

## **CARDEN DNA PROJECT Fifth Report - May 2003**

The use of DNA for genealogy relies on the fact that the portion called the Y-chromosome is passed unaltered from father to son over very many generations, except for the rare occurrence of a mutation affecting one element (called a marker).

For explanations, see, for instance

<http://freepages.genealogy.rootsweb.com/~allpoms/genetics.html>

[http://www.familytreedna.com/facts\\_genes.asp](http://www.familytreedna.com/facts_genes.asp)

For the Carden DNA Project nearly 40 Y-chromosome analysis results have now been received, including those of the first six participants which were covered in my report dated January 2002. The first 25 were analysed by Oxford Ancestors in England, but we are now using FTDNA of Texas, through whom analysis is carried out by the University of Arizona.

This latest report omits most of the explanations given in earlier reports. I will be happy to repeat them, and also go into much greater detail about the technique, probability calculations, family trees of the participants, more detail about origins of the family and so on, on request. If anyone else would like to take part, please contact me.

Many thanks are again due to Trish and Ron for kindly publishing this report on their sites –

<http://www.tcarden.com/tree/ensor/00CardenMay2003Report.htm>

<http://www.lightpatch.com/genealogy/cardendnaproject/>

Arthur Carden.  
<[carden@one-name.org](mailto:carden@one-name.org)>

30th May 2003

### **Carden Origins**

For some years I have thought, without much foundation, that all Cardens world-wide (apart from a few whose ancestors changed their surname to Carden from some other name) descend from one of three common ancestors, and thus are part of three unrelated groups with origins as follows.

#### **Cheshire Origin**

The Carden name appears in Cheshire from the 13th century onwards. Ormerod, the famous Cheshire historian, states "*at some point before the reign of Henry II (i.e., before 1216) a family assumed the local name Carden.*"

#### **Essex Origin.**

The Domesday Book shows that in 1086 a William Cardon was working for Geoffrey de Mandeville, one of the many followers of William the Conqueror who were given confiscated land.

#### **Mayo/Sligo Group.**

Many Cardens can trace their origins to these Irish west coast counties.

An objective of the CARDEN DNA PROJECT is to show whether most Cardens are indeed members of one of these three groups, and whether the three groups are distinct or connected to one another. It has already gone a long way to achieving this objective.

## Results so far

What appears here is a highly simplified summary. The actual numbers for each individual appear in a table at the end of this document.

### Cheshire Haplogroup

About half of all the nearly 40 results received so far (mostly 10 or 12 marker tests) are identical, and those concerned undoubtedly have a common ancestor. I call this identical DNA signature the Cheshire Haplotype because several of the individuals concerned are known to have very early Cheshire origins. Many of the remainder differ by only one or two mutations, and clearly also come from Cheshire. Probability calculations suggest that they all had a common ancestor in about the year 1500 plus or minus a century or more.

Five of these identical results are 25-marker tests. Compared with these another five 25-marker tests exhibit mutations. This is splendid – the five identical ones define the Cheshire haplotype as far as the additional markers are concerned, and the five with mutations may in due course help to establish family groupings.

### Mayo/Sligo Group

It is remarkable that the signatures of two of the participants from Mayo/Sligo only differ by two mutations from the Cheshire haplotype. This implies that the Mayo/Sligo Cardens may also have a Cheshire ancestor. The earliest record of Cardens in Co Sligo is dated 1617, well before a Carden emigrated from Cheshire to Tipperary about 1665. It is possible that their ancestor emigrated separately from England in earlier years, perhaps in Norman or Elizabethan times. However the other two participants from Mayo/Sligo do not support this theory.

### East Kent Haplogroup

Two results (both from the original six) define the totally different East Kent Haplotype. They come from Ron and Bill, who both live in Kent, England. Bill's was a welcome surprise, as it was previously only guessed that his great grandfather, Sergeant George Carden, born 1818 in France, had Kent ancestors. Their common ancestor lived before 1700 and probably before 1450.

## Individual Participants and Family Groups

An attempt is made below to comment on the DNA signature of each individual participant. Comments and corrections will be most welcome.

### Matlock Group

Observant readers will see that I have now transferred Tom Carding to the Matlock Group from the Tipperary Group, although there is no proof that he descends from Samuel, the common ancestor of the other four. Both he and Jim have had 25-marker tests made, with identical results, so that there is a 50/50 chance they have a common ancestor within 7 generations. We do not yet have a 25-marker test for a Tipperary Carden, unfortunately.

Apart from Tom, the signatures of three of the group exactly match the Cheshire haplotype, so not only is it clear that the Matlock group has Cheshire origins, but that their common ancestor Samuel must have had the same signature. Samuel Carden or Carding was born about 1650 in Matlock. Michael's has two mutations.

The Carden, Cardin and Carding names were all used by members of this group, changing back and forth over the years.

**Cecil Carding** of New Zealand is the “senior” member of the group, being descended from Samuel’s elder son. <cebecar@xtra.co.nz>

**Jim Carden** lives in Stalybridge, England. James (“Jim”) has obtained a 25-marker result, which exactly matches the results for four of the others who have obtained such results, helping to confirm the 25-marker Cheshire haplotype. He has his own very interesting web site at <<http://familytreemaker.genealogy.com/users/c/a/r/James-Carden>>. <JCarrbrook@aol.com>

**John Carden**, by coincidence, also used to live in Stalybridge, but has recently moved to France. His descent from Samuel seems highly probable, but his earliest proven ancestor is Solomon Cardin/Carding who married in Manchester in 1841. However his DNA signature helps to prove the link to Samuel. <cardennowwell@tiscali.co.uk>

**Michael Carding** and his wife Marrion live in Chesterfield, England. He is the odd one out. All the other Matlock Cardens match the Cheshire haplotype exactly (whether over 10 markers or 25). Michael previously showed one mutation, and now that he has obtained a 25-marker result shows two! It appears that the first mutation (at DYS 393) must have occurred at one of the five transmissions between himself and Michael born 1787, his earliest common ancestor with John. The other mutation (at DYS 464d) must have been at one of the eight transmissions between himself and Samuel born 1681. If John decides to have a 25-marker test done, he will also presumably be found to possess this second mutation, as it would be remarkable for both of Michael’s mutations to have occurred since his line split from John’s. <CBeagleowner@nasuwt.net>

**Tom Carding** (Frank Tomas Carding) lives in Cheshire. His son Michael, head teacher of the local secondary school, was very helpful as regards the Carden Gathering in 1998. There is a delightful tradition in his family that a scoundrel named Captain John Carden from Tipperary eloped with the unfortunate Miss Mary de Warren about 1750 and soon deserted her and her infant son John, who used the name Carding rather than Carden. The family still treasures the scoundrel’s sword. Since Tom had an identical 10-marker signature to Peter, of the Tipperary group below this appeared to suggest that the scoundrel came from Peter’s branch of the family, and might even have been the same as the Major John Carden who eloped in 1772 with a Miss Sarah Surman. But there is evidence that Miss Mary de Warren actually married a John Carding from the next village, so it is equally likely that Tom’s ancestry comes more directly from Cheshire, without having anything to do with Tipperary. Now that Tom has had a 25-marker test done, which matches Jim (of Matlock’s) signature exactly, this and the name “Carding” makes a connection with the Matlock group more likely than one with the Tipperary group. <betom@tiscali.co.uk>

### Tipperary Group

A John Carden emigrated to Tipperary, probably directly from Cheshire, in the 17th century. He is known to some of us as the patriarch. His date of birth is not known, but is likely to have been in the first half of the 17th century as his sons were married in Tipperary in 1672 and 1673. He must have had the same DNA signature as Peter O’N Carden, whose ancestry has been traced on paper back to the patriarch over 8 generations, as otherwise Peter would not have exactly fitted the Cheshire Carden haplotype.

Results have been received from five Tipperary Cardens, as follows:

**Arnold Carden** lives in Argentina. He and Arthur and Michael J (see below), all members of the Barnane branch of the family, have identical signatures to each other. These signatures, surprisingly, differ from the Cheshire haplotype and therefore from their “paper” ancestor, the patriarch, by six mutations, far too many for biological descent from the patriarch. It is therefore certain that somewhere between the patriarch and the common ancestor of Arnold, Arthur and Michael J there was a “non-paternal event.” This common ancestor was John Carden, born 1699, great grandson of the patriarch. He was an only child and there is some evidence that he himself was the child of a certain John Barry, so perhaps it is the Barry DNA signature which we carry. Arnold’s and Arthur’s common ancestor was born as recently as 1818, but the Michael J’s result greatly helped by taking the birth of the common ancestor back to 1699.

**Arthur Carden**, the organiser of this study, and of the 1998 Carden Gathering, lives near London. See Arnold above. <carden@one-name.org>

**Michael J Carden** is a member of the Barnane-in-Australia branch and lives near Canberra. The identity of his DNA signature to that of Arnold and Arthur proves that the branch is correctly named – proof of the connection to Barnane did not previously exist, though there were strong indications. His participation (paid for jointly by Arthur and his brother Michael) has therefore been doubly useful. <michaelc@panasonic.com.au>

**Dr Peter O'Neil Carden** lives in NSW, Australia. He is a member of the Killard branch of the family, descended from the younger son of the patriarch. As mentioned above, Peter's signature is identical to the Cheshire Haplotype, which proves that the patriarch's signature was the same. Peter is interested in probability theory and has made some contributions to the understanding of DNA links and mutations. <pscarden@shoal.net.au>

**Richard A P Carden** lives in Norfolk. He will be remembered by many who attended the Carden Gathering in Cheshire in 1998 for his financial management and administration of the event, as well as for his cheerfulness. He is a member of the Fishmoyne branch, descended from a younger grandson of the patriarch than is the Barnane branch. His signature differs by two mutations from that of the patriarch. There is a "reasonable" chance of about 1 in 20 of this happening in 10 generations, so a non-parental event need not have occurred in his case. <r.carden@btinternet.com>

### Penshurst / Chiddingstone Cardens

It is likely that the Cardens of Penshurst and Chiddingstone, Kent (villages near Tonbridge), are descended from the John Carden of Tilston, Cheshire, mentioned under Brighton below. This idea is supported to some degree by the results for two participants –

**Mike Carden** (Michael J), of Cumbria, exhibits two mutations (counting a double-jump as one mutation in accordance with advice from Oxford Ancestors) from the Cheshire haplotype. There is better chance that he has a common ancestor with those with exact matches to that haplotype than quoted for Richard A P above since many more generations may have elapsed. Mike is a member of the Maidstone sub-branch. <carden\_mike@hotmail.com>

**Roger Carden** of London, a member of the Loraine sub-branch, shares one mutation with Mike, but otherwise fits the Cheshire haplotype exactly. This suggests that their common ancestor, William Carden of Penshurst, born 1760, had the same signature as Roger, and Mike's second mutation occurred in the six subsequent generations. <rogercarden@hotmail.com>

### Brighton Cardens

There is good evidence, found by Joan Carden of Spain, that the Cardens of Brighton are descended from a Richard Carden born in Cheshire in about 1500. He became Dean of Chichester and paid for the 16th century stained glass window in Tilston church in Cheshire which shows the sling and pheon which form part of the Carden coat of arms.

However the two results obtained for Cardens in Brighton, though identical to each other, are utterly different from the Cheshire haplotype. They were provided by -

**Donald Carden**, who lives in Luton and is a member of the "Hatter" branch of the Brighton Cardens which included Sir Herbert Carden, known as the "father of modern Brighton." and

**David Carden**, who lives in Brighton, and is Town Clerk of a neighbouring town. His result and that of Donald are so far removed from the other results, despite their Cheshire link, that a non-paternal event in their ancestry, perhaps many generations ago, is virtually certain. David's branch of the Brighton family is known as the "Virgo" branch. He and Donald have a common ancestor in Robert Carden, born 1787, one of whose sons (Samuel Virgo Carden, born 1815) started David's "Virgo" branch of the Cardens of Brighton, and another (John, born 1821) started Donald's "Hatter" branch. So the non-paternal event occurred in 1787 or before. <davidcarden1@aol.com>

Another possible explanation however might be that Donald's and David's are examples of the "true" Cheshire signature of a very early Cheshire Carden, and the non-paternal event took place between this early Cheshire Carden and the common ancestor of all the others. I am indebted to Joan Carden for this suggestion.

## Other UK Cardens close to the Cheshire Carden haplotype

**Ernest Carden**, who lives in Cheshire and is a member of the Winsford branch, almost certainly has Cheshire ancestors. This is supported by his DNA result, which shows only one mutation from the Cheshire haplotype, even over 25 markers

**Peter L Carden** lives in Australia and is a member of the Randle branch, descended from a William Carden whose son Randle Carden was born about 1830 in the old county of Flint, just over the border from Cheshire. His daughter Natalie persuaded him to participate. His signature also exhibits one mutation from the Cheshire Carden haplotype so it is confirmed that his branch is a Cheshire one. This mutation is the same as that of Scott, below. <nccarden@hotmail.com>

**Peter W Carden** lives near Liverpool. His sister Hazel Poole has been trying for many years to trace their ancestor, a soldier, whose son was born in Halifax about 1847. Since Peter's signature is three mutations away from the Cheshire haplotype, his Cheshire origin is somewhat doubtful. <CARDEN@peterw.fsnet.co.uk >

**Tony Carden** (Dr A B G Carden) of Melbourne, Australia is a member of the Bendigo branch, the origins of which have been traced back to a town in Shropshire, just over the border from Cheshire and only a few miles from the hamlet of Carden. As perhaps might be expected, he has a DNA signature identical to the Cheshire haplotype. <abgcarden@bigpond.com>

## Lincolnshire Cardens

Only one Lincolnshire Carden is a participant so far.

**Stephen Carden**, who lives in Spain not far from Joan Carden, has a DNA signature totally different from both the Cheshire haplotype and the East Kent haplotype. Therefore, either there is a non-paternal event in his ancestry, or the Lincolnshire Cardens have their own unique origin. <scarden@wanadoo.es>

## Cardens of Virginia, USA

Chris, Chuck, James E (rather surprisingly, see below), Judson and Raymond (12 markers), and Eddie (25 markers) all have DNA signatures identical to the Cheshire haplotype So does Greg (25 markers), though his VA roots are unproven. It seems clear that they are all directly descended from Cheshire ancestors, perhaps from a single immigrant.

**Chris Carden** and his sister Beth Macdonald, together with Chuck below, have traced their ancestry firmly to Robert Carden who died in Goochland County, Virginia in 1785, and possibly, three further generations back, to a passenger from England aboard the "Speedwell." Beth writes: "Chuck's and our ancestry probably converge back with my Robert James Carden (c.1702 VA) and Phyllis Woolbanks, whom Chuck lists as Robert [above]. That particular Robert is a huge mystery and is not proven for Chris and me." <seasqrd@hotmail.com (Chris Carden)>, <bmacd@pop.dmci.net>

**Chuck Carden** (Charles W Carden), see above, is a retired Marine and Chief of Police who came to the Carden Gathering in Cheshire in 1998, and is soon to move to Cape Cod from Colorado. <cwcarden7222@msn.com>

**Eddie Carden** (Edward Glen) lives in Virginia but was born in Tennessee. His 25-marker result matches the Cheshire Haplotype exactly. His earliest proven ancestor is John Cardin of Mecklenberg County Virginia, the father of Reubin Carden born about 1775. <ecarden@cox.net>

**Greg Carden** lives in Alabama. His Virginia ancestry is not proven, though there are sufficient indications for him to be included, at least for the time being, in this group. He and Eddie are the only members of this group, so far, to have obtained a 25-marker result. <carden@simplecom.net> (Greg's mother):

**James E (Eugene) Carden** writes: "I am African American and have never met another "Black" Carden except for my immediate family until about 2 years ago when I visited Halifax County (Scottsburg) Virginia. I think this is where my Great Grandfather, James H. Carden was born." <CardenJE@aol.com>

**Judson Wayne Carden** lives in Alabama. His third cousin Elisa Sanford persuaded him to submit a sample. His earliest proven ancestor is Leonard Carden, born about 1793 in Virginia. <esanala@yahoo.com> (Elisa)

**Raymond Bell's** grandfather changed his name from Cardin to Bell for no apparent reason. His daughter Linda Tieman has traced his ancestry back to Leonard Carden, born about 1785 in Virginia. Raymond lives in Georgia, and his daughter in Texas. <ltiemann@satx.rr.com> (Linda Tiemann)

### Cardens of North Carolina, USA

Richard below have DNA signatures identical to the Cheshire haplotype, and undoubtedly share ancestors in Cheshire with all those with similar signatures. Greg, above, and Scott are the only members of the Virginia and North Carolina groups to have obtained 25-marker results so far. It is hoped that others will do so to clarify the relationships.

**Richard J Carden** lives in Michigan. His oldest known ancestor is William Carden who was born in 1755 in Orange County, North Carolina and who died in 1824 in Jasper County Georgia. As mentioned above, his 10-marker signature matches the Cheshire haplotype exactly <Runningbull24@aol.com>

**Scott Carden.** Carol Scarlett, a keen family researcher who came to the Carden Gathering in Cheshire in 1998, traced her distant cousin Scott and persuaded him to submit a sample. His great great grandfather was George Carden born in Orange County, North Carolina in 1828. A 25-marker result has recently been obtained for Scott. One of his original Oxford Ancestors results (not analysed by FTDNA) matches that of Peter L of the Randle branch below. It is not yet clear whether this is a mutation or part of the Cheshire haplotype, but suggests that Scott and Peter L have a common ancestor. A definite mutation in the last of his 25-marker results matches that of Jim of Matlock above, once again suggesting a common ancestor. Neither of these casts any doubt on his Cheshire origin, but they suggest he and Richard J may descend from different immigrants. <Cascam627@aol.com> (Carol Scarlett)

**Thor Carden** (Thor Foy Carden) and his wife Tricia Swallows Carden live in Tennessee, where Thor is Administrator of the Family Christian Academy. Trish kindly publishes this report on her web site. They have traced Thor's ancestry to a John Carden who was born about 1776 and died in 1847 in Orange County, North Carolina. Thor's DNA signature differs from the Cheshire Haplotype by two mutations, so there is only a "reasonable" possibility that he shares an ancestor with others who match more closely. Thor suspects that his father's exposure to radiation while working on radar during the war might be the reason for these mutations. He has traced a third cousin, Robert L. Carden, who has agreed to submit a sample, the analysis of which will be extremely interesting in this context. <G-Ma@tcarden.com>

### Other Cardens in USA

**Bill Carden** (William Andrew) lives in Tennessee. His wife Rosemarie has persuaded Bill to submit a sample to help identify his Carden origins. It is identical with the Cheshire Haplotype over all 25 markers, so undoubtedly he has a Cheshire ancestor. Bill's earliest proven ancestor, Ansel Carden, was also from Tennessee, but if Rosemarie is able to go further back it may be appropriate to include him in one of the groups above. <rosemarie@wireco.net.>

**Jerry Carden** (Jerry Alan Carden) who lives in Illinois, traces his ancestry to a William Carden, born in Yorkshire, England in 1795. William and his wife came to the US in 1819. His DNA signature exactly matches the Cheshire Haplotype, so undoubtedly he shares an ancestor in Cheshire around 1500 with all those who have the same DNA signature. He has recently obtained a 25-marker result, showing two unique mutations, which may one day enable a link to others in England to be proven. <jcarden@ux1.cso.uiuc.edu>

**Leo Carden** (Robert Leo Carden) was born in Oklahoma, and before retirement was a teacher and then for many years Director of a Technology Center. His relative Carrie Bench has traced their ancestry to William Carden, born about 1755 in Georgia. The first three known generations lived in Georgia and the next three in Alabama. <lcarden25@yahoo.com>

## Mayo-Sligo Group

As mentioned above, it is remarkable that the signatures of two participants from Co Sligo are close to the Cheshire Haplotype, despite the fact that Cardens were to be found in these west coast Irish counties as early as 1617, well before a Carden emigrated from Cheshire to Tipperary about 1665 (and before Cromwell banished his opponents to the western counties). Presumably their ancestor emigrated separately from England in earlier years, perhaps in Norman or Elizabethan times.

Two other participants have rather different signatures, which tends to reduce the force of the above.

**Gerard Carden**, who lives in Glasgow, Scotland, has traced his ancestry to Mathew Carden, whose son Patrick was married in Co Sligo in 1880. His DNA signature is identical to the Cheshire haplotype as regards 9 out of the 10 markers analysed by Oxford Ancestors, but shows a triple-jump in the remaining one, which they regard as two mutations. This suggests a common ancestor with those possessing the exact Cheshire haplotype about 20 or 30 generations ago, which means this ancestor might have lived in about 1400, presumably in Cheshire

**Owen Carden**, who lives in Leeds, England, was persuaded by his nephew Des Curley of Co Sligo, to submit a sample for analysis. This turned out to be identical to Gerard's, which is not surprising, as they are related. <des\_curley@hotmail.com>

**Fred Carden** of Pennsylvania, who traces his ancestry to Killala, Co Mayo, has a DNA signature which differs at four points from the Cheshire haplotype, which would normally be enough to deny a common ancestor in the past millennium. However one of them is in the same marker as the mutation possessed by Gerard and Owen, but the remaining three are probably enough to deny a relationship. Fred has ordered a 25-marker analysis, which will be very interesting, especially if other Mayo/Sligo Cardens do so too. <fcarden@stny.rr.com>

**Terry (Terrence S) Carden** of Arizona, a retired physician who traces his ancestry to Ballina, Co Mayo, differs at three points from the Cheshire haplotype, one of which is the same as Gerald, Owen and Fred's and the other two the same as Fred's. Terry therefore almost certainly has a common ancestor with Fred. Terry, incidentally, has kindly digitised many hundreds of Mayo parish register entries obtained by Arthur, and will send copies on request. <tscii@comcast.net>

Fred has ordered a 25-marker test, and if some of the others do so too, and/or some more results from Mayo/Sligo participants are received. perhaps this rather complex situation will be clarified.

## East Kent Haplogroup

Two results (both from the original six) define the totally different East Kent haplogroup. It is possible that this group is descended from the Cardon mentioned in the Domesday Book, but that is pure speculation. It is interesting that only these two, out of the 25 or more Cardens who have submitted samples, belong to this group, the remainder almost all belonging to the Cheshire group. If it were not for the similarity of Ron's and Bill's results it might have been supposed that a non-paternal event in their ancestry prevented them from matching the Cheshire haplotype (like for instance, Donald and David of Brighton).

**Ron Carden** (Ronald George) lives in Ashford, Kent. He is a keen genealogist and studies Cardens throughout East Kent. He has traced his ancestry convincingly to Thomas Carden, born in Herne, Kent in 1734. Joan Carden of Spain, who belongs to this family, has carried the pedigree back to John Carden of Sheppey, Kent, born 1450. <roncarden@btinternet.com>

**Bill Carden** (William George) lives in Faversham, Kent. He shared the cost of his DNA analysis with his cousin Ian who lives in New Zealand. The result was virtually identical to Ron's, which was a welcome surprise, as it was previously only guessed that his great grandfather, Sergeant George Carden, born 1818 in France, had Kent ancestors. Subsequent research suggests that the latter's father was born in Littlebourne, Kent and fought at the battle of Waterloo. <bcarden@tiscali.co.uk>

## **Surname Variants**

DNA analysis may make it possible to show whether or not names such as Carwardine, Calladine, Kerwin, Kenderdine and so on are indeed variants of the Cawarden name, which changed to Carden in Cheshire. So far only one individual has come forward.

**Taylor Cowardin** traces his ancestry to Peter Carwardine who came to Maryland from England in 1656. Unfortunately his DNA signature is totally different from that of every other participant, so either there is no link between the surnames, or there was a “non-paternal event” at some time, perhaps many generations ago, which broke the chain whereby the Y-chromosome is passed, unchanging, from father to son. <DOW17000@aol.com>

## **FTDNA's three extra markers**

As more results are received from FTDNA, attention can be directed at the three extra markers upon which they report. Until the switch to FTDNA was made, the Cheshire Carden haplotype was only defined in terms of the 10 markers reported by Oxford Ancestors.

So far, among those who exactly match the Cheshire Haplotype on the 9 markers common to OA and FTDNA, all have identical values for two of the extra three, but not for the other, DYS 385b, for which two values appear:

- 15 Jim, Tom (Matlock), Eddie, Greg, James E, Judson (Virginia).
- 16 Peter L (Randle), Scott (NC)

We cannot yet be sure therefore whether for DYS385b the Cheshire haplotype is 15 or 16, although 15 seems the more probable. A value of 15 is also supported by Ernest's result. If 15 is correct, then Peter L and Scott have a distinguishing mutation (and in any case possibly have a common ancestor).

Differences like these can be very useful in making connections between branches, but surprisingly few have arisen.

## **25-marker Signatures**

FTDNA offer to report on 25 markers. 9 participants have already taken advantage of this. The analysis can either be done when a sample is first submitted, by paying \$169 (instead of \$99 for a 12-marker report), or in the form of an upgrade at a later date, costing \$90.

The advantages of 25-marker tests are twofold. First, they are able to identify much more effectively the closeness of relationships. For instance, at present we know that a large proportion of our participants share a common ancestor in Cheshire, but we are unable to group them into branches of the family. With 25-markers to consider it may be possible to allocate them to a number of groups of individuals who share, or nearly share, identical results for all 25 markers. Second, with 25 markers it is possible to estimate the number of generations to the most recent common ancestor considerably better. For instance it is calculated that two individuals with identical 10-marker results have a common ancestor who lived about 15 generations ago, plus or minus a very wide margin of error. For two individuals with identical 25-marker results the corresponding estimate is 7 generations.

It is to be hoped that many participants will be prepared to pay for 25-marker tests, either when they first join the project or subsequently. Unfortunately all those whose sample was analysed by Oxford Ancestors will have to start again from scratch with FTDNA, paying \$169, although several of the 10 mentioned above have taken advantage of a special offer of \$149 for “Oxford Conversion.”



## The Y-STR database

This is a fast-growing collection of DNA results for forensic purposes covering most countries in Europe (<http://ystr.charite.de>). Unfortunately only 7 of the markers in the database coincide with the 10 used by Oxford Ancestors or the 12 used by FTDNA. Using these seven, 267 exact matches were found for the basic Cheshire Group signature out of a database of 9,685. This means that about 1 in 35 men in Europe share the same numbers with our Cheshire Group, and this is one of the most frequently found set of numbers, only one step away from what is called the "Atlantic Modal Haplotype."

Arthur, Ernest (both 14 for DYS 392), and Thor (12 for DYS 391) all possess rather rare mutations. If others are found to match their results this will be highly significant. No matches whatever were found for the set of 7 usable May-Sligo figures provided by Gerard and Owen, so theirs is a very rare set of numbers!

As regards the East Kent Group, using the 7 available markers, there are only 4 exact matches for Ron/Bill's result out of a database which had increased to 10,035 by the time the comparison was made. The matches are one each in Switzerland, London, Southern Ireland and Tuscany, so this tells us only that the East Kent Group has a very rare signature and makes a relationship between Ron and Bill virtually certain. [What is more, their common result of 9 for DYS 388 is, according to Oxford Ancestors, also very rare and outside the normal range for this marker.]

## Ybase

There is an interesting site at <http://ybase.org> where it is possible to compare DNA signatures with those of people who have entered theirs.

For instance, on entering the numbers for our Cheshire Haplotype, there is found to be one surname, Rader, which matches on 21 out of the 26 markers, 12 surnames which match on 20 of the 26 and many more which match on 19 or less.

If I receive no objection in the next month or so, I will submit our Cheshire and East Kent haplotypes as permanent entries in this database, so that those with other surnames can have some fun finding a match with us. Of course any of us can enter his own numbers (temporarily or permanently) to see what he finds.

## Other comments

It is notable that the majority of our American participants match the Cheshire haplotype exactly, and most of the others with only one or two mutations. This proves that almost all have Cheshire descent beyond doubt and shows that no non-paternal events have occurred in their ancestry. It is a pity, in a way, that so few exhibit any mutations, which would have made it possible to establish groups.

Huge numbers of Americans left Ireland for a better life, but only two of our participants did so. It will also be noted that the oldest proven ancestor of almost every participant from USA lived in USA before independence, long before the days of Ellis Island or the Irish famine.

But it should not be supposed that our 16 American participants are truly representative of the thousands of Cardens in the USA!

## Results awaited

The following are believed to have sent samples for analysis, or are about to do so, but have not yet received their results

Dave (David L) Carden of North Carolina. <carden@unc.edu>

Mark Carden of Co. Sligo, now living in London. <mark.carden@biscuits.com>.

Fred Carden (Cheryl's husband) of North Carolina. <cherylscarden99@cs.com>

Robert L. Carden, of, Haw River, NC, USA, cousin of Thor above. <rjcarden@bellsouth.net>

Mike Collins, for his uncle in Texas. <castron72@hotmail.com>

Ted (Prof Edward) Carden of California (Rigsby, UK, branch). <tedcarden@attbi.com>

Colin M Carden of Somerset, UK. <colin@carden-mudges.fsnet.co.uk>

George Carden of Georgia USA. <gcarden@carden.net>

Several others are making up their minds whether to participate or not, or are trying to persuade male relatives to do so.

**RESULTS FOR OXFORD ANCESTORS (10-marker) AND FTDNA (12-marker) TESTS, COMBINED**  
(For notes on this table, see below subsequent table)

		DYS 393	DYS 390	DYS 19 or 394	DYS 391	DYS 385a	DYS 385b	DYS 426	DYS 388	DYS 439	DYS 389 I	DYS 392	DYS 389 II	DYS 425	Ref No	More in next table
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Matlock. Mostly identical to Cheshire haplotype.

Cecil	#1	13	24	14	10			12	12		13	13	29	12	Y ?	
Jim	#1	13	24	14	10	11	15	12	12	12	13	13	29	12	Y 3897	
John	#1	13	24	14	10			12	12		13	13	29	12	Y 5076	YES
Michael	#1(2)	14	24	14	10	11	15	12	12	12	13	13	29	12	Y 4485	YES
Tom	#1	13	24	14	10	11	15	12	12	12	13	13	29		4429	YES

Tipperary. Peter O'N's result proves original 17C immigrant matched Cheshire haplotype. First three have 6 identical mutations.

Arnold	#1(6)	12	24	14	10	13	14	12	12	13	13	14 <sup>A</sup>	28		4383	
Arthur	#1(6)	12	24	14	10	13	14	12	12	13	13	14 <sup>C</sup>	28	12	Y 2653	
Michael J	#1(6)	12	24	14	10	13	14	12	12	13	13	14 <sup>C</sup>	28	12	6147	
Peter O'N	#1	13	24	14	10			12	12		13	13	29	12	Y 4371	
Richard AP	#1(1)	13	24	14	11			12	12		13	13	30	12	Y ?	

Penshurst / Chiddingstone, Kent

Mike	#1(2)	13	24	14	11			12	12		13	13	31	12	Y 4886	
Roger	#1(1)	13	24	14	11			12	12		13	13	29	12	Y 3008	

Brighton. Known to have Cheshire origins, but a non-paternal event presumably took place on or before birth of Robert 1787

David	-	15 <sup>*</sup>	22	14	10			11	13		12	11	28	12	Y 2652	
Donald	-	15	22	14	10	12	13	11	13	11	12	11	28		4413	

Other Cheshire (excl USA). Winsford, Randle, Halifax, Bendigo branches respectively. Peter W perhaps unrelated.

Ernest	#1(1)	13	24	14	10	11	15	12	12	12	13	14 <sup>C</sup>	29	12	Y 2656	YES
Peter L	#1(1)	13	24	14	10	11	16	12	12	12	13	13	29		4431	
Peter W	#1(3)	13	23	14	10	11	14	12	12	13	13	13	29		4433	
Tony	#1	13	24	14	10			12	12		13	13	29	12	Y ?	

Lincolnshire. Unique (unrelated) result

Stephen	-	13	23	14	10	16	16	11	14	10	12	11	28		5878	
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Virginia, USA

*Chris	#1	13	24	14	10			12	12		13	13	29	12	Y 4910	
*Chuck	#1	13	24	14	10			12	12		13	13	29	12	Y 4606	
*Eddie	#1	13	24	14	10	11	15	12	12	12	13	13	29		7098	YES
*Greg (?)	#1	13	24	14	10	11	15	12	12	12	13	13	29		5650	YES
*James E	#1	13	24	14	10	11	15	12	12	12	13	13	29		4982	
*Judson	#1	13	24	14	10	11	15	12	12	12	13	13	29		4460	
*Raymond	#1	13	24	14	10			12	12		13	13	29	12	Y 4385	

North Carolina, USA.

*Richard J	#1	13	24	14	10			12	12		13	13	29	12	Y 4883	
*Scott	#1(2)	13	24	14	10	11	16	12	12	12	13	13	29	12	Y 5231	YES
*Thor	#1(2)	13	23	14	12 <sup>*</sup>			12	12		13	13	29	12	Y 4108	

Other USA

*Bill (TN)	#1	13	24	14	10	11	15	12	12	12	13	13	29		7090	
*Jerry	#1(2)	13	24	14	10	11	15	12	12	12	13	13	29	12	Y 3919	YES
*Leo	#1	13	24	14	10			12	12		13	13	29	12	Y 4256	

Mayo/Sligo. Closeness of Gerard, Owen to Cheshire haplotype is amazing as this branch was in Ireland prior to 1600.

*Fred	#1(4)	13	21	14	11	11	14	12	12	13	13	13	29		4430	
Gerard/Owen	#1(2)	13	21	14	10			12	12		13	13	29	12	Y 4606	
*Terrence	#1(3)	13	21	14	11	11	14	12	12	12	13	13	29		5701	

Taylor Cowardin has a Carwardine ancestor, which is perhaps a Cheshire Carden name variant - but he exhibits many mutations.

*Taylor	-	13	23	16	10			11	17		13	11	29	12	Y 4970	
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East Kent. No common ancestor with any of the above.

Bill	#2(1)	13	23	15	11			12	09 <sup>*</sup>		12	13	28	*M	Y 2655	
Ron	#2	13	23	15	11			12	09 <sup>*</sup>		12	13	28	12	Y 2654	

### ADDITIONAL RESULTS FOR THOSE OBTAINING 25-MARKER ANALYSES

(Listed here are all the individuals who have obtained 25-marker results)

		DYS 458	DYS 459a	DYS 459b	DYS 455	DYS 454	DYS 447	DYS 437	DYS 448	DYS 449	DYS 464a	DYS 464b	DYS 464c	DYS 464d		Ref No
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Matlock..

Jim	#1	17	9	9	11	11	25	14	19	29	15	15	17	18		6605
Michael	#1(2)	17	9	9	11	11	25	14	19	29	15	15	17	<b>17</b>		7189
Tom	#1	17	9	9	11	11	25	14	19	29	156	15	17	18		4429

Other Cheshire (excl USA).

Ernest	#1(1)	17	9	9	11	11	25	14	19	29	16	16	18	19		7191
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Virginia, USA

*Greg (?)	#1	17	9	9	11	11	25	14	19	29	16	16	18	19		5650
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North Carolina, USA.

*Scott	#1(2)	17	9	9	11	11	25	14	19	29	16	16	18	<b>18</b>		7192
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Other USA

*Bill	#1	17	9	9	11	11	25	14	19	29	16	16	18	19		7090
*Eddie	#1	17	9	9	11	11	25	14	19	29	15	16	18	19		7098
*Jerry	#1(2)	17	9	9	11	11	25	14	19	29	15	<b>17</b>	<b>17</b>	19		7188

#### Notes to both the above tables

The markers (columns) are now arranged in the order used by FTDNA; their additional markers are added; and OA's 389i and 389ii-i converted to 389.I and 389.II (by adding 3 to the former to produce 389.II and adding the former two together plus 3 to produce 389.II). Where this applies (Jim, Michael, Tom, Arthur, Jerry) subsequent tests by FTDNA reproduced the Oxford Ancestors results exactly, and added the two extra markers as shown. Oxford Ancestors showed Richard AP as having only two mutations (at 391 and 389i) from the Cheshire Haplotype, but the calculation of 389.II in the table creates a spurious mutation (14) at this latter marker, so 13 is entered above. The same applies to David, but in his case 14 is left unamended to match Donald. For an explanation see Kevin Duerinck's site at <http://www.duerinck.com/results.html>. Gerard (Y 4506) and Owen (Y 5096), with identical results, are shown on one line as they are closely related. The difference of three (in one marker) shown by Gerard and Owen is regarded as two mutations, on the advice of Oxford Ancestors.

The numbers (alleles) for all four versions of Marker DYS 464 have been reduced by one to bring them into line with future presentation, as announced by FTDNA on 19 May 2003.

Numbers shown in **bold** differ from the relevant haplotype

\*M Indeterminate (multiple peak). ^ A very rare number for this marker. \* Participant from USA.

Y Oxford Ancestors reference; others FTDNA

#1 Cheshire Carden Haplogroup. All the results marked #1 are identical and form the Cheshire Carden haplogroup.

Figure in brackets gives the number of mutations, if any, taking both tables together. Double-jump treated as single mutation (eg, Mike).

#2 East Kent haplogroup