

## Surname studies with genetics

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### Introduction

The study of surnames has long involved linguistics, history and genealogy; now, genetics also can feature. Geneticists have been interested in surnames for over a century.<sup>1</sup> Recent advances have honed a fresh tool for investigating surnames, though some of its revelations remain subject to debate.

Rather like surnames, Y-chromosomes descend only down male lines. Looking to the benefits, George Redmonds commented, ‘The potential the Y chromosome has to identify relationships [between men], confirming or disproving linguistic theories [for surnames], should not be underestimated’.<sup>2</sup> As yet, Y-chromosomal DNA (Y-DNA) studies of a surname’s Old World<sup>3</sup> development are relatively few; and, some in the Guild of One Name Studies reserve judgement.<sup>4</sup> Even so, the number of Guild members with formative Y-DNA projects is rising; such projects grew from one in 1997 to one hundred and forty-five by July 2008.<sup>5</sup> Most combine Y-DNA testing with

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<sup>1</sup> M. A. Jobling, ‘In the name of the father: surnames and genetics’, *Trends in Genetics*, 17 (2001), 353-357.

<sup>2</sup> G. Redmonds, *Names and History: People, Places and Things* (London and New York, 2004), p. 28.

<sup>3</sup> C. Pomery, *Family History in the Genes: Trace your DNA and grow your family tree* (Richmond, 2007), pp. 96, 109-110; cf. pp. 161-189.

<sup>4</sup> E. Churchill, ‘I’m not convinced DNA tests are the answer to all our genealogical problems’, *Journal of One Name Studies*, 9 (5), (Jan-Mar 2007), 16.

<sup>5</sup> Alan Savin with Dr Mark Thomas of UCL led the way from 1997 to 1999; in 2000 Orin Wells and Chris Pomery started projects; followed by Arthur Carden, Susan Meates and W. Keith Plant with me

detailed documentary evidence. Also, a recent scientific study has assessed Y-DNA data alone<sup>6</sup> seeking onomastic patterns for forty English surnames, which were compared with twenty-eight Irish surnames.

Along with outlining this developing field, I shall describe two Y-DNA case studies, for the surnames *Meates* and *Plant*. The *Meates* project has made direct use of the primary power of Y-DNA to identify matching individuals. It is a secondary matter that some statistical evidence is emerging, from other Y-DNA studies, indicating that some male-line families are unusually large. There is a topical controversy about whether such families might best be explained by large numbers of polygynous children; and, I shall illustrate that debate with a particular controversy about the *Plant* surname. I shall prefix this with an account of the problems faced when considering either the documentary evidence, or DNA evidence, for the origins of surnames.

## Developing genetic techniques

The unveiling of the molecular structure of DNA in the 1950s<sup>7</sup> led on to the identification of distinctive Y-signatures for men. A Y-signature is a set of values for certain markers in the DNA of a man's Y-chromosome. Mainly two types of marker are used; these are denoted SNP and STR.

SNP denotes a single nucleotide polymorphism, which is the mutation of one base pair in the double-helical structure of DNA. The base pairs are sub-molecular units that join together the two molecular backbones of the double helix; each base is of one of four types (denoted C, G, A and T). A set of Y-chromosomal SNP markers (Y-SNPs)<sup>8</sup> represents mutations that can occur to the sequence of the bases. However, these markers vary too rarely<sup>9</sup> to be very useful for surname studies. Y-SNPs are used more for deep ancestry studies of human populations, dating back many millennia.

STR markers in the Y-chromosome<sup>10</sup> (Y-STRs) are more useful for surname studies. They mutate much more often than Y-SNPs and provide far more distinctive Y-signatures.<sup>11</sup> STR denotes a short tandem repeat, which is the repetition of a sequence of bases in the DNA structure; the number of these repeats changes slightly

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in 2001. The vendor with the largest database now reports over 200,000 test results worldwide in their database. S. C. Meates, 'Adding DNA to Your One-Name Study', *Journal of One Name Studies*, 9 (11), (Jul-Sep 2008), 9-11.

<sup>6</sup> T. E. King and M. A. Jobling, 'Founders, drift and infidelity: the relationship between Y chromosome diversity and patrilineal surnames', to appear in *Molecular Biology and Evolution*; advanced access published online on 9 Feb 2009, 1-32; <http://mbe.oxfordjournals.org/cgi/content/abstract/msp022> accessed 11 Feb 2009.

<sup>7</sup> J. D. Watson and F. H. C. Crick, 'A Structure for Deoxyribose Nucleic Acid', *Nature*, 171 (1953), 737-738.

<sup>8</sup> A characteristic set of Y-SNP markers is called a *haplogroup*.

<sup>9</sup> At each base pair, a Y-SNP happens only rarely, around once every 1,000,000,000 generations. P. Shen, P. J. Oefner and M. W. Feldman, 'Recent common ancestry of human Y chromosomes: Evidence from DNA sequence data', *Proc. Natl. Acad. Sci. USA*, 97 (2000), 7360-7365.

<sup>10</sup> Each Y-chromosome STR (Y-STR) mutates typically around once every five hundred generations. For the purposes of estimating TMRCs (times to most recent common ancestors), King and Jobling, 'Founders, drift and infidelity', 7-8 used a mean, per locus, per generation mutation rate of  $1.5 \times 10^{-3}$  deduced from observing seven mutations among living individuals from a set of deep-rooting pedigrees totalling 274 generations.

<sup>11</sup> A set of Y-STR values is called a *haplotype*.

occasionally in the male line descent of the Y-chromosome. If sufficiently many Y-STR markers are measured, *slightly* different Y-signatures can be obtained for men descended down different, genetically intact branches of a one name, genealogical tree. Errors or hidden infidelities in the tree can be revealed by identifying those men whose Y-signatures do not match closely together.

The first SNP markers located on the Y-chromosome were discovered in the mid-1980s; and, by the 1990s, they were in regular use. By the turn of the millennium, comparisons were being made of the Y-STR markers of men with the same surname. Though barely a decade old, a study of random bearers of the *Sykes* surname<sup>12</sup> now seems dated, not least because the lengths of only four Y-STR markers were measured for each man. Now, twelve, seventeen, twenty-five, thirty-seven, or sixty-seven Y-STR markers are typically measured to identify a Y-signature more distinctly. When more markers are measured, the study is said to be 'higher resolution' though this may not be necessary for a Y-signature that is already rare in the general population at a lower resolution.

### **A pioneering Y-STR study: *Sykes***

Though seminal, the *Sykes* study has been superseded. Nonetheless, it provides an historic backdrop and serves to introduce some relevant concepts.

On the basis of a low resolution study by Sykes and Irven, the English surname *Sykes* can be described to be a single ancestor featured name. That is to say that its Y-STR results were found to display a single, significant cluster of matching Y-signatures (i.e. a significant 'Y-cluster'). This Y-cluster, found for the tested *Sykes* men, did not occur in the general population, as was checked with a small control sample of random men.

An interpretation of the Y-clustered results can proceed as follows. One can consider that there have been egressions of a characteristic *Sykes* Y-signature (or slight mutations of it) to other surnames, because of male philandering for example.<sup>13</sup> As a corollary, there will have been male introgressions of markedly different Y-signatures from other surnames into the population of a main *Sykes* family. Early male introgressions could split an initial Y-cluster into a few. In the case of the experimentally observed, single Y-cluster for *Sykes*, the results indicate more surely than would several Y-clusters that many of the living *Sykes* men have descended down male lines from a single, eponymous, male ancestor.

One can theoretically expect that around half of the randomly selected, modern bearers of a populous, single family surname will remain free of ancestral introgressions, after allowing twenty-five generations for the introgressions to accumulate (Appendix A). This agrees broadly with the published experimental

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<sup>12</sup> B. Sykes and C. Irven, Surnames and the Y Chromosome, *American Journal of Human Genetics*, 66(4) (2000), pp. 1417-1419.

<sup>13</sup> There are other reasons besides egression however, why a Y-signature identical to the *Sykes* modal signature might be found in other surnames, such as common ancestry before the formation of surnames.

finding for Sykes that 43.8% of the tested men matched into its observed Y-cluster, albeit that this carries a statistical uncertainty<sup>14</sup> of 7%.

The Sykes Y-mismatches were found to occur singly – that is, they did not match with any other Sykes Y-mismatch, or with the Y-cluster, in the small sample of living Sykes males. The Y-mismatches were attributed solely to the accumulated effects of male introgressions.

In their account of their study, Sykes and Irven commented, ‘This points to a single surname founder for extant Sykes males’. It is important to note however that this finding for *living* males does not prove that there was a ‘single origin’ for all of the *initial bearers* of this populous surname since, for example, there could initially have been other Sykes families, which died out.

## The uncertain origins of surnames

Various hypotheses have been considered for the origins of a surname<sup>15</sup> – ‘multiple origins’; ‘plural origins’; ‘single origin’ – with the term ‘plural origins’<sup>16</sup> covering the possibility of a few origins, rather than one or many. There is an alternative terminology. With a hedge that ‘in surname research there are very few certainties’, Hanks used *genetic* in terms such as ‘monogenetic’ which he related to a surname’s early locations.<sup>17</sup> He explains<sup>18</sup> that the polygenetic hypothesis is that a surname was ‘coined independently in many different places’; whereas, monogenetic is for one ‘derived from just one original bearer at one particular place and time’. Here I use instead the terms such as ‘single origin’ and reserve *genetic* for more scientific flavours to this word though not particularly just biological ones.<sup>19</sup>

Another academic discipline should not be ignored. Linguistic interpretations can often provide clues as to how a surname was coined. A common occupation such as ‘smith’ could have given rise to many origins to a surname in contrast to more likely a single origin as can be expected for a surname derived from a uniquely named, small village for example. Other times however, the linguistic evidence is ambiguous.

Y-STR evidence holds best for modern times. Exhuming old remains for a surname is widely regarded as sacrilegious. In any event, Y-STR measurements are problematic when using degraded DNA. Studying old remains is yet generally restricted to

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<sup>14</sup> The best estimate of the statistical standard error is  $(f(1-f)/n)^{1/2}$  where n is the number tested and f is the fraction matching. In the Sykes experiment, 48 men were tested.

<sup>15</sup> Lasker and Mascie-Taylor argued that the most significant factor in a surname’s distribution is typically its ‘circumstances of origin’; G. W. Lasker and C. G. N. Mascie-Taylor, *Atlas of British surnames* (Detroit, 1990), p.2. Rogers considered the distribution of some common surnames; C. D. Rogers, *The surname detective: Investigating surname distribution in England, 1086-present day* (Manchester and New York, 1995). Hey commented for *Jeffcock*, for example, that ‘this tight distribution of a rare name points to a single-family origin’; D. Hey, *Family Names and Family History* (London and New York, 2000), p. 25.

<sup>16</sup> G. Redmonds, *Surnames and Genealogy: A New Approach* (Boston, 1997), p. 14.

<sup>17</sup> P. Hanks, ‘The Present-Day Distribution of Surnames in the British Isles’, *Nomina*, 16 (1992), 79-98 (pp. 84-85).

<sup>18</sup> This appears in the General Introduction to the Surname Dictionary DAFN. *Dictionary of American Family Names*, ed P. Hanks (Oxford, 2003), esp. pp. xi, xxi-xxii.

<sup>19</sup> I started out as a research physicist followed by many years of computing in a multi-disciplinary University environment, as intimated at <http://www.plant-fhg.org.uk/jsp.html>

identifying a few, very low resolution, Y-SNP markers. However, genealogies can be attached to the Y-STR results of living descendants, such that an earlier forefather can be allocated a Y-signature. The Y-STR evidence can sometimes help with extrapolating back further towards a surname's origins, by identifying ancestral Y-matches between widely spread instances of a surname. The geographical modelling can also take account of documentary evidence for a surname's *early* distribution. However, the data for early times typically has substantial limitations.

Finding a single cluster with geographical outliers in the documentary evidence for a surname<sup>20</sup> would be consistent with a single origin hypothesis. A single origin, followed by population growth and 'normal migration' for a populous single family, can be expected to lead, most often, to a cluster around the family's early location. Such a geographical cluster can be accompanied by other instances of this family's name that are more widely spread. That can be because either, a particular male has migrated far; or, several progressive migrations have taken some fathers far after several generations. However, finding a single cluster does not *prove* that the surname had just one origin. Such a deduction would involve assuming that there is no missing, early data for other origins elsewhere; and, that everyone in the geographic cluster belongs to just one family. Instead of a single origin, the surname could have had plural origins, which then rarefied or coalesced into the *semblance* of a single cluster. Such can be the limitations of the available documentary evidence, which is usually patchy for a surname's early times in some geographical regions more than others.

As a slightly more complex case, one might consider two, statistically significant clusters being found for the early distribution of a surname. That might represent two distinct origins. However, there remains some uncertainty in that the second cluster *might have* arisen from an individual who migrated far, at an early stage when the family's population was few.<sup>21</sup>

## Debates of the Sykes Y-STR results

The Sykes study led to some debate as to whether its Y-clustered result might imply that even the initial bearers of the surname could have had a single origin. Addressing this, Redmonds commented, 'It is the number of potential origins [as judged by linguistic considerations] that explains the reluctance of some surname experts to think of Sykes as a possible single origin surname, and the [DNA] results were bound to lead to debate'.<sup>22</sup> The DBS<sup>23</sup> lists occurrences of some similar by-names, including *de Sich* (Norfolk, 1166); *del Sikes* (Yorkshire, 1309); *in le Syche* (Staffordshire, 1332); and, Reaney associates these with residence near streams or gullies. Rather

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<sup>20</sup> A single-origin, followed by population growth and 'normal migration', can be expected to lead, most often, to a cluster around the family's early location with other instances of the name that are more widely spread because: either, a particular male has migrated far; or, several progressive migrations have taken some fathers far after several generations.

<sup>21</sup> Modelling a surname's development can be statistically robust for a large family, in as much as their *overall* distribution can be expected to reflect mostly modal migration, which can be assumed to have been most often local; but this can falter near the family's origins since, when a family's population is few, its *overall* distribution can sometimes be changed by the atypical migration of just one individual.

<sup>22</sup> *Ibid.*, p. 30.

<sup>23</sup> Reaney, *A Dictionary of British Surnames*.

than a single origin, many origins might be expected for the initial bearers of a topographical name such as this.

Leaving aside by-names, a single origin is *possible*; but, it is *not necessary* to explain the Y-STR result of a single ancestor featured surname. Some further insight can be gained by considering some theoretical modelling. Monte Carlo computer simulations do not rule out plural origins for this surname which then led on to just one family dominating the Y-STR results. For a simple model,<sup>24</sup> the computations suggest that it would not be unreasonable to suppose that the *Sykes* surname had originated with eight different forefathers, instead of just one; and, that the families from only two of them had survived, with only one family having reached significant numbers.<sup>25</sup> Still fewer families survive in a computer simulation that begins before the mid-fourteenth century Black Death.<sup>26</sup> Families can be expected to have become extinct in the typical development of several families sharing the same surname. Moreover, on the basis of the Sturges and Haggett simulations (Appendix B), the main *Sykes* family has proliferated abnormally to dominate the Y-STR results. This leaves further room for there perhaps having been initially many families called *Sykes* of which most have now died out or have been swamped in the Y-DNA results by the preponderant evidence for the unusually large main *Sykes* family.

Rather than a 'single origin' for all of the initial bearers of this surname, a somewhat less bold hypothesis can be considered: to wit, that the surname may have had several origins but that the modern, prolific *Sykes* family has long been dominant. Such a proposition is not new. McKinley favoured that common surnames had an early populous showing;<sup>27</sup> and, as Hanks puts it in the DAFN, 'in standard statistical textbooks ... (broadly) ... frequent [sur]names [or families] tend to become more frequent, while infrequent [sur]names [or families] tend to become less frequent'.<sup>28</sup> One might hence consider a scenario in which the main *Sykes* family could have been frequent amongst the early, recorded instances of this name. Even so, some of the early records could have been for other less-populous *Sykes* families before they became extinct or drifted to relative rarity. Accordingly, there remains room for scepticism about a proposition that separate, early documentary records for the name can be considered to belong to a single family. Nonetheless, taking all the evidence

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<sup>24</sup> C. M. Sturges and B. C. Haggett, *Inheritance of English Surnames* (London, 1987), pp. 18, 24-28. They obtained results that were only slightly different when they used a different distribution for numbers of children in each family.

<sup>25</sup> After averaging several simulations, Sturges and Haggett, *Inheritance of English Surnames*, p. 18 found that only 244 single-ancestor families out of 1000 had living male descendants after 23 generations and 106 of those had less than 50 surviving males.

<sup>26</sup> In their computer model, King and Jobling found that only 9.6% of families survived down 20 generations. King and Jobling, 'Founders, drift and infidelity', 8, 17.

<sup>27</sup> McKinley observes that most English surnames 'which occur in the nineteenth century as ones which had ramified extensively, were already exceptionally numerous in the seventeenth century' adding that some prolific surnames appear to have ramified from 'either substantial free tenants, such as franklins or yeomen, or families of the minor gentry, rather higher up the social scale'. R. A. McKinley, *A History of British Surnames* (London and New York, 1990), p. 188.

<sup>28</sup> Frequency can be aided by reproductive advantage and this can arise from a lower mortality rate for the rich as against the poor; but, it can be questioned whether such an advantage would be likely to descend down all branches of a populous family for many generations.

together and referring to comments by Redmonds,<sup>29</sup> Hanks<sup>30</sup> offered the hedge ‘probably’ when supposing that the main Sykes family could have developed early in Flockton, before being found about twelve miles away in Slaithwaite.<sup>31</sup>

The Sykes Y-STR results shifted the balance of opinion for a populous surname. Redmonds<sup>32</sup> commented, ‘When I suggested in 1973 that *Brook* was principally a Huddersfield surname, with a very restricted number of family origins, it was not a popular view, but recent research into the Sykes Y chromosome has made the idea far more acceptable’. The seminal Sykes result had made it more acceptable to consider that a single family could grow to the extent of a populous surname. However, though there is yet no result for *Brook*, more recent Y-STR evidence is now suggesting that a single ancestor featured result might not arise for many common surnames in England.

### Some more recent Y-STR results for Ireland

A particularly common Y-STR signature, found in north-west Ireland,<sup>33</sup> has been attributed to the hegemony of the mythical *Uí Néill* (308-405AD). A likely time scale has been estimated from early, northern Irish, genealogical records and also the genetic diversity of the matching males;<sup>34</sup> and, this suggests proliferating origins around the times of *Uí Néill* and gives rise to an overall, estimated growth rate for his family of 21% per generation.<sup>35</sup> This single-family feature has not been found for other Irish tribes.<sup>36</sup>

McEvoy and Bradley<sup>37</sup> considered several Irish surnames and they found that *Ryan* and *O’Sullivan*, for example, displayed a high fraction of Y-STR matches at about

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<sup>29</sup> Redmonds had commented, ‘From *syke* which was a stream or ditch, often serving as a boundary, the word gave rise to many minor placenames and the surname must have several Yorkshire origins. Locally there were families in Flockton and Saddleworth, although it was in Slaithwaite that Sykes became particularly prolific. It has no obvious origin there and the link in this case may be with Saddleworth. It is noticeable that the name occurs in both Austonley and Marsden in the early 1400s’. G. Redmonds, *Huddersfield & District in Yorkshire Surname Series* vol. 2, G.R. Brooks (Brighouse, 1992), pp 53-54.

<sup>30</sup> Hanks states in the DAFN, ‘Even though this name [*Sykes*] is now widely dispersed in the modern world, and even though there are several places in northern England called *Sykes*, any one of which might be the source of the surname, the survey of contemporary British surnames described by Hanks 1992 shows a statistically significant association with West Yorkshire. ... DNA evidence can be used to confirm or disconfirm the monogenetic hypothesis. ... Combining DNA evidence with geographical distribution and evidence from local history, [*Sykes* and *Irven*] show that the majority of present-day bearers of the name are not only related but can trace their origins back with confidence to a family in Slaithwaite in the fifteenth century ... probably further to the thirteenth century when William del *Sykes* held land in Flockton’.

<sup>31</sup> By 1973, Redmonds had begun to assemble some name distribution evidence for such West Yorkshire surnames as *Sykes* which Reaney had noted was particularly common in Yorkshire. G. Redmonds, *English Surname Series, Vol I, Yorkshire West Riding* (London and Chichester, 1973), pp. 58-59, 120, 183, 184, 189, 192, 195. P. H. Reaney, *A Dictionary of British Surnames* (London, 1958).

<sup>32</sup> Redmonds, *Names and History*, p. 49.

<sup>33</sup> This Y-signature is found for 20% of the population there.

<sup>34</sup> L. T. Moore, B. McEvoy, E. Cape, K. Simms and D. G. Bradley, ‘A Y-Chromosome Signature of Hegemony in Gaelic Ireland’, *American Journal of Human Genetics*, 78 (2006), 334-338.

<sup>35</sup> Taking its age as some 50 generations, they deduce a growth factor, *g*, of 1.21 per generation.

<sup>36</sup> A similar result has not been found for the *Eóganacht* and *Dál Cais* tribes of Munster; B. McEvoy, K. Simms, D.G. Bradley, ‘Genetic investigation of the patrilineal kinship structure of early medieval Ireland’, *American Journal of Physical Anthropology*, 136(4) (2008), 415-422.

half, in the manner of the *Sykes* result, whereas *Kelly* and *Murphy* for example displayed few matches. They suggested, for *O'Sullivan*, a historical rate of false paternity events (i.e. male introgressions) of 1.6% per generation by assuming  $n=35$  generations of 30 years since c950AD (Appendix A). *Ryan* and *O'Sullivan* each have as many as 38,000 bearers in Ireland; and, it can be concluded, for these populous surnames, that at least a significant fraction of their living bearers belong to their respective main families. This finding of a large, main family holds irrespective of a debate as to whether the Y-mismatches should be attributed *solely* to male introgressions into a single origin surname, or *partly* instead to extant descent from plural origins.

The main *Ryan* and *O'Sullivan* families, as well as some others, have proliferated more than the *Sturges* and *Haggett* computer simulations predicted (Appendix B). These simulations are for monogamous families with mid-fourteenth century origins and they foretell a maximum size of no more than several hundred for a single family. However, *Sturges* and *Haggett* added that a surname could have had several members already by the mid-fourteenth century; and, there is a general point: early conditions are important to the eventual, expected family size. Though a fortuitous combination of other factors could lead to high growth (Appendix B), a particular explanation for a single family's large size is that it set off to a fast start. This could happen most dramatically if it began with many bastards.<sup>38</sup> This would avoid the limitation that the wife of a monogamous man can bear only a restricted number of children. Also, beginning with sufficiently many bastards would avoid the erratic vicissitudes of initial family growth<sup>39</sup> and apply a large multiplier to the whole of the subsequent population of the family.<sup>40</sup> However, it needs to be assumed that the bastards shared the same surname, for such an explanation to hold for a large, single surname family.

### **A populous, single ancestor featured surname: *Plant***

The case study of the *Plant* surname serves to illustrate some debate about polygyny and the development of a large, single ancestor featured surname.

It seems that a sizeable fraction, at least, of the *Plant* surname derives from a single family (Appendix C) and that this family has grown abnormally (Appendix B). If the population of this populous, English surname had grown at the rate of the general population, that is 14% per generation, there would have needed to have been 591

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<sup>37</sup> B. McEvoy and D. G. Bradley, 'Y-chromosomes and the extent of patrilineal ancestry in Irish surnames', *Human Genetics*, 119 (1-2) (2006), 212-219.

<sup>38</sup> Citing several examples, Laura Betzig generalises that 'rich men throughout the Middle Ages and in modern England married monogamously but mated polygynously, having sex with as many women as they could afford [...] they have almost certainly produced more children as a result'. L. Betzig, *British polygyny in Biology and History in Human Biology and History*, ed. M. Smith (London, 2002), 30-97 (p. 85).

<sup>39</sup> From the results of their computer simulations, *Sturges* and *Haggett*, *Inheritance of English Surnames*, p. 16 note that a 'single male-ancestor' family will grow steadily (largely in an exponential manner) only after it has reached a population of about 100 males; until then, the number of male children who transmit the surname is erratic.

<sup>40</sup> This is unlike a later such event which would affect the population of just one branch of the family and which would allow less time for its descendants' population to multiply further, yielding a smaller overall effect.



Plants by 1360 to account for the 12,034 Plants in England and Wales by now.<sup>41</sup> However, some surnames grow faster than others: *Plant* grew in the UK at about 26% per generation between 1881 and 1981.<sup>42</sup> Though precise past rates of growth for particular families remain uncertain, extrapolating back the high 26% rate reduces the estimated *Plant* family size in 1360 to 59.<sup>43</sup> Variations to this estimate are possible. For example, the number would be rather fewer if not all of the modern *Plant* population were taken to represent the size of the main single family.<sup>44</sup> On the other hand, it would be several times higher if one were to take account of early growth normally being slower in early, less favourable times than that between 1881 and 1981.<sup>45</sup> On balance, despite the uncertainties, this estimation of perhaps around 60 Plants in the mid-fourteenth century is adequate to illustrate that the Plants could have been numerous since early times.

Further debate is controversial. One possible explanation of the populous Plants is that they were polygynous offspring; but, it can be questioned whether all such children would inherit the same surname. Though Welsh Law was favourable towards those whom the English would call 'illegitimate', a bastard had no right to inherit a surname in English Law.<sup>46</sup> Though there is an intimation of bastardy in the *Plant* blazon<sup>47</sup> and though the main homeland of the Plants was in the Marches bordering Wales, it is open to debate whether a Welsh influence could have allowed inheritance of the name through polygyny. It is no better than contentious for one to venture to suggest, for the main *Plant* homeland, that the name *might have been* coined for the 'many children' of a single family, albeit that the Welsh meaning 'children' of *plant* seems less likely to have been prevalent in SE England and France, where there are other early instances of the name. Certainly, it should be stressed that there are other possible meanings for this name (Appendix C).

## Some recent Y-STR results for English surnames

A recent scientific study highlights a complication that is more likely to arise for non-populous surnames. The progress of such a surname might have been erratic for a long time before attaining more steady growth only recently. Such recent proliferation might give rise to many nominal close relatives amongst the Y-DNA tested men

<sup>41</sup> At <http://www.taliesin-arleyn.net/names/search.php> the ONS database for England, Wales and Isle of Man gives 12034 as the *Plant* population at September 2002. It is estimated that there have been 23 generations since 1360. Reducing 12034 by  $g^n$  where  $g=1.14$  and  $n=23$  gives 591.

<sup>42</sup> This assumes 3.57 generations of 28 years within a hundred years. In 1881, the *Plant* population was 6697 in the Census returns for England, Wales and Scotland; and, in 1981, it can be estimated from the number of telephone subscribers to have been 15211. This latter estimate assumes 1.32 households per subscriber and 3.068 people per UK household; and, it is not too far out of line with the value 12034 for England and Wales in 2002. W. K. Plant, *Roots and Branches*, 1 (1990), 4-6; and 21 (2000), 16-18.

<sup>43</sup> One might also consider that the English and Welsh *Plant* population is 70 times larger than the prediction by Sturges and Haggett of 172 for the average family size.

<sup>44</sup> However, though there have undoubtedly been introgressions into the *Plant* surname, this can reasonably be expected to have been balanced by egressions from the main *Plant* family.

<sup>45</sup> This is borne out by the average growth rate for the total UK population which, historically, has been lower, at about 15% overall, than the 20% rate for just 1881 to 1981.

<sup>46</sup> J. S. Plant, 'The Tardy Adoption of the Plantagenet Surname', *Nomina*, 30 (2007), 57-84 (80) available at <http://cogprints.org/5986>

<sup>47</sup> J. S. Plant, 'Modern Methods and a Controversial Surname: Plant', *Nomina*, 28 (2005), 115-133 (132) available at <http://cogprints.org/5985>

sharing a surname. A most recent common ancestor (MRCA) can be considered, before whom the paternal lines of a set of Y-matching men coincide. Genealogical information can often indicate a minimum time depth during which the paternal lines for single ancestor men did not coincide (Appendix C). In the absence of documentary evidence however, a different approach is needed.

One can make a rough estimate of a time depth, from just the Y-STR data, by considering the genetic diversity of a Y-cluster, though the uncertainties associated with this approach are often very large. The observed number of Y-STR mutations provides an estimate of an effective time to the most recent common ancestor (TMRC) of a Y-cluster. There are inherent difficulties, such as sensitivity<sup>48</sup> to a decision as to which 'near' Y-matching males to include when counting the number of mutations in the Y-cluster. Nonetheless, King and Jobling report, with these reservations, that the TMRCs of their observed Y-clusters for *Ravenscroft*, *Grewcock* and *Feakes* might be no more than 190, 290 and 390 years respectively.

Of the forty English surnames they considered,<sup>49</sup> a particular example of high co-ancestry was found in the Y-STR results for *Attenborough*, with 87% of its Y-signatures matching. This surname is not a particularly populous one, having 932 instances. Its genetic diversity suggests that its Y-cluster might have an age (TMRC) of little more than two- to five-hundred years. They also considered the percentage of Y-signatures for a surname falling into more than one Y-clusters, allowing for the possibility that early false paternity events could have split an initial Y-cluster into a few. On that basis, for four less populous surnames (*Haythornwaite*, *Herrick*, *Stribling* and *Swindlehurst*) besides *Attenborough*, they comment, 'One interpretation of [the experimentally found] patterns [for these surnames] is that they each reflect foundation by a single man'. They then estimate a per generation false paternity rate for these surnames of 1% to 4.54%, corresponding to various values for the effective number of generations over which false paternity events could have accumulated (cf. Appendix A).

They included, in their study of English surnames, various onomastic types: ambiguous; locative; nickname; occupational; patronymic/matronymic; and, topographic. However, they found no correlation between linguistic expectation of a single or plural origin for a surname and the experimentally observed number of Y-clusters. As already mentioned, it can be expected that some origins will produce no living progeny and hence no significant Y-cluster; also, some origins will lead on to split Y-clusters due to false paternity events. On the basis of their computer simulations, King and Jobling confirm that the number of experimentally observed Y-clusters is a very poor predictor of the number of origins for a surname.

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<sup>48</sup> Excluding one distant Y-STR match from a Y-cluster generally makes little difference to the overall fraction matching but it can make a significant difference to the number of mutations in the Y-cluster.

<sup>49</sup> King and Jobling, 'Founders, drift and infidelity', 1-32, consider the surnames (in the order of decreasing population): *Smith*; *King*; *Bray*; *Stead*; *Clare*; *Wadsworth*; *Butterfield*; *Jefferson*; *Grewcock*; *Dalgleish*; *Mallinson*; *Jobling*; *Widdowson*; *Winstone*; *Jeffreys*; *Lauder*; *Hey*; *Chubb*; *Ravenscroft*; *Pitchford*; *Secker*; *Ketley*; *Starbuck*; *Slinn*; *Attenborough*; *Feakes*; *Slingsby*; *Titmus*; *Swindlehurst*; *Haythornwaite*; *Clemo*; *Norham*; *Herrick*; *Werrett*; *Tiffany*; *Beckham*; *Stribling*; *Titchmarsh*; *Feakins*; and, 'R.'

Of the forty English surnames they considered, four had populations over 9,000. None of these (*Smith, King, Bray* nor *Stead*) showed any significant Y-clustering.<sup>50</sup> They comment on this observed lack of co-ancestry in contrast to the high degree of co-ancestry that had been reported for even common Irish surnames. In general, they found that the percentage size of the largest Y-cluster, for their assortment of English surnames, falls broadly from around 60%, for a rare surname, to around 20% for a more common one, though the individual cases vary from 87% to zero. This tendency for the degree of Y-clustering to diminish with a surname's population was taken to be more an observed characteristic of English than Irish surnames; and, they go on to consider whether polygyny might be more the explanation for populous Irish patronymics than for common English surnames (Appendix B).

### **A more genealogical approach: *Meates* and its aliases**

Redmonds commented, 'Migration and linguistic change often went hand in hand, and the secret is to identify the aliases ... it is especially gratifying therefore when an explicit alias is discovered after the link has been inferred.' He continued,<sup>51</sup> 'For my part the most satisfactory [Y-chromosome] test was the one carried out into the names Rediough, Ridehalgh and Ridgewick, for it demonstrated that all could share the same origin'.

For a rare surname, volunteers can be sought for testing from amongst the adult males of *all* of its known one-name genealogical trees. I shall describe such a case study in which high resolution, Y-STR testing has fulfilled a role similar to that of several explicit aliases.

I shall relate the story, so far, of the *Meates* project. Initially, five one-name genealogical trees, with five *Meates* progenitors were Y-STR tested. This enabled their ancestral Y-signatures to be established; and, in this way, all five trees were found to match one another. The homeland of these matching trees was early nineteenth- and late eighteenth-century Ireland.<sup>52</sup>

Eighteenth-century parish registers in Ireland suggested some linguistic confusion between *Meates* and *Mates*<sup>53</sup> and further testing was undertaken. The majority of *Mates* trees from County Wicklow were found to match with the *Meates* trees,<sup>54</sup> and, subsequently, also with *Meats* in England and Wales and two *Mate* lines.<sup>55</sup> In further genetic testing, the Y-STR results were extended to the 37 marker level revealing that

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<sup>50</sup> King and Jobling, 'Founders, drift and infidelity', 10, 18.

<sup>51</sup> Redmonds, *Names and History*, pp. 23, 31.

<sup>52</sup> These five progenitors were: Bartholomew (b. c1790, d. 1872 Dublin) 3 males tested; William (b. before 1820, m. Dublin) 2 tested; William (b. c1815 according to military papers in Arklow) 3 tested; William (b. c1817 County Wicklow) 10 tested; Leonard (b. before 1817 Ireland) 4 tested.

<sup>53</sup> County Wicklow registers for the parish of Castlemacadam show the spellings: *Meats* in 1724, 1732, 1757; *Meates* in 1744, 1745, 1747, 1750, 1750, 1752, 1752, 1754, 1755, 1758, 1759, 1760, 1762, 1762; and, *Mates* in 1747, 1752, 1758. In the early nineteenth-century *Mates* became the predominant form in County Wicklow.

<sup>54</sup> A further *Mates* tree that went back to County Kildare does not match; nor do two *Mates* trees that appear in the mid-nineteenth century in the coal mining district of County Wicklow.

<sup>55</sup> S. C. Meates, 'The Surnames Meates and Mates and DNA Testing', *Journal of the Genealogical Society of Ireland*, 6(3) (2005), 11-24. Also, S. C. Meates, 'How a DNA Project has produced discoveries in the Meates One-Name Study not possible with paper records alone', *Journal of One-Name Studies*, Jan-Mar 2006, 6-10.

all of the Irish progenitors, *Meates* and *Mates*, had a characteristic mutation of one marker<sup>56</sup> and the English *Meats* had a different defining mutation.<sup>57</sup> These were evidently slight mutations from an ancestral signature<sup>58</sup> that appears also for *Mate* in England and for five random volunteers with the surname *Myatt*,<sup>59</sup> two of whom live in Staffordshire.<sup>60</sup>

Local dialect and early documentary evidence for Staffordshire (Appendix D) suggests that *Meate* could have begun as a two-syllable surname: *Mayot*. This helps to explain the Y-STR results, which indicate that instances of the variant spellings *Meates*, *Meats*, *Mates*, *Mate* and *Myatt* belong to a single, male line family.

## Acknowledgements

I am grateful to Susan Meates for providing me with details of the *Meates* alias *Myatt* surname project; Susan is Chairman of the Advisory Panel on DNA for the Guild of One-Name Societies. I am also grateful to Chris Pomery, instigator of one of the first Y-STR projects, for commenting on an early draft of this paper; also, to Mr W. Keith Plant, President of the Plant Family History Group for publishing over many years in *Roots and Branches*, which was until recently the Group's in-house journal, my investigations into the origins of the *Plant* name and for supplying some additional pieces of information.

## Appendix A: Effects of extreme false paternity rates

The fraction matching in a Y-STR surname study depends partly on the false paternity rate. A false-paternity-event (fpe) is sometimes called instead a non-paternity-event, a misattributed paternity, a male introgression, or a non-patrilineal transmission. It is an event by which a male surnamed *Sykes*, for example, does not have a true *Sykes* father in the biological sense of he who transmitted the Y-signature. That can arise in a number of ways: from a concealed wifely infidelity with a non-*Sykes* father; or, from an unmarried *Sykes* mother passing her own surname to the child; or, from the adoption of a non-*Sykes* child renamed *Sykes*. There is also the possibility of the *Sykes* name descending with inherited land rather than by paternal descent. Any name-change<sup>61</sup> within a male line could show up as a false-paternity-event in a Y-STR surname study.

False-paternity rates have been investigated in connection with the disputed fidelity of a modern female partner. Paternity used to be tested by blood group but is now ascertained more surely by a type of DNA test. Anderson<sup>62</sup> has taken account of the fact that some paternity testing is for men whose paternity is already in doubt. Surveying worldwide studies

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<sup>56</sup> For *Meates* and *Mates* of Ireland, the marker YCA IIa has the value 20 instead of 19.

<sup>57</sup> For *Meats* of England, the marker CDYa has the value 33 instead of 34.

<sup>58</sup> The apparent ancestral signature has the following values at each marker position: DYS393=12; 390=22; 19/394=15; 391=10; 385a=13; 385b=15; 426=11; 388=14; 439=11; 389-1=12; 392=11; 389-2=28; 458=15; 459a=8; 459b=9; 455=8; 454=11; 447=24; 437=16; 448=20; 449=29; 464a=12; 464b=14; 464c=15; 464d=15; 460=10; GATA H4=10; YCA IIa=19; YCA IIb=21; 456=14; 607=14; 576=16; 570=19; CDYa=34; CDYb=35; 442=12; and, 438=10.

<sup>59</sup> Amongst living descendants with similar surnames, *Myatt* is the most numerous, with a population of 3237 in England, Wales and the Isle of Man in September 2006; it is found particularly in north Staffordshire.

<sup>60</sup> S. C. Meates, 'DNA testing of tremendous value in sorting out variants in my one-name study', *Journal of One-Name Studies*, Apr-Jun 2006, 6-9.

<sup>61</sup> Redmonds, *Surnames and Genealogy*, esp. pp. 78-88 and 99-104 discusses in some detail some evidence in Yorkshire for the use of aliases.

in this light, he reported an average chance that a man is *not* the biological father of his partner's child; his results for Europe were: 29.8% for men with low paternity confidence; 3.7% for men with unknown and high paternity confidence; and, 1.6% for men with high paternity confidence.<sup>63</sup> However, appropriate, unbiased estimates are elusive.<sup>64</sup> For example, some people argue that the historical false paternity rate could have been lower than that found for typical modern mating, since it is alleged that society is now less moral.<sup>65</sup> King and Jobling comment, 'Historical rates of [false paternity] are difficult to estimate, though modern rates, where they have been measured, are of the order of a few percent per generation'; for the purposes of a simulation, they included a constant rate of 2% per generation.

For completeness, I shall consider a wide range of false paternity rates, from 0% to 30% per generation. Though it is unlikely that extreme values would persist through the generations down all lines of a populous single family, this can serve to illustrate the effects of *extreme* rates on a Y-STR study.

An approximation of randomly sampled, independent, male lines of descent from a single founder can break down because, for example, a multi-origin surname can be expected to give rise to mismatching Y-signatures from the outset. In this approximation<sup>66</sup> however, the probability that a living male will carry the Y-signature (or a slight mutation thereof) of the surname's progenitor from  $n$  generations ago is  $(1-p)^n$ ; where  $p$  is the fractional probability of a false paternity event at each generation. Uncertainties in the number of generations that have elapsed since late medieval times can be represented by values of  $n$  ranging<sup>67</sup> from 15 to 25; or, for earlier patrilineal name formation in Ireland,<sup>68</sup> a value as high as  $n=35$  might be appropriate. I shall also consider an effective value of  $n=5$  to cover a case in which those tested are close nominal relatives.<sup>69</sup> The value  $p=0.30$  corresponds to a 30% chance that every child is not the biological offspring of its nominal father; and, as the table below shows, this accumulates to there being only a 17% chance of intact, male line descent after  $n=5$  generations and 0% chance after  $n=15$  or more generations. At the other extreme of false paternity rates,  $p=0.0$  leads on to 100% chance that the Y-signatures will match amongst the descendants of a single founder, for all values of  $n$ . The following table shows the probabilities of matching Y-signatures, for various other fixed values of  $p$  and  $n$ .

<sup>62</sup> K.G. Anderson, 'How well does paternity confidence match actual paternity? Evidence from worldwide nonpaternity rates', *Current Anthropology*, 47(3) (2006), 513-520.

<sup>63</sup> Very similar trios of values were found for North America; and, for a heterogeneous set of results from elsewhere. However, Anderson adds, 'The relative frequency of men with high and low paternity confidence is unknown, which makes it difficult to estimate true [false paternity] rates for [modern] human societies'.

<sup>64</sup> M. A. Jobling, M. E. Hurles and C. Tyler-Smith, *Human Evolutionary Genetics: Origins, Peoples, Diseases* (New York and Abingdon, 2004), p. 490 report a similar range of values. They mention: anecdotal rates of  $p=0.3$  in the casework of social workers; an 'urban myth' of  $p=0.1$  among human geneticists;  $p=0.0135$  in a cystic fibrosis screening study; and, less than  $p=0.01$  in a Swiss study. They also mention  $p=0.12$  for the Mexican population and a 'customary adoption' practice for the people of Torres Strait islands.

<sup>65</sup> On the other hand, it might be argued that the rate might historically have been higher because contraception methods were less advanced; also, in early times, the trend might have been rather less well established for passing surnames down male lines.

<sup>66</sup> McEvoy and Bradley, 'Y-chromosomes and the extent of patrilineal ancestry in Irish surnames', 214.

<sup>67</sup> Apart from the postulation of various dates for the origins of a hereditary surname, Sturges and Haggart adopted a generation time of 28 years whereas King and Jobling considered that 35 years was more appropriate for an English surname. It might also be appropriate to subtract one or two generations to account for the age of the individual being tested.

<sup>68</sup> McEvoy and Bradley, 'Y-chromosomes and the extent of patrilineal ancestry in Irish surnames', 217.

<sup>69</sup> King and Jobling, 'Founders, drift and infidelity', 14, approach the problem by including, for example, consideration of a possibility that those who were tested might be as close as nominal second cousins, such that an effective value of  $n=3$  becomes appropriate.

	p=0.01	p=0.02	p=0.05	p=0.10	p=0.30
n=5	95%	90%	77%	59%	17%
n=15	86%	74%	46%	21%	0%
n=25	78%	60%	28%	7%	0%
n=35	70%	49%	17%	3%	0%

This indicates that, for exceptionally high false paternity rate values of  $p=0.10$  or  $0.30$ , there is little chance that a Y-signature will have descended intact down a male line from a late medieval forefather. For low values ( $p=0.00$  or  $p=0.01$ ), there is a much higher chance. In the particular case of a ‘many bastards’ hypothesis for the early origins of a populous family, a moderately high, effective value of  $n$  might apply, along with perhaps higher, early values for  $p$  than in a more monogamous context. Though there is much uncertainty, roughly around half matching could arise in a sample of such a one-name family’s men.

### Appendix B: Large families in the Sturges and Hagggett simulation

In their computer simulations, Sturges and Hagggett considered the number of male offspring of each couple who go on to marry and have their own offspring. They considered two different ways in which that number might differ amongst monogamous couples;<sup>70</sup> the two ways had a rather minor effect on their results. For the purposes of their simulations, they fixed each generation at 28 years and deduced that 23 generations had elapsed since the mid-fourteenth century Black Death. Then, to account for a twenty-five fold increase in the total population, they assumed a 15% increase at each generation; or, in other words,  $g=1.15$  where  $g$  is the growth factor per generation. That is to say, they considered the total population had grown by a factor of  $g^n=25$  through  $n=23$  generations, though they reduced  $g$  slightly to 1.1385 for the native population after deducting estimated growth from net immigration.

The population of *Sykes*, for example, is about thirteen-fold greater than these computations allow for a single family. *Sykes* had a population of 19036 in England, Wales and the Isle of Man in September 2002 according to the Office of National Statistics, ranking it 391<sup>st</sup> amongst surnames. This contrasts with the predictions of Sturges and Hagggett.<sup>71</sup> According to their computer model, the average single-ancestor surname will have 86 males after 23 generations and only around two percent of the simulation’s initial one thousand families will have more than 500 surviving males; they add that it is unlikely that their model will produce more than 750 surviving males for a family at the total population size they chose for the simulation.

To gain more growth for a family, one might consider relaxing some of the constraints, such as by allowing a family to grow through more generations. Allowing a single-ancestor surname to escape the ravages of the Black Death and grow through 30 generations, rather than the 23 generations of the model computations, can increase the prediction of its current population by about 2.5 fold for  $g=1.14$ , or by about 3.6 fold for a higher growth rate of  $g=1.20$ .

A further 2.7 fold increase for the largest families can be expected by increasing the initial number of families in the computer model from 1000 to 100000, though the exceptionally large families would then descend from a still smaller fraction of the initial families.<sup>72</sup>

In this model, even a rare, fortuitous combination of all the beneficial factors can be barely enough to explain the experimental finding of a populous, single ancestor featured surname.

<sup>70</sup> They considered a Poisson distribution and also a Moroney distribution. Sturges and Hagggett, *Inheritance of English Surnames*, pp. 20, 24.

<sup>71</sup> Sturges and Hagggett, *Inheritance of English Surnames*, p. 16.

<sup>72</sup> *Ibid.*, p. 16.

A large factor can arise to increase the population of a ‘multi-origin’ surname, in that several of its many origins could produce families to contribute to the modern population of a surname. Clearly, for a surname with a significant number of matching Y-signatures, a ‘many origins’ explanation can be substituted by a ‘many bastards’ contention though a polygynous burgeoning of such a surnames population may have been more long term than at its first generation. This, of course, still leaves the controversy as to whether the bastards would have kept the same surname.

Possible alternative explanations are being sought for a large, single family. The effects of a population bottleneck have been considered in connection with the large degrees of co-ancestry that have been found for some populous Irish surnames. On the basis of their simulations, King and Jobling comment that the chief effect of a population bottleneck, such as that of the nineteenth-century Irish ‘Great Hunger’, is a marked reduction in the chance of survival for a family’s descendants. However, this changes the computed degree of Y-clustering only slightly. They add, ‘We therefore consider it more likely that the longer-term demographic effects of polygyny [rather than the ‘Great Hunger’] are responsible for the differences between Ireland and Britain’.

### Appendix C: The *Plant* project

This has been discussed in some detail already.<sup>73</sup> There is a little more documentary evidence. For example, it has been suggested<sup>74</sup> that there is a common theme of innuendo indicating a sense of philandering or bestiality for the names: *Plantebene*, *Planterose*, *Plantefolie*<sup>75</sup> and *Plauntegenet*. There is also evidence for the name *Plantefene* in 1210;<sup>76</sup> and, judging by MED definitions of *fene*,<sup>77</sup> *fain*,<sup>78</sup> and *foin*,<sup>79</sup> this by-name remains consistent with this theme of innuendo.<sup>80</sup>

Turning to the developing Y-STR evidence, there were seven volunteers with the *Plant(t)*<sup>81</sup> surname in 2001 and six matched; and, now, fifteen out of twenty-six match, i.e. 58%. It could be argued that those living in the USA might be expected to show less genetic diversity than those in the English homeland (the so-called Founder Effect, though there is evidence for

<sup>73</sup> Plant, ‘Modern Methods and a Controversial Surname: Plant’, 115-133; Plant, ‘The Tardy Adoption of the Plantagenet Surname’, 80-84.

<sup>74</sup> Plant, ‘Modern Methods and a Controversial Surname: Plant’, 123. Also, Plant, ‘The Tardy Adoption of the Plantagenet Surname’, 64-66.

<sup>75</sup> *Ibid.*; additionally, there is a 1267 mention of Elye *Plauntefolye* at Nottingham in the Fine Rolls.

<sup>76</sup> Inhabitants of Leicester (1103-1327), p. 22. Andreas *plantefene* – the 1899 printing suggests the meaning ‘hay-planter’.

<sup>77</sup> The MED lists *fene* as a variant spelling of *fain*.

<sup>78</sup> The MED lists the following meanings for *fain*: adj: (1a) Joyful, happy; (1b) *for fain* = for joy; (1c) pleased, satisfied, or content; (2a) happy, willing, eager (to do something); (2b) glad, content under adverse conditions (to be able to pursue a certain course of action); (3) desirous of, or eager for something (with *for*, *of*, to phrase); (4a) favourably disposed (to a person); (5a) pleasing, enjoyable, attractive; (5b) suitable, good (for a purpose). Also, *fain*: adv: Gladly, joyfully, eagerly.

<sup>79</sup> The MED lists for *foin*: n1: (a) A thrust or lunge with a pointed weapon; (b) a type of spear. For *foin* n2: (a) The beech marten; (b) the fur of the beech marten.

<sup>80</sup> There is innuendo of sense as an ‘eager procreator’ (*fain*), or perhaps ‘thrusting spear planter’ (*foin*), though ‘happy planter’ (*fain*) has a more innocent meaning.

<sup>81</sup> Those who Y-DNA match with the main English *Plant* family include two in the USA descended from the name spelling *Plantt*. The International Genealogical Index includes various records of the spelling *Plantt* in: Oxfordshire (1540); Lincolnshire (1565); Worcestershire (1577); Cheshire (1581); Leicestershire (1586, 1637); London (1661); and Staffordshire (1682). The spellings *Plontt* and *Plountt* occur in a sixteenth-century list; A. J. Kettle, ‘A list of families in the Archdeaconry of Stafford: 1532-3’, *Collections for a history of Staffordshire*, 4<sup>th</sup> ser., v. 8 (Stafford, 1976); and, in the Staffordshire Marriage Index, most have the spelling *Plant* though fourteen are spelled *Plante* and two *Plantt*: viz. Maria, Stoke on Trent 1682; and, Tho, Leek 1720; W. K. Plant, *Roots and Branches*, 34 (2007), 50.

several independent migrations of Plants to the USA). When those in the USA are omitted, the percentage matching decreases to 53% (i.e. to ten out of nineteen matches). There is also the question of whether the sampled Plants were random or whether the results contain some statistical bias. Though all of those who were DNA tested volunteered independently, four could trace their ancestry back to one or another of the earliest known ancestors of three earlier volunteers.<sup>82</sup> Perhaps being over cautious and omitting all four, the fraction matching reduces further to 44% with a statistical uncertainty of 12% (i.e. to seven out of sixteen).<sup>83</sup> This is still a sizeable fraction when applied to the total population of this surname; and, even neglecting that it should be augmented to account for emigration, it indicates that a main Plant family has grown 'unusually'<sup>84</sup> from a single forefather.

The main Y-cluster<sup>85</sup> can be tentatively associated with the main geographical cluster found for *Plant*.<sup>86</sup> However, the main *Plant* family has evidently migrated far, which raises questions of how interrelated were widespread *early* records for this name. The situation for the first few hundred years remains uncertain; but, it can be noted that the Y-matching Plants have genealogical male lines widely spread back to: east Cheshire (1565); mid-Staffordshire (1740); Worcestershire (1700); Leicestershire (1716); NE Derbyshire (1745); south Yorkshire (1914); and south Lancashire (1794). There are also matches to lines in the USA: Virginia (c1655); Connecticut (1691); New York (c1839); and Florida (living).

The main geographical cluster for *documentary* instances of this name is in the NW Midlands. To this, one can add that the geographical spread, by around 1700, of the Y-matches reaches significant distances with, by then, the migration of this single family reaching as far as, for example, the locality of an early (1428) *Plant* record in Leicestershire, some distance away from the main documentary concentration of Plants. However, one can say no more than that the late-medieval Leicestershire record *might have been* involved in an *early* mobility of the main single family; or, instead, it may have belonged to some other family with the same surname. The 1428 entry is: 'From the heirs of John Plaunte, for the fourth part of one knight's fee which they hold in Claybrok Magna, and which John Plaunte once held, ...'.<sup>87</sup>

In the 1881 Census data, the main documentary cluster can be depicted by the percentages of Plants in the total populations<sup>88</sup> of each of three adjoining counties. The Plants in 1881 amount to: 0.019% of the population of Lancashire (648 Plants); 0.084% for Cheshire (541);

<sup>82</sup> Each volunteer came forward independently and none was genealogically related except that four could trace their male-line ancestry back to common ancestry with one of three different existing volunteers – these most recent common ancestors (MRCAs) were no more recent than the seventeenth or eighteenth or, in one case, early nineteenth century. It is just possible that this common ancestry may have played *some* part in encouraging these volunteers to go ahead with a Y-DNA test.

<sup>83</sup> One of the four had common ancestry in the USA.

<sup>84</sup> It can be noted that *Plant* is the 617th most common surname in England and Wales though the initial number of progenitors of surnames in England was evidently a few hundred thousand. Moreover, many of the most common, English surnames can be expected to be 'multi-origin' lowering their primacy in an ordered list of the largest single-surname families.

<sup>85</sup> This Y-cluster has Y-signatures lying close to the *Plant* modal haplotype (its most common marker values). Though a rather limited number of volunteers have had all of the following Y-STR markers measured, this appears to be: DYS393=13; 390=24; 19/394=14; 391=11; 385a=11; 385b=14; 426=12; 388=12; 439=11; 389-1=13; 392=13; 389-2=29; 425=12; 458=18; 459a=9; 459b=10; 455=11; 454=11; 447=25; 437=16; 448=20; 449=30; 464a=15; 464b=15; 464c=16; 464d=16; 460=11; GATA H4=11; YCA IIa=19; YCA IIb=21; 456=18; 607=15; 576=17; 570=19; CDYa=36; CDYb=37; 442=12; and, 438=12. Fuller results are given at <http://www.plant-fhg.org.uk/dna.html>

<sup>86</sup> For example, in pre-1600 records of the 1984 IGI (International Genealogical Index), there are 83 *Plant* records in the main Cheshire-Staffordshire cluster and more scattered instances in: Lincolnshire (17 records); Leicestershire (12); Worcestershire (10); and, just a few in Norfolk, Essex, Nottinghamshire, Derbyshire, Warwickshire, and Gloucestershire.

<sup>87</sup> Hundred of Guxlaxton, PRO, Feudal Aids, Leicestershire. Information supplied by W. Keith Plant.



rising to 0.246% for Staffordshire (2413). Other documentary sources give rise to a similar distribution in earlier times. Thus, the main cluster can be traced back to seventeenth-century Hearth Tax data,<sup>89</sup> particularly for hundreds astride the boundary between east Cheshire and north Staffordshire,<sup>90</sup> and to still earlier<sup>91</sup> at the northern-most tip of Staffordshire<sup>92</sup> and in the adjoining Macclesfield Hundred of east Cheshire.<sup>93</sup>

However, there is also a possible second origin, in both the documentary and Y-STR evidence. In the documentary data, there is a smaller cluster of Plants in south Lincolnshire. This is notable in the IGI records before 1750. It can be traced back through sixteenth-century records<sup>94</sup> for example, perhaps to John Plant son of Alan of Burgh Marsh in 1344.<sup>95</sup> It can not be ruled out that the Y-mismatch of Plants from here to the main *Plant* family might have arisen from a false paternity event; or, that, instead of representing early Plants in south Lincolnshire, it might have arisen from a later, distant migration from the continent<sup>96</sup> for

<sup>88</sup> The total populations of individuals in the 1881 Census for Lancashire, Cheshire and Staffordshire were respectively: 3,454,441; 644,037; and, 981,013.

<sup>89</sup> W. K. Plant, 'A 1663 List of habitants in Macclesfield Hundred', *Roots and Branches: The Official Journal of the Plant Family History Group*, 4 (1992), 9. *Collections for a History of Staffordshire*, edited by the William Salt Archaeological Society (1925), pp. 157-242. 'Northwich Hundred Poll Tax 1660 and Hearth Tax 1664', *Record Society of Lancashire and Cheshire*, vol. 118: together, the 7 records appear to apply to 5 different *Plant* households. D. Hey, 'The distinctive surnames of Staffordshire', *Staffordshire Studies*, 10 (1998), 1-28 (p. 14); the value of 10 *Plant* households in Pirehill seems to be incorrect and is 5 in *Collections for a History of Staffordshire* (1921), pp. 44-173. J. S. Plant, *Roots and Branches*, 30 (2005), 26-46 (32-34).

<sup>90</sup> There are two pairs of Hundreds astride the Cheshire-Staffordshire border and the largest number of Hearth Tax households is in the easterly pair: 10 *Plant* households in Macclesfield Hundred (east Cheshire) and 19 in Totmonslow (north Staffordshire). Further to the east, the High Peak Hundred of Derbyshire has 3 *Plant* households and there are just 3 more in the rest of Derbyshire. To the west of the Macclesfield-Totmonslow pair, there is the Northwich-Pirehill pair of Hundreds astride the Cheshire-Staffordshire border, each with 5 households. To the south in Staffordshire, there are 2 households in Offlow Hundred and 1 in Cuttleston; and, to the west, 1 *Plant* household in Shropshire.

<sup>91</sup> In a 1532-33 list for Staffordshire, the Plant name (in variant forms) is found mainly towards the most northerly tip of the county, at: Leek Frith (5 households); Leek (1); Bradnop Side (1); Morridge Side (2); Longsdon Side (3); Sheen (1); Bearstone (1); Milwich (1); Tillington with Foregate (1); Stone (1); Alston (1); Darlston (1); and, Swynerton (1). Kettle, 'A list of families in the Archdeaconry of Stafford: 1532-3'. In the 1984 IGI, there are 37 records for Staffordshire before 1600 and 46 for Cheshire.

<sup>92</sup> 1381 – Thomas Plonte surrendered himself at Stafford to the complaint by the widow of John de Warton that he had abetted other Leek men in her husband's murder – Thomas was released on finding security for good behaviour; 1395 – John Plonte witnessed a conveyance of John de Grenley of land in Leek to Thomas Payge; and, 1406 – Edward Plont gained from the Abbot of Dieulacres a lease for 39 years of two mess' one croft called Calwo-heyde de Roche Graunge. W. K. Plant, 'Early Staffordshire Plants', *Roots and Branches*, 2 (1990), 7

<sup>93</sup> Plant, 'Modern Methods and a Controversial Surname: Plant', 118. However, I have found no mention of *Plant* in the unindexed Poll Tax returns for Staffordshire and Derbyshire and there is no return for Cheshire; I have also searched various other counties without success. C. C. Fenwick, *The Poll Taxes of 1377, 1379 and 1381* (Oxford, 3 Parts, 1998, 2001, and 2005).

<sup>94</sup> The 1984 IGI lists *Plant* at: Orby 1562, 1596 and 1599; Burwell with Walmsgate 1590; Addlethorp 1592. *Plantt* is at: Wainfleet 1565. *Plainte* is at: Addlethorpe 1589. *Plante* at: Ingoldmells 1592; Calceby 1592; Addlethorpe 1598.

<sup>95</sup> Patent Rolls, May 2, 1344, Westminster. The record refers to a license for the alienation in mortmain to the 'pnyor and convent of Bolyngton' of a messuage at Burgh le Marsh by Wainfleet in south Lincolnshire. There are a few different Bollingtons and it is not clear whether there is any connection to Bollington near Bowdon (mid-north Cheshire) whose church was appropriated to the Benedictine Priory of St James, Birkenhead; Victoria County History for Cheshire (London, 1980) vol. 3, pp. 128-131.

<sup>96</sup> There is a close match, indicating a 67% chance of common ancestry in the past 24 generations, between a south Lincolnshire Plant and a Spaniard (from near a cluster of the *Plante* surname in Gascony) whose earliest known male-line ancestor was Ramón *Planter* b 1844 Zaragoza.

example. However, there is just a hint that this second cluster might have been genetically distinct, since there is a rather close Y-STR match between two separate Plant male lines<sup>97</sup> datable back to around 1800 in south Lincolnshire and these do not match with the Y-signature of the main Plant family.

It was claimed in the nineteenth century that the Plants were descendants of the Plantagenets<sup>98</sup> though I have found no evidence of this, merely proximities between the two families. Initial evidence for both names is found together for Anjou. The *Plantagenet* name is first recorded in the form of the nickname *Plante Geneste* of Geoffrey V, count of Anjou, who has been tentatively associated with the word *plantat* meaning 'shoot' or 'scion'.<sup>99</sup> The more mundane name-form *de la Planta*<sup>100</sup> (alias *de Plant*'),<sup>101</sup> which can mean 'from the shoot', is recorded a few decades later, in 1202, for a land-holder in the Count's imperial homeland of Anjou.<sup>102</sup> Subsequently, at Rouen in 1273, there were three merchants called *de la Plaunt* and *Plaunt*; and, there were also name variants for individual(s) in East Anglia with the Christian name William: to wit, *Plente* (1272-84); *Plauntes* (1275); and *de Plantes* (1282).<sup>103</sup> Clearly, these various name-forms could have had separate origins; and, for example, there could have been a different meaning in Anjou from that in East Anglia or in the subsequent main *Plant* homeland. It is merely a possibility that can not be *entirely* ruled out that such naming instances might represent the migrations of a single family with some linguistic development.<sup>104</sup> Though such migration might recall the itineracy of the Angevins themselves, it should be noted that the social difference between the *Plantagenet* and *Plant* families can be considered too great for a blood relationship. Notwithstanding that the Plants might have been unwanted bastards on a downwards path of social mobility, it has been normal this past century to consider that it is too fanciful to suppose that there could have been a genetic connection between the two families. I know of no adequate reasoning to amend that view.

<sup>97</sup> There is a 67% chance that these two lines descend from the same forefather in the past 24 generations. The earliest known male-line ancestors of these two Plants are: John Plant b 1783 Sibsey, Lincs to Richard and Sarah; and William Plant b 1832 Leake East Fen Allotment, Lincs to John and Eliza.

<sup>98</sup> M. A. Lower, *A Dictionary of Family Names of the United Kingdom* (London and Lewes, 1860), p 185; J. Sleight, *A History of the Ancient Parish of Leek* (Leek and London, 1862), p. 33; *Notes and Queries* (OUP), 8<sup>th</sup> S. XII (1897), pp. 167, 258. All of these claim that the *Plant* surname is derived from *Plantagenet* with the last discussing whether the Plants were Plantagenet descendants; this includes, for example, 'the statement that the holder of the name would be king by Salic law must be taken with very great caution'. See also Plant, 'The Tardy Adoption of the Plantagenet Surname', 80-81.

<sup>99</sup> *Ibid.*, 77.

<sup>100</sup> Normandy Rolls, 1200-1417, p. 62. I am grateful to Dr Philip Morgan of Keele University for confirming the translation of the abbreviated Latin of an entry before 21<sup>st</sup> August 1202 as: 'It is ordered the Constable of Chinon' to have William de Ponte put into possession of all the land which was of Eimeric de la Planta, which (land) he (the king) has committed to him in custody.'

<sup>101</sup> Normandy Rolls, 1200-1417, p. 62. The translation of an entry between 30<sup>th</sup> August and 9<sup>th</sup> September is: 'Land granted - The king has given by his letters close to John Malmorun that land which was of Eimeric de Plant' in the bailiwick of Loud[un], just as the same Eimeric had it. The same has given the same the land of the said John in the bailiwick of Chin[on] in the same manner.' The mention of John in the second sentence is confusing and could be a scribal slip for Eimeric.

<sup>102</sup> Count Geoffrey's eldest son, King Henry II, had given three castles in Anjou – Chinon, Loudun and Mirebeau – to his five-year-old son, John in 1173. Between 1199 and 1202, Chinon was a main base of King John's itinerant courts. On the 30<sup>th</sup> July 1202, John heard that his mother had been trapped by John's nephew Arthur in the castle of Mirebeau; he moved decisively from Normandy to take Mirebeau by surprise on 1<sup>st</sup> August 1202. J. Gillingham, *The Angevin Empire*, 2<sup>nd</sup> edn (London, 2001), pp. 34, 74, 91-92.

<sup>103</sup> Plant, 'Modern Methods and a Controversial Surname: Plant', 127-128, 131. Also, for 1301, there is the name *Johannes Plonte* in S. L. Thrupp and H. B. Johnson, *The earliest Canterbury freeman's rolls 1298-1363* in Kent Records (Ashford, 1912-) Kent Archaeological Society, 18 (1964), 181.

<sup>104</sup> Redmonds has indicated that linguistic developments occur particularly for a migrating surname whose meaning is not obvious in its new locality. Redmonds, *Surnames and Genealogy*, p. 16.

Instead, the available evidence can be explained by, for example, a spreading cultural influence for the formation of all of these similar names, such as one from a widening belief in the vegetable soul.<sup>105</sup>

Moving on to modern views about this name's meaning, various possibilities have been proposed in twentieth-century Surname Dictionaries for *de la Plante* (sic) and *Plant*, to wit: 'from the plantation'; 'sprig'; 'young offspring'; 'tender or delicate individual'; 'cudgel'; and, 'planter or gardener'.<sup>106</sup> In particular, the meaning 'planter or gardener' from the DBS has been much quoted since the mid-twentieth century. Edgar Tooth puts this slightly differently with, 'Any medieval villager who had "green fingers", so to speak, could also very easily acquire a surname such as *Plant*'.<sup>107</sup> 'Green fingers'<sup>108</sup> suggests a fertile power, which is characterised by the legendary Green Knight of the main fourteenth-century *Plant* homeland<sup>109</sup> whose wife grants Sir Gawain her green cord to perpetuate his life.<sup>110</sup> Such symbolism might be related to contemporary belief in the vegetable soul, which held the power of generation in both man and animals.<sup>111</sup> Here in the main *Plant* homeland, near the Black Prince's Macclesfield vaccary and stud farm,<sup>112</sup> the Plants had herds of cows<sup>113</sup> and other livestock.<sup>114</sup> Early occupations elsewhere included: merchant (Geoffrey Plaunt in 1273);<sup>115</sup> once bailiff of Maresfeld (Robert Plonte in c.1280);<sup>116</sup> draperie (Will. Plante in 1376);<sup>117</sup> agricole (Johannes Plante in 1381);<sup>118</sup> and, chaplain (William Plonte in 1386).<sup>119</sup> The 'planter' or gardener meaning is not dismissed, though it can be borne in mind that 'planting'

<sup>105</sup> Such belief can be dated back to Scotus Erigena and Bernard Plantapilosa in ninth-century France. Plant, 'The Tardy Adoption of the Plantagenet Surname', 75-76.

<sup>106</sup> Plant, 'Modern Methods and a Controversial Surname: Plant', 120. Also, the DAFN lists: Plant (1) English and French – gardener, in particular someone with a herb garden, or tender or delicate individual; (2) French – planted area, in particular one planted with herbs or vines; and (3) Jewish (eastern Ashkenazic) – unexplained.

<sup>107</sup> E. Tooth, *The Distinctive Surnames of North Staffordshire*, vol. 2, *Surnames Derived from Occupations, Trades, Position and Rank* (Leek, Staffordshire, 2002), p. 182.

<sup>108</sup> The OED does not restrict 'green fingered' to a talent for growing only plants, though it cites only modern usage.

<sup>109</sup> The fourteenth-century Pearl Poet, aka the Gawain Poet, has been associated with the main Plant homeland of east Cheshire and north Staffordshire; and, in particular, the poet's Green Knight's chapel has been associated with the rock cleft called *Luds Church* near Leek.

<sup>110</sup> *Sir Gawain and the Green Knight*, lines 1851-4 and 2358-65. A similar sentiment had been expressed in the love poetry of William IX, duke of Aquitaine (1086-1126): 'To refresh my heart in her / To renew my flesh in her / So that I shall never grow old'.

<sup>111</sup> In thirteenth-century scholasticism, the generative power was present in minerals as well as in the vegetable soul, which was also present in animals and man. C. K. McKeon, *A Study of the Summa Philosophae of the Pseudo-Grosseteste* (New York, 1948), p. 151.

<sup>112</sup> The Black Prince was from 1333 to 1376 the Earl of Chester and Prince of Wales. H. J. Hewitt, *Cheshire under the three Edwards* (Chester, 1967), pp. 22, 31-32, 35-36.

<sup>113</sup> John and Richard Plont were amongst eight men who were sued in 1379 by Peter de Legh, 'for trespassing on his land at Quarnford with their herds of cattle and leaving them there to graze at their heart's content'; he claimed damages of £10. Tooth, *The Distinctive Surnames of North Staffordshire*, vol. 2, *Surnames Derived from Occupations, Trades, Position and Rank*, p. 182.

<sup>114</sup> The Macclesfield Court Rolls (surviving records for twelve years between 1349-96) mention: licences to graze pigs at Lyme for Honde Plont; also, sheep, draft beasts (oxen), working horses and 'p' for Ralph Plont. A. M. Tonkinson, *Macclesfield in the Later Fourteenth Century: Communities of Town and Forest, Remains Historical and Literary connected with the Palatine Counties of Lancaster and Chester*, vol XLII – Third Series (Manchester, 1999), pp. 73-74, 263-264.

<sup>115</sup> Patent Rolls, June 2, 1273, Westminster.

<sup>116</sup> Plant, 'The Tardy Adoption of the Plantagenet Surname', 82.

<sup>117</sup> Leicester Borough Archives Box L No. 248(8), Rents of Shops in Leicester.

<sup>118</sup> Great Finsborough, Stow Hundred, Suffolk, 6d; Fenwick, *The Poll Taxes of 1377, 1379 and 1381*, Part 2, p. 520, col. 3.

<sup>119</sup> Rent in Olveston (land of the prior and convent of Bath), Patent Rolls, 1386.

was extensible not just to gardening<sup>120</sup> but also to breeding and offspring.<sup>121</sup> With such an extension, the sense of *de la Planta* (sic) and *Plant* can be developed as ‘from the shoot’ to ‘offshoot’ to ‘offspring’; and, hence, to the Welsh meaning ‘children’.<sup>122</sup> However, the surnames *Children* and *Childers* are associated in the DBS with residence at or near a *Childerhouse* meaning ‘children’s home, orphanage’ rather than to the many children of a populous single family. The more general meaning ‘offspring’ for *Plant* is less controversial.<sup>123</sup>

#### Appendix D: Documentary records for *Meates* and its Y-related forms

There is a 1281 mention of a ‘Randle Mayot’ in connection with a messuage and land at ‘Briddesmere’ (Bridgemere, Cheshire, near the Staffordshire border) and there are various records of *Mayot* (in 1359, 1369, 1387, 1446, 1452, 1467, 1489, 1489/90),<sup>124</sup> *Mayote* (1332/33, 1338, 1350)<sup>125</sup> and *Mayott* (1473)<sup>126</sup> for the Manor of Rushton James<sup>127</sup> which is in Leek parish at the northern-most tip of Staffordshire. There is a particular example of a possible confusion of spelling in the register for Betley Parish, coinciding with a change of Curate.

Curate: Tilson	Mar 22, 1598/99 baptism Rad. fi. John Meate
Curate: Hulme	May 16, 1607 baptism Willm. fi. John Mayott; Dec 29, 1607 burial Willm. fi. John Meyott

Though the documentary evidence is not in itself conclusive, it is reinforced by the Y-STR evidence; and, together this indicates that this confusion could have arisen from dialect variations, such that all three spellings – *Meate*, *Mayott*, *Meyott* – might represent two syllables with *Meate* representing the local pronunciation<sup>128</sup> of *Mayott*. The form of the surname evidently evolved to *Myatt*, in the eighteenth century in various places in multiple trees in Staffordshire. Other spellings in Staffordshire include: *Meot*; *Miot*; *Miat*; *Mayte*; *Mete*; and *Meote*.

<sup>120</sup> In the DBS, this metonymic meaning is compared with the particular names: *Plantebene*; *Planterose*; and, *Planter*.

<sup>121</sup> The extension of *planta* to its Welsh meaning ‘to procreate’ can be compared with the writings of Averroes (1126-98) at Cordoba, who was influential in Western Europe and who stated, ‘the plant comes into existence through composition out of the elements; it becomes blood and sperm through being eaten by an animal, as is said in the Divine Words: “We created man from an extract of clay ...”’; *Tahafut Al-Tahafut (The Incoherence of the Incoherence)*, Translated from the Arabic with Introductory Notes by S. Van Den Bergh, 2 vols, (London, 1969), vol I, p. 332. An earlier influence on the Latin meanings ‘shoot’ and ‘sole of foot’ of *planta* might have related to primitive beliefs about man’s emergence from the land with a lame foot; C. Lévi-Strauss, *The Structural Study of Myth, Structural Anthropology*, translated from the French by C. Jacobson and B. G. Schoepf (New York, 1963), pp. 206-231.

<sup>122</sup> A need was recognised to understand Welsh in the Welsh Marches; M. Prestwich, *Plantagenet England 1225-1360* (Oxford, 2005), p. 145.

<sup>123</sup> Plant, ‘Modern methods and a controversial surname: Plant’, 121-122, 129-130.

<sup>124</sup> Staffordshire Record Office, Medieval deeds, refs. DW1761/A/4/15, 21, 27-28, 30, 32, 38, 42; and one with former ref. 10/32.

<sup>125</sup> The Subsidiary Roll of A.D. 1332-33, Staffordshire Record Society; Staffordshire Record Office, Medieval deeds, refs. DW1761/A/4/12 and 33.

<sup>126</sup> Staffordshire Record Office, Medieval deeds, ref. DW1761/A/4/38.

<sup>127</sup> Except that the location in Staffordshire is illegible in the 1332/33 Subsidiary Roll, though the 1327 Roll lists Joh’e Moykot at Ruston. Although *Moykot* at Rushton is close to some *Mayot* records, there is some ambiguity as to whether it could perhaps be identified instead with *Meycok*.

<sup>128</sup> It can be noted for example that in relatively recent Potteries dialect, which is applicable to Betley, *ay* or *ai* is pronounced *ee* and this goes some way towards explaining why a local pronunciation of *Mayott* could be spelled *Meate*.

However, there is more than one apparent origin for some of these names. Another one-name tree is from Worcestershire and its Y-signature does not match with the Irish and Staffordshire *Meates* alias *Myatt* family. It is not clear whether the Y-mismatch of the Worcestershire tree is because it had a separate origin, or the same origin followed by a false paternity event. In the documentary evidence, the children of John *Mietts* were baptised *Mates* and *Meiats* and one later became *Meates*. A 1761 document mentions 'Thomas *Mates* or *Miotes*'. Other names in the area are: *Miett* (1697); *Miet* (1695); *Miat* (1688); *Meats* (1667); and, *Mitte* (1599). These various name forms have not been confirmed to belong to a single family.

*Mayot* appears to be the earliest known form for similar names in Staffordshire; and, similarly in Ireland where the earliest known instance is for a Colonel John Mayott (1663).<sup>129</sup> The DBS<sup>130</sup> lists, without instances, the names *Miatt*, *Miot* and *Myot* as 'probably diminutives of *My*, from *Myhel*, i.e. *Michael*'. However, it also lists *Mycock* and its variants as being diminutives of *May* or *Mey*, which it states can refer to 'a young lad or girl' or is 'a hypocoristic of *Mathew* from *Maheu*, *Mayhew*'. Both *Mayott* and *Mycok* occur in Staffordshire – a list of Staffordshire names dated 1532-33<sup>131</sup> lists the surname spellings *Meyott*, *Meott* and *Mayott*,<sup>132</sup> as well as *Mycok*, *Mycoke* and *Meycoke*.<sup>133</sup> This provides little consistent evidence to distinguish different meanings for these names on the basis of the prefixes *My* or *May* or *Mey*.

It can be surmised that instances of the *Meates* surname and its Y-related forms are likely to have derived from the early spelling *Mayott* in Staffordshire. According to Reaney in the DBS, *Myot* could have originated as a diminutive of *Michael*. The only direct evidence, however, that Susan Meates has found for this name is for the female forename *Maiot*.<sup>134</sup>

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<sup>129</sup> Carte Papers; Thomas Carte, 1686-1754, Historian; Register of Irish army orders, warrants, petitions, etc; MS. Carte 159, f. 149r-v, c. 14 Dec. 1663.

<sup>130</sup> Reaney, *A Dictionary of British Surnames*.

<sup>131</sup> Kettle, 'A list of families in the Archdeaconry of Stafford: 1532-3'

<sup>132</sup> Three *Meyott* families at Horton, one at Leek, one at Wollstanton (ibid, pp. 31, 34, 49). One *Meott* family at Horton (ibid, p. 34). One *Mayott* family at Alrewas (ibid, p. 170).

<sup>133</sup> One *Mycok* family at Grindon and one at Alton (ibid, pp. 9, 111). One *Mycoke* family at Burton (ibid, p. 149). One *Meycoke* family at Stretton (ibid, p. 155).

<sup>134</sup> This name appears in, '... Hugh son of Robert of Ditton, to John son of John son of Henry of the same, and Maiot his wife ...' (Lancashire, 12 Jun 1340), Blundell of Little Crosby; DDBL; Blundell family of Great Crosby estate, Lancashire; Ditton Leases; DDBL 40/1. Also, '... Elena Dolet of Courewalle to Maiot her daughter ...' (Gloucestershire, 1402-3), Deeds, estate and family records of the Hall (of Highmeadow) and Gage families of Newland and Staunton (near Coleford); D1677; Hall family of High Meadow, Gloucestershire; Gage family, Viscounts Gage; Gloucestershire Charters; Henry IV; D1677/GG/144.

