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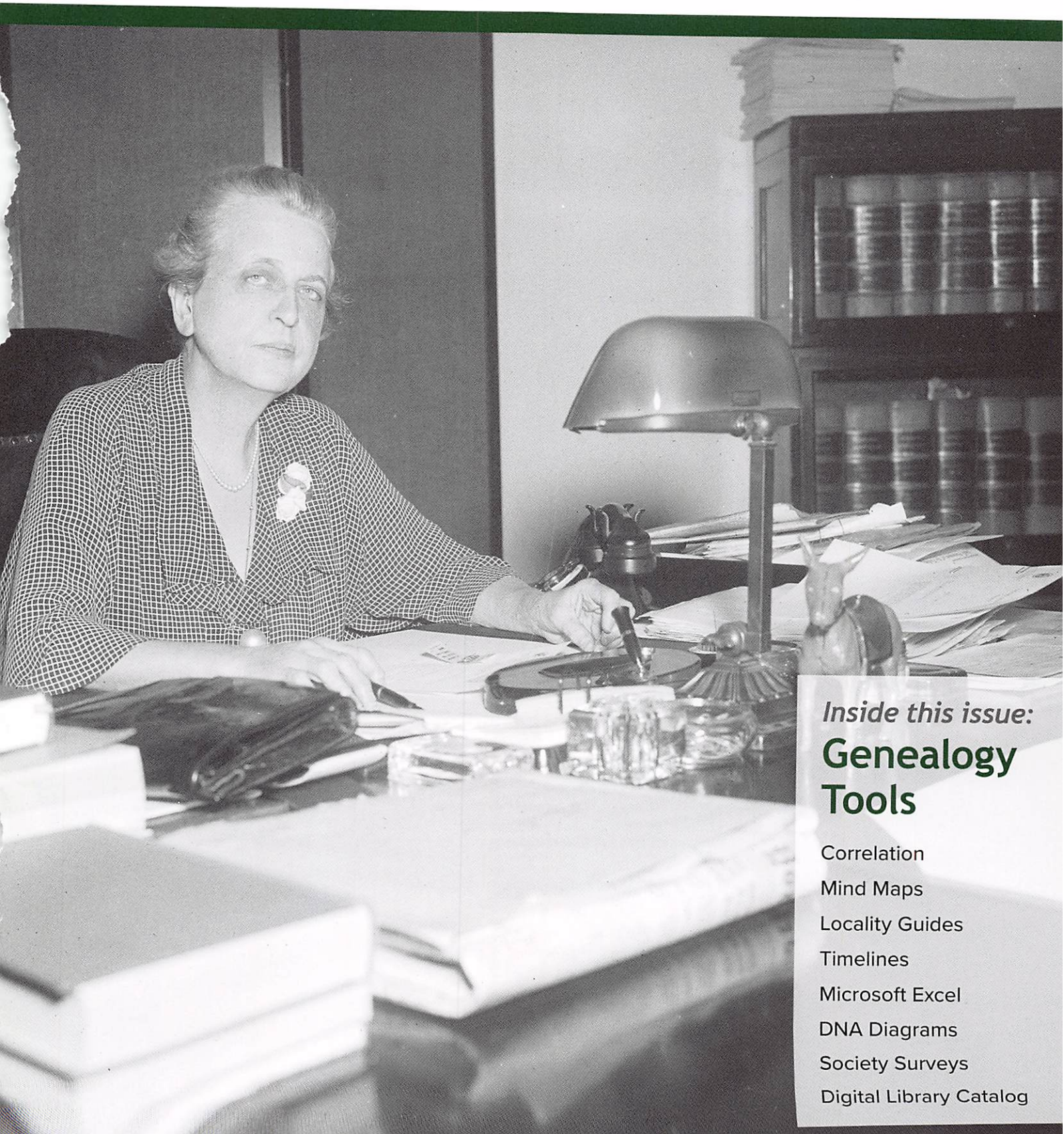

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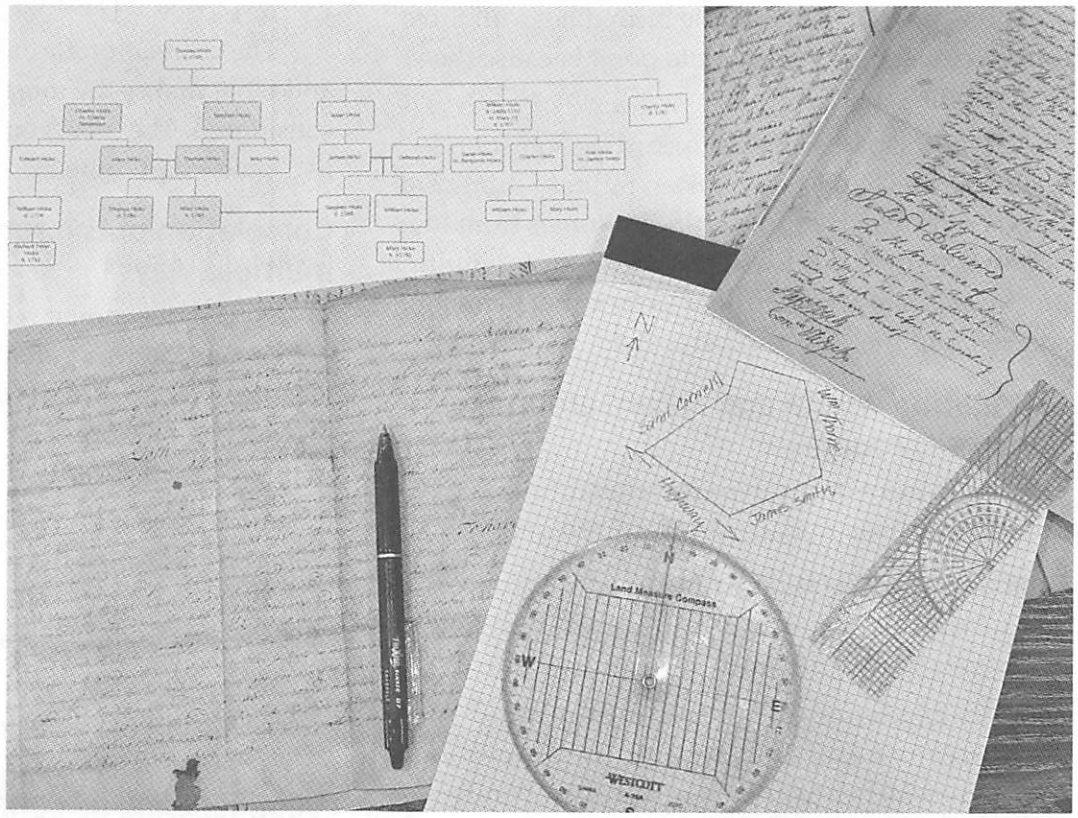
# Correlation: A Powerful Research Tool

Shannon Green, CG




*Correlation can involve a variety of materials. Photo by author*

The Genealogy Proof Standard requires analysis and correlation to prove a conclusion,[1] but correlation can also be a valuable tool during the research process. Use it to view information from a different angle, inspire ideas for exploration, evaluate the reliability of theories, and—when research is complete—to present sound conclusions.

## Correlation of multiple independent sources

Correlation is "a process of comparing and contrasting genealogical information and evidence to reveal conflicts, parallels, and patterns."[2] By comparing information items from several sources, correlation shows whether they are the same or different, or if they do or do not work together.

Correlation and analysis are different processes. During record analysis, only one source at a time is considered, in order to assess its strengths and weaknesses. Correlation brings multiple sources together, for comparison of the information they contain.

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Websites cited in this article were viewed on 20 March 2022.

1. Board for Certification of Genealogists, *Genealogy Standards*, 2nd ed. rev. (Nashville, Tenn: Ancestry.com, 2021), 1-2.
2. Board for Certification of Genealogists, *Genealogy Standards*, 74, "correlation."

Correlation is valid only if the sources are independent. In other words, they cannot have the same origin. The classic example of sources that are not independent occurs when a widow provides the birth date for her deceased husband's death certificate, tombstone, and obituary. Although these are three different sources, the birth date in all three must be treated as a single data point because the origin is the same.

In contrast, information regarding someone's birth date in a baptismal register, military draft card, census record, and death certificate comes from four different sources created at various times for multiple purposes. They can be treated as four independent sources, and their correlation is valid.

## Correlation within one record group or across groups

Any type of data can be correlated, within the same record group or across record groups.

**Examples of correlation within a record group:**

- *Census.* Compare all census records for one person over a lifetime.
- *City directories.* Compare a series of city directory listings to track a person's occupation and residence over time or to help separate people of the same name based on occupation or residence.
- *Deeds.* Create a deed in/out table to see when a subject acquired and disposed of land.
- *Tax records.* Correlate tax records over time, to discover when someone moved into or out of an area or came of age.
- *DNA.* Compare shared amounts of autosomal DNA with expected shared amounts of atDNA based on documented relationships.

**Examples of correlation across record groups:**

- *Parentage.* Compare evidence of parentage in a birth record, baptismal record, marriage record, obituary, and probate record.
- *Residency.* Correlate census records, tax records, draft cards, vital records, naturalization records, and courts records—anything that has evidence of someone's residence.
- *Military service.* Compare evidence in compiled military service records, pension applications, tombstones, and town records.
- *Signatures.* Compare signatures from pension applications, probate files, and draft cards.
- *Timelines.* Assemble records into a timeline to see the life of a research subject.

The correlation format is up to the researcher and what makes the most sense for the data being considered. The most common formats are narrative, list, table, chart, timeline, and map.

## Correlation of the same information in multiple ways

Four independent records provide evidence of Simeon Collins's parentage: a civil birth record, a baptismal record, a deed, and a will. These four records can be correlated in several formats, as shown in figures 1-2 and table 1.

In all three formats, a single answer emerges from comparison of the four records. The researcher can choose a preferred format for correlating the evidence to emphasize clarity and readability.

In this research example, the evidence is consistent, but the same formats can be used for

**CORRELATION OF CONSISTENT RECORDS IN A NARRATIVE**

Simeon Collins was the son of Mary and Augustus Collins. Simeon's 1786 birth is recorded in the town of Guilford as "Simeon Collens Son of Augustus Collens Esq by Mary his Wife."[a] The Second Congregational Church in North Guilford recorded Simeon's 1787 baptism as "Simeon son of Aug[us]tus & Mary Collens."[b] Augustus Collins gifted land to Simeon in consideration of "Love Tenderness and Parental affection."[c] Augustus Collins's will references his son Simeon.[d] The civil birth record, baptismal record, deed, and will are consistent in naming Simeon's parents.

a. Guilford, Conn., "Records of births, marriages, and deaths, 1639-1905," vol. 2, p. 205, entry for Simeon Collins, 18 November 1786.

b. Second Congregational Church (North Guilford, Conn.), Church Records, vol. 3, p. 24, Simeon Collins, February 1787.

c. Guilford, Conn., Deed Book 20:2, Collins to Collins, 10 December 1807.

d. Guilford, Conn., Guilford Probate District, Augustus Collins will, 1814; *Ancestry* (https://www.ancestry.com/search/collections/9049), "Connecticut, Wills and Probate Records, 1609-1999" > Hartford > Probate Packets, Chittenden, Lucy-Cook, John, 1719-1880 > images 1092-1094.

*Figure 1. Narrative format for correlation of consistent information*

**CORRELATION OF CONSISTENT RECORDS IN A BULLETED LIST**

Simeon Collins was the son of Mary and Augustus Collins.

- Simeon's 1786 birth is recorded in the town of Guilford as "Simeon Collens Son of Augustus Collens Esq by Mary his Wife."[a]
- The Second Congregational Church in North Guilford recorded Simeon's 1787 baptism as "Simeon son of Aug[us]tus & Mary Collens."[b]
- Augustus Collins gifted land to Simeon in consideration of "Love Tenderness and Parental affection."[c]
- Augustus Collins's will references his son Simeon.[d]

The civil birth record, baptismal record, deed, and will are consistent in naming Simeon's parents.

*Figure 2. List format for correlation of consistent information*

**CORRELATION OF CONSISTENT RECORDS IN A TABLE**

Simeon Collins was the son of Mary and Augustus Collins.

| Year | Type of record | Information provided |
|---|---|---|
| 1786 | Birth record[a] | "Augustus Collens Esq by Mary his Wife" |
| 1787 | Baptismal record[b] | "Aug[us]tus & Mary Collens" |
| 1807 | Deed[c] | Augustus Collins named Simeon as his son. |
| 1814 | Will[d] | Augustus Collins named Simeon as his son. |

The civil birth record, baptismal record, deed, and will are consistent in naming Simeon's parents.

*Table 1. Table format for correlation of consistent information*

correlation of inconsistent evidence. Correlation is simply the process of comparing and contrasting the evidence, whatever it may be. Table 2 illustrates correlation of inconsistent information for Margaret Smith's birth year.

## Correlation during the research process

Conventional wisdom holds that evidence should be correlated after completing reasonably exhaustive research.[3] Records correlated during the research process, however, can help genealogists

- look at data from a different perspective
- generate ideas for further study
- test hypotheses

### Using a map for a different perspective

Correlating data in a map offers a new view of information extracted from records that would not be available otherwise. Figure 3 shows the census taker's path in 1820, discovered by correlating taxpayers with census heads of household.[4] The underlying map contains lot numbers and acreage. Names of 1820 taxpayers have been typed on the

**CORRELATION OF INCONSISTENT RECORDS IN A TABLE**

Margaret Smith's reported birth year varies by almost twenty years.

| Date reported | Birth information provided |
|---|---|
| 1 June 1900 | September 1870[a] |
| 23 July 1900 | Age 28 [born 1871-1872][b] |
| 1 June 1910 | Age 48 [born 1861-1862][c] |
| 1 June 1920 | Age 42 [born 1877-1878][d] |
| 1 June 1930 | Age 50 [born 1879-1880][e] |
| 10 March 1940 | 26 September 1873[f] |

a. 1900 US census, Washington, DC, population schedule (pop. sched.), Washington, Enumeration District (ED) 36, p. 17B, dwelling 281, family 359, Margaret Smith.

b. District of Columbia, marriage license no. 11555 (1900), Hawkins–Smith; Clerk of the Superior Court, Washington, District of Columbia.

c. 1910 US census, Washington, DC, pop. sched., Washington Precinct 3, ED 44, sheet 6B, dwelling 113, family 123, Margaret Hawkins.

d. 1920 US census, Washington, DC., pop. sched., Washington, ED 55, sheet 2A, dwelling 25, family 34, Margaret M. Hawkins.

e. 1930 US census, Washington, DC, pop. sch., ED 61, page 14A, dwelling 186, family 261, Margaret Hawkins.

f. District of Columbia, death certificate no. [illegible] (10 March 1940), Margaret M. Hawkins; Department of Health, Washington, DC.

*Table 2. Table format for correlation of inconsistent information*

3. Thomas W. Jones, *Mastering Genealogical Proof* (Arlington, Va.: National Genealogical Society, 2013), 64.
4. Ohio Company (1786-1796), "Official Survey Book of the Ohio Company," Township NoI Range NoXII, online images, *Marietta College Library* (https://library.marietta.edu/); citing MSS 001, series 4, Manuscripts and Documents of the Ohio Company of Associates, Marietta College Library, Ohio. The author annotated the base image by adding names and arrows.

corresponding lots. The census enumerator began with John H. Sayre (marked with an X) and a few non-taxpayers. Then he visited Elizabeth Wolf (marked with the other X) and traveled in the direction of the arrows, based on the order of heads of household in the census.

Comparison with the 1820 census determines that some heads of household are not named in the tax list, implying that they resided in the area but did not pay real estate taxes. For example, the map places taxpayers in this order: Elizabeth Wolf, John Linscott, Adam Harpole, Peter Wolf, and George Heill.[5] The census lists heads of household in this order: Elizabeth Wolf, Thomas Vail, John Linscott, Michael Darst, Peter Wolf, and George Heill.[6] Thomas Vail and Michael Darst were apparently not landowners but lived among this group of taxpayers. Such findings reveal new clues for research.

### Using templates to generate ideas

Correlating data can help generate ideas for further research, particularly by using templates. They provide consistency and uniformity, allowing researchers to discern patterns easily. Save time by using templates created by professionals for record groups such as census records. Templates can aid with the extraction of data from multiple records and placement of categorized information side by side, to see the similarities and differences. A comparison

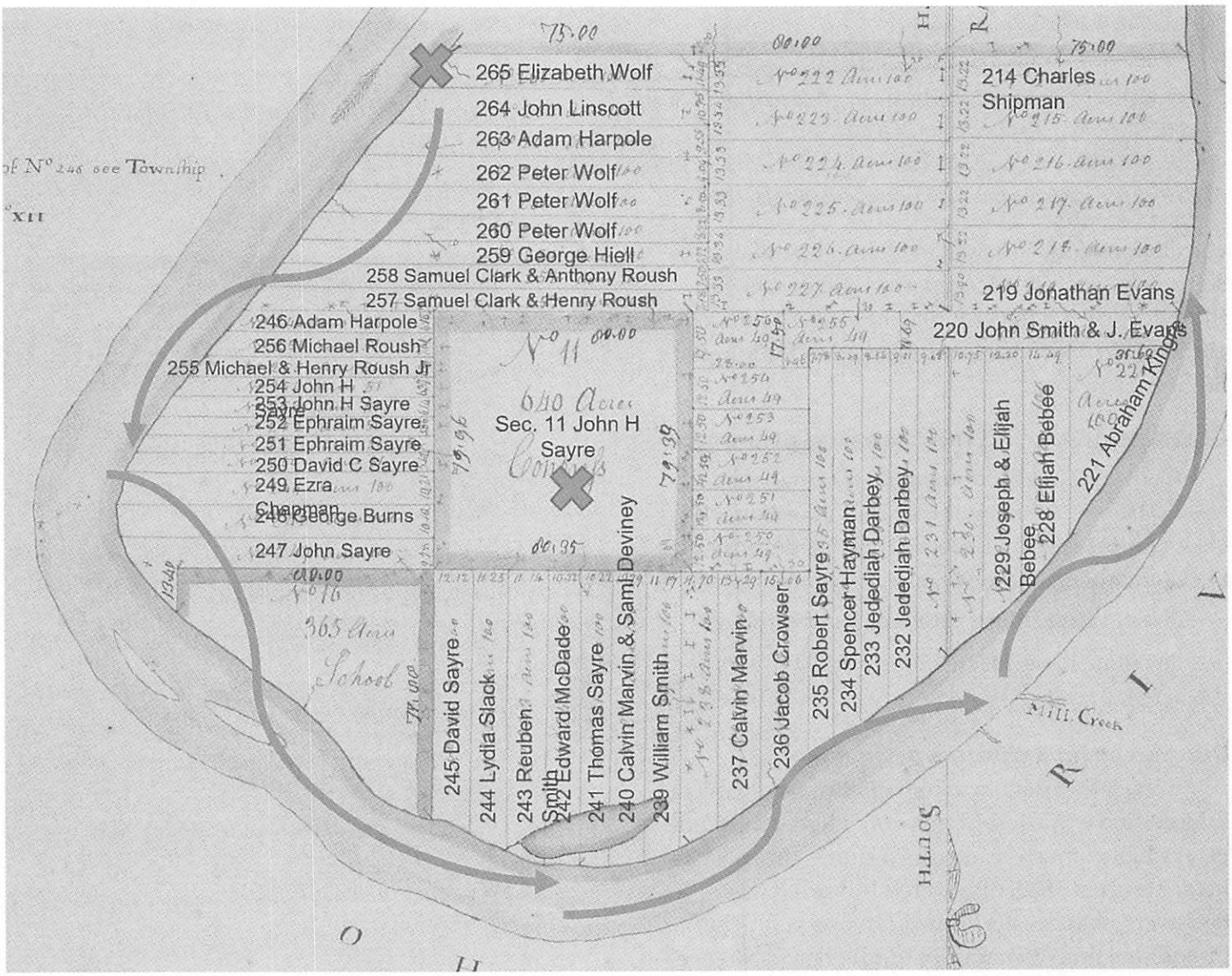



*Figure 3. Map format for correlation of taxpayers and census heads of household in Letart Township, Meigs County, Ohio, in 1820, showing the path of the census enumerator. Base image courtesy of Marietta College Library.*

5. Meigs Co., Ohio, 1820 duplicate tax list, arranged semi-alphabetically; *FamilySearch* digital film 004848992, images 3-52.
6. 1820 US census, Meigs Co., Ohio, Letart Township, pop. sched., p. 210.

**CORRELATION OF 1860 AND 1870 CENSUS RECORDS**

| 1860 | State: Wisconsin | | | County: Sauk | |
|---|---|---|---|---|---|
| | Name of person | Age | Sex | Occupation | Birthplace |
| | S.S. Moon | 39 | M | Sawyer | OH |
| | Elizabeth Moon | 28 | F | | IN |
| | Jesse Moon | 18 | M | Farmer | IN |
| | Simpsim Moon | 8 | M | | IN |
| | Mary C Moon | 6 | F | | IN |
| | B F Moon | 4 | M | | WI |
| | Winchard Moon | 1 | M | | WI |
| | S Wright | 22 | M | Farmer | OH |
| | Jesse Moon | 72 | M | Gun smith | NC |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

1860 US census, Sauk Co., Wisconsin, population schedule, Woodland, p. 919, dwelling 727, family 665, S.S. Moon.

| 1870 | State: Wisconsin | | | County: Sauk | |
|---|---|---|---|---|---|
| | Name of person | Age | Sex | Occupation | Birthplace |
| | Solomon S Moon | 49 | M | Saw Mill | OH |
| | Elizabeth Moon | 38 | F | Keeping House | IN |
| | | | | | |
| | Simpson S Moon | 14 | F | | IN |
| | Mary C Moon | 15 | F | | IN |
| | Benjamin F Moon | 13 | M | | WI |
| | | | | | |
| | | | | | |
| | | | | | |
| | William E Moon | 9 | M | | WI |
| | Antoinette Moon | 6 | F | | WI |
| | Thomas J Moon | 4 | M | | WI |
| | George F Moon | 1 | M | | WI |

1870 US census, Sauk Co., Wisconsin, population schedule, Ironton, p. 130, dwelling 92, family 92, Solomon S Moon.

*Table 3. Timeline format, based on a template, for correlation of records for a household in two census years*

of the 1860 and 1870 census records for a household illustrates this process (see table 3).[7]

The family appears to be the same. They lived in the same county in both years. The head of household and his apparent wife aged ten years in the interim. The birth locations and occupations are consistent. During the last decade, they had four more children.

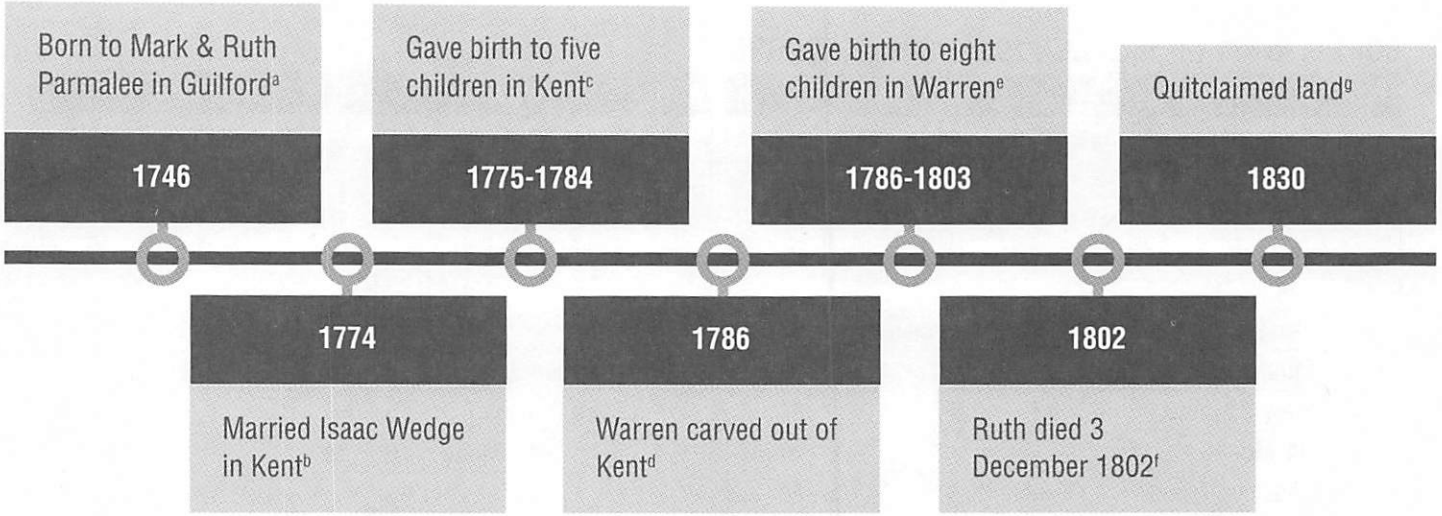
Comparison of the two records shows changes for some people in the household. Jesse Moon, seventy-two in 1860, is no longer there in 1870. He might be Solomon's father. Perhaps he died after 1860, or he might be living somewhere else in 1870. The younger Jesse Moon, eighteen in 1860, is not in the household in 1870 either. He could not be the son of Solomon's wife, just ten years older. Could he be a child from a prior marriage or a younger brother? What do the enumerator instructions say about the order in which members of the household are listed? The gender and age of Simpson Moon are not consistent in the two censuses. S. Wright in the household in 1860 was born in Ohio, as was Solomon, and they might have come from the same area in Ohio.

Correlating these two census records, by using a template to capture the same categories of information, triggers several ideas for further research.

### Using a timeline to test a hypothesis

Sometimes research begins with a hypothesis that needs to be tested. For example, a family was traced to an approved patriot, Isaac Wedge, in the Daughters of the American Revolution database. The initial hypothesis was that the database information about his wife Ruth Parmalee was correct. According to the database, she was born on 21 March 1746 in Goshen, Connecticut; married on 10 October 1774 in Kent, Connecticut; and died on 3 December 1802 in Warren, Connecticut.[8]

7. Adapted from templates by Mary Ann Kelley, "CensusTools Spreadsheet Templates for Census Data," *CensusTools* (https://www.censustools.com).
8. "Ancestor Search," Genealogical Research System (GRS), *Daughters of the American Revolution* (https://services.dar.org/Public/DAR_Research/search), search for Isaac Wedge. The most recently approved application is at the bottom, national number #991345. This member's "descendant listing" shows the lineage and most recently approved dates.




a. Dorothy H. Smallwood, ed., *Parmelee Data* (Washington, DC: p.p., no date), vol. 5, no. 5, p. 1249.

b. Kent, Connecticut, Vital Records, 2:58, Wedge-Parmalee marriage (1774); *FamilySearch* digital film 7734019, image 199.

c. Ibid. Also, "Connecticut, U.S., Town Birth Records, pre-1870 (Barbour Collection)," images, *Ancestry*, Warren Vital Records 1786-1850, p. 34.

d. Connecticut State Library, "Connecticut Town Guides," *CT State Library* (https://cdm15019.contentdm.oclc.org/digital/collection/p128501coll2/id/458942).

e. "Connecticut, U.S., Town Birth Records, pre-1870 (Barbour Collection)," images, *Ancestry*, Warren Vital Records 1786-1850, p. 34. Warren, Conn., Deed Book 7:31, Wedge et al-Wedge, 1 March 1817. Warren, Conn., deed book 7:83, Wedge to Wedge, 27 February 1824. Warren, Conn., deed book 7:247, Guthrie & Hazen to Wedge, 18 September 1830.

f. Paul J. Ostendorf, *A Wedge of the Wedge Family in America Being the Record of Thomas Wedge and His Descendants, Especially Through His Great Grandson Isaac Wedge Down to the Present Day* (Winona, Minn.: St. Mary's College, 1974), 23.

g. Warren, Conn., Deed Book 7:238, Wedge-Wedge, 2 September 1830.

*Figure 4. Timeline for Ruth Parmalee*

Some documents had already been collected: a published genealogy, vital records, church records, and deeds. Information from these sources was extracted and correlated in a timeline of Ruth's life (figure 4). The timeline highlighted two issues with the hypothesis.

First, Ruth could not have died in 1802 if she had a child in 1803 and quitclaimed land in 1830. Second, a 1746 birth year does not seem likely. If Ruth was born in 1746, she married at age twenty-eight and had thirteen children between ages twenty-nine and fifty-seven. In this time and place, it was not common to marry for the first time at twenty-eight. It would also be uncommon to have thirteen children every two years from age twenty-nine to age fifty-seven.

In this example, the correlation of information in a timeline shows that the hypothesis is likely incorrect, due to conflicts with Ruth's stated dates of birth and death.

## Correlation when research is complete

After research is completed, correlation is required for two key steps. First, evidence must be correlated as a component of the Genealogical Proof Standard, to assess whether a conclusion is credible. Second, researchers correlate their evidence as a way to communicate their conclusions.

Not all genealogists write proof arguments for publication, but all researchers should record their conclusions, even if only for their files. Correlation is crucial to demonstrate that all evidence has been considered, compared, and contrasted. If there are conflicts, they must be resolved.

One way to express the validity of completed research is to correlate the evidence in a complex timeline, like figure 5. This chronological and geographical correlation is part of an article proving the subject was the same person in three different countries over time and indicating the records used. The sections labeled A, B, C, D show that no records were found for a person with that name in those locations after she left Devon, before or after she arrived in Ontario, or before she married in Ohio. The timeline supports the conclusion that the same person was present in all three locations, since there is no overlap in time or place.

Signatures can also bolster a conclusion. In figure 6, four signatures are correlated visually to

**Chronologically and Geographically Arranged Summary of Sources Giving Information and Evidence of Susan Gliddon's Identity**

| | 1850–1860 | 1861–1870 | 1871, 1st half | 1871, 2nd half | 1872–1879 | 1880–1889 | 1890–1898 |
|---|---|---|---|---|---|---|---|
| Bridgerule, Devon, England | Birth | | | | A | | |
| | Census | Census | Census | | | | |
| Port of Quebec and Ontario, Canada | B | | | Arrival | C | | |
| Summit County, Ohio, United States | D | | | | Marriage | Census | Death |
| | | | | | Four children's births | Three children's births | Obituary, City directory |

For sources, see text.

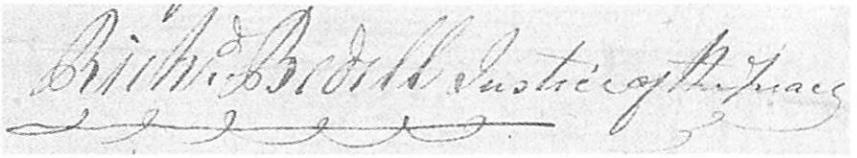
From Jan M. Joyce, "Susan Gliddon of Bridgerule, Devon, England; and Summit County, Ohio: One Person or Two?" *National Genealogical Society Quarterly* 105 (December 2017): 269. Used here with the author's permission.

*Figure 5. Correlation of complex evidence to explain completed research*

**Signatures of Richard, Son of Joseph, 1795–1826**

Town Clerk, 1795[a]

Guardian, 1810[b]



Justice of the Peace, 1814[c]

Late Supervisor, 1826[d]

From Shannon Green, "Two Probates and Three Richards: Who Was Richard Bedell of Hempstead, Queens County, New York?" *National Genealogical Society Quarterly* 107 (December 2019): 266. Used here with the author's permission.

*Figure 6. Correlation of signatures to illustrate a conclusion*

show they were written by the same man over more than thirty years.

These examples demonstrate how the data drives the ideal format for a correlation to best communicate similarities and differences.

## Conclusion

Correlation is a powerful tool whether used during the research process or after the research is completed. Different types of data can be correlated in a variety of formats. Correlation can help genealogists look at data differently, generate ideas for further study, and test hypotheses during the research process. It can also be used to assess and convey the validity of research conclusions. These techniques can lead to new possibilities for solving difficult research problems.

## Resources


Evans, Stefani. "Skillbuilding: Evidence Correlation?" *OnBoard* 18 (September 2012). *Board for Certification of Genealogists*. https://bcgcertification.org/skillbuilding-evidence-correlation.

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Jones, Thomas W. *Mastering Genealogical Proof*. Arlington, Virginia: National Genealogical Society, 2013.

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