### THE ELY ANCESTRY. SEVENTH GENERATION.

419

aq1q13. Mary Eliza Warner, b. 1826, dan. of Samuel Selden Warner and Asubah Tully; m. 1830, Joel M. Gloyd (who was connected with Chief Justice Waite's family).

243317. Abigali Huntington Lathrop (widow), Boonton, N. J., b. 1810, dat. of Mary Ely and Gerard Lathrop; m. 1835, Donald McKenrie, West Indies, who was b. 1812, d. 1819.

(The widow is unable to give the names of her husband's parents.) Their children:

1. Mary Ely, h. 1836, d. 1839. 2. Gerard Lathrop, h. 1838.

243312. William Gerard Lathrop, Boonton, N. J., b. 1812, d. 1882, son of Mary Ely and Gerard Lathrop; m. 1837, Charlotte Brackett Jennings, New York City, who was b. 1818, dan. of Nathan Tilestone Jennings and Maria Miller. Their children:

Maria Jennings, b. 1895, d. 1840.
 William Gerard, h. 1840.
 Denald McKennis, h. 1840. d. 1843.
 Twice.
 Anna Margaretta, h. 1843.
 Anna Catherine, b. 1843.

243314. Charles Christopher Lathrop, N. Y. Gity, b. 1817, d. 1865, son of Mary Ely and Gerard Lathrop; m. 1856, Mary Angusta Andruss, 993 Broad St., Newark, N. J., who was b. 1825, das. of Judge Caleb Halstead Andruss and Emma Sutherland Goble. Mrs. Lathrop died at her home, 992 Broad St., Newark, N. J., Friday morning, Nov. 4, 1898. The funeral services were held at her residence on Monday, Nov. 7, 1898, at hall-past two o'clock P. M. Their children:

Charles Halstend, b. 1859, d. 1861.
 William Gerard, b. 1858, d. 1861.
 Theodore Andrass, b. 186a.
 Emma Goble, b. 186a.

Mine Emma Goble Lathrop, official historian of the New Yeek Chapter of the Daughten of the American Revolution, is ore of the yourgent members to hold affac, het one whose intelligence and capability gaulify her for such distinction. High Lathrop is not without experimency: in her presents home and nutvice eity, Newark, N. J., the has filed the positions of secretary and treasurer to the Girld Prindry Society for nine years, secretary and president of the Woeant's Ascillary of Trinity Church Parink, treasurer of the St. Catherine's Guild of St. Barnabas Hogital, and manager of several of Newark's charinable intuitions which her grandparents were instrumental in founding. Mine Lathrop traces her lineage back through many generations of homos progenitors on both idse. Her maternal ancestors were among the carly settlers of New Jones, among them John Opton. Not realwed patter in 1646 for the parchases of Elizabethown, and who is ring yeas

# Linking Families with Enriched Ontologies



David W. Embley (FamilySearch), Stephen W. Liddle (BYU), Deryle W. Lonsdale (BYU), Scott N. Woodfield (BYU & FamilySearch)

### Linking Families

who was 0. 1022, uau, or william Oningham and Jane MCLHEISON.

24138. Charles Selden, b. 1816, d. 1871, son of Roger Selden and Mary Schuyler Douglas; m. 1845, Hester Gillingham, dau. of William Gillingham and Jane McPherson; m. 2nd, 1862, Elizabeth Keiffer, who was b. 1830.

24331. Mary Ely, Lebanon, Conn., b. 1784, d. 1879, dau. of Zebulon Ely and Sarah Apame Mus, m. 1809, Gerard Lathrop, New York City,

### 300 THE ELY ANCESTRY. SIXTH GENERATION.

who was b. 1778, d. 1852, son of Azuriah Labrop and Abigail Huntington. Their children:

- 1. Abigail Huntington, b. 1810, m. 1835 Donald McKenzie.
- 2. William Gerard, b. 1812, d. 1882, m. 1837 Charlotte Brackett Jennings.

3. Mills Ely, b. 1814.

4. Charles Christopher, b. 1817, d. 1865, m. 1856 Mary Augusta Andruss.

5. Ezra Stiles, b. 1818.

6. Mary Cornelia, b. 1820, d. 1879, m. 1840 Jacob Dykeman Vermilye.

7. Charlotte Eliza, b. 1822.

24332. Ezra Stiles Ely, Philadelphia, Pa., b. 1786, d. 1861, son of Zebulon Ely and Sarah Apame Mills; m. 1814, Mary Ann Carswell, who was b. 1792, d. 1842, dau. of Samuel King Carswell and Margaret Means; m. 2nd, 1843, Caroline Thompson Holmes, Virginia, who was b. 1812, dau. of Thompson Holmes and Eliza Allen Stockly. Their children:

> 1. Margaret Carswell b. 1815, m. 1832 Samuel McClellan. 2. Samuel Carswell, b. 1816, d. 1878.

2 Fora Stiles h 1818

### THE ELY ANCESTRY. SEVENTH GENERATION.

419

241213. Mary Eliza Warner, b. 1826, dau. of Samuel Selden Warner and Azubah Tully; m. 1850, Joel M. Gloyd (who was connected with Chief Justice Waite's family).

243311. Abigail Huntington Lathrop (widow), Boonton, N. J., b. 1810, dau. of Mary Ely and Gerard Lathrop; m. 1835, Donald McKenzie, West Indies, who was b. 1812, d. 1839.

(The widow is unable to give the names of her husband's parents.) Their children:

Mary Ely, b. 1836, d. 1859.
 Gerard Lathrop, b. 1838.

243312. William Gerard Lathrop, Boonton, N. J., b. 1812, d. 1882, son of Mary Ely and Gerard Lathrop; m. 1837, Charlotte Brackett Jennings, New York City, who was b. 1818, dau. of Nathan Tilestone Jennings and Maria Miller. Their children:

Maria Jennings, b. 1838, d. 1840.
 William Gerard, b. 1840.
 Donald McKenzie, b. 1840, d. 1843.
 Anna Margaretta, b. 1843.
 Anna Catherine, b. 1845.

243314. Charles Christopher Lathrop, N. Y. City, b. 1817, d. 1865, son of Mary Ely and Gerard Lathrop; m. 1856, Mary Augusta Andruss, 202 Broad St. Newark, N. L. who was b. 1825, day of Judge Caleb



## **Enriched Ontologies**

- "An *ontology* is a formal, explicit specification of a shared conceptualization" [Gruber93]
- Conceptual Model
- Enrichments
  - Linguistic Grounding
  - Pragmatic Constraints
  - Cultural Normatives
  - Evidential Reasoning



### Linguistic Grounding

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### (syntactically extract text elements into conceptual components)



THE ELY ANCESTRY. 423	THE ELY ANCESTRY. 423	THE ELY ANCESTRY. 423	THE ELY ANCESTRY. 421
SEVENTE GENERATION.	SEVENTE GENERATION.	SEVENTE GENERATION.	SEVENTE GENERATION. 421
James Harvey Patterson, who was h. 1817, son of Thomas Patterson	James Harvey Patterson, who was h. 1817, son of Thomas Patterson	James Harvey Patterson, who was h. 1817, son of Thomas Patterson	James Harvey Patterson, who was b. 1817, son of Thomas Patterson
and Jane Clark. Their children:	and Jame Clark. Their children:	and Jane Clark. Their children:	and Jane Clark. Their children:
<ol> <li>Thornas Ely, h. 1843.</li> <li>Mary, h. 1895.</li> <li>Jennie St. Chir, h. 1861.</li> <li>Barry, b. 1863.</li> </ol>	<ol> <li>Thorman Hily h. 1843.</li> <li>Bfary, h. 1855.</li> <li>Jenneis Bi, Chair, h. 1861.</li> <li>Harry, b. 1863.</li> </ol>	<ol> <li>Thornas IIIy b. 1843.</li> <li>Mary, b. 1845.</li> <li>Jennik E. Chir, b. 1861.</li> <li>Barry, b. 1863.</li> </ol>	<ol> <li>Thorsan Elly, b. 1543.</li> <li>Margi, b. 1855.</li> <li>Jennie El. Chill, b. 1851.</li> <li>Harry, b. 1853.</li> </ol>
241122 Rev. Sem Extra Scies Ely, Ottumwa, Ia., b. 1828, son of	241123. Rev. Ben Exra Scies Ely, Ottomwa, Ia., b. 1828, son of	24112) Rev. Ben Erra Soles Ely, Otturnwa, Ia., b. 1828, son of	241123 Rev. Ben Erra Stiles Ely, Otturnwa, Ia., h 1828 non of
Rev. Erm Stiles Ely and Mary Ann Carawell; m. 1848, Elimbeth Ea-	Rev. Erm Stiles Ely and Mary Ann Carawell; m. 1848, Elimbeth Ea-	Rev. Erra Stiles Ely and Mary Ana Carawell; <b>1984</b> . Elizabeth Ea-	Rev. Erra Stiles Ely and Mary Ann Carawell; m 1828, Elitobeth Ea-
dora McEiroy, West Ely, Mo., who was b. 1820, d. 1871, dan. of Abra-	dora McEiroy, West Ely, Mo., who was b. 1820, d. 1871, dan of Abra-	dora McErroy, West Ely, Mo, who was b. 1820, d. 1871, dan of Abra-	dora McEiroy, West Ely, Mo., who was b. 1830, il 1879 Mar. of Aben-
ham McEiroy and Mary Ford Rafford; m. and, 1873, Abbit Amelia	bane McEiroy and Mary Ford Radford; m. 2nd, 1873, Abbit Amelia	ham McErroy and Mary Ford Radford; m. and, <b>1877</b> . Abbit: Amelia	ham McEiroy and Mary Ford Rafford; m. 2nd, 1870 Abbit Ametha
Moore, Harrison, IIL, who was b. 1852, dan, of Porter Moore and Har-	Moore, Harrison, Ill., who was b. 1852, dau, of Porter Moore and Har-	Moore, Harrison, Ill., who was b. 1852, day, of Porter Moore and Har-	Moore, Harrison, Ill., who was b. 1812, day, of Porter Moore and Har-
riet Leonard. Their children;	riet Leonard. Their children;	riet Leonard. Their children;	iet Leonard. Their children;
<ol> <li>Elimbeth B., b. 1849.</li> <li>Ber-Eirz Stiles, b. 1846.</li> <li>George Everly Monigamery, b. 1898. d. 1817.</li> <li>Lanar Kitabeth, b. 1899.</li> <li>LaRase DePerent, b. 1861.</li> <li>Charles Wadnweth, b. 1863.</li> <li>Mare Arith, b. 1865.</li> <li>Mare Arith, b. 1866.</li> <li>Francis Argyis, b. 1896.</li> </ol>	<ul> <li>Elimbeth E. b. stag.</li> <li>Ben-Erra Stiller, b. staff.</li> <li>George Evenir Mortgrenery, h. 1898, d. 1897.</li> <li>Lawr Elimbeth J. 1890.</li> <li>Tattane DeForcia b. 1891.</li> <li>Charler Wadmonth h. 1892.</li> <li>Mary Arrist. 5. 1856.</li> <li>Francis Argyle. b. 1896.</li> </ul>	<ul> <li>Elimiteth E. D. 1849.</li> <li>Ben-Eirz Stiller, D. 1816.</li> <li>George Everity Montgenerry, h. 1898. d. 1817.</li> <li>Lanne Elimiteth, b. 1801.</li> <li>Tainer Windersch, b. 1861.</li> <li>Charter Windersch, b. 1861.</li> <li>Charter Windersch, b. 1863.</li> <li>Janneit Argylé, b. 1876.</li> </ul>	<ul> <li>Einsterh E. b. star.</li> <li>Berge Even Stiller, b. 1916.</li> <li>George Evenin Montgreenry, h. 1896. d. 1877.</li> <li>Laura Kinnbeth, b. 1920.</li> <li>Taffare DeForce, b. 1950.</li> <li>Charis DeForce, b. 1950.</li> <li>Mary Arris, b. 1950.</li> <li>Francis Argys, b. 1956.</li> </ul>
243320. Harriet Clorissima Ely, b. 1848, dan. of Erra Stiles Ely	243322. Harrist Christian Elr. b. 1848, dan. of Eera Stiles Ely	243320, Harrist Christian Ely, b. 1848, dan. of Eera Stiles Ely	243320 Harriet Christian Elr, b. 1848 dan. of Erra Stiles Ely
and Caroline Thompson Holmes; m. Beale Steenberger Blacktord,	and Caroline Thompson Holmes; m. Beale Steenberger Blackford,	and Caroline Thompson Holmes; m. Beale Steenberger Blacktood,	and Earoline Thompson Holmes; m. Beale Steenberger Blacklood,
Packersburg, W. Va. Their children:	Fackersburg, W. Va. Their children:	Packersburg, W. Va. Their children:	Parkensburg, W. Va. Their childrens
<ol> <li>Caroline Holmes Ely,</li></ol>	<ol> <li>Caroline Holmen Ely-</li></ol>	<ol> <li>Caroline Holmes Ely,</li></ol>	<ol> <li>Caroline Holmen Ely.</li></ol>
(Mrs. Caroline Rhablord, and Brand St., Richmond, Va., or Rev. Robert	(Mrs. Caroline Elashford, 2014 Broad St., Richmond, Va., or Roy. Robert	(Mrs. Caroline Rhaldord, 2014 Read St., Richmond, Va., or Roy. Robert	(Mrs. Caroline Elasifierd, ant4 Broad St., Richmond, Va., or Rev. Robert
Dizon, Rocker Trinky Church, Parkemburg, Va., may be able to give the date of	Dizon, Rector Trinky Church, Parkemburg, Va., may be able to give the date of	Dizon, Bector Trinky Church, Parkenburg, Va., may be able to give the date of	Dizon, Rector Trinky Church, Parkenbarg, Va., may be able to give the date of
matriage).	marriage).	marriage).	marriage).
n43322. Zebulon DeFunet Ely (831 No. 7th St., Philaddybia, Fa.),	243322. Zebulon DeForest Ely (831 No. 7th St., Philadelphia, Pa.),	243322 Zeinion DeForest Eig (831 No. 7th St., Philadelphia, Pa.),	24,322 Zehnion DeFurest Ein (831 No. 7th St., Philadelphia, Pa.)
h. 1832, son of Erra Stiles Ely and Caroline Thompson Holmes; m. 1874,	h. 1892, son of Earn Stiles Ely and Caroline Thompson Holmes; m. 1874,	h. 1832, non of Earn Stiles Ely and Caroline Thompson Holmes; m. 1852,	h. 1832 son of Erm Steles Eig and Caroline Thompson Holmen, n. 1872
Clara Vanola Major, who was h. 1895, d. 1875, dau. of William Major	Clara Vanola Major, who was b. 1895, d. 1875, dau, of William Major	Clara Vanois Major, who was b. 1855, d. 1875, das, of William Major	Clara Varob. Major, who was h. 1866 d. 1873 Gas. of William Major
and Deborah A. Roarty; m. and, 1898, Mamie Anna Sonder, who was h.	and Deborah A. Beatty; m. 2nd, 1898, Mamie Anna Sonder, who was b.	and Deborah A. Rearty; m. and, 1855 Mamie Anna Sonder, who was b.	and Deboah A. Boarty m. and 1878 Manis Amas Sonder, who was he
18855, dau. of Joseph William Sonder and Anna Maria Walker. Their	18855, dam, of Joseph William Sonder and Anna Maria Walker. Their	1855, day, of Joseph William Souder and Anna Maria Walter. Their	1895, dan. of Keeph William Sonder and Arma Maria Walter. Their
differen:	children:	children:	children:
<ol> <li>William Maior, b. 1895. d. 1895.</li> <li>Zebulen DaForent, b. 1895.</li> <li>Edmund Habras, b. 1886.</li> <li>Edm. Habras, b. 1881.</li> </ol>	<ol> <li>William Major, h. 1895. d. 1895.</li> <li>Zetrafan Deferrent b. styp.</li> <li>Edmund Mohumi, h. 1895.</li> <li>Edmund Mohumi, h. 1895.</li> </ol>	<ol> <li>William Maine h. 1895. d. 3895.</li> <li>Zetwiew Deformati b. styp.</li> <li>Edwardd Mahmud h. 3850.</li> <li>Edward Mahmud, h. 3831</li> </ol>	<ol> <li>William Maine h. 1922.14 (205).</li> <li>Zetzelen Deformet bister.</li> <li>Edmund Halman h. 1950.</li> <li>Edmund Halman h. 1950.</li> </ol>

Acknowledgement: George Nagy, RPI



### Pragmatic Constraints

(semantic analysis of syntactically extracted information)

Example: A mother cannot give birth to a child after she dies:

243327. Rev. Ben Ezra Stiles Ely, Ottumwa, Ia., b. 1828, son of Rev. Ezra Stiles Ely and Mary Ann Carswell; m. 1848, Elizabeth Eudora McElroy, West Ely, Mo., who was b. 1829, d. 1871, dau. of Abraham McElroy and Mary Ford Radford; m. 2nd, 1873, Abbie Amelia Moore, Harrison, Ill., who was b. 1852, dau. of Porter Moore and Harriet Leonard. Their children:

Elizabeth B., b. 1849.
 Ben-Ezra Stiles, b. 1856.
 George Everly Montgomery, b. 1858, d. 1877.
 Laura Elizabeth, b. 1859.
 LaRose DeForest, b. 1861.
 Charles Wadsworth, b. 1863.
 Mary Anita, b. 1865.
 Francis Argyle, b. 1876.

243322. Zebulon DeForest Ely (831 No. 7th St., Philadelphia, Pa.), b. 1852, son of Ezra Stiles Ely and Caroline Thompson Holmes; m. 1874, Clara Vanola Major, who was b. 1856, d. 1876, dau. of William Major and Deborah A. Beatty; m. 2nd, 1878, Mamie Anna Souder, who was b. 1855, dau. of Joseph William Souder and Anna Maria Walker. Their children:



Example (can't die before being born): John Adams (1756 – i797)

### **Cultural Normatives**

(augment extracted information by inference)

```
ALBRIGHT, ESTHER R. d 1 Jan 1946 113 Sherman St Dayton OH BD Abbottsville Cem
                                 Dke Co OH 3 Jan 1946 b 22 July 1863 Butler Co OH age 82-6-9 f THOMAS
                                 BENTON MORRIS Butler Co OH m ANGELINE HARROD Hamilton Co OH housekeeper
                                 widow sp WINFIELD S. ALBRIGHT 1 daughter Mrs HENRY RANCH 4 sons HENDER-
                                 SON of Greenville WILBUR of Greenville GEO of Dayton ELBERT of Dayton
                                 12 grandchildren 2 brothers ARTHUR MORRIS Venice OH & SAM MORRIS Harrison
                                 OH 2 sisters Miss ELLA MORRIS Greenville OH & Mrs ADA HARP Tulsa OK
<AnnotatedThing refid="osmx384" type="text" inResource="osmx0007">
    <Offset>2223</Offset>
    <DisplayValue>Esther R. Morris</DisplayValue>
    <CanonicalValue>Title(s): FirstName(s): Esther R. BirthSurname: Morris MarriedSurname(s): Albright Suffix(es):</CanonicalValue>
    <OriginalText>ALBRIGHT, ESTHER R.</OriginalText>
</AnnotatedThing>
<AnnotatedThing refid="osmx388" type="text" inResource="osmx0007">
    <Offset>2324</Offset>
    <DisplayValue>22 July 1863</DisplayValue>
    <CanonicalValue>1863203-1863203</CanonicalValue>
    <OriginalText>22 July 1863</OriginalText>
</AnnotatedThing>
<AnnotatedThing refid="osmx392" type="text" inResource="osmx0007">
    <Offset>2337</Offset>
    <DisplayValue>Butler, Ohio, United States</DisplayValue>
    <CanonicalValue>39.44,-84.58</CanonicalValue>
    <OriginalText>Butler Co OH</OriginalText>
</AnnotatedThing>
```



### **Cultural Normatives**

(augment extracted information by inference)

ALBRIGHT, ESTHER R. d 1 Jan 1946 113 Sherman St Dayton OH BD Abbottsville Cem Dke Co OH 3 Jan 1946 b 22 July 1863 Butler Co OH age 82-6-9 f THOMAS BENTON MORRIS Butler Co OH m ANGELINE HARROD Hamilton Co OH housekeeper widow sp WINFIELD S. ALBRIGHT 1 daughter Mrs HENRY RANCH 4 sons HENDER-SON of Greenville WILBUR of Greenville GEO of Dayton ELBERT of Dayton 12 grandchildren 2 brothers ARTHUR MORRIS Venice OH & SAM MORRIS Harrison OH 2 sisters Miss ELLA MORRIS Greenville OH & Mrs ADA HARP Tulsa OK

<AnnotatedThing refid="osmx384" type="text" inResource="osmx0007">

<Offset>2223</Offset>

<DisplayValue>Esther R. Morris</DisplayValue>

<CanonicalValue>Title(s): FirstName(s): Esther R. BirthSurname: Morris MarriedSurname(s): Albright Suffix(es):</CanonicalValue> <OriginalText>ALBRIGHT, ESTHER R.</OriginalText>

</AnnotatedThing>

<AnnotatedThing refid="osmx388" type="text" inResource="osmx0007">

<Offset>2324</Offset>

<DisplayValue>22 July 1863</DisplayValue>

<CanonicalValue>1863203-1863203</CanonicalValue>

<OriginalText>22 July 1863</OriginalText>

</AnnotatedThing>

<AnnotatedThing refid="osmx392" type="text" inResource="osmx0007">
 <0ffset>2337</0ffset>

<DisplayValue>Butler, Ohio, United States</DisplayValue>

<CanonicalValue>39.44,-84.58</CanonicalValue>

<OriginalText>Butler Co OH</OriginalText>

</AnnotatedThing>



Christening: Number of Days after Birth

- Shallow Match Blocking
  - •
- Deep Match Equivalence-Class Creation
  - •
  - •
  - - - •
      - •
- Record Merge
- Family Tree Creation

- Shallow Match Blocking (ordered by info content size)
  - Inferred name parts e.g. TEEGARDEN, WM. WALTER ≈ W. W. TEEGARDEN
  - Extracted/inferred birth dates ·
- Deep Match Equivalence-Class Creation
  - •
    •
    - •
    - •
- Record Merge
- Family Tree Creation



- Shallow Match Blocking (ordered by info content size)
  - Inferred name parts e.g. TEEGARDEN, WM. WALTER ≈ W. W. TEEGARDEN
  - Extracted/inferred birth dates
- Deep Match Equivalence-Class Creation
  - Within and across shallow-match blocks
  - Pairwise merge consistency
  - Match odds confidence
    - •
    - •
    - •
- Record Merge
- Family Tree Creation



- Shallow Match Blocking (ordered by info content size)
  - Inferred name parts e.g. TEEGARDEN, WM. WALTER ≈ W. W. TEEGARDEN
  - Extracted/inferred birth dates
- Deep Match Equivalence-Class Creation
  - Within and across shallow-match blocks
  - Pairwise merge consistency
  - Match odds confidence
    - P(M|E<sub>1</sub>, ..., E<sub>n</sub>) = P(E<sub>1</sub>, ..., E<sub>n</sub>|M) P(M)/P(E<sub>1</sub>, ..., E<sub>n</sub>)
    - $\log P(E_1, ..., E_n | M) P(M) / P(E_1, ..., E_n) = P(M) + \sum_{i=1}^{n} P(E_i | M) / P(E_i) \text{ yielding } \sum_{i=1}^{n} 1 / P(E_i)$
    - Odds weight,  $1/P(E_i)$ , tempered by probability of a match, e.g.  $P("Waddington" \approx "Clitheroe")$
- Record Merge
- Family Tree Creation





ENGLAND, who came to BOSTON, MASL, about 16555, 69 settled at LYME, CONN, in 1660 Collected by the late Moste's Branc, of New York 57b the Riv. WILLIAM Exp. D.D., of Philodephis. Edited & Enlarged by Gias. I. VARGENCES

With a very interneting aleach of the origin if history of the Eaves of Urmanny if a Wesserson, Kindle farmined by Sources A, Eave, Sec.

The Calames Press

139 Fifth Avenue New York 1902

### **Experimental Results**

Table 1. Generation of Shallow Match Equivalence Classes (Blocking).

	# records	execution	surn.	inferd	birth	dates	# eq	. cls.	size
Book (pages)	found	time (ms)	birth	mar.	extr.	est.	1	2–9	10+
Ely (432–700)	8,976	16,228	2,731	3,038	4,427	3,895	5,415	1,208	8
Miller (7–395)	11,439	30,037	1,532	2,573	2,818	8,303	7,749	1,554	1
Kilb. (4–127)	8,814	11,087	4,043	2,064	1,103	6,224	5,049	1,174	- 15

Table 2. Generation of Deep Match Equivalence Classes.

Γ		execution	# 0	of siz	ze	# recs.	# recs. pt	ished a	across blocks
1	Book (pages)	time (ms)	1	2-9	$10^{+}$	rejctd	unmrgabl	rejctd	not confidnt
1	Ely (432–700)	145,095*	6,479	865	2	146	3,312	1	3,615
1	Miller (7-395)	120,138	10,164	572	41	0	2,092	5	6,493
1	Kilb. (4–127)	97,520	8,334	12	0	438	7,819	0	10,955

\* Without blocking, an estimated 5 days would have been required to process Ely (432-700).

### Table 3. Deep Match Equivalence Class Accuracy.

	false	false	# checked	Accuracy		7
	positives	negatives	(Accuracy)	Recall	Precision	F-score
Ely (432–700)	2	16	80	83%	98%	90%
Miller (7-395)	9	4	80	95%	89%	92%
Kilb. (4–127)	12	0	8,346	100%	99.86%	99.93%

SCOTTISH RECORD SOCIETY INDEX The Register of Marriages and Baptisms IN THE PARISH OF KILBARCH 1649-1772. EDITED BY FRANCIS J. GRANT, W.S., ROTHERAY HERALD. N. 41 ARIZONA SEANG BENEALDSICAL LIBRARY 464 EAST F.RST AVE. MESA, ARIZONA 85204 EDINBURGH : PRINTED FOR THE SOCIETY MY J. SKINNER & COMPANY, LTD. 1914.

DARKE COUNTY OHIO GENEALOGICAL SOCIETY

MILLER FUNERAL HOME RECORDS

1917 - 1950

GREENVILLE, OHIO

Remet, CA \$254





With enriched ontologies, it is possible to extract information from semi-structured documents and create intergenerational family trees with high accuracy (90%–99% F-score).





# Extracted Records:	8,622	11,440	8,724	
# Merged Records:	6,594	10,573	8,660	
Largest Generated Tree:	2,965	27	16	