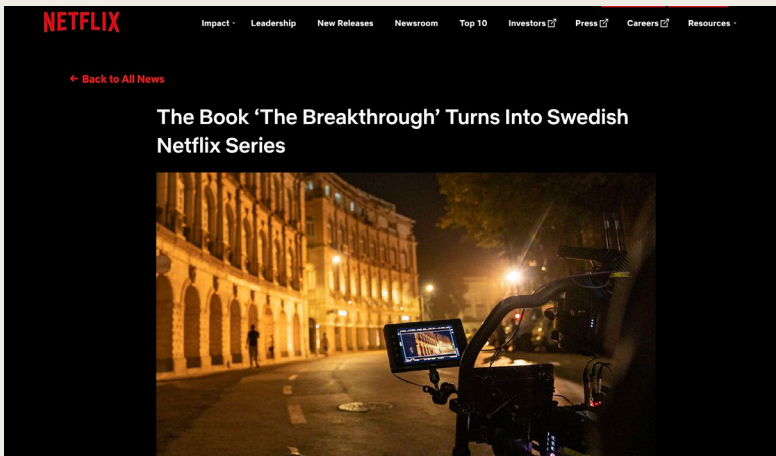
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- Despite the fact that forensic genetic genealogy was successful in identifying the suspect, the Swedish Data Protection Agency prevented the technology from being used until the law is changed, as the current law does not allow genetic data to be handled in this way



Sweden

- The genealogist involved in the case, Peter Sjölund, has published a book with the journalist Anna Bodin
- The book is now being made into a five-part Swedish series by Netflix



Norway and The Netherlands

- In 2023, it was also reported that Norway had used FIGG for the first time to solve a case dating back to 1999
 - *As the suspect has since died, there are no public references to his name, nor to the criminal proceedings*
- In March 2023, the Public Prosecution Service in the Netherlands announced that it was launching a pilot project to use forensic genetic genealogy in two serious unsolved cases involving suspicion of murder or manslaughter



CRITICAL ISSUES

Expertise

- Genealogists from a variety of educational and professional backgrounds are playing an increasingly prominent role in the development and application of forensic genetic genealogy
- It is of paramount importance that their involvement with the criminal justice system is formalised and that safeguards are put in place, which may include accreditation and regulatory procedures that limit who can play such a role



National Technology Validation and Implementation Collaborative (NTVIC): Guidelines for establishing Forensic Investigative Genetic Genealogy (FIGG) programs

[Ray A. Wickenheiser](#)  , [Jennifer Naugle](#), [Brian Hoey](#), [Rylene Nowlin](#), [Swathi A. Kumar](#), [Mark A. Kubinski](#), [Claire Glynn](#), [Raymond Valerio](#), [Lance Allen](#), [Stephanie Stoiloff](#), [Jennifer Kochanski](#), [Christi Guerrini](#), [Anne Marie Schubert](#)

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Public trust and involvement

- Forensic genetic genealogy is mostly shielded from public criticism by the proclaimed goal of increasing public safety and providing healing for victims
- However, police use of recreational DNA databases is an example of function creep, with implications for civil liberties that need to be clearly communicated to all individuals
- Conceive privacy as a social value (de Groot, 2023)

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THANK YOU!

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