21st Century Genealogy

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21st Century Genealogy

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   Making the Most of Your Research in the Information Age

2. Power Google
   Boosting Your Internet Research

3. Genealogical Ethics
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4. Genealogical DNA
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5. Ancestry Additions
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Digital Genealogical Tools
Making the Most of Your Research in the Age of Information
Technological Solutions

What sorts of tools are available?

Breaking Down the Brick Wall and More

Genealogical research in the technological age benefits from a number of technological tools that the genealogist can add to their bag of tricks. Some help with research directly, while others help you organize your information to indirectly assist your research.

- Databases
- Geospatial tools
- Spreadsheets
- Tree makers
- Timeline generators
- Translators
There are literally hundreds of databases containing genealogical information in millions of records. One that is largely unknown is PERSI the “periodical source index,” which is the largest subject index in the world for genealogy and local history periodical articles. It’s located at https://search.findmypast.com/search-world-Records/periodical-source-index.

Learn more about PERSI: https://www.rootstech.org/blog/using-persi-for-genealogy-success

While there are many aggregators of database information, such as Ancestry.com or FamilySearch, don’t negate searches in independent and stand-alone databases. Even for well-known information, such as the census, sometimes you will have better luck at the source of origin rather than using an aggregator.

Research Tip: Compare and contrast the same information across different databases to find errors and inconsistencies.
Geospatial tools provide a unique way to visualize genealogical data. With mapping tools you can:

- See the distribution of your family within a neighborhood
- Get a visual of the most common surnames in an area
- Note migration patterns
- Confirm location and property boundaries
- Find ancestral addresses
- Plot family property lines
- Tag timeline events on a map
- Plan locale visits – e.g. to local cemeteries and churches
- Share data with friends and family

And so much more!

Use a variety of maps – modern, historical, topological, insurance, military, panoramic, demographic, occupational, etc. Many types of maps have information useful for genealogical research.

Research Tip: Many historical maps are held in local collections and published works and are not available online. However, Google Earth does provide historical imagery, as do other online sources.
Spreadsheets

Spreadsheets are not only useful as timeline tools, but also for use in timelines but maintaining a spreadsheet of ancestors is useful for comparing data, finding patterns and data clusters in your data, and sorting tasks. For instance – locating all ancestors that died in 1918-1919 to see if any ancestors died of the Spanish flu.

Spreadsheets are often the most useful tool for viewing and analyzing large amounts of data. Some trees may have thousands of individuals, and spreadsheets can help look beyond the trees to see the forest.

The subsidiary tools included in spreadsheet programs can also be useful. Charts can be made that help you visualize your data in new ways. Information can be found easily using the Find command, and likewise many entries can be updated rapidly through the Replace command – e.g. correcting the spelling of a surname.

Research Tip: Many spreadsheet programs have the option to save your file in the genealogy standard gedcom format including the ability to specify family relationships.
Translators

Even if your research is entirely based on relatives in the country in which you reside, you may at times come across records in other languages – perhaps a family Bible of an immigrant family in the language of their country of origin. If you are doing any international research, you can almost guarantee records in a language that you may or may not speak. While many records are transcribed already, it is often useful to do your own translation.

There are several translator tools and services that can assist you with this task. While the best option would be translation by a native speaker, a variety of online tools are also very useful.

Even if you only want a portion of the text, translate the entire document if possible so that you don’t miss important contextual information.

Research Tip: Sometimes it is helpful to re-translate back to the language of origin and compare translations from different tools to look for possible errors in translation.
Crowdsourcing Genealogy
Communal Collaboration

Basic Strategies

• Social media – Facebook especially has many genealogy groups and pages for local historical and genealogical societies
• Mailing lists – especially Rootsweb – can reach large numbers of people
• Genealogical message boards – on web sites both publich and private
• Survey family members

Tips

• Tell people what you already know
• Be specific about what you are looking for
• Review your information for things you have missed
• Verify any information you receive for yourself
• Make sure to communicate contact information
Using Maps
Making Location Data Come to Life

Maps provide clues where ancestors may have lived and where to look for written records.

How are maps useful?
- They help to solve historical mysteries
- Records usually are kept by county governments so knowing where to find county seats can help you locate records
- Old maps can help you connect historical to current place names – especially helpful if you want to visit in person
- Consider looking for abandoned post offices that may give clues to no longer extant locations

Use the GMIS – Geographical Names Information System
geonames.usgs.gov
- Maintained by the USGS it is the official database in the United States for place names
- Has over 2 million entries
- Includes places that no longer exist
- Contains names of features except roads and highways
- Includes communities, churches, and cemeteries

Keep jurisdictional name changes in mind – you may have to check multiple places!
Cousin Calculators

Many genealogy websites, such as Ancestry, also include cousin calculators which will determine the degree of relatedness among collateral, rather than lineal, relatives. It is also helpful to do this manually, and it can sometimes be confusing.

Quicktip: Count how many greats in the title of the most recent common ancestor (MCRA) and add 1 to find the ordinal number of the cousin. This only works if the cousins are the same number of generations removed from the MCRA.

Example:
2 gens = 1st cousins = share grandparent
3 gens – 2nd cousins = share great-grandparents

To be removed is to be separated by 1 or more generations.

Example:
1x removed = separated by 1 generation
2x removed = separated by 2 generations

Your parent’s 1st, 2nd, and 3rd cousins are yours as well, 1x removed. Your grandparent’s 1st, 2nd, and 3rd cousins are 2x removed.
Distant Cousin Example

President Franklin Roosevelt is my 4th cousin 5x removed
We share Joseph Aspinwall 1673-1742 as our MRCA

This means that we share
great-great-great-grandparents
(3rd GGs) but we are 5
generations apart.
Power Google
Boosting Your Internet Research
Google Advanced Search

What are the benefits?

01 Overcoming Simplicity
Often genealogical search queries are more complicated than a simple Google search

02 User Friendly
Easier to use for genealogical queries

03 The Age Factor
Genealogical records are often older and buried more deeply on the Internet

04 Easier to Build Search
Less of a need for Boolean search terms
How to Get to Advanced Search
Finding Google's Hidden Options

Pulling Up the Advanced Search Function

The Advanced Search function is no longer directly on the Google home page. To pull up the Advanced Search you have two options.

• Navigate to google.com/advanced_search

• Do a simple search and then click on Settings. Choose advanced search from the drop-down menu.
Entering Your Search Part 1

- Using the "this exact wording or phrase" field enter your ancestor's name.
  - Not case sensitive
  - Try different spelling variations
  - Try searching last name, first name
  - For women try searching the maiden name
  - If first name unique try searching without a surname
- Use the "numbers ranging from field" to enter the date range, if known. You can also use the "all of these words" field for date range.
- Use the "all of these words" field to search a surname rather than an individual.
  - For example: aspinwall family history
  - Works best with less common names
  - Works best combined with other search fields
How to Get to Advanced Search
Finding Google's Hidden Options

Entering Your Search Part 1

- Use the "language" field to indicate the language of the record, if known.
- Use the "region" field to indicate the country of origin of the record, if known. This helps eliminate extraneous records.
  - Country of record isn't necessarily the country your ancestor was from.
- Use the "one or more of these words" field to search for a local area – e.g. city, town, county.
  - You can enter up to 3 terms.
Manipulating Search Results
Maximizing Your Search Output

Other Tips for Enhancing a Google Advanced Search

From your results list, you can adjust the language, the date range, and toggle between all results and verbatim using the drop downs at the top of the page. Use the "clear all limits" option to revert to your original search results.

Are you getting too many irrelevant records? Look for common words in your search results that are irrelevant and use those terms as a basis for exclusion. Use the "none of these words" field on the advanced search screen and enter those terms.

If your key word is a phrase with more than one word, be sure to use quotation marks to keep those terms together. For example, "New York."

The "site or domain" field can be used to restrict your search to a particular website.

Use the "file type" drop down to search only for certain types of files. Works well with PDF searches and can yield some interesting results.
Additional Google Search Options
Other Useful Google Based Tools

Image Searches
You can perform your search and just look for images. You can make surprising finds. You can also use the reverse image search to check for duplicate records or to help identify unknown images.

Build Your Own Search
You can build your own search string yourself if you build it with the correct syntax. Once you do a few advanced searches you can get a feel for how to construct the syntax on your own.

Save Your Searches
It is often beneficial to save your searches and repeat them every few months, as new records are available. You can save your search as an HTML file, bookmark it, or use Google Issue Tracker or Google Alerts.
Other Useful Google Tools

Maximizing Your Research

Many Other Google Tools Have Genealogical – Voice to Uses

1. Alerts – get notification of new records
2. Books – over 25 million books have been digitized; best if search by surname
3. Dashboard – an overview of your services and saved data
4. Docs – the voice-to-text feature is awesome
5. Drive – centralized storage for all of your files
6. Earth – current and historical maps
7. Forms – use for research logs or surveys for family members
8. Groups – search surnames and other keywords; many are no longer active but archives exist
9. Image Search- search keywords or use reverse search
10. Input tools – useful for entering accent and diacritical marks
Other Useful Google Tools
Maximizing Your Research

Many Other Google Tools Have Genealogical – Voice to Uses

1. Keep – like Evernote; can track your research, create to-do lists, and maintain a research log
2. Maps – create custom maps and embed those maps in other places
3. Newspaper Archives – 25,000 historical papers; need to use Pinterest or screen captures to save images
4. Photos – backup and share scanned family photographs
5. Plus – like Facebook; networking
6. Search – sometimes a simple search can yield surprising results
7. Sheets – can be auto-filled from Forms to collect family data
8. Sites – create a free family website
9. Translate – create lists of common genealogical terms in your ancestors' language to use in searches
What You Won't Find
Major Limitations to Google Searches

Very New Records
It takes some time for records to be indexed online. It often takes a few days.

Protected Information
Private and protected information is not included in search results.

Not Digital Yet
There is simply a lot of information that is not yet available online.

Google's Limits
No digital search can find all things and Google is no exception. A last effort is sometimes to use the google search page of the country of the record's origin.
Final Tips - Methodical Searches

1. Start as narrow as possible
2. Try variations on your information
3. Slowly broaden your search by removing constraints
4. Retry your variations
5. Repeat steps 3 & 4
Genealogical Ethics

Ethical Research in the Digital Era
Why is a code needed?

1. To maintain research standards
2. To increase patron/client confidence in the research
3. To ensure a fair process for handling complaints
4. To identify those researches who are violating ethics
Where to find the Code

International Society of Genetic Genealogy

There are numerous web sites with genealogical ethics codes. The ISOGG has a comprehensive list of codes for both genetic and standard genealogy located at https://isogg.org/wiki/Ethics,_guidelines_and_standards.
Ethical Guidelines
A Summary of the Codes

What are the general rules of ethical genealogy?

• Warn people who provide information how it will be used.
• Require evidence of consent from the living before sharing or publishing information.
• Convey personal information of the living only in ways to which they have consented.
• Know the parameters of legal privacy rights and how it may limit sharing or publishing information.
• Be sensitive to feelings research may generate.
• Respect requests that information remain private, as appropriate.
• Respect copyright law and acknowledge sources.
• Respect and don’t damage original sources.
• Disclose any conflicts of interest.
• Do not fabricate or publish false or unproven information.
Themes of Genealogical Ethics
What the Guidelines Are Concerned With

Ethical Issues are found throughout genealogical research

Issues of Privacy

Copyright/Plagiarism

Historicity
How Does DNA Testing Influence Ethics?

DNA research is a tool – but it doesn’t guarantee answers.

Coupled with research can validate information.

Genetic Information and Non-Discrimination Act (GINA)

Passed in 2008

Protects people from employers and health insurance companies from misusing DNA obtained through voluntary DNA testing. Only you and the company you give direct permission to do your testing should have access to your results.
Genealogical DNA
Understanding and Using Your Results
Common Terms
The Vocabulary of DNA Research

DNA Research Glossary

- **Allele** – specific form of a gene; one of multiple possibilities
- **Chromosomes** – structure housing genes
- **Gene** – unit of heredity
- **Genome** – collection of genes in an organism
- **Haplogroup** – genetic population sharing a common ancestor
- **Locus** – physical location of an allele on a chromosome
- **Marker** – place on a chromosome with 2 or more forms
- **MRCA** – most recent common ancestor
- **Phylotree** – diagram showing multiple haplogroups
Where you get your DNA

Each of your ancestors passes down a percentage of their DNA in unique combinations. Different siblings may inherit different alleles from their parents, resulting in great variation.

Use this chart to figure out the percentage of DNA you inherited from each of your ancestors.

<table>
<thead>
<tr>
<th>GENERATION</th>
<th>PERCENTAGE OF YOUR DNA</th>
</tr>
</thead>
<tbody>
<tr>
<td>great-great-grandparents</td>
<td>6.25%</td>
</tr>
<tr>
<td>great-grandparents</td>
<td>12.5%</td>
</tr>
<tr>
<td>grandparents</td>
<td>25%</td>
</tr>
<tr>
<td>parents</td>
<td>50%</td>
</tr>
</tbody>
</table>

*Source: Family Tree Magazine Genetic Genealogy Cheat Sheet*
Types of DNA Testing
Understanding Testing Variations

Humans have 22 autosomal chromosomes and the 23rd pair is the sex-determining pair – either XX or XY.

Y-Chromosome (yDNA)
Y chromosomes pass directly from father to son. This test can only be done on males. It shows direct paternal descent and origins of ancient male relatives. It can often accompany a surname study.

Autosomal (atDNA)
These tests go back about 7 generations. They are best used in conjunction with research. Results are more informative if other family members are tested too.

Mitochondrial (mtDNA)
This test traces direct maternal ancestors. It is passed from mothers to all their children. It is a useful tool for deep ancestry. It can help determine ethnic and geographic origins. Used with atDNA tests it can help narrow down matches to the correct side of the family tree.
Main Testing Companies

1. National Geographic Project
   Multiyear study in genetic anthropology to create a map of human migration patterns

2. Ancestry DNA
   Matches you with potential relatives; allows for the upload of yDNA and mtDNA test results

3. 23andMe
   Personal genomics biotech company known for medical genetic testing; connects you to matches

4. FamilyTreeDNA
   Complete genetic testing for genealogical purposes

5. My Heritage DNA
   Only recently launched in 2016

Check out Tim Janzen's [Autosomal DNA Test Comparison Chart](#)
What are centimorgans?

Centimorgans (cMs) are a chromosomal map unit measuring the distance between two points on a segment of DNA. Segments with the largest numbers of shared cMs are likely to be significant. Genetic genealogy uses cMs to denote the size of matching segments. The larger number of shared cMs – the closer the genealogical connection between matches. Shared segments are how many blocks matching DNA is broken into. The trick then, is figuring out what the match is.
cM charts are a big help!
cMs Explained
How to Use Centimorgans for Genealogical Advantage

A Little Bit of Math
Centimorgans can be converted into percentages of shared DNA. To do this, add the centimorgans for all segments above 5 cM and divide by 68. The number 68 is used because we have a total of 6,770 cMs in our genome, which rounds to 68 hundred. We are a half match with our parents – sharing 3.385 cMs. The cM totals per chromosome are based on the Human Reference Genome. DNA matches are very accurate!

How to Use cMs to Find General Relationship to DNA Match

• Find the total amount of shared DNA
• Use a cM chart to list the possible relationships (often there is more than one with collateral relatives)
  • Example- 69 cMs could be a 3rd cousin or a 2nd cousin 1x or 2x removed
• Test each relationship against your research to confirm

Online cM calculators can highlight possible relationships!
Utilizing DNA Test Results
More than an Ancestry Report

Be Prepared for Surprises!
In addition to ancestral origins, DNA test results can yield medical results and solve cold case crimes. They can help connect missing family members and find lost people. Sometimes the results can be shocking, and people can find surprises that both delight and dismay. Be prepared for anything and be sensitive to how results will make others feel. The results of DNA tests can have both positive effects and those that may be ethically questionable.

Many of these tests enable customers to use the familiar connections to communicate with DNA matches. Sometimes this can result in major research links and productive contacts. Other times, people are just not interested in making a connection.

Non-paternity events (or not parent expected) can be important to the individual but may cause family members hurt or embarrassment. These can result from adoptions, donor conceptions, intercourse with multiple partners, non-consensual sex, medical errors, or kidnapping. Finding these can have life-changing impacts. These tests allow adoptees to get around adoption regulator laws.

Third-party sites like GEDmatch and DNA Painter provide extensive tools for DNA and genetic analysis suitable for genealogical purposes. However, as a public database third parties are able to obtain information, though there are ways to protect your security.
GEDmatch Comparisons

Comparisons Across Multiple Databases

What is GEDmatch?
GEDmatch is an online service to compare autosomal DNA data files from different testing companies, allowing you to compare and find matches using several databases at one time.

How do you use it?
1. Download your raw DNA data file from your original testing company
2. Create a GEDmatch account
3. Upload your data file to GEDmatch
4. It sometimes takes a little time to index
5. Run comparisons and use the other chromosomal and genetic tools
GEDmatch Comparisons

GEDmatch has a plethora of tools with which to analyze your DNA. You can find genetic distance calculator, estimate the generations to your MRCA with a match, ethnicity calculators, and more – including many of those offered by the main testing companies. There are also unique tools like the 3-D chromosome browser, that are just a lot of fun.

Comparison applications vary in purpose:
- One-to-Many – compares your DNA against the GEDmatch database; compare centimorgans to determine relatedness with matches
- One-to-One – narrows the comparison to a specific relative/match for a more detailed look at which of your segments are a match
- Admixture (heritage) - proportion of DNA from an ethnicity/geography
- Admixture/Oracle with Population Search – comparison against public databases
  - MDLP – European
  - Dodecad – Eurasian, Asian, African
  - HarappaWorld – South Asian
  - Ethiohelix – African
  - puntDNAL – unknown
  - GendrosiaDNA – Eurasian (Indian and Asian)
- Also allows for X and Y chromosome comparisons

Upload your DNA files:
- Generic Uploads (23andme, FTDNA, AncestryDNA, most others)

DNA Applications:
- One-To-Many Beta - give it a try
- One-To-Many DNA Comparison Result
- One-to-One Autosomal DNA Comparison
- One-to-One X-DNA Comparison
- Admixture (heritage)
- Admixture / Oracle with Population Search
- People who match both, or 1 of 2 kits
- DNA File Diagnostic Utility
  Analyze DNA file upload for potential problems.
- Are your parents related?
- 3-D Chromosome Browser
- Archaic DNA Matches
- Ancestor Projects NEW

GEDmatch Forums
- Gedmatch Forums - Starting over!
Ways to Protect Your Privacy

1. Read the small print
2. Enable/disable privacy settings and be aware of your options
3. Opt-out of studies
4. Private vs. public profiles
5. Use an alias
6. Delete your account
Ancestry Additions

Useful New Tools to Further your Research
Using Thru Lines to Explore DNA Matches

ThruLines can help to identify relatives with barely existant or incorrect trees. It matches up your DNA connections to particular ancestors and predicts the relationship between yourself and the match. It allows you to group matches by lines of descent using custom groups.

ThruLines replaces shared ancestor hints and expands the data provided by hints. To access it, your tree must be public, and your DNA linked to your tree.

Explore Relationships
See relationship details between yourself and your DNA matches

28 DNA Matches
Hover over the image in ThruLines to see the number of DNA matches, their cM range, and to get more details

America Eliza Waters Todd
2nd great-grandmother
1850-1921
More About ThruLines

Additional Notes About Using ThruLines

**ThruLine Views**
ThruLines has two different view modes when you go into the relationship details. You can use the graphical relationship view, which shows the ancestral path of each match with expandable/collapsible details. There is also the list view, which is the same descendants all in one list and you can expand family tree groupings to view the relationships. Clicking on an individual can link you to relationship records, trees linked through DNA matches and other Ancestry trees.

**Moving Forward with ThruLines Information**
ThruLines can be used to help you identify potential ancestors as well as areas where further DNA testing is needed – areas in the lines of descent that have no matches. Keep in mind that ThruLines does sometimes make mistakes, so be sure to verify any finds with your own research.

You can only link your DNA to one tree – but you can switch back and forth. It takes some time to re-index.
MyTreeTags
Making Your Tree More Searchable

Keywords (tags) that can be attached to people in your tree. Once attached you can search for everyone in your tree with that tag. They help not only you, but anyone viewing your tree to find the data they are looking for.

What is MyTreeTags?

Universal Tags
Standard tags available to everyone – DNA, Reference, Research, Relationships

Custom Tags
Tags you create that only appear on your tree – e.g. no issue, adopted, filles du roi

How to Add Tags
Use the tools menu on an individual’s record page

Searching
You can use these tags as TreeSearch filters

What is MyTreeTags?
Keywords (tags) that can be attached to people in your tree. Once attached you can search for everyone in your tree with that tag. They help not only you, but anyone viewing your tree to find the data they are looking for.
Family Tree Maker

FTM is genealogy software you can use to track information you've researched and to create charts, reports, and books containing that information. It is currently owned by Ancestry and managed by SoftwareMacKiev. You can synchronize data between Ancestry's database and your instance of FTM. It also somewhat interfaces with FamilySearch.

There are many unique features this software provides that provide a bonus to your research:

- Can upload and download your trees
- Can designate a genealogical next of kin to inherit your research
- Interactive maps
- Photo Darkroom to fix fade photographs
- Mass editing – e.g. consistent name formatting
- Ability to work offline
- Historical weather reports
- Undo feature and emergency tree restore
- Tree Vault cloud services to back up your data
- Color-coding for visual overviews
The Mary Livermore Library's Special Collections and University Archives consist of rare and historic materials, as well as ongoing activities at the University. The collections cover a wide range of subject areas, including UNCP events and history, faculty scholarship, Lumbee history, and local history. The collections include The Elmer W. Hunt Photograph Collection, the first college catalogs, UNCP yearbooks, bibliographies of campus scholarship, and unique local history resources.

Special Collections are available in-house Monday-Friday 8 am - 5 pm by appointment. Appointments should be made at least 24 hours in advance.
Questions?
Email me at  june.power@uncp.edu