Hyde Families

Newsletter of the Hyde Genealogy Association

Volume 2, Number 2 March 2015

The Charles Alfred and Blanche Missouri Rhodes Hyde Family

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Hyde Families Newsletter

In this issue, Edwin Hyde and Arthur Thomas Hyde continue their discussion on how DNA testing has helped sort out the mid 1700s Hide/Hyde families in North Carolina. Also, Dr. Daniel C. Hyde provides background on autosomal DNA testing and the strengths and challenges on using it for genealogical research. We hope you enjoy the issue.

The purpose of the *Hyde Families* newsletter is to publish high quality articles on Hyde genealogy that are of interest to both Hyde researchers and non-researching Hyde cousins. The newsletter is published online on our website in PDF format for people to print and to distribute to family members. The plan is to publish two issues a year in March and September.

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Cover Photo: In the photo, standing from left to right, youngest to oldest, John, Blanche, Wilson, Kenneth, Julia, William, and Charles. Seated are their parents Charles Alfred Hyde and Blanche Missouri Rhodes Hyde. Photo was taken about 1930.

Blanche just celebrated the 100th anniversary of her Birthday. See page 3 for more on her. William Hyde in the photo is Co-editor Ann Sterling's grandfather.

Blanche Hyde Radhe Heston Celebrates her 100th Birthday
By Ann Sterling

Blanche Hyde was born in 1915 in Clear Spring, Maryland at the Hyde family farm at Broadfording. She was the next-to-youngest of eight children of Charles and Blanche Hyde. See her family on the front cover. Her stories, delivered with great wit and vivacity, tell of a one-room schoolhouse and learning to drive in a Ford Model A. When she was a young secretary in Washington DC, she met and married Eric Radhe, a cartographer who worked for OSS during WWII. He was killed in a plane crash in the Peruvian Andes in 1959. For many years, she worked as a secretary for the Church of the Pilgrims in Washington DC. It was there in the 1970's that she met and eventually married Walter Heston, a geneticist at National Institutes of Health. He presented papers all over the world and they did a great deal of traveling, finally settling in Fort Myers, Florida. She has been a volunteer over most of her 100 years, tirelessly working with children, the disabled, the homeless, abuse survivors and the elderly. She's slowed down a tiny bit, but is still active in a multiplicity of pursuits and is still as optimistic and engaging as ever.

Recently Blanche had a grand party on her birthday March 15th to celebrate being 100 years old. More than 120 family and friends were in attendance to help her celebrate and eat cake. She has an incredible personality – she could, and still can, light up a room just by being in it. You can see glimmers of this in the video taken at her party. A TV reporter interviewed her for local TV:

http://www.wdbj7.com/video/blanche-heston-celebrates-quite-the-milestone-at-age-100/31815924

Apparently the secret to longevity is dancing!

The Timothy Hyde House of Newton, Massachusetts

The current owners of the Timothy Hyde House in Newton, Massachusetts are working to have the house listed in the National Register of Historic Places. The house was originally owned by Timothy Hyde (1689-1756). Timothy is the son of John Hyde (1656-c. 1738), son of Jonathan Hyde, Sr. (1626-1711). Jonathan along with his brother Samuel Hyde were among the earliest settlers in that part of Cambridge, MA which in 1691 became the town of Newton[1] and many descendants live in USA.

The house was built c. 1729 but appears to have used beams from an older house of that location, quite possibly from Jonathan's time. The re-used beams are of interest because they have engraved saltires (a diagonal cross or 'X'). The owners' research indicates that these may be apotropaic – "supposedly having the power to avert evil or bad luck." For more details, see their website http://thomashyde.weebly.com/

If you know of any history about the house or have any insight in the saltire markings, the owners would love to hear from you. They have contact information on their website.

[1] "Four Generations of Descendants of Jonathan Hyde of Newton, Mass.," by Hon. William Henry Harrison Stowell, in New England Historic Genealogical Society's *Register*, July, 1917, Vol. 71, p. 257-271; Oct, 1917, Vol. 71, p. 342-353.

DNA Success Story – Tracing Your Ancestors Using DNA

By Edwin Hyde

The Hyde DNA Project has enabled a group of Hyde Genealogy Association members to locate each other and join forces in the search for a common ancestor. Our DNA testing group has been identified as the R-M269 (R-L47) Y-DNA Haplogroup. R-L47 is a subclade of S21/U106. This subclade was spread to England and Scotland by the Frisians and Anglo-Saxons from Germany/Netherlands. Only one marker (DYS385) separates all of the test results in this group making it possible that our common ancestor is a male who landed in the Americas after 1600. Using DNA testing and records, we have now linked three families together that share a common ancestor.

After many years of unsuccessful record searching for my great-grandfather John H. Hyde, I arranged to have my DNA tested and joined Family Tree DNA's Hyde DNA project. This was early in the evolution of Genealogy DNA testing and five years transpired before I had a Hyde surname match. Evelyn F. Hyde and I made contact after our match was recognized. She too had joined the DNA project in hopes of finding a missing ancestor connection proving her family tree. We compared a lot of family history, even stories of Indian roots that indicated we were connected, but no positive paper trail was established to back it up.

Evelyn's earliest known ancestor is Samuel Hyde born 1801/02 in North Carolina. She is searching for a link to Samuel's father believed to be Benjamin Hyde who married Elizabeth Leatherwood. My earliest known ancestor is Joseph Hiram Hyde born 1873 in Texas. I am searching for his father believed to be John H. Hyde. No known birthdate or location.

Much to my surprise, in the summer of 2010, I picked up a Kerr County, Texas newspaper and read a sesquicentennial article about John K. Hyde being connected to a Kerrville Hyde family. The name John K. appears in my father's family journal. During the latter years of his life, my father prepared a journal containing all of the information that he and his oldest sister knew about their Hyde and James lines. After his passing, I found it among his belongings. John K "Nicholas" Hyde is noted as a brother of my great-grandfather. "Married to an Indian Princess and the first man hanged in Harris County for horse thievery." Probably a family twist on the story! The newspaper article was about Benjamin "Bennie" Hyde III's grandson who was studying law and found a synopsis of a Texas Supreme Court Appeal trial linking Bennie's great-grandfather Benjamin J. to John K. John K. Hyde was found guilty of murder in 1855. The original trial records are missing, but from the court records that we have found, the brothers Benjamin J. and John K. were living together with their spouses and children. An ongoing dispute in 1853 became a confrontation and John K. "walked from the house and shot Charles Butler, who died hours later." John K. and Benjamin J. fled and after 2 years on the run, John K. was captured in Arkansas and returned to Harris County, Texas. During the trial he testified that Benjamin J. was "long dead." His trial was in late 1855. His appeal began in the spring of 1856. He was hanged in July 1856 after his unsuccessful appeal to the Texas Supreme Court.

I met with Bennie that same day, but we could not make a paper connection between any of John K.'s brothers. Using DNA testing we confirmed that John H. (my great-grandfather) and Benjamin J. (Bennie's great-grandfather) share a common ancestor. The Court documents discussed above provide the proof of the link between Benjamin J. and John K., thus confirming a linkage between the three brothers. Since this first meeting, we have traced the family to Ouachita Parish, LA using census records for 1840, and 1850. Bennie's grandfather Benjamin J. served in the Republic of Texas Army and

received a land grant of 640 acres in 1838. We believe their father's name is William, possibly from Tennessee or South Carolina.

We need your help. We are requesting that others join the Hyde DNA project. If interested, send an email message to Dan C. Hyde. hyde@bucknell.edu

Our DNA matches can be found in the R-M269 Group B results online at
http://www.familytreedna.com/public/Hyde/default.aspx?section=yresults

North Carolina Hyde DNA Project – DNA Sought For Earliest Known Families

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and
Edwin Hyde - Katy, TX; naned68@comcast.net

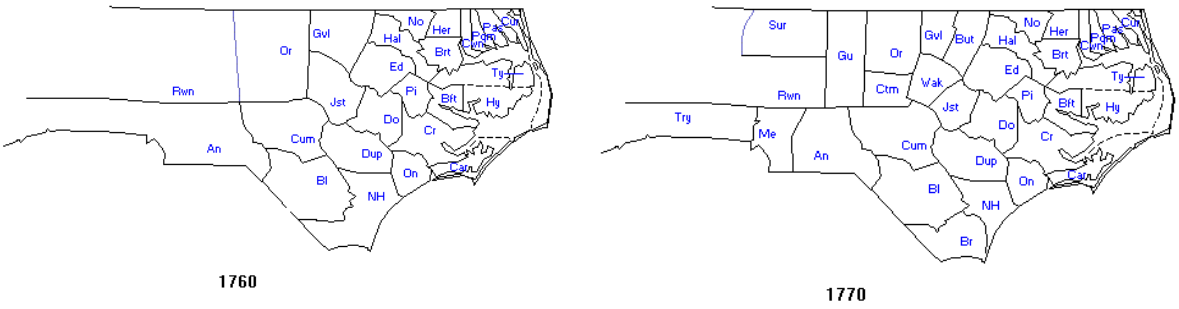
In the September, 2014 (Vol. 2, No. 1) issue of *Hyde Families* newsletter, Arthur "Tom" Hyde introduced the Surry County Hydes. Tom said "Not until DNA studies connecting seven Hyde families and years of research visiting over 20 county libraries have I been able to make any sense of the North Carolina Hydes." He went on to propose that there were four prominent Hyde families in North Carolina during the mid to late 1700s. He named these four Hyde families using the county names they resided in between the dates of 1750-1780. The county names for these four families are Surry, Anson, Grandville, and North Hampton. As he further explained, due to poor land management practices and large families, all the whole families migrated to other states to survive.

In this article, we have used the four county names identified by Tom to present the earliest known Hyde residents in these counties and, where available, we have included DNA results. These names represent the families we are proposing as the four Hyde families that help to unravel the confusion over Hydes in North Carolina in the late 1700s (aka NC Project).

Because of the migration patterns of these families prior to 1850, the different branches of the families tended to lose track of each other. Few records exist because the families usually stayed in one place only a couple of decades, and then migrated again, usually farther west. These Hydes were generally poor farmers who usually didn't own land but rented. They couldn't afford the cost of wills or other legal documents, so there are few wills, deeds, and other contracts to help trace their movement and family relationships. A few of these early families were Baptist, and Baptist church records do not usually record births, marriages, or names of parents and siblings. Therefore, these gaps in the Hydes' movements and their family relationships are difficult to fill by a family history researcher. Tom concluded that DNA would be necessary to prove the four family lines he proposed and provide the relationships between these families and their descendants. One goal of the North Carolina Hyde DNA Project is to show that there were in fact four separate Hyde families in North Carolina. We hope to show this by using DNA test results together with traditional records and proven lineages.

One key to unraveling these Hyde families is geography. The historical North Carolina County Formation maps for years 1760 and 1770 included below show the separation of the land and other records found in North Carolina for the western counties. There is a distinct division between Rowan County (future Surry County) and Anson County (future Mecklenburg County and Tyron Counties)

separating two of the Hyde families. With the aid of DNA, we will show that these were two separate families.



1760 1770

DNA for Surry County Hides

Surry county was formed in 1771 from Rowan County. In 1777 parts of Surry County and Washington District (now Washington County, Tennessee) were combined to form Wilkes County. In 1850 the half of the county's territory south of the Yadkin River became Yadkin County.

Earliest known Hides in Surry County

As Tom reported, the Surry County Hides spelled their last name "Hide" and lived in Surry County until 1810, when the last Hide settlers moved out of NC. These Hides were found in the county records beginning with early Orange County and switching to Rowan County when Rowan County was formed, and switching to Surry County when Surry County was formed in 1771. The list of names and associated records below are believed to be the earliest known ancestors of this family in North Carolina. It has not been determined if these men are brothers or whether one of them is the father.

- Stephen Hide b. 1750 Anson Co. NC – 1768 Rowan Co. NC; 1778-1782 Rowan Co. Tax. Stephen Hide and Susannah Colson Fanning – 1771 Surry Co. NC Tax; m. Susannah 1775; 1783 Surveyor, Bun Shoal Ck; 1781 Enlisted SC Rev War; 1783 Surveyed Logan Warrant #1378; 1771 Surry Co. NC Tax; 1776 m. Susannah Fanning in Surry Co NC; 1778 Rowan Co. NC Tax - Yadkin River area; 1785 Surry Co. Fall Creek Deed witness with James Hide; 1785 Fall Creek Surry Co, NC; Surry Co. NC 1783,1785,1786,1789,1790; 1790 Surry Co. NC 200 acres Fall Creek with James Hide; 1790 Surry Co. NC Census 5 males > 2, males < 16, 5 females, Total=12 (Stephen and 6 boys).
- George Hide – 1759 Rowan Co. NC also 1760, 1762, 1766, 1768, 1778; 1782 Surry Co, NC.
- Charles Hide – 1755 Orange District NC; Rowan Co. NC Census 1759, 1760, 1762, 1768; 1778-1782 Tax; 1778 Rowan Co. NC Tax - Yadkin River area; 1790 SC Census Greenville SC; 1 male > 16, 4 males < 16, 3 females, Total = 8; 1791 100 bought acres Greenville CO, SC; 1793 sold 100 acres Greenville, SC; 1796 Grant #56 for 100 acres Surry Co. NC; 1799 Grant #1940 for 100 acres Surry Co. NC ; 1815 Enlist Army Surry Co. NC; 1840 GA Census, Raburn GA.
- Jesse Hide – We don't have any clear records for Jesse, but believe he is part of this family.

DNA Test Results: This family was presented in the last newsletter through the "DNA Success Story – Seven Hyde Lines joined" article. This line is in the R1a1a (R-M512) Y-DNA haplogroup; and all the individuals have the Hyde surname and a very rare null value for DYS448 that increases significantly the probability that they are all from same line.

Source ID Number	Registered DNA Sample Name	Country	Haplogroup	Haplogroup	393	390	19	391	385a	385b	426	388	439	389	392	388	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	GATA	YCAa	YCAb	456	607	576	570	CDYa	CDYb	442	438
N75176	UK		R1a1a	R-M512	13	25	16	10	11	14	12	10	10	13	11	30																								
142286	William Hyde, 1780 SC 1840 MO, IL		R1a1a	R-M512	13	25	16	10	11	14	12	10	10	13	11	30	15	9	10	11	11	24	14		32	12	12	15	15	10	12	19	23	17	17	18	18	34	36	18	11
142282	William Hyde. 1760 SC - 1825 KY, MO, Al	United States	R1a1a	R-M512	13	25	16	10	11	14	12	10	10	13	11	30	15	9	10	11	11	24	14		32	12	12	15	15	10	12	19	23	17	17	18	18	34	36	18	11
152780	Charles Hyde, England		R1a1a	R-M512	13	25	16	10	11	14	12	10	10	13	11	30	15	9	10	11	11	24	14		32	12	12	15	15	10	12	19	23	17	17	18	19	34	36	18	11
165403	Jesse Gould Hyde, b 1799	Unknown Origin	R1a1a	R-M512	13	25	16	10	11	14	12	10	10	13	11	30	15	9	10	11	11	24	14		33	12	12	15	15	10	12	19	23	17	17	18	18	34	36	18	11
Ancestry	Jay Verne Hyde		R1a1a		13	25	16	10	11	14	12	10	10	13	11	30	15	9	10	11	11	24	14		32	12	12	15	15	10	9	19	12	17						18	11
Ancestry	Steven Otis Hyde		R1a1a		13	25	16	10	11	14	12	10	10	13	11	30	15	9	10	11	11	24	14		32	12	12	15	15	10		19	23	17						18	11
Ancestry	Steven Otto Hyde		R1a1a		13	25	16	10	11	14	12	10	10	13	11	30	15	9	10	11	11	24	14		33	12	12	15	15	10			12	17	17	18	11	34	36	18	11
Ancestry	Arthur Hyde		R1a1a		13	25		10	11	14	12	10	10	13	11	30	15	9	10	11	11	24	14		32	12	12	15	15	10			12	17	17	18		34	36	18	11

Null

DNA for Anson County Hydes

Anson County was originally a vast territory with indefinite northern and western boundaries. Reductions in its extent began in 1753, when the northern part of it became Rowan County. In 1762 the western part of Anson County became Mecklenburg County. In 1779 the northern part of what remained of Anson County became Montgomery County, and the part east of the Pee Dee River became Richmond County. Finally, in 1842 the western part of Anson County was combined with the southeastern part of Mecklenburg County to become Union County.

Earliest known Hydes residing in Anson County:

This family is well known for its linkage to the Cherokee nation through the Leatherwood family. It is believed that the John Hyde below b.1774 is the son of John Hyde b.1740, Anson (current Mecklenberg) County.

- John Hyde (b. 1774) – 1790 Mecklenburg Co. Census; 1800 First Creek Ocunaluftee River, Buncombe Co. NC; 1800 Haywood Co. NC Census; 1800 Morgan, Buncombe Co. NC Census, 1 Male 16-25, 2-females < 10; 1 female 16-25, Total = 4; 1802 Burke Co. NC m. Elizabeth Shook; 1810 NC Census Haywood, NC 1 male <10, 1 male 26-44, 5 females < 10, 1 female 10-15, 1 female 26-44, Total = 9.
- Benjamin Hyde, Sr. (b. 1772 - d. 1850) –- Born Mecklenburg Co. NC married Elizabeth Leatherwood; 1782 Rutherford Co. Census - 1 male, 1 female age 16-26; Rutherford Co. 200 acres Tax 1782; 1800 Rutherford Co. Census (Morgan).
- Samuel Hyde (b. abt 1765) – 1830 Macon Co. NC Census – 7 Family Members - 1 older male 60-70 , 1 Male Samuel 20-30, 1 female wife 20-30, 1 male under 5, 1 female 5-10, 2 females under 5.
- Sara Hyde – 1790 NC Census Mecklenburg Co. NC 6 white, (7 black).
- Elijah Hide – 1810 Haywood Co. NC Census

Benjamin Hyde, Sr's Will names his children and a number of NC documents support the genealogy of John and Benjamin's lines into the 1900s. There is less known for the families of Samuel and Elijah. The DNA test results below and several confirming tests will allow families to identify with this family and allow the broken linkages to Samuel and Elijah to be researched and discovered.

DNA Test Results: The DNA result below was provided by a proven descendant of John Aaron Hyde son of Benjamin Hyde Sr. We have one test result and need additional test results to confirm these results are related to this family. Known descendants of Samuel or Elijah Hyde are also needed to provide research results to further document this family.

Source ID Number	Registered DNA Sample Name	Haplogroup	Haplogroup	393	390	19	391	385a	385b	426	388	439	3891	392	3892	458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d	460	GATA	YCAa	YCAb	456	607	576	570	CDYa	CDYb	442	438
Ancestry	Christopher Brent Hyde (John Aaron Hyde/David Elder Hyde)	R1b1a2		13	23	14	11	11	14	12	12	11	13	13	28	17	9	10	11	11	26	15	19	29	14	15	17	17	11	11	19	24	15	15	19	17	37	38	12	12

DNA for Grandville County Hydes

Grandville county was formed in 1746 from Edgecombe County. When it was first established in 1746 Granville was a vast territory including all of present Warren, Franklin, Vance, most of Orange, Person, Caswell, Wake, Chatham, Durham, Alamance, and part of Guilford Counties. In 1752, parts of Granville County, Bladen County, and Johnston County were combined to form Orange County. In 1764, the eastern part of Granville County became Bute County. In 1770 with the formation of Wake and Chatham counties, Grandville downsized close to its current shape. Finally, in 1881, parts of Granville County, Franklin County, and Warren County were combined to form Vance County.

Earliest known Hydes residing in Grandville County were the following:

We believe this family moved into Tennessee and into New York (not to be confused by the Hydes residing in New York since the mid 1600s.). A composite family tree on Ancestry.com for Robert Hyde 2, suggests that Robert and Elizabeth had 9 children, including 3 boys named Jesse, John Henry, and Robert 3. Records are spotty and not conclusive for these children.

- Robert Hyde 1 – (b. 1716) 1790 NC Census Grandville Co. NC; 1778 Oath; 1800 NC Census Grandville Co. NC.
- Robert Hyde 2 – (b. 1762) 1778 NC Oath of allegiance – Grandville Co. NC; 1780 NC Census Grandville Co. NC; m. Elizabeth Goodlow Harper 1781, Mecklenburg Co.VA; (dau. Harriett); 1781 – Rev War Company Officer – Louisburg, Franklin County, NC – 1779 Witness Walker Rev War Grant #266 Green Co. TN; Grant #2064 for 640 acres W. side Clinch@ Lick Ck; 1787 Greene Co. TN; 1779 – 640 acres Grant #2064; 1792 Hawkins Co. TN Tax; 1801 Greene Co. TN; 1806 Greene Co. TN.
- Robert Hyde 3 – 1782 VA Mecklenburg VA Census; 1790 VA Census; 1791 m. Ann East Henrico, VA; 1820 VA Census Henrico Co, VA; 1830 VA Census Henrico Co, VA.
- Mary Hyde – 1786 Halifax NC. Census.

DNA Test Results for this family:

We have not found any DNA test results for this family. We are looking for volunteers willing to provide DNA for testing to confirm this family.

DNA for North Hampton County Hydes

The county was formed in 1741 from Bertie County. In 1759 parts of Northampton County, Bertie County, and Chowan County were combined to form Hertford County.

Earliest Known Hydes in North Hampton County were:

This is Richard Hyde "The Pirate's" family. Richard (b. 1683) was said to be a pirate with Blackbeard's Gang until the death of Edward Teach (Blackbeard). In 1718, Richard Hyde was a Licensed Indian Trader and Ferry Owner. His son, Richard (b. 1717) was also owner of the Ferry after his Father's death

in 1719; Hyde's Island on the Roanoke River in Virginia was named for them. By 1744, Richard Hyde had moved from Virginia to North Carolina where he and Mary Evans married. 8 known children were born to this couple. Richard's son Henry moved to middle Tennessee in early 1800's – referred to as the richest settler on the Cumberland River. Richard's son Hartwell was in Williamson County by 1802 where he purchased 1000 acres from William Gilmore in Triune. 11 known children were born to Hartwell & Mary Reavis

- Richard Hyde (son of *Richard Hyde* and *Mary Evans* was born 1717 in Southwark Parish, Surry County, VA, and died May, 1762 in Northampton, NC; married Mildred Hartwell; 1744 moved from Surry Co. VA to North Hampton Co. NC; on 1762 Tax List.

Children of Richard Hyde and Mildred Hartwell are:

- Henry Hyde b. 1750, Northampton Co. NC, d. 12 Mar 1812, Nashville, TN; m. Rebecca Warren (b. VA – 1763 , d. 31 Aug. 1829) Nashville, TN.
- Letitia Hyde, d. 1792.
- Hartwell (Blount) Hyde b. 12 Jan 1759, Northampton, NC, USA, d. 17 Jun 1833, Williamson, TN; m. Mary 'Milli' Reavis, 1758-1828 (1785 NC Census in North Hampton Co, NC), 1790 NC Census, Edgecombe Co. NC; 1800 NC Census Halifax Co. NC; 1820 TN Census Rutherford Co. TN.
- Sophia Hyde.
- Anne Hyde.
- Cheyney Hyde.
- Lucas Hyde.

DNA Results for this family:

There are no known DNA tests for this family. We are looking for volunteers willing to provide DNA for testing to confirm this family.

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DNA testing is an important aspect of our NC Hyde Project. The proof of Hyde DNA links will enable Hyde genealogy researchers to link their Hydes to the other North Carolina Hydes.

We are missing DNA results and urgently need volunteers to provide DNA samples for these families. We are looking for volunteers having paper proven lineage to provide DNA and assist in the accumulation and presentation of their family records. We are looking for volunteers with paper trails who may be interested in providing DNA or assisting with record compilation for their particular family line. The more DNA results we collect the better the migration path of our Hyde ancestors will be understood and the more broken linkages can be mended. If interested, please send an email message to one of the authors.

Using Autosomal DNA Testing for Family History

By Dr. Daniel C. Hyde

What is Autosomal DNA testing? How is it different from other popular types of DNA testing? How can Autosomal DNA testing help you tear down brick walls in your search for ancestors? What are its strengths and limitations? These are a few questions that this article hopes to answer.

In each human cell, the nucleus contains 23 pairs of chromosomes for a total of 46. See Figure 1 for a photo of the 23 pairs. These 23 pairs contain the nuclear DNA of a person. Two chromosomes are special – X and Y – the sex chromosomes. You receive one sex chromosome from your father and one from your mother. What you receive determines your sex – XX for females and XY for males.

The non-sex chromosomes or pairs 1-22 in Figure 1 are the *autosomal chromosomes*. Autosomal DNA testing uses carefully selected markers on these 22 pairs of chromosomes.

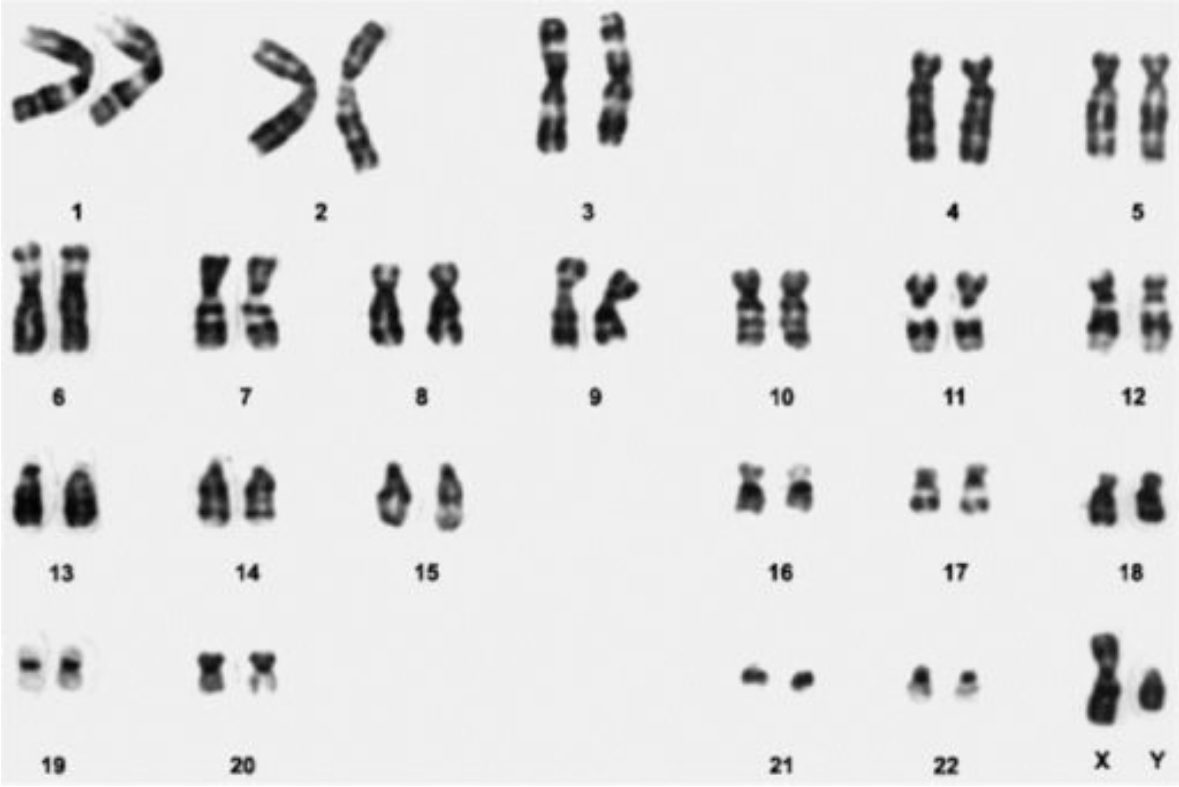

Figure 1: Photo of Human Chromosomes – 23 pairs for a total of 46 in a cell's nucleus.

Three Popular DNA Tests – Autosomal DNA (atDNA), Y-DNA, and Mitochondria DNA (mtDNA

There are three popular DNA tests that are of interest to genealogists. The Autosomal DNA (atDNA) test compares markers on the autosomal chromosomes (pairs 1-22). This article explores this test in detail.

The Y-DNA test compares markers on a man's Y chromosome. Since a father passes his Y chromosome on only to his sons, Y-DNA follows surname in most cultures. Since only males have a Y

chromosome, only males can take a Y-DNA test. A man's Y-DNA results on its own reveal little. Matches with others are the key. For example, Y-DNA testing may confirm paper trails of two lines of males with the same surname and indicate they have a recent common male ancestor.

The third DNA test uses markers in the DNA of a cell's mitochondria (mtDNA). As shown in Figure 2, mitochondria are rowboat shaped bodies in a cell's cytoplasm but outside of the cell's nucleus. These mitochondria provide energy for the cell. Mitochondria DNA (mtDNA) is genetic material that is passed from a mother to her children, but only her daughters pass it on. Therefore, mtDNA is useful for tracing direct maternal lines. Since a cell may contain hundreds of mitochondria and mtDNA is much more stable than nuclear DNA (the 23 pairs of chromosomes), mtDNA is valuable for identification of degraded remains, e.g., thousands of years old teeth.

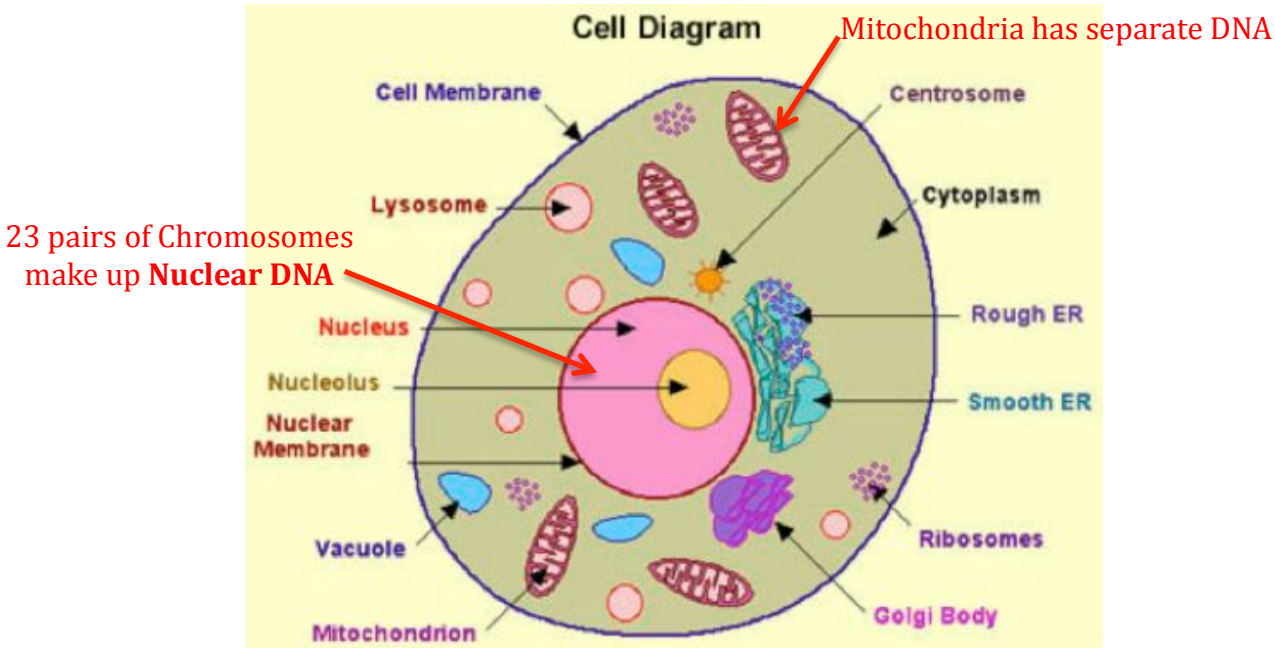

Figure 2: Cell diagram showing the Mitochondria in the Cytoplasm.

Autosomal DNA (atDNA) Test Companies

As mentioned above, the Autosomal DNA (atDNA) test compares markers on the autosomal chromosomes (pairs 1-22). The DNA testing company Family Tree DNA uses about 700,000 markers and calls their autosomal DNA test "Family Finder." Ancestry.com currently has only one DNA test "AncestryDNA" which is an autosomal one, and also uses about 700,000 markers but not the same ones as Family Tree DNA. The company 23andMe calls their autosomal DNA test "Relative Finder" and they state on their website it uses tens of thousands of markers. The current cost for atDNA testing at all three companies is $99 per test.

How Autosomal DNA (atDNA) is passed on to next generation

Whereas a man's Y chromosome is passed on to his sons essentially unchanged and a woman's mitochondria (mtDNA) is passed on essentially unchanged, we inherit a mix of atDNA from both parents (about 50% each) but it is shuffled and diluted with each new generation. An egg or a sperm

only has 23 chromosomes and at conception the 23 from both parents combine to form the 46 of a normal cell. atDNA is scrambled when each woman's egg and each man's sperm are formed. When an egg or sperm is formed, each atDNA chromosome (1-22) is made by using bits and pieces of the two chromosomes in the pair (recombination process). Note that the sex chromosome X and Y are handled differently.

As a result of this shuffling, you share about 50% atDNA with a sister or brother but a different 50% with each sibling! This is because each egg and sperm has its own shuffling for each of the 1-22 chromosomes.

Because of this shuffling and dilution of atDNA at each generation, genetic scientists steered clear of using atDNA for testing for a long time. Only recently has the technology with 700,000 markers allowed comparisons of individuals' atDNA for genealogy purposes.

How much atDNA is shared across generations?

You share about 50% atDNA with a parent. You share about 25% atDNA with a grandparent; about 12.5% with great-grandparents, etc. Back more than 5 generations the atDNA is too diluted to be useful.

The percentages of shared atDNA for cousins are halved when you come down the ancestral tree. For example, you share about 12.5% atDNA with a 1st cousin; about 3.125% with a 2nd cousin; and about 0.0488% with a 5th cousin. See Figure 3 for other percentages.

Figure 3: Average amount of autosomal DNA shared by you and your close relatives.

Figure 3 (courtesy Dimario, Wikimedia Commons) shows the average amount of autosomal DNA shared by you and your close relations up to the third cousin level.

Source: http://www.isogg.org/wiki/Autosomal_DNA_statistics

Note that these percentages are mathematical averages. The actual values can vary quite a bit. For example, I share 18% atDNA with my first cousin where the mathematical average predicts 12.5%.

How is atDNA test useful?

The atDNA test is useful for finding matches with relatives up to 5th cousins. When you test with a major DNA testing company such as Family Tree DNA, Ancestry.com or 23andMe, they supply you with the names of matches, estimates on the relations, and ways to contact the matches, usually via email. Both males and females can take the test and identify cousins from both their paternal and maternal lines. Unfortunately, since it is a relatively new DNA test, few people have tested with it and the people you are really seeking have not tested.

Besides identifying unknown cousins, an atDNA test can aid you in determining if a close relative, e.g., g-aunt, is a full or half relative. It could help you determine if a g-grandpa and g-grandma were first cousins.

The atDNA test "Problem"

Many family history researchers were excited about testing for atDNA. However, they were quickly disappointed. Though they received plenty of matches, they were frustrated when they discovered it was difficult to verify how a match may be related. Let explore this "problem" and why this can be so frustrating.

The atDNA test can identify relatives up to and including 5th cousins. Your 5th cousin and you share a common ancestor in a gggg-grandparent. To effectively use the atDNA test results, you need to determine as many descendants from your 64 gggg-grandparents as possible. Now most family history researchers have a tendency to search back in time by identifying parents of great-grandparents, etc. and not filling in all the collateral lines. Therefore, one source of frustration is that our research strategies of the past have not produced the information we need to verify our atDNA matches.

How many descendants would these 64 gggg-grandparents produce? Let's make a hypothetical guess. Say, on average, each union has five children that live to marry and have children. Assuming no cross marriages (pedigree collapse**)** as when two cousins marry, that's 19,530 possible descendants to research in the resulting six generations! Yipes! We have identified a second major source of frustration. There are potentially thousands of people you need to research.

In the next section we will see a third source of frustration. atDNA testing is an inexact science.

Details on how to compare atDNA.

The degree of atDNA sharing between two individuals is measured by the DNA testing companies in units of genetic distance known as *centiMorgans* although in practice it is not the total number of centiMorgans that is more significant but the length and number of *shared segments*. The percentages and the number of centiMorgans can vary. For example, a brother might share 53% of his DNA with one sibling and 47% with another sibling. Because of the random way that autosomal DNA is inherited third, fourth and more distant cousins will not necessarily match you with the currently available

autosomal DNA tests. According to Family Tree DNA's figures there is a 90% chance that third cousins will share enough DNA for the relationship to be detected, but there is only a 50% chance that you will share enough DNA with a fourth cousin for the relationship to be identified. These "estimates" and the resulting false matches are another source of possible frustration in determining if a match is a relative. (Source: http://www.isogg.org/wiki/Autosomal_DNA_statistics)

CentiMorgans (cM) are used to denote the size of matching DNA segments in atDNA tests. Segments which share a large number of centiMorgans in common are more likely to be of significance and to indicate a common ancestor within a genealogical time frame. 23andMe provides information on both the percentage of DNA shared and shared cM. Family Tree DNA does not provide percentages and only provides information on the shared cM. In order to get an approximate percentage of shared DNA from a Family Tree DNA Family Finder test, take all of the segments above 5 cM, add them together and then divide by 68. The way the calculation works is that your total genome in cM with the Family Finder test is 6770 cM. So dividing by 68 is a close approximation.

For example, the shared cM between you and a first cousin might be 850 cM. Dividing 850 by 68 gives 12.5% of shared atDNA which is what we would expect with a first cousin. Note determining that you share 12.5% atDNA with an individual does not necessarily imply he or she is a first cousin. Great-grandparents, first cousins, great-uncles, great-aunts, half-aunts/uncles, half-nephews/nieces all share 12.5% atDNA with you. Other information such as age must be used to sort out the relationship.

Note that AncestryDNA does not provide information on the shared centiMorgans or the percentage of shared atDNA. However, AncestryDNA customers can upload their raw data to the free GedMatch website in order to extract the necessary cM data for making comparisons and to check the relationship predictions. For GedMatch, see http://v2.gedmatch.com/login1.php and for an article about GedMatch see http://www.legalgenealogist.com/blog/2012/08/12/gedmatch-a-dna-geeks-dream-site/ David Pike's tools available at http://www.math.mun.ca/~dapike/FF23utils/ can also be used.

Poeple can download their raw atDNA files from Family Tree DNA, AncestryDNA, or 23andME and upload the results to GedMatch for free. This is a great way to expand your potential matches for cousins.

Use of Family Finder's Chromosome Browser

Comparing the percentage of shared atDNA of two individual is useful to predict their relations, such as 2nd or 3rd cousin. However, further detailed information can be obtained by using Family Finder's Chromosome Browser. 23andMe has a similar tool. The Chromosome Browser allows you to view on each chromosome where you share atDNA with another person (or up to five persons).

In Figure 4, a Family Finder's graphic shows the shared segments in orange where my first cousin and I share the same atDNA. Note that the 22 chromosomes are numbered down the left side with the X chromosome at the bottom. I match my first cousin on 58 shared segments (for a total of 1224.10 shared cM or 18%). The long orange segment on chromosome 4 is 83 cM wide. The gray areas are SNP poor areas and not tested by Family Finder.

The graphic of Figure 4 is nice to look at but how can you use the information? First, you can compare up to five individuals in the Chromosome Browser at the same time. Comparing one person with known relation to you, e.g., first cousin on mother's side, with individuals of unknown relation, one looks for

overlaps. For example, if an unknown person overlaps segments with the cousin on your mother's side, this might be an indicator that this unknown person is related to one of your mother's parents. This will narrow your paper-based search.

Figure 4: A graphic from Family Finder's Chromosome Browser

Figure 5 shows a graphic from Family Finder's Chromosome Browser of the shared atDNA between myself and the same first cousin (blue), his daughter (orange), and his son (green).

To help determine which DNA segments come from which parents, genetic genealogists use both *chromosome mapping* and *phasing*. Both techniques are helpful in determining how new genetic cousins are related to you. However, these two techniques are beyond the scope of this article. People who are interested should consult a good reference such as Chapter 12 in Emily D. Aulicino's book *Genetic Genealogy: The Basics and Beyond*, published by AuthorHouse LLC, 2014.

However, to use the Chromosome Browser effectively in this way, you need to test many close relatives, e.g., parents, grandparents, great aunts and great uncles from your several lines. Many family researchers do not have access to the appropriate relatives because they are not living or unavailable for a variety of other reasons.

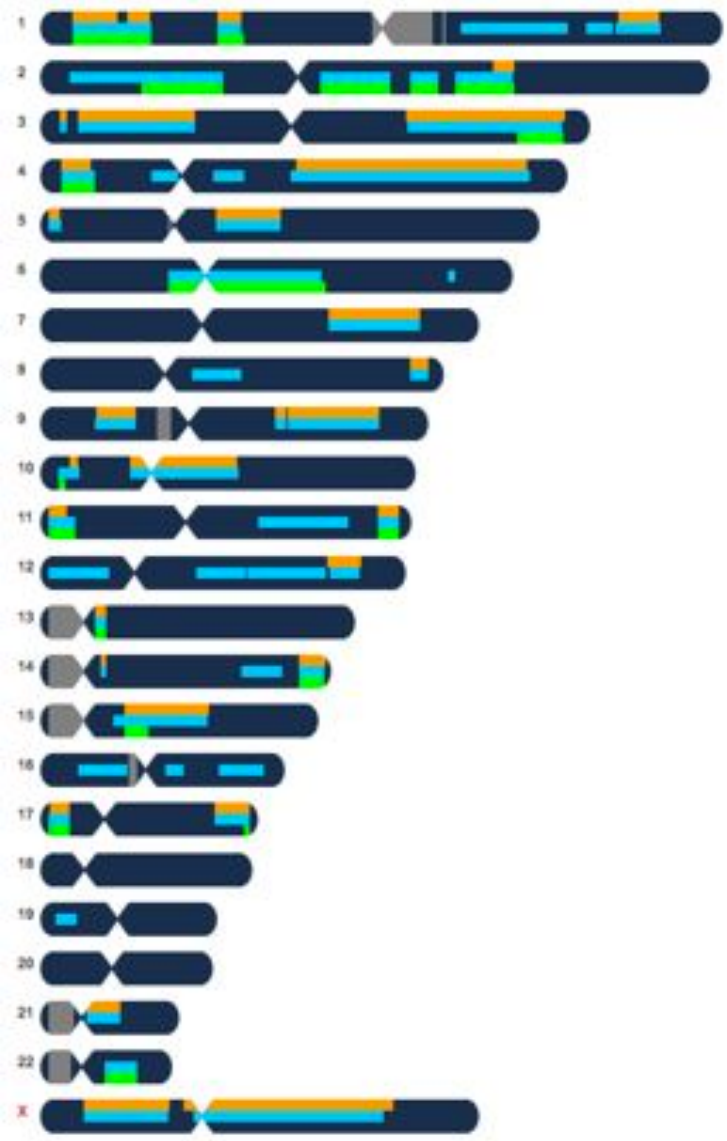

Figure 5: Graphic from Family Finder's Chromosome Browser showing shared atDNA between myself and my first cousin (blue), his daughter (orange), and his son (green).

Summary

Autosomal DNA testing provides another tool for the family history researcher's toolbox. Its strength is the ability to discover relatives up to 5th cousins. However, determining if a match is a true relative and how you are connected can be tricky.

DNA Testing Companies

23andMe – https://www.23andme.com
AncestryDNA - http://dna.ancestry.com
Family Tree DNA - https://www.familytreedna.com

The Hyde Genealogy Association

The Hyde Genealogy Association (HGA) is a not-for-profit, non-commercial organization that fosters communication, collaboration, and community between researchers of variants of the Hyde surname including, but not limited to, Hide, Heide, Heyde and variants with prefixes such as de, dela, von and van der. We are volunteers whose objectives are to confirm connections and validate existing family research, update family records, examine conflicting records and correct errors whenever possible, and assist with using DNA results to sort and extend family lineages.

We encourage you to visit our website at **www.HydeGenealogy.org** for the many resources available to Hyde family researchers. Also, you may submit a free query about your Hyde family and we will search our databases and respond with what we may have on your family.

Currently, we have several ongoing projects. One HGA project is investigating the use of Y-DNA testing for genealogical research. A major success of the Hyde DNA Project is that we have joined seven different Hyde lines from North Carolina that drifted apart in the late 1700′s.

A second HGA group of Hyde researchers is working on a project to sort out the Hide/Hyde families that originated in North Carolina in the 1700s.

A third HGA group is researching the line of Jonathan Hyde (1626-1711) of Newton, MA.

One researcher is currently sorting through medieval family lines and what is known about the origins of the Hyde surname.

If you are interested in becoming an HGA member, volunteering for a group project, or suggesting ideas for future newsletter articles, please contact us. The details for becoming an HGA member are available on our website's "About Us" tag.