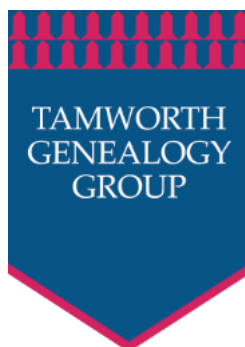


Tamworth Genealogy Group

DNA : The History





Tamworth Genealogy Group, are a group of like-minded family historians and genealogists who meet socially on a monthly basis to exchange information, ideas and assist each other with their research.

Anyone is welcome to join the group, whether you have a historic family connection with the area, live locally or are simply interested in family, social or building/house history. contact info@TamworthGenealogy.org.uk

THE GROUP DO NOT CARRY OUT RESEARCH PROJECTS FOR INDIVIDUALS, but are willing to assist those who are carrying out their own research into families who have connections to Tamworth and the surrounding villages.

We do NOT look for living persons. We only research into past generations.



[Tamworth Genealogy Group](#) is part of [The Holloway Society](#) and works closely with [Tamworth History Research Group](#) to uncover the rich history of the Tamworth area and the people who lived here. As such we are helping build [Tamworth Digital Archive](#) as a resource and publish in [Tamworth Heritage Magazine](#).

For more information contact info@TamworthGenealogy.org.uk

If you spot any errors in this document, or can offer suggestions, for this document please also [contact us](#)

In conjunction with Tamworth Heritage Magazine we can publish family histories, also community, club/team/society and business histories.

Contact either the Genealogy Group info@TamworthGenealogy.org.uk or the Editor of the Heritage Magazine Editor@TamworthHeritage/org.uk

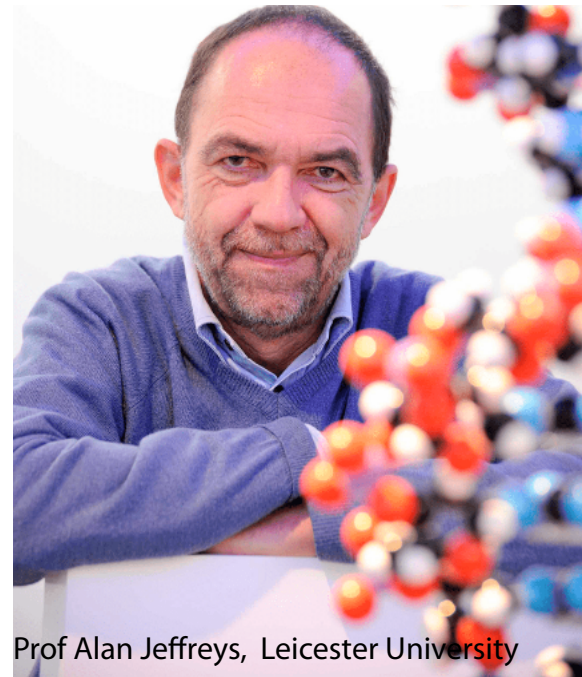
DNA: The History

Version 1, September 2025 Initial edition.

The DNA Revolution

It started with a double murder and the wrong suspect. Before the 1980s no one, outside a few scientists, had heard of DNA. Then in 1987 DNA burst in to everyone's consciousness when it was used to, simultaneously, solve the murders of Lynda Mann killed in 1983 and Dawn Ashworth killed in 1986 both in Narborough, Leicestershire in the UK. Though, that the crime was correctly solved at all, was all chance.

After the second murder police found many similarities in the two murders and assumed they were by the same person. That both girls had been raped meant there were bodily fluids on both victims. The problem



Prof Alan Jeffreys, Leicester University

© Leicester Mercury 15th July 1988

THE DNA FINGERPRINTING PROCESS

Pioneering Leicester scientist Dr Alec Jeffreys saw a dream fulfilled when ICI formally opened its unique genetic fingerprinting testing laboratory at Abingdon, Oxfordshire.

The laboratory is a testament to the talent of Dr Jeffreys, who made legal history with his precise blood tests settling paternity cases.

The lab, called Cellmark Diagnostics, will make commercially available a DNA fingerprinting service — the first of its kind worldwide.

Paternity
At a cost of £105 plus VAT per person, anyone can have their blood tested for a genetic fingerprint — very much like a library book barcode — which could be matched against a child's to

Fingerprinting centre solves identity crisis

A medical breakthrough by a Leicester scientist is expected to be a million pound success in the next year. ICI has opened the world's first commercial genetic fingerprint testing laboratory which it hopes will bring in £1 million a year from Britain and overseas.

Reporters Ather Mirza and Pete Lamont investigated the benefits the technique and the new laboratory will bring for thousands of people.

the police had was their prime suspect, who actually confessed to one of the murders, had an alibi for the other murder. So what would be an easy case to solve now, was almost impossible in 1983 with the first murder and would have been in 1986 for the second except for: ...

The first stroke of luck, or rather a lot of solid research. In 1985 Professor Alec Jeffreys at University of Leicester, 10 miles from Narborough invented a workable method of “DNA fingerprinting” and DNA profiling. Prof Jeffreys said that the “eureka!” moment came on Monday morning at 9.05 am, 10 September 1984 though there was a lot more work involved to get a workable process.

Initially the method was used for paternity testing in immigration cases. The "chance" was that it became available the year before the 2nd murder and was known about by local police forensic pathologists.

So when the Leicestershire Police had a murder with a lot of DNA evidence and the same profile as a murder 3 years before, also with DNA evidence still in the evidence store, they jumped at it. This confirmed the killer was the same person in both cases!

However, it also eliminated the prime suspect who had confessed to the second murder but could not have done the first.



Colin Pitchfork in 1988

Tests finally trapped a rapist

POLICE today praised the revolutionary genetic finger printing tests developed at Leicester University, which resulted in the first county man being convicted of rape.

Without the test detectives are convinced Anthony Martin, who brutally raped a 17-year-old who was five months pregnant, would still be a free man and a potential danger to other women.

At the Crown Court in Leicester, Martin (23) showed no emotion as he was jailed for 12 years after being found unanimously guilty.

Sentencing Martin, of Braunstone Lane, Braunstone, Judge Christopher Young, said he was a "sinner and dangerous man."

Knife-point threat

At the start of the trial on Monday, Mr. Brian Escott QC said the rape happened in a church yard in the Narborough Road area of the city, after Martin pounced on his victim, pushed her over a hedge and threatened her at knife-point.

Mr. Conrad Seagroatt QC defending, claimed there could have been human error when the genetic finger printing tests were carried out.

The defence had argued the evidence was inadmissible, because the DNA test was carried out after the rape charge against Martin was initially dropped through lack of evidence.

Martin only stood trial after Judge Young, at a special hearing, allowed the evidence to go before the court.

After the jury were told that the odds against the rapist being someone other than Martin were three million to one, they took just 25 minutes to convict him.

Ironically the accuracy of genetic finger printing, which seems to have swayed the jury so conclusively, also

by Michael Dolan

ensured Martin was allowed to roam the streets for a year before he was charged with the offence which finally brought him to court.

Within days of the rape on September 30, 1986, detectives knew who their man was and five days later Martin was arrested and charged.

But the Crown Prosecution Service felt the police did not have enough evidence to secure a conviction, and on October 24, the case against Martin was dropped.

Forensic samples

Detectives took forensic samples from Martin, but were denied that vital piece of evidence — a positive DNA test — because of pressure on laboratories who were dealing with the tests from Narborough double murders committed by Colin Pitchfork.

Every man in Narborough and Enderby had been asked to give a blood sample to catch the killer. Thousands came forward and led to Colin Pitchfork's arrest.

In November 1987 detectives at Charles Street were finally supplied

with the DNA test results on Martin who was re-arrested and charged with rape.

Detective Sergeant Adrian Davis, who pursued Martin, even when it was felt there was not enough evidence against him, was delighted with the conviction.

Revolutionary aid

He said: "I think it helps to encourage other women and hopefully it will act as a strong deterrent to others."

Detective Chief Inspector John Hornsby was in no doubt the use of genetic finger printing was a vital tool.

He said: "I think Martin would still be walking the streets, had it not been for this revolutionary aid to criminal investigation."

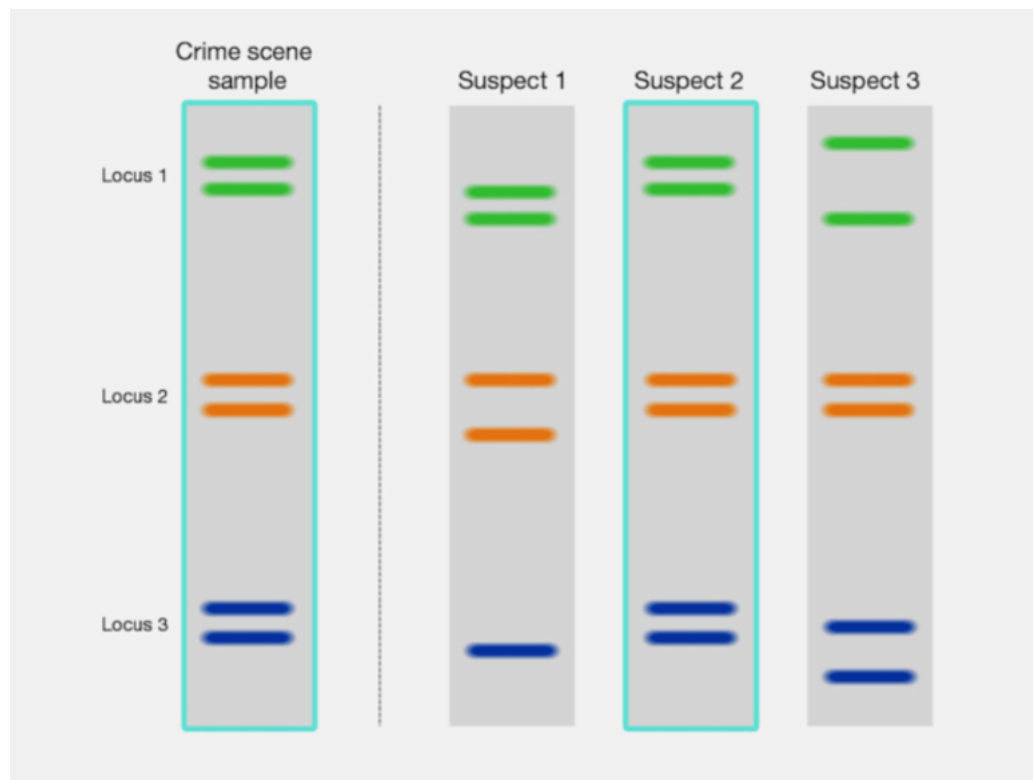
He did regret the year-long wait before it was possible to charge Martin a second and decisive time.

"I know it sounds an horrific time," Mr. Hornsby said. "But with the pressure on at Narborough it was done as quickly as the murders allowed possible. "If this happened today that time delay would not happen."

The police did the first large scale DNA test of a population, at least the men in the village, as it was reasoned the killer was a local man. This of course made the news. Especially as police also looked for some who had moved away in the last year. There were questions on ethics and storage of the sample as you would expect.

The other thing was the cost. At this time a DNA test cost about £110 (ex VAT) which is about £400 inc VAT in 2025 money! So it was not cheap to do a "mass" DNA test.

© Leicester Mercury 24th November 1988



This is a simplified example of a DNA fingerprint. The DNA analysis is represented, as often seen in TV and cinema, by a strip of film with markers on it. The idea, as with conventional fingerprints, is to match the markers. In a criminal case you are looking for a 100% match to confirm that the crime scene sample is identical to the person. This can prove, or as in the Pitchfork case, also disprove a suspect. For genealogy purposes you are looking for family so the matches are not 100% but a mix of two people (parents) and others: aunts, uncles, siblings, etc and it becomes more complex as will be explained in the following pages. So DNA “finger printing” is not the same as conventional fingerprints despite both seemingly using the term “partial match” which means very different things in each area.

The second stroke of luck was after the Police did DNA testing of all the males in the village in August 1987. A local man was overheard in a pub saying that he was pressured by Colin Pitchfork to take the police DNA test in his name. The Police went and grabbed Colin Pitchfork ensuring they had the right person, this time, for the DNA test. See <https://colinpitchfork.co.uk/> for the full story

The result was twofold. DNA proved that the primary suspect for both murders was innocent, and that Colin Pitchfork was guilty. This was headline news and DNA was on everyone’s lips.

Note that “DNA” was on people’s lips but not “Deoxyribo-Nucleic Acid” which is the answer to a quiz question!

An innocent man saved and the guilty man caught!

The Press loved it and it hit the newspapers, and TV news globally as well as the scientific and police journals across the world.

This result proving both positive and negatives has radically changed the balance between the police and criminals.

The rest as they say is history because *DNA doesn't lie*, even if the paperwork e.g. birth certificates do...

As a footnote: Without DNA an innocent man might have been jailed for a murder he did not commit, and in previous decades he would have been executed in the UK.

The first criminal conviction using DNA?

The internet is a wild place and many of you might find websites claiming that "the first DNA criminal conviction" was of rapist [Tommie Lee Andrews](#) who was convicted in November 1987. This is the first US case. So be careful when you search on-line.

In the US as in the UK, DNA was being used for paternity tests by only one company, LifeCodes. However, using the UK Pitchfork case as leverage, and also having positive fingerprint evidence, DNA evidence was permitted as additional evidence in the Andrews case.

At this point in 1986 – [restriction fragment length polymorphism](#) – was not as sensitive or discriminating as today's methods, DNA testing revealed that there was only a 1 in 10 billion chance that the match between Andrew's DNA and DNA found at the crime scenes was a random match.



© Leicester Mercury 27th July 1988

Both Pitchfork and Andrews cases are firsts. Pitchfork was the first criminal testing, and the first that both convicted and eliminated suspects. Though, both cases came from Alan Jeffreys work. The dates of the convictions were within weeks of each other but that is down to the legal processes. Also the Pitchfork case opened the way to mass DNA testing of criminals.

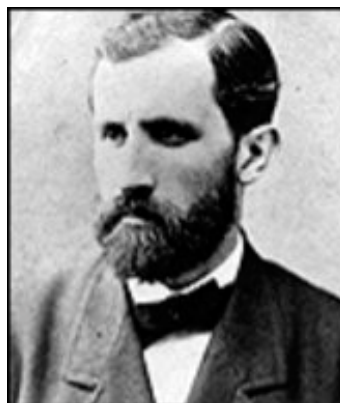
What is DNA? It's History

DNA was discovered, as with many things in science and medicine, whilst looking for something else.

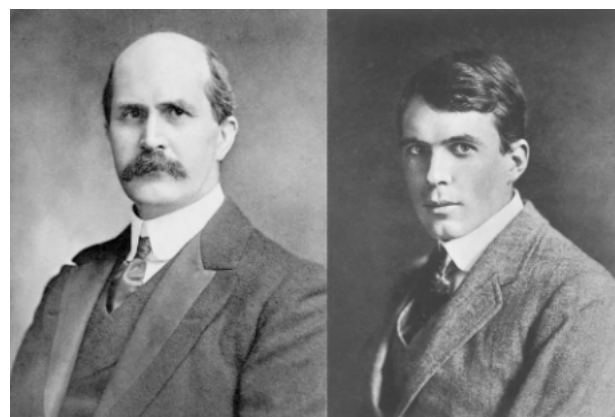
The initial start was in 1869 by Friedrich Miescher at the University of Tübingen in southern Germany

He was studying the chemistry of cells using white blood cells as a start point. He had access to a local hospital and their used bandages from which to collect samples. He had a laboratory in the lower floor of the castle.

1912-14 – William Henry Bragg and son William Lawrence Bragg lay the foundations for the field of X-ray crystallography at Leeds University when they realise they can infer the structure of crystals from the patterns of scattered X-rays. W H and W L



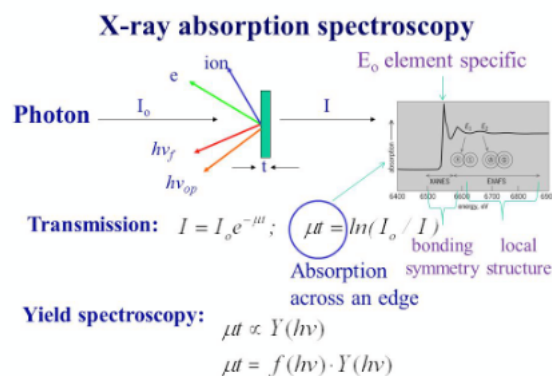
Friedrich Miescher Lab in Tübingen Castle circa 1869

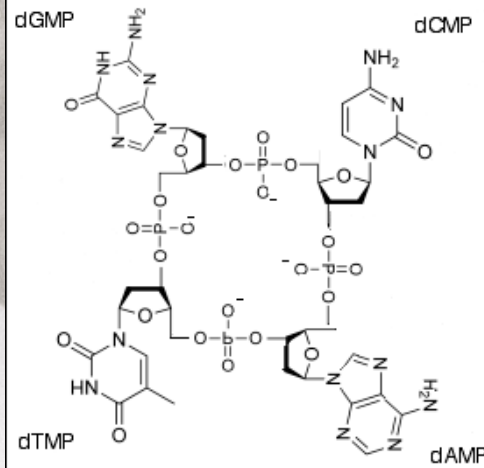
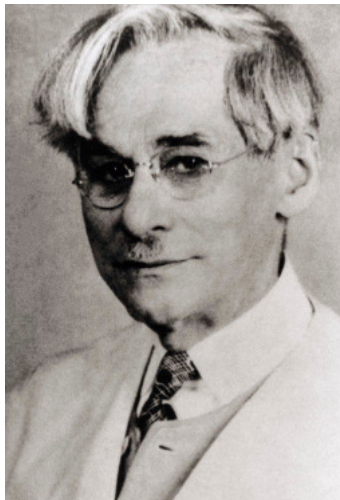


Bragg are the only father-son winners of a Noble Prize! Fortunately a Noble Prize is not needed for understanding modern DNA results!



Science Museum London / Science and Society Picture Library - X-ray spectrometer, 1912.





Phoebus Levene and the model he constructed to show the structure of the nucleotides and tetranucleotides

1920s – Phoebus Levene a Russian born American discovers nucleotides – the combination of a sugar, base and phosphate group – and suggests they form short lengths of DNA called ‘tetranucleotides’.

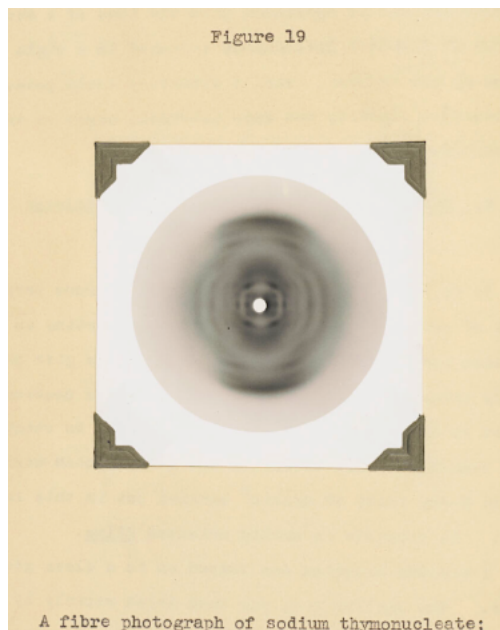
1937 – Florence Bell who studied at [Girton College](#), Cambridge, arrives in William Astbury’s lab in Leeds University having been recommended by W L Bragg as a good crystallographer.

NOTE whilst Girton College is now coeducational when it started in 1869 it was the first university level college that admitted women and at the time only women.



Florence takes the first X-ray images of DNA, as shown from her PhD thesis in 1938. This is an X-Ray diffraction photo of DNA fibres.

These photos opened the door for William Astbury to make an attempt at a structure the following year. Though Florence later claimed her greatest achievement was being the first woman in the RAF to wear trousers! [\[click here\]](#)



Fred Griffith and Bobby 1938

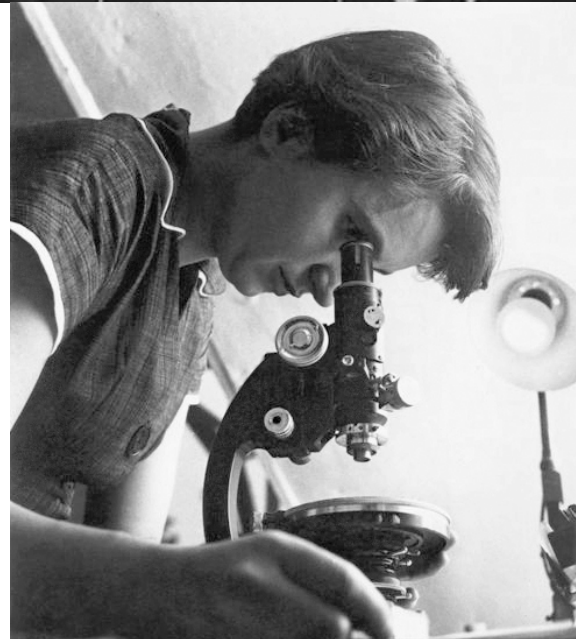


Oswald Avery, Colin MacLeod and Maclyn McCarty in 1944



1944 – Oswald Avery, Colin MacLeod and Maclyn McCarty at the Rockefeller Hospital in New York demonstrate that DNA is the material controlling inheritance working from the Griffith Experiment of 1928. Fred Griffiths was a British bacteriologist in Liverpool who had spent years looking at the transfer of disease.

1952 – At Kings College London, Rosalind Franklin, with a student Raymond Gosling takes 'Photo 51', a highly detailed image of the 'B' or hydrated form of DNA. The date of the photo is 2nd to 6th May 1952. It was a long exposure of 61 hours!

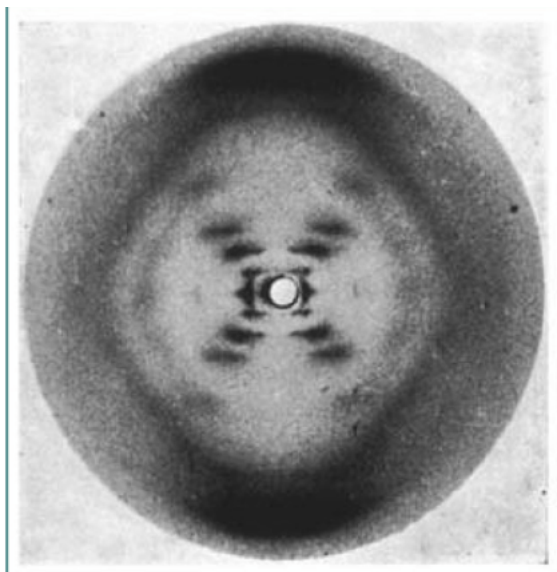


Rosalind Franklin

The photo is later seen by James Watson *without her knowledge*, who was also working at Kings College London with Francis Crick.

Francis Crick and James Watson had begun by trying to build a 3D model of a DNA molecule but they were not successful *until after Watson had seen Rosalind Franklin's photo 51*. It showed that DNA had a double helix shape.

On seeing it Watson said that "*He realised that the theory he and Francis Crick had regarding the structure of DNA was correct.*"



It was on the 28 February 1953 that Francis Crick and James Watson announced “*We have discovered the secret of life*”.

1962 Crick, Watson and their colleague Maurice Wilkins, photo below, together won a Nobel Prize for their work with DNA. Rosalind Franklin didn’t receive a Nobel Prize for her contribution.

The reasons for her exclusion have been debated and are still unclear. There is a Nobel Prize stipulation that states “*in no case*



may a prize amount be divided between more than three persons.” The fact she died before the prize was awarded may also have been a factor, although a stipulation against posthumous awards was not instated until 1974.

The scientists realised that it was the genetic material in cells which contained the code for life. All cells in the human body contain DNA. Just one strand of DNA, when stretched, extends to two meters long. The total amount of DNA in a human body, when stretched, would reach Pluto and back. It is unbelievable that the four base strands of DNA are responsible for the makeup of all the variety of life on this planet. It is known that humans share 99% of their DNA with Chimpanzees and 50% with a banana..

Genetic information in DNA is passed down from generation to generation. It plays a key role in evolution by allowing living things to change over time. The discovery of the

structure of DNA and the part it plays in inheritance helped to prove that Alfred Russel Wallace and Charles Darwin’s theories of evolution were correct.

1986 Initially, when DNA “fingerprint” tests first became available in 1986 in Leicester, they were expensive, at around £110 a test (equivalent to £400 in 2025), with limited information, rendering them unaffordable for family history purposes.

Since the 1980s the techniques and processes have improved greatly with other advances in types of DNA testing. From around 2010, partly due to the internet and online genealogy web sites the prices for DNA tests have reduced considerably at the same time the DNA databases have expanded considerably. This is due to the technological advancements in DNA analysis allowing quicker, more accurate and more detailed test results. These developments mean that family historians can now afford to purchase this very useful tool for their genealogical tool box.

If you are considering taking a DNA test then keep a look out around Mother or Father’s Day, Black Friday or the Christmas period as the DNA test providers have discounted offers on their kits around these times, making it even more affordable.

However as noted elsewhere don’t rush in. In the past, right up to the last 50 years, with paper systems due to errors, lost records and downright forgeries so what you think you know may not be reality.

Whilst computerisation may have removed many of the loopholes from the past, who the biological parents of any child actually are may not be who you or, in some cases, even the parents believe.

STOP! DNA may not be the answer you want.

[Tamworth Genealogy Group](#) has a document on using DNA in genealogy and a document on tracing your family tree, see right, but again we must issue a few words of warning.

DNA testing only became a viable test for most people in the last decade or two. This means that for most people you can only go back between two and four generations with DNA. Digging up relatives to do a DNA test is illegal without a Court Order and you are unlikely to get one.

Prior to the late 1980s there was no real way of determining who a child's biological parents were. Going back only 50 or so year's adoptions could be, and often were, informal. Some for many legitimate reasons like the death, long term illness, prison, work commitments, or the loss of one or both parents. Others because a young girl had become pregnant and the girl's mother or older married sister, became the baby's mother as far as all were concerned.

Very sadly in many cases young girls, who were unmarried, were forced by their family and or church to give up their babies. The girl, if she was under 21, would have been given no option. The males involved never seemed to be held to account in these cases.

Also incest and child abuse could also be a factor and was usually covered up. Discovering who someone's father was, by the use of DNA, may be more traumatic than you expect.

Then you have the reality that many married people had affairs. This is nothing new, and has been happening back to the dawn of



**WHERE DO I BEGIN TO
RESEARCH MY FAMILY?**



**DNA Testing
How and Why**



More information from
www.TamworthGenealogy.org.uk

time. It is possible that the mother may genuinely believe the name of the father is correct when it isn't. It has been claimed that over 50% of the children born in England between 1940 and 1946 don't have one, or both, biological parents listed on the birth certificate!

So before you dive into DNA to confirm who is who, think hard about it: Once you know you can't un-know. Also be kind as you have no idea why people did what they did. What their real situation was and what pressures were on them.

Tamworth Genealogy Group

DNA History



www.TamworthGenealogy.org.uk