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Irish DNA

Making Connections and Making Distinctions in Y-Chromosome Surname Studies

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Introduction

In January 2006 a new research paper on the human population genetics of Ireland was widely reported on in newspapers in Ireland and the U.S.A. The headline of the feature in the *New York Times* – ‘If New York’s Irish Claim Nobility, Science May Back Up the Blarney’ – was based on the claims that ‘about one in 50 New Yorkers of European Origin – including men with names like O’Connor, Flynn, Egan, Hynes, O’Reilly and Quinn – carry the genetic signature’ (Wade 2006) linked to a fifth-century Irish high king, Niall of the Nine Hostages, whose large number of descendants are thought to be evident in the high proportion of men with this ‘signature’ in northwest Ireland. The authors of the research paper, published in the *American Journal of Human Genetics*, argued that a ‘previously unnoted modal haplotype that peaks in frequency in the north-western part of the island ... shows a significant association with surnames purported to have descended from the most important and enduring dynasty of early medieval Ireland, the *Uí Néill*’ (Moore et al. 2006: 334) – a dynasty that included Niall of the Nine Hostages.

The research also reached a more specialized audience. Members of the online discussion list IRISH-DNA, an email forum for discussing the use of genetics in genealogy and, in particular, in research on Irish ancestry, hosted by RootsWeb.com, alerted other members to the findings.¹ The research also quickly featured on the website of the U.S.-based company, Family Tree DNA, one of the largest and most successful commercial providers of genetics tests for genealogy, which heavily promotes the use of Y-chromosome tests in surname studies including, but not limited to, those focusing on Irish surnames. Potential customers are encouraged to order a test to see if they ‘match the profile’ of the *Uí Néill* signature. The U.K.-based company Oxford Ancestors has similarly used the results of the research paper to

offer a Y-chromosome test that will explore whether a male customer is descended from the 'High Kings of Ireland'.

This case strikingly demonstrates the close relationships between research in human population genetics and the relatively recent but rapidly expanding commercial sector of genetic genealogy whose discourses and commodities bring together the domains of 'science, profit and kinship' (Marks 2007: 233). Since 2000 a growing number of companies in the U.S.A. and the U.K. sell direct-to-consumer genetics tests for use in personal ancestry tracing via their company websites. Like the increasingly digital domain of conventional genealogy, in which genealogical sources and contacts can be accessed online, these companies use these new information technologies as well as the technologies, methods and research findings of human population genetics as they seek to build on the popularity of reconstructing family trees and family histories. They appeal especially to those whose genealogical searches are for knowledge of where their ancestors originated in Europe, or in Africa for African Americans and Black British people whose ancestors were enslaved. Many genetic genealogy companies were initially established by enterprising human population geneticists who saw the potential commercial application of new technologies, databases of information on patterns of human genetic variation and interpretative techniques. New products are rapidly developed in response to the publication of new research, such as those tests for particular Y-chromosome haplotypes that have been linked to well-known historical figures. Oxford Ancestors, for example, has also made use of recent research on Y-chromosome genetic variation in central Asia (Zerjal et al. 2003) to offer a test to explore whether a male customer has a genetic profile that suggests his descent from Genghis Khan.

Genetic surname projects, which compare the Y-chromosomes of men sharing surnames, have developed as a commercial application of recent work in human population genetics in which the correspondence between traditionally patrilineal inheritance of surnames in much of Europe and in European settler societies, and the direct inheritance of the Y-chromosome from father to sons is a focus of investigation in itself or used a sampling device. This is a particular strand of wider research on human genetic variation through Y-chromosome haplotype mapping, whose applied use in exploring the genetic relatedness of men sharing surnames and of establishing the Y-chromosome haplotypes of specific surnames has been framed by claims about its usefulness in criminal investigations as well as family history research (Jobling 2001; Jobling and Tyler-Smith 1995; Sykes and Irven 2000). It has been taken up enthusiastically by those already interested in genealogical projects focused on single surnames alone and by genetic genealogy companies both encouraging and serving this interest. These links between research laboratories and commercial testing services are part of the online and transnational geography of genetic genealogy, which for many consumers in North America is centred on finding roots in distant places of origin and on making connections with others on the basis of shared ancestry across geographical distance.

But the flow of influence is not one-way. Studies of geographical patterns of human genetic variation are part of, and are often framed by, wider interests in questions of

personal and collective origins. Many human population geneticists pursue research that they suspect may capture the popular imagination and enhance their academic as well as their popular reputation through its wide dissemination beyond the academy. But their work is shaped by wider sociocultural interests and ideologies at a deeper level. This means that studies of human genetic variation, difference and origins have a close, if not uncontested, correspondence with historically and geographically specific, but naturalized interests in human difference and differentiated, as well as collective, human origins that are entangled with ideas of nation, ethnicity and race.

This chapter considers the nature and implications of genetic surname studies through the specific case of collective projects to use Y-chromosome tests to explore degrees of relatedness among group participants sharing Irish surnames and the geography of ancient Gaelic clan groups. Despite the media attention to the case of Niall of the Nine Hostages, this is not the strand of genetic genealogy that has received the most publicity or critical interest. These genetic surname studies are less culturally and politically loaded than the prominent television features and newspaper accounts of African Americans or Black British people being given the results of genetic tests which suggest ancestral connections to particular ethnic groups and ancestral homelands in Africa, with all the emotive and potent resonances of the restitution of knowledge destroyed by the enslavement of their ancestors (see Chapter 7 by Schramm in this volume).² In contrast to the suggestions that the results of genetic tests can at least partially assuage the erasure of culture, language, home and name through enslavement for those with slave ancestors, Y-chromosome surname projects start with a known name and usually some knowledge of a European country of paternal origin.

Yet genetic surname studies are a significant dimension of genetic genealogy as a business and personal pursuit. At the time of writing, the website of Family Tree DNA states that they support 5,223 Y-chromosome group projects.³ One of the main popular guidebooks on the use of genetic tests in genealogy suggests that surname projects are the most common application of these tests (Smolenyak Smolenyak and Turner 2004: 57). They also deserve attention because they are an aspect of the sector and practice that appears to be relatively distant from the direct deployment of ideas of genetically identifiable racial or ethnic ancestry or origins, but whose reckoning of relatedness via genetics intersects with the wider problematics of constructing collective identities – national, ethnic, racial or diasporic – via genetic similarity and difference. Focusing on what are less likely subjects of critique and exploring how their apparently uncontroversial nature actually underscores their significance in generating, as I will argue, problematic ideas of national and diasporic genetic communities of descent extends the growing critical engagement with genetic genealogy (Bolnick et al. 2007; Nash 2005, 2006a, 2007; Palmié 2007). The starting point of these projects are patrilineally inherited surnames rather than a potentially genetically identified ancestral or ethnic origin, but, as I will argue, they often appeal because of their promise to deliver knowledge of ancestral origins in specific places, as well as senses of collective identity in newly geneticized communities of descent. Though they are a distinctive dimension of genetic genealogy, they also need to be

understood in relation to the ways in which genetic genealogy companies frame their services in terms of individual self-knowledge, collective identity and relatedness, ethnicity, gender and ancestral origins more widely.

Genetic Genealogy: Comparing and Connecting

The questions of ‘Who you are?’ and ‘Where do you come from?’ that are used to promote and naturalize genetic genealogy evoke ideas of personal and collective identity and self-knowledge. The marketing of genetic tests for ancestral knowledge relies heavily on the positive associations of popular genealogy as a personally significant, restorative and rewarding exploration of the past, on wider discourses of the value of a historical consciousness and on individual responsibility to understand oneself psychologically, emotionally, medically and, increasingly, genetically (Novas and Rose 2000; Rose 2001). Not knowing the information that genetic tests can offer is presented as a new form of lack or ‘genetic ignorance’ that needs to be filled or addressed through these new services. In the world of genetic genealogy, knowing your genetic profile (at least in the very partial sense of these tests) is presented both as a natural component and technologically enhanced form of individual self-knowledge. New genetic knowledges and the geneticization of ideas of personal and collective identities are thus cloaked in the generally progressive associations of popular historical knowledge and the cultures of self-exploration and self-help, as well as the authority of science.

But these commodities are also framed by one potent narrative of loss and recovery. Tests that offer to answer questions of specific places of origin in Africa for the descendants of enslaved Africans are framed by the intensely political and personal significance of restored ancestral knowledge and recovered sense of origin and connection (see Schramm, Chapter 7 this volume). The marketing of genetic genealogy more widely draws on this specific history of violent displacement, traumatic loss and recovered knowledge to generate a more general condition of lack and incompleteness in those whose ancestors were not enslaved African people. New or intensified desires for genetically verified accounts of origin and ancestry can be promoted by implying that knowing something of where your ancestors came from is not enough, and that a new but natural desire for knowledge of ‘deep ancestry’ can never be fulfilled by conventional genealogy. Historically and culturally specific narratives of loss are used to extend ideas of genetic ignorance and naturalize ideas of genetic self-knowledge, which are simultaneously given more meaning through ideas of ethnicity – of shared ancestry, origins and relatedness.

Family Tree DNA offers tests that are not directly linked to any category of collective identity beyond the familial, but that can be used to prove or disprove the supposed but unverified relatedness of individuals within a conventional genealogical project, at least in cases of direct maternal or paternal descent. However, like other genetic genealogy companies, they also offer a range of ways in which the alpha-numerical, and on their own meaningless, results of an individual’s test, can be made more meaningful. Concepts of race, ethnicity and a particular

historical and geographical imagination of human migration and origins are central to this. While the work of human population geneticists on the prehistoric and historical geographies of human migration encompasses the earliest movements and subsequent spread of humans from Africa, and while genetic diversity is widely recognized as geographically graded, their work often also evokes a model of the world in which human groups had settled in relatively genetically discrete homelands until the migrations of the last four centuries muddled the patchwork geography of genetically differentiated human groups. So, while within the logic of genetic descent, Africa is ultimately the place of origin of every individual, genetic genealogy plays on the popular idea of an old world of places and groups as relatively neat packages of genetic distinctiveness. Companies evoke an idea of global genetic unity – and this works to position them on the side of liberal anti-racism – and the idea of differentiated origins. Thus, Family Tree DNA, for example, invites potential customers to explore their African, Native American or Jewish ancestry. Like other companies involved, Family Tree DNA invokes a direct correspondence between the pattern of markers on particular segments of Y-chromosomes and mitochondrial DNA and ethnicity by offering tests for specific ancestral heritages. As other critics and commentators have argued (Elliot and Brodwin 2002; TallBear 2008), linking genetics to ethnicity in geneticized genealogy both corresponds to popular understandings of ethnic groups as shared communities of descent as well as culture, and problematically reinforces ideas of the significance of genetic similarity, and the genetic basis of ethnic or racial categories in contrast to more flexible and inclusive understandings of collective identity.

But Family Tree DNA also encourages those who do not suspect or seek genetic confirmation of Jewish, African or Native American ancestry to use the tests to explore their ancestral or geographical origins themselves and to use them as ways of discovering meaningful connections with those who share similar results. They invite customers to contact others with similar results, with whom they can work together to attach ethnicity or geographical origins to the numbers and letters that constitute test results. They can do so by joining online databases of ‘genetic cousins’, by looking at the locations named as places of ancestral origin by other people with similar results, or by corresponding with those who are ‘genetic matches’. While companies like Family Tree DNA claim to identify specifically named ancestral groups for some customers, and this is undoubtedly a commercially effective way to encode the alpha-numerical individual test results with meaning, they also invite others for whom African, Native American or Jewish ancestry tests are of no use or interest and who are thus not otherwise constituted as part of the company’s customer base, to come to similar conclusions about the results of their tests but by themselves, or at least by themselves in interpretive alliances with other customers. Even if not directly framed by ideas of race or ethnicity, geneticized genealogy foregrounds genetic relatedness as central to personal and collective identity, and genetic similarity as the basis of senses of empathy and connection. Much is made of the supposed senses of meaningful connection between people who discover they are genetically similar and the satisfactions and rewards that these new relations bring. This does not depend

on ideas of race or ethnicity but does suggest that genetic or biological similarity and dissimilarity is the basis of empathy and antipathy between people.

Genetic surname projects are one aspect of this guided but customer-led production of personal and collective meaning from comparisons of Y-chromosome test results among men sharing surnames and thus suspecting some degree of paternal relatedness. By encouraging people to join or establish surname projects using Y-chromosome tests, the company's customer base can be considerably expanded to include all the many potential consumers among the many in the U.S.A. and Canada already exploring their genealogical links back to different parts of Europe. Alone their results mean very little, and for those who already know the general country of origin of their emigrant ancestry, they add little to existing knowledge of where their ancestors came from. Using his results alone, a man, for example, may be told his paternal origins are broadly European. Group projects are ways of selling tests on the basis of the potential of collective results to say much more. Linking particular Y-chromosome profiles to named historical figures suggests that Y-chromosome surname projects could also offer customers more specific, distinctive and special ancestral connections.

Emphasizing the parallel between the direct transmission of the Y-chromosome between fathers and sons and patrilineal surname patterns is one way in which these companies draw on existing cultural tropes or traditions to naturalize what are quite particular modes of understanding ancestry and relatedness. Most genetic genealogy companies offer two types of test, one based on the direct paternal inheritance of distinctive forms of the Y-chromosome from fathers to sons and only applicable to men, and mtDNA tests that are also based on direct inheritance and that establish direct maternal lineages that can be undertaken by men and women. Both focus on a very limited portion of any individual's ancestry, and their selectivity and partiality runs counter to many people's contemporary genealogical interests in both maternal and paternal 'sides' and not just in direct lines of ancestry. The selectivity and partiality of both models of ancestry is also elided in claims that it is the ability to trace direct maternal or paternal lineages that makes it possible to establish a link to 'deep ancestry' and to specific places and ethnic groups. It is their very selectivity which makes them effective. Yet, while ideas of ethnic or geographic origins are undoubtedly central to attempts to construct these commodities and the knowledge they produce as desirable and even necessarily fundamental to selfhood and identity, the idea that descent and identity can be traced through direct maternal lines if you are a woman or through direct maternal lines and paternal lines if you are a man still has to be made obvious, natural, ordinary. Despite the development of autosomal tests, genetic genealogy remains dominated by mtDNA and Y-chromosome tests, and central to these services is a simply gendered differentiation. Men can undertake the two sorts, while women can only undertake one sort. And central to the marketing of these tests is the effort to make a genealogical tree composed of a single maternal line for a woman and two lines – maternal and paternal – for men appear as a taken-for-granted model of ancestry and descent, in contrast to the conventional thicket of lineage in ordinary documented, partially documented or imagined and endlessly ramifying family trees.

In the case of the Y-chromosome, a single paternal lineage is naturalized in many accounts by its correspondence to the convention of paternally inherited surnames and all the assumed natural significance of bonds between fathers and sons, and in the case of mtDNA by invoking a similarity naturalized and universalized version of the mother-child relationship (Nash 2004). Maternal lineage can be invested with more specific symbolism in the context of the use of mtDNA tests to identify specific ancestral locations in Africa for African Americans and other members of the Black diaspora. As Katharina Schramm discusses in Chapter 7 in this volume, the focus on maternal descent is framed by the company African Ancestry and by consumers by the idea of loss of a mother as a metaphor for the violent severing of social and kinship ties through enslavement. Yet, despite the symbolic potency of the ideas of a mother-child bond torn apart and remade, for some the particular value of Y-chromosome tests in surname studies is that they allow an additional selectivity. This is because they not only avoid the problem of the infinitude of ancestors that can never be known by focusing on direct paternal descent alone, but they also overcome the infinitude of possible comparisons of test results with other genetic profiles that might give them meaning by identifying men with the same patrilineally inherited surnames as the members of a pool of potential comparisons and connections.

Companies like Family Tree DNA encourage customers to identify with those who share their mtDNA profile by inviting them to submit their results to and contact other 'matches' on the company mtDNA searchable customer database *mitosearch*, and in the case of Oxford Ancestors, to identify with mythologized maternal clans. This mirrors the service Family Tree DNA provides for men with Y-chromosome results – *ysearch* – with one significant difference: *ysearch* is searchable by surname as well as Y-chromosome result.⁴ Not all Y-chromosome matches will share surnames, but sharing a surname means the possibility of identifying those who can collectively compare their Y-chromosomes and use them to work out degrees of connection and then reconstruct accounts of the origin and spread of their surname. For Chris Pomery (2007), author of one prominent popular guide to genetic genealogy published by the British National Archives, this makes Y-chromosome surname studies by far the most effective use of genetics in family history. While companies like African Ancestry describe an individual's mtDNA result in terms of an ethnic group and location by comparing it to samples in their databases based on surveys of genetic diversity in Africa, mtDNA 'matches' among Family Tree DNA's customers are not linked by pre-existing assumption of relatedness via a shared patrilineal surname. While much more could be said about the gendering of genetic genealogy and gendered discourses of human population genetics (Nash forthcoming), I am particularly interested in exploring how Y-chromosome genetic tests shape understandings of connection and difference within groups formed around shared interests in a particular surname and its historical and cultural associations, and within groups that are being newly established to undertake genetic surname projects. The parallel between the transfer of patrilineal surnames and Y-chromosomes also means that these projects are often focused on the relatively recent period since surnames were established, rather than the more temporally distant and generalized historical geographies of

broader descriptions of Y-chromosome and mtDNA haplogroups. The regeneration of the significance of patrilineage via ideas of direct Y-chromosome descent, as I will argue, makes a particularly masculinist version of ancestry also an exclusive model of ethnicity, national and diasporic belonging.

Among the ‘success stories’ of Y-chromosome projects that Pomery (2007: 184–89) features, is his account of ‘The Irish Clans’, a research project not in this instance organized by amateur enthusiasts, but by the geneticists from Trinity College Dublin whose work reached the public through the Niall of the Nine Hostages story. But this research was shaped by wider interests in surnames in Ireland and in the Irish diaspora, and is being made use of in new and existing genetic surname projects. This chapter focuses on this case of the traffic between academic research and commercial laboratories, between scientific journals and online collectives of enthusiasts, and a geography of genetic genealogy in which Ireland is a central node in a diasporic imagination of connection and shared descent. Using online discussion boards and project websites as sources, as well as selected interviews with scientists, enthusiasts and participants, it explores the models and more specific accounts of origins and relatedness adopted in and produced through these projects and their implications for wider understandings of difference and connection, nation and diaspora. It is this question of consumption, of what people make of these new sources of personal and collective genetic information, that is central to the arguments of those who foreground the active ways in which people engage with new forms of biological knowledge and respond to new developments in the biosciences that are disrupting the stability of foundational categories like nature and culture (Skinner 2006, 2007), and caution against interpreting the development of this sector in terms of its reductive and potentially divisive discourses of geneticized relatedness (Wade 2007) and question the authority of academic critics to decide in advance on the social or political implications of their popular use (Brodwin 2002). Here I consider how one particular category of ethnic identity is reconfigured through the practices of making connections and making distinctions in Irish genetic surname projects. Doing so involves considering these practices of categorization and differentiation in relation to historical and contemporary forms of collective identity and difference based on ideas of shared ancestry and origins in Ireland, Northern Ireland and the Irish diaspora. In the rest of this chapter I consider these practices in relation to the production of new forms of knowledge and relatedness for project participants, and then address the wider implications of their focus on direct paternal Gaelic ancestry for the politics of Irish identity and belonging.

Diasporic Distinctions

Genetic Irish surname projects represent one particular strand of geneticized genealogy and a particular aspect of the culture of Irish diasporic genealogy. They are constituted through a network of individuals, transnational associations, research institutions and commercial laboratories, through which scientific and popular knowledges are produced and consumed. The flow of knowledge is not simply

outwards from the domain of science to society. In the case of genetic Irish surname project, this is apparent in specific relationships and connections as well as the embeddedness of science in society more deeply. The Smurfit Institute of Genetics in Trinity College Dublin does not provide commercial genetic testing services but, as the case of the *Ui Néill* paper illustrates, their research findings have been utilized by Family Tree DNA in encouraging a market for these tests, and by individuals and groups involved in Irish genetic surname studies. Key individuals have also played a role in the development of this strand of Irish genealogy. Patrick Guinness, of the Guinness brewing family in Ireland, has been a central figure in supporting the work of the Smurfit Institute, encouraging interest in their work and informally advising other enthusiasts. Having already explored the origins of the Guinness family through conventional documentary genealogy, he contacted Daniel Bradley after the publication of a research paper on the human population genetics of Ireland using surnames and Y-chromosome analysis published in *Nature* in 2000 (Hill et al. 2000) prompted his interest in the wider potential of the new genetic techniques. He subsequently funded the doctoral research of Brian McEvoy on the genetics of Irish clan groups because of his interest in the Guinness family origins and in the genealogical relationships between Gaelic Irish clans more widely.⁵ It is this work that Chris Pomery celebrates as an example of genetic genealogy using surnames and Y-chromosome tests. Patrick Guinness has also been active in the Irish government-funded organization Clans of Ireland Ltd., an association that grants official status to Irish clan societies and supports their activities in helping others begin and conduct Irish surname projects. Similar to Scottish clan societies, most Irish clan societies are focused on specific Gaelic clans linked to a specific region in Ireland and a specific surname, such as O'Brien or O'Neill, now widely held but originally linked to the clan's nobility. They function as networks of enthusiasts linked by newsletters, websites and periodic clan reunions in Ireland and Northern Ireland. Most members either bear the clan surname or have a close ancestor who did so and identify with an Irish clan as descendants of Irish emigrants for whom the clan is one dimension of their sense of Irish ancestral affinity in the culture of Irish diasporic identity in the U.S.A., Canada, New Zealand and Australia. Clans of Ireland Ltd. currently lists twenty-eight 'yDNA Projects' being undertaken by registered Irish clans. But many other Irish surname projects are being undertaken by new groups formed for the purpose of the project who largely communicate via email and are represented through project websites.

The family trees of the descendants of nineteenth-century and earlier Irish emigrants reflect generations of intermarriage between Irish and other migrant groups that could suggest multiple ethnic origins for those that now identify as being of Irish descent. In contrast to these entangled family trees and multiple ancestral places of origin, genetic projects focusing on patrilineage seem to offer a precise point of origin and single lineage. For members of Irish clan societies, this interest in using genetic tests of this sort to explore Irish origins and descent is framed by the attractive associations of Irishness in general but also the appeal of genetically establishing distinctive descent from particular named and often noble, ancient Irish families.

Genetic genealogy, like genealogy in its conventional forms, is always simultaneously a practice of making connections and making distinctions – differentiation as much as collective identification. In avowedly multicultural societies such as the U.S.A., genealogy can be a way of making distinctions between groups based on group origins and descent, and thus marking a collective ethnic difference and identity, such as Irish-American. But it also often entails establishing special sorts of distinctive diasporic connections that differentiate within that community of shared descent. Being able to claim descent from an ancient noble Gaelic lineage may be more appealing for some than just sharing Irish origins. For some, these new genetic surname projects promise a scientific verification of this distinction, though in practice these projects do not necessarily confirm noble descent in this uncomplicated sense. So what do they involve and what sorts of accounts of origins and relatedness do they produce?

While many Irish genetic surname projects are framed by the prospect of having a scientifically proven connection to an ancient noble Gaelic lineage that reflects both the appeal of Irish ancestry and the appeal of having a distinctive ancestry within the broad category of diasporic Irishness, these projects also involve making distinctions within groups who are linked by their sense of connection to a specific lineage. One fundamental distinction is between men and women. Only men can be involved as tested participants, since the projects are based on Y-chromosome tests and a considerable number of the exchanges in online discussion lists are devoted to explaining to women who are interested in the new techniques that the tests and the studies focus on male genetic lineages alone. So, while the Irish clan associations are usually open to women as well as men, women cannot be directly involved as participants in Y-chromosome genetic surname studies which effectively render clan descent and, by extension, Irish diasporic descent as fundamentally patrilineal. In contrast to recent efforts to challenge the marginalization of Irish women's experiences of emigration and address the ways in which ideas of mobility and staying put have been conventionally gendered (Gray 2004; Walter 2001), Y-chromosome genetics endorse a system of ordering relatedness in which women are fundamentally subsidiary. Companies and project coordinators encourage women interested in the projects to have a brother, father or paternal uncle tested and many women are involved in projects in this way. Chris Pomery's (2007: 16) view that the impossibility of women's direct involvement is simply a biotechnical fact rather than being underscored by any more problematic version of ancestry is representative of the way this issue is usually commented upon. Yet the recent greater inclusion of women in clan associations is undermined when, for example, a woman elected as honorary chief is overlooked in attempts by population geneticists pursuing surname-based studies to gather genetic samples at clan rallies. The use of the Y-chromosome may accord with old conventions of patrilineage but out of step with the much more contested dynamics of gendered social relations.

However, these studies also differentiate between men. They involve comparing the Y-chromosomes of men who share surnames in order to fulfil the project's aims to establish a genetic profile for a surname or clan group and for known or newly discovered distinctive subgroups or branches, and to genetically confirm, revise or

refine existing maps of the regional distributions of Gaelic surnames in Ireland. Some projects seek to establish the genetic profile that corresponds to direct descent from a specific noble Gaelic lineage and degrees of closeness to that lineage among participants. Yet the projects are mostly framed by their usefulness in providing knowledge of specific regional places of origin in Ireland rather than simple proof or disproof of noble descent. A new genetic ‘atlas of Ireland’ would allow a man with an Irish name, and thus assumed paternal Irish ancestry, but with no knowledge of where in Ireland his ancestor came from, to locate a place of origin in Ireland. This place of origin is not the place an ancestor left behind but the regional home of a clan in a more ancient sense. The projects are thus much less about partially knowable individuals and places of origin, which are the focus of conventional genealogical projects, and much more about a ‘deep ancestry’ that is presented as more fundamental. Echoing the idea of uncertainty of origins in accounts of the African diaspora, the McMahon Surname DNA study introduces the project in this way:

Many of us whose ancestors emigrated from Ireland are uncertain where we came from – either County Monaghan or County Clare, the two places in Ireland where the MacMahon surname arose. But our ancestors have sometimes come from Dublin, or Scotland or perhaps emigrated elsewhere, to Europe or Australia. There are also two or more separate septs of Mahon who originate in Ireland and may now be known as McMahon in the US or elsewhere and there are variations of the McMahon name ... We have on our site the MacMahon Genealogy for the Monaghan MacMahons from the time of the Collas up to the 1640s and in some cases have been able to construct additional family lineages beyond that decade. But due to many events pertaining to turmoil in our homeland there are essentially no records between the 1640s and the early 1800s, leaving us with a nearly 200 year gap to fill. This is often impossible to accomplish.

Many descendants of émigrés then do not know whether their roots are with the Ulster sept of MacMahons in County Monaghan or with the Clare sept of one of the Mahon septs.⁶

These new techniques are thus seen to offer ways of linking modern and medieval genealogies and of clarifying the geography of origins beyond more recent histories of mobility before the ancestor arrived in the ‘New World’. Project website introductions explain that the studies may enable the group to genetically distinguish between different branches of the clan that are associated with particular regions, as well as to explore the connections between clans that are thought to be historically linked by genealogy and geography. The goal then is not simply to find a single origin place for the ancient clan but to provide a differentiated geography of origins within which diasporic descendants can be precisely located. However, being able to do so involves quite complex processes of interpretation that are often openly provisional.

Most of these projects are coordinated by a ‘group administrator’, often based in the U.S.A., who encourages members of existing clan associations or recruits to

newly established groups to buy tests directly usually through Family Tree DNA, and who communicates and, with some help from the company advisors, interprets the results for those who have participated and for other interested members. Genetic surname project coordinators encourage potential participants and existing project members who have not yet done so to take the more expensive but more informative Y-chromosome tests. The twelve marker tests explore too few markers to do more than locate the individuals within the broad Y-chromosome haplogroups that population geneticists have identified and named for different regions of the world. A twelve marker test would thus only ascertain the direct paternal European descent of men interested in their Irish origins. Tests that include more markers – the twenty-five, thirty-seven or the most expensive sixty-seven marker tests – are those that are used to explore relatedness and origins within the same surname groups. The men involved in genetic surname projects receive their results in the form of a set of numbers that correspond to the number of repeated sets of the four bases counted at particular segments or markers of the Y-chromosome (known by the prefix DYS). The results of surname group projects that usually take the form of tables of the DYS results of each of the project participants, who are sometimes identified by name as well as testkit number, are presented and explained on the society or association websites as well as on individual project webpages on the Family Tree DNA site. Until recently, most were publicly accessible. However, the results are not simply listed but are grouped according to degrees of difference and similarity, and it is the identification, interpretation and ordering of these groups that are central to these projects.

The results are ordered usually by their degree of closeness to what is established as a characteristic haplotype for the group. There are two techniques for establishing this haplotype, one based on numerical frequency and the other on verified genealogy and in some cases geographical location. The O'Shea DNA Project, for example, adopts the first approach, the 'Ancestral Modal method'. As the project administrator makes clear in explaining the results, in this case the alleles for each of the thirty-seven markers that are found most commonly among participants are taken as the Ancestral Modal, the '*Haplotype* of the unidentified hypothetical common ancestor of all O'Sheas'. Nonetheless, as the explanation also makes clear, this is not a fixed or static 'genetic signature': 'The Ancestral Modal is recalculated every time a new result is processed and thus the figures presented may change with new issues of this article. The relatively small number of results at hand to date may currently be giving an unrepresentative Ancestral Modal, but hopefully the addition of further results will correct this.'⁷ The groups that result from comparison of the participants with this Ancestral Modal are thus continuously subject to revision and are both dependent on the size of the sample and the genetic profiles of those who get involved. A different set of O'Sheas could produce a different modal haplotype and thus different calibrations of similarity and difference. So, although the genetics seems to offer a precision and exactitude that can assuage the usual unknowability of several centuries of paternal lineage to ancient origins, the results are qualified from the start. Group administrators are more or less explicit about the degree of difficulty in making sense of the results, as well as their provisional nature, but most acknowledge that

the results are the best current interpretations and may be revised. Following the epistemology of 'good science', participants are given results that carry the promise of scientific truth but are advised that these results are current truths subject to the normal process of scientific progress. These warnings of their contingency do not, however, frame the promotion of the tests by commercial companies or enthusiasts. Nor do the cautious interpretations of, at least most, project coordinators accompany the wider announcement of the results in media reports.

The O'Shea DNA Project is also 'actively seeking more Irish based participants with proven ancient family histories, particularly in Co Kerry, that can be used as bench marks' and so is also interested in making use of the second method of establishing the 'baseline' haplotype. This involves taking the Y-chromosome profile of participants who have a verified genealogy that links them to an area and an established noble lineage in Ireland. Sometimes these genetic reference points may simply be men that are defined as ordinary sources of genetic samples of unbroken descent and domicile in the surname's heartland who are encouraged to participate by project members. In other cases they are significant for being considered to be of noble descent. Some men who are recognized as the most direct descendant of the last clan leader before the breakup of the Gaelic clan system in the early modern period, who are known as Chiefs of the Name, are being invited to have their DNA tested as part of genetic clan projects. Family Tree DNA encourages groups to set up funds based on the donations of project members to pay for the testing of key individuals. Those participating in the Driscoll of Cork DNA Project, for example, are invited to 'Contribute to our General Funds which is used to purchase kits for non-genealogically originated DRISCOLL whose lineage is of interest to the group as a whole because they come from a historically interesting family key to our origins'.⁸ However, men in Ireland who are potential 'benchmarks' for these diasporic genetic studies may have little enthusiasm for donating cheek cells to aid other people's search for origins. For them, the question of proving origins is much less compelling than it is for those who idealize a sense of ancient ancestry and origins at a distance. This reluctance of 'natives' to be used as sources of genetic information is paralleled by similar resistance to the sampling efforts of human population geneticists in other contexts. In this case the author of the summary of the O'Shea project results reports that: 'Voluntary participants have also been scarce on the ground within Ireland and the few recent additions have been due to pestering by and financial support of, the committee members of the Clan Society.'⁹ The practice of trying to genetically establish a connection between the 'rooted' and 'diasporic' can undermine assumptions that shared ancestry is the basis of mutual interest and affinity. Instead it points to the different dynamics of identity and belonging between 'homeland' and diaspora. But realizations of difference within the broad community of Irish descent are also paralleled by practices of differentiation within clan associations.

In some cases genetic tests for paternal ancestry are being used to create formal distinctions within clan organizations based on being able to establish genetic connection to ancient Gaelic 'bloodlines'. The O'Donoghue Society has established a Royal Order exclusive to those who have the genetic profile deemed to represent a

specific Gaelic noble lineage. But distinguishing between participants is fundamental to all these projects even if the effect of the production of categories of belonging and relatedness within them are less formal and are often handled with more circumspection. The grouping of individuals can suggest that some men have chiefly descent in some cases and that some men are not even distantly related to the clan group in others. When those interpreting the results do so in relation to established clan histories derived from the histories, mythologies and genealogies of early Gaelic society, some project participants can be informed of their likely connections to specific historical figures and specific places. In contrast, other members are located in a provisional limbo awaiting classification. In other cases, those men whose results do not place them within the main subgroups are defined as outlier groups with the explanation that, they may be reclassified, or these outlier groups may become more significant as more men participate and more results arrive from Family Tree DNA. Sometimes these groups are groups of one. Instead of simply being told they are not related, when possible, individual men may be described as a 'group' among the range of groups, even if they do not fall within the groups taken to be, or taken to be closest to, the Ancestral Modal Haplotype.

However, those men whose Y-chromosome markers bear no relation to those that are established as typical for the surname or clan group cannot be grouped in this way. Participants thus always face the prospect that their tests will reveal that what may be their long and deeply held attachment to a name, ancestry, Gaelic heritage, culture, place and origin does not match their genes (or at least their Y-chromosome genetic patrilineage). The promise of affirmation of ancestral identity has to have as its corollary the threat of refutation. Some involved are simply matter of fact about this. Others suggest that a discovery that one's surname does not match the established haplotype for that name is fortunate since it prevents someone wasting more time on researching the mistaken lineage. Men who are interested in a particular project but do not bear the particular surname being studied through direct paternal descent are often encouraged to find another group or to begin one themselves. The implication is that discovering nonbelonging in one group opens up the possibilities of discovering true belonging in another, so no one is left completely outside a genetic collective.

At the same time, the criteria of membership with a clan or surname association shifts, at least symbolically. Clan membership, which is often open to those with interests in the name because of its presence within their family trees but who do not necessarily bear it as their own name, is implicitly tightened to those whose genetic results support their direct male line descent. The senses of collective descent that suffuse these societies could potentially withstand these new genetic distinctions, but the significance that is afforded to shared ancestry within them, and even more so when it is genetically verified, can fracture previously untested senses of affinity and affiliation. Those involved often talk of a strong sense of affinity with those that match genetically, even if these matches are fairly distant and explain this affinity through a positive or at least benign sense of family ties. Sometimes this is a matter of online sociality; in other cases, trips are made to meet those newly established relatives that entail all the negotiations of desire for connection and recognition of difference that

occur in conventional genealogical tourism.¹⁰ But the claim that participating in a DNA surname project provides ‘a sense of camaraderie with all who participate in the Family Project, which is particularly strong for those who share a genetic ancestry’ suggests by extension that those who do not share ‘genetic ancestry’ have no ‘natural’ basis for senses of connection and commonality.

The responses of men who discover that their surname does not correspond to the Y-chromosome patterns that have been ascribed to the name are largely absent from the online domain of genetic Irish surname studies. Group administrators report on the email communication that stops abruptly after results of this kind. Unsurprisingly, there is no place for the expression of loss, disappointment or even scepticism when the public forum of online discussion groups is defined through being part of and invested in and not outside the shared community of descent. This silence is unsurprising too, given that failing to match is not just a matter of fractured senses of fraternity but of suspected illegitimacy in the recent or distant past that caused men not to inherit the surname of their biological father.

Origins and Relatedness at Different Resolutions

However, the meaning of genetic similarity is not straightforward even for those who are judged to fall within the groups based on genetic similarity and nearness to the ‘benchmark’ haplotype. Interpretations of relatedness between individual men and their place within the overall findings are based on complex comparisons that involve describing and analysing the significance of genetic matches, genetic difference and current accounts of the rates of genetic mutation in general and the rates of mutation of specific markers. Family Tree DNA has developed a system of estimating the number of generations or time to the most recent common paternal ancestor (TMRCA) of any two men. But the results are described not in a language of certainties but of estimates and statistical probabilities. This extract from the Driscoll project is typical:

David Dean and Edward Joseph Driscoll match 22 of 25 markers. The implication is that they share a common ancestor but too long ago to be found in the paper records. Specifically, the probability that they share a common ancestor within:

200 years is 10%

400 years is 45%

600 years is 74%

On the other hand, David Dean and Richard Driscoll are definitely related. They match 34 of 37 markers. The probability that they share a common ancestor within:

8 generations or about 200 years is 48%

16 generations or about 400 years is 91%

24 generations or about 600 years is 99%.¹¹

It is hard to know to whether these sorts of statistical probabilities are satisfying or frustrating results. Email discussion lists at least suggest the demands of trying to understand them and relate them to personal genealogies and clan histories. These lists are dominated by appeals for guidance, speculative interpretation, advice, clarifications, corrections of misunderstandings and explanations of the most basic basis of the tests and the most complicated analytical approaches. But it is clear that these probabilities and the different temporalities of ancestry and spatialities of origin within project reports do not always supply simple answers to quests for origins. Many of the results suggest instead different orders of origins and different registers of relatedness. At one level of analysis, the results may be interpreted as regionally rooting the clan, sept or surname group in Ireland. At another, they suggest a much more temporally distant and geographically generalized original place. References to early Irish history appear alongside accounts of prehistoric population movements in project reports. A 'close knit relationship' between a geographically bounded group is juxtaposed to the much larger scale and broad sense of relatedness, as in the explanation of Group 1 of the MacCurtain study:

Group 1 is the largest group with 23 out of 42 people tested so far. Every one in the main portion of Group 1 show complete matches, or no genetic differences at this level of testing. Since they all are from the same region, the area where Counties Clare, Cork, and Kerry join this should not be surprising. Most of this region is mountainous, and has many isolated valleys and towns, leading to a close knit relationship over the years. The one surprising finding is the Haplogroup J2 ... This Haplogroup did not expand out of the Middle East until about 3000 to 5000 years ago.

The Haplogroup J is found primarily in Middle Eastern and North African populations. This group was carried by the Middle Eastern traders into Europe, central Asia, India, and Pakistan. It also contains the Cohen modal lineage. This is the line of the Jewish priesthood. The J2 sub clade originated in the Northern portion of the Fertile Crescent where it spread throughout the Mediterranean area, Central Asia, and India. One member has had the J2 Haplogroup tested and confirmed. This sub clade is indicative of a Neolithic farmer origin. (A map of Europe showing where people who have tested for Haplogroup J2 can be found at http://www.ysearch.org/haplomap_europe.asp?haplo=,J2)

Group 1 shows that at 200 years (8 generations) they have a 55% probability of a common ancestor, and at 400 years (16 generations) the probability increases to 80%.¹²

Group 1 are thus bound together by their degree of Y-chromosome genetic matching (even if probabilities of common ancestors remain probabilities) that is thought to reflect the topography of their shared locality in Ireland. But at the same time one

member is found to have a haplogroup that is both shared with millions of others, including, supposedly, Jewish priestly men, and ‘found primarily in Middle Eastern and North African populations’. Similarly, the results of the MacTighernan study at one order of analysis suggests genetic diversity among the MacTighernan men and at another points to a very extended sense of genetic relatedness:

With the tests completed so far we 29 MacTighernans fall into nine separate unrelated and different DNA groups ... Based on what I have read there are 153 distinct genetic population haplogroups in the world, with all of us falling in the R1b haplogroup as well as 70% of all those tested at the FamilytreeDNA lab. Most or a large part of western Europe’s population is also in the R1b haplogroup.¹³

This combination of differentiation at one scale of analysis and generalized connection at another is a striking feature of genetic genealogy.

Project reports often describe those involved both in terms of broad haplogroups and more refined groups of haplotypes specific to the project members. This means that the projects often produce different sorts of relatedness and different origins at different degrees of resolution. The result of comparing the Y-chromosome markers of the men involved in the MacCurtain study to the current population genetics of prehistoric human migration, for example, suggests that the MacCurtains have ‘three different origins’ that relate to three different broad haplogroups named and mapped by geneticists. This genetic reckoning of origin and relatedness does not seem to provide an image of indigenous rootedness in Ireland but diverse origins and extended temporalities of migration. Though the idea of a primordial homeland is often a part of traditional Irish diasporic imaginations, these investigations of ancestral origins highlight forms of mobility that challenge the image of an ancient and pure point of origin.

Genetic surname studies are thus not only demanding in their scientific basis and statistical complexity. Those who try to relate the results of the genetic studies to their prior sense of ancestry, origin and descent have to not only cope with the coexistence of these different registers of relatedness, some specific and some very general, different timescales and different geographies, they also have to cope with the incommensurability of genetic and genealogical time. Though clan mythologies and genealogical origin stories stretch back into prehistory, most personal family trees are not complete or even partially complete beyond four or five generations. Genetic mutation rates that allow for differentiation between lineages as well as estimates of most common recent ancestors usually calibrate connections within much longer timespans, up to and more than 600 years ago. Prehistoric migration pathways that are derived from the mapping of broad Y-chromosome haplogroups are described in terms of tens of thousands of years. For some participants, these awkward incommensurabilities between ordinary genealogy and its geneticized forms, like the degrees of speculation and qualification involved in interpreting results, are ignored, overlooked or deemed to be irrelevant in light of the promise of scientific

confirmation of clan ancestry and origins. However, sometimes those most committed to the projects and most close to the interpretative work they require are those most vexed by the unresolved questions that are overlooked by others. The personal effects of these studies will depend on the degree to which participants' senses of ancestral affiliation are playful, important or fundamental to their sense of themselves and their ethnicity, and the relative significance of shared ancestry within their patterns of sociability, online and offline. Yet, even if the projects do not simply supply the proofs of lineage and precise origin places that they seem to offer, they are, nevertheless, part of an emerging public discourse of geneticized distinction between different sorts of ancestry and places of origin that do have a direct bearing on understandings of ethnicity, identity and difference in Ireland, Northern Ireland and the Irish diaspora.

Y-Chromosomes and 'Native Names'

The focus on direct paternal descent both in Irish genetic surname studies and in research in human population genetics focusing on the Y-chromosome and using surnames as proxies for paternal lineage evokes an imaginative geography of premodern indigeneity and an ancient Gaelic past that is a potent but contested account of the Irish national and diasporic community of shared descent. Though interest in using genetic tests in genealogical research reflects the patterns of ethnicity and interests in original homelands shaped by European emigration, the research in human population genetics, upon which genetic genealogy depends, focuses on reconstructing patterns of human genetic variation before modern migration. New maps of human genetic variation are maps which are meant to capture patterns of genetic variation that precede the effects of more recent centuries of 'gene flow' through human mobility. Thousands of years of continuous human mobility seem to be stilled in the images of stable and genetically distinctive human groups occupying world regions that population geneticists seek to reconstruct. This means that geneticists who focus on prehistoric patterns of human genetic diversity routinely deploy sampling strategies that screen out those whose genetic profiles are deemed to derive from medieval or modern patterns of migration rather than descent from 'indigenous' populations. There is a basic logic to this. Geneticists can only study ancient population patterns by selecting donors of genetic material who they can be reasonably sure descend from ancient residents. In many cases this is by the criteria that all four grandparents also came from the area in which the donor lives. In recent research in Britain and Ireland, surnames are also being used as sampling devices, sources of evidence and the focus of research.

In the case of the research paper on the prehistoric population genetics of Ireland published in *Nature* in 2000 (Hill et al. 2000), which prompted Patrick Guinness to fund further research on Irish clan genealogies and which has in turn fed back into the world of genetic genealogy via Family Tree DNA and online discussion lists, Daniel Bradley and his team in Dublin used the surnames of the men whose Y-chromosomes were analysed to differentiate between the haplotypes they identified on the basis of their recent or ancient presence in Ireland. They used the correspondence between

the direct inheritance of the Y-chromosome and patrilineal traditions of surnames to categorize their samples on the basis that men with Gaelic names are direct descendants of the ancient Gaelic population of Ireland and that the genetics of those with English, Scottish and Norman/Norse names derive from later settlers. Screening out the 'non-native' genetic material allows the authors to study an 'older geography' of Y-chromosome variation.

In a context in which surnames both have particular popular appeal as symbols of ancient and heroic precolonial Gaelic social order and culture, and are used as clues to differentiate the 'two communities' in Northern Ireland, and in which questions of the place of the 'native' and 'settler' in Ireland have long been deeply contested, this paper and its reporting entered a fraught terrain. It did not go uncontested. In response to criticisms that this approach implies that these old categories of 'native' and 'settler' can be genetically distinguished and that ethnic differences correspond to genetic differences (Cooney 2000a, 2000b), those involved insisted that they did not and had no intention of linking genetic diversity and ethnicity (Bradley and Hill 2000). However, even if inadvertently, their work can resurrect the idea of a pure original Gaelic population. It suggests that despite centuries of intermixing and complex migration flows, it is possible to differentiate men in Ireland today on the basis of whether or not their genetic profile indicates direct paternal descent from this ancient original population. By arguing that surnames are quite reliable indicators of a man's ancestral origins and that this is proven in Y-chromosome genetic studies, their work suggested that men either have ancient genetic origins in Ireland or elsewhere. This is regardless of the centuries of intermarriage that complicate an assumption that names that originally derived from specific migrant groups reflect simple and singular descent from one of them. Despite the recent emergence and historic fluidity of surnames, they are taken to be reliable guides to 'native' or 'non-native' lineages. Focusing of the Y-chromosome alone means that all other sources of genetic inheritance, from both parents, all four grandparents, eight great-grandparents and so on are overlooked. For the geneticists, this is its value; the combination of Y-chromosome genetics and patrilineal surname inheritance makes it possible, they argue, to extract the history of ancient genetic patterns from the genetic muddle that is the product of centuries of human migration and mixing.

But it is these centuries of migration and mixing that have been central to recent attempts to reconsider traditional Irish nationalist narratives of purity of culture and descent because of the divisiveness of their definitions of a pure Gaelic nation and differentiation between 'native' and 'settler'. By the late nineteenth century, categories of identity and difference between the Gaelic nation and the colonial power, as well as between Catholics and Protestants in Ulster, were being constructed through ideas of distinctive ancestry and separate origins (Bardon 1992: 400–1; Comerford 2003: 51–84). These became categories of culture and descent whose purity must be preserved and policed. Recent academic and popular accounts of 'the people of Ireland' that challenge ideas of an ancient isolated purity and the figuring of historical periods of settlement as alien incursions, represent the history of the island in terms of complex and continuous migrant flows between

the two islands on the edge of continental Europe and further afield, as well as distinctive waves of settlement (Loughrey 1988). In some cases these arguments addressed ideas of biological or racial purity directly by proposing ‘that we are all happily mongrelised, interdependent, impure, mixed up’ (Kearney 1997: 188) as a constructive counter-discourse to the categories of antagonistic difference in Ireland and especially in Northern Ireland, where categories of ‘native’ and ‘settler’ are deeply entangled in the collective identities of both ‘communities’.

In contrast to the use of surnames to categorize the Y-chromosomes of men (and by implication their ancestral heritage) in terms of whether it derives from ‘native’ or ‘exotic’, both popular and scholarly accounts of Ulster’s history have used surnames as evidence of intermarriage and intermixing to challenge the notion of two absolutely separate and ethnically distinct cultural groups in Northern Ireland. The variety of surnames in any one individual’s family tree is highlighted as evidence for the impossibility of categorizing people on the basis of one surname alone and for the genealogical interconnections between what are imagined as separate communities of descent – Catholic and Irish and Protestant and British. In contrast to these efforts to reconsider old categories of identity and belonging in Ireland and Northern Ireland, recent work on the human population genetics of Ireland evokes an old geography of native Irishness and can be used to differentiate between contemporary men in Ireland and in the diaspora in terms of whether or not they are direct patrilineal descendants of ancient Gaelic clan groups (see Nash 2006b). While the geneticists involved maintained that they did not suggest any connection between genetics and ethnicity, their research now makes it possible to create new distinctions between those who can and cannot truly claim membership in a version of collective national community based on direct paternal Gaelic descent. By implication, if not by intention, they produce a genetic distinction between those of ‘native’ descent and those ‘of ultimate origin outside Ireland’.

In the studies that followed the work using surnames and the Y-chromosome in the *Nature* paper on Irish origins, McEvoy and Bradley argue that their research ‘demonstrates for the first time that surnames collectively are markers of shared recent patrilineal kinship. The extent of this varies depending on the specific name and the nature of its foundation. Some names have numerous early origins, while others have a defined and focused early genesis. In either case, it is clear that subsequent events of the 1,000-year-long history of Irish surnames have been a substantial force in shaping the genetic diversity of a modern surname population’ (McEvoy and Bradley 2006: 217). They found that none of their Gaelic surnames ‘showed more than about half of current bearers still descend from one original founder’ (2006: 212). The implications of this for their idea of surnames as strong indicators of shared ancestry or for the complex history of ‘mixing’ that radically complicates the earlier categorization of the ‘native’ and ‘non-native’, are underplayed. The idea of genetically distinctive native Gaelic surnames seems resistant to revision and the focus on the paternal descent alone even if a technical artefact of the science, continues to elide the entangled genealogies shaped by the complex history of migration between

Ireland, Britain and beyond. In a contradictory fashion, Y-chromosome research is used to trace some of those migrations but in doing so often reinforces the idea of genetically identifiable ethnic groups and can only do so by constructing a genetically identifiable ‘indigenous’ population.

The use of the Y-chromosome and surnames in Irish genetic surname projects extends this possibility of genetic differentiation between those of ‘native’ or ‘non-native’ descent to the imaginative community of those of Irish descent outside Ireland. It similarly runs counter to recent efforts to reimagine the diaspora as a community based on shared attachments but encompassing cultural plurality. In the 1990s the relatively well-established counter-argument that Irish history, culture and collective identity have been shaped by complex patterns of settlement that challenge the idea of native purity and alien presence was extended by new efforts to enlist Irish emigration as well as histories of immigration in an effort to construct ideas of Irish collective identity in terms of cultural plurality and hybridity. Accounts of diasporic Irishness pointed to cultural diversity within the collective global community – forms of Irishness shaped by different emigrant contexts – and argued for ways of reimagining Irishness in Ireland in terms of plurality rather than purity or antagonistic difference. National and diasporic Irishness were simultaneously refigured in terms of an inclusive pluralism as a counterpoint to divisive categories of difference (see Nash 2008: 26–39).

In contrast, according to the logics of Y-chromosome surname studies, men in Ireland as well as men in the diaspora who identify themselves as Irish or as of Irish descent but do not have Gaelic names and the corresponding haplotypes, or have Gaelic surnames but not the associated haplotype, are deemed to have genetic origins somewhere else. It is only conventionally Gaelic surnames that are being studied in Irish genetic surname projects, since according to the logic of direct and native ancestry, all the other surnames in Ireland are linked to lines of paternal descent that originate outside of Ireland. The deep ancestral origins of a man in Ireland or in the Irish diaspora who does not have a Gaelic name are ultimately elsewhere. Unlike the possible understandings of interconnection opened up by conventional family history, the genealogical imaginary of Y-chromosome genetics is not one of mixing, which renders those old categories of pure native and settler descent nonsensical in the present, but one of single direct ancestral lines and old clan groups. Genetic Irish surname projects involve reckoning degrees of genetic similarity and difference between men, and using the resulting genetic groupings within clan and surname groups to establish the premodern tribal geographies of lineage and location. In doing so, they refigure both nation and diaspora as fundamentally communities of masculine, patrilineal and Gaelic descent. An extremely partial account of genetic variations and ancestry can be used to differentiate between the ‘native’ and ‘non-native’ in Ireland, and between those in the diaspora who have or do not have direct paternal origins in Ireland.

New genetic versions of Irish descent are not framed as a valorization of undiluted inheritance. This is because the focus on direct male-line descent is already exclusive. All the other ancestries that could offer an image of entangled

roots or hybridity are simply rendered irrelevant in a direct paternal model of identity and descent. The focus on direct paternal descent alone effectively means that a language of ethnic fractions or mixing is unnecessary since the focus on direct paternal descent is itself a form of purification. When this is coupled with an imaginative geography of an ancient stable world of human genetic variation – of genes and people in their ancient ancestral homelands – an individual man can have only one place of ancient origin, either in Gaelic Ireland before the arrival of ‘non-native’ genes or outside Ireland where those ‘non-native’ genes originated. While an individual man may understand himself in terms of a mixed ancestry and multiple origins, the discourse of direct paternal descent is one of a singular origin and single ethnicity. As such, being of Gaelic descent becomes a property you either have or do not have and a property that can be scientifically tested. Even if in practice the project points to lineages that extend backwards in time and away from Ireland, the dominant discourse is of a single ancestral place. Against the grain of recent configurations of national and diasporic Irishness as plural and hybrid, genetic surname projects and the human genetic research with which they are entangled, conjure up a geography of the nation and a genealogy of Irishness as fundamentally Gaelic. Ancestry is reduced to patrilineage, and the nation and diaspora become communities of shared paternal descent from Gaelic forebears rather than hybrid and ‘mongrel’ collectives. While Y-chromosome surname studies do not necessarily produce the genetic proofs of origins and clan descent they seem to promise, they are based on versions of ancestry and origins that run against the grain of recent efforts to reimagine belonging and identity in Ireland, Northern Ireland and the diaspora in terms of cultural plurality and hybridity. A real claim to shared ancestry must be a genetically verifiable one and authentic Irish origins mean Gaelic Irish origins. Yet, at another level, being able to say that your ancestors came from Ireland is no longer enough, since these projects generate new senses of lack and ignorance. An ever more precisely differentiated location and place in a genetic tree of Gaelic clan groups and even within specific surname groups becomes a newly required form of genetic and genealogical self-knowledge. Irish ancestry is defined genetically and via direct paternal descent, but knowledge of origins and ancestry depends on making further and finer distinctions among members of a newly geneticized community of shared descent.

Conclusion

One broad conclusion of this exploration of the consumption of genetic genealogy in Y-chromosome surname studies might be that the results of these new tests do more to undermine and complicate than reinforce the ways in which ideas of origins and relatedness are linked to geneticized versions of ancestry in the promotion of these commodities. It is clear from these projects that the answers that they offer to questions of origins are often more provisional and complicated than they seem to promise. Categories of relatedness within groups can shift as new members are tested and the location of ancient origin and categories of genetic similarity can shift at

different scales of analysis. Men can be told that their Y-chromosome corresponds to a broad haplotype that locates their ancestral origins via direct paternal descent in a particular region of the world and can be informed that they shared a direct paternal descent from a named Gaelic clan member. These shifting scales of relatedness suggest very broad categories of genetic similarity at some levels and more specific subgroups at others. As in conventional genealogy, expectations of affinity between men who are assumed to be linked via shared descent across the geography of homeland and diaspora are tempered by realizations that diasporic interests in ancestral connections may not be shared by men in Ireland who are deemed to embody genetic source material about an ancient clan group.

All this might suggest that in practice, rather than crudely linking genetics and ethnicity, these new commodities may unsettle conventional categories and understandings of origins and relatedness. This would echo recent arguments that challenge claims that these new commodities simply regenerate old ideas of the biological or genetic basis of ethnicity or race. One strand of these arguments centres on the question of the ways in which people make sense of these new forms of genetic knowledge in relation to the complex and shifting roles and relations between ideas of the social and biological in understandings of kinship and relatedness (Wade 2007). This emphasis on consumption suggests that people will not simply accept geneticized versions of origins or ancestry but will incorporate them into complex, dynamic and fluid versions of their biosocial identity. This idea of the longstanding imbrication of the biological and social in Euro-American ideas of identity and kinship is paralleled by the wider and more recent destabilization of the categories of nature and culture, biology and society, which makes any claim to identify a straightforward geneticization or biologization of race an oversimplification (Skinner 2006, 2007). Together, these interconnected perspectives demand that a critical engagement with genetic genealogy is alert to these complexities.

Yet, rather than only focus on the ambiguities and complexities of genetic genealogy for those who use these tests, a critical engagement with genetic genealogy also has to involve exploring its much less ambiguous and unequivocal rendering of genetic relatedness. Consumers of these tests undoubtedly understand them in relation to their existing senses of the significance of the social and biological, but the model of ancestry in genetic genealogy undermines anything but the most genetic model of kinship. In genetic genealogy, as in human population genetics from which it has emerged, kinship is only genetic. While other domains of technoscience are troubling distinctions between nature and culture, or biology and the social, genetic genealogy is one domain in which there is a clear distinction between genetic and other versions of relatedness. And while consumers of these tests do not necessarily accept this distinction and have much more complex and equivocal perspectives regarding the meaning or significance of these tests, this has so far done little to challenge the powerful and powerfully reductive rhetoric of genetic genealogy companies. The active interpretative work and diverse experiences of consumers does mean that the practice of genetic genealogy is much more complex and indeterminate than its marketing suggests. However, those which see genetic genealogy as part of a

democratization of historical knowledge (Hackstaff 2009) fail to recognize the degree to which the personal pursuit of ancestral knowledge is deeply constrained by its models of genetically meaningful ancestry. The accounts of surprising discoveries of genetic connections, hybridity and unexpected ancestral origins for individuals or groups, which often feature in media reports on genetic genealogy, should not simply be taken as cases which point to the ability of genetic genealogy to unsettle taken-for-granted accounts of identity, relatedness, belonging and difference. They may unsettle, but reading this as a productive unsettling means accepting the genetic model of identity, difference and relatedness that is at the heart of this form of applied science. Genetic genealogy is often framed by the companies and enthusiasts by the idea that by revealing ‘the relatedness of all human diversity around the world’, it can be a ‘potent force for promoting tolerance and peace’ (Panther-Yates and Caldwell Hirschman 2004: 697–98). Yet, as the case of Irish genetic surname projects has shown, it is as much about the making of divisive distinctions between people as it is about making connections.

Notes

1. IRISH-DNA is one of hundreds of general and specialized genealogy discussion lists hosted by RootsWeb.com and was founded in October 2004. List discussions are archived at: <http://archiver.rootsweb.com/th/index/IRISH-DNA>. Yahoo also hosts a similar list devoted to discussions of the use of genetic tests in tracing Irish roots, which is also called Irish-DNA: <http://groups.yahoo.com/group/Irish-DNA>.
2. These programmes include the U.S. PBS series on the genetic ancestry of prominent African Americans, *African American Lives*, screened in February 2006, and the BBC television documentary on the genetic exploration of the ancestry of Black British people, *Motherland: A Genetic Journey*, shown in 2003. For more on the *Motherland* case, see Campbell 2007.
3. I use Family Tree DNA as an illustrative case in this introduction because it one of the larger companies that offers a representative cases and because of the prominence it gives to genetic surname projects as applications of its Y-chromosome tests. For an account of the other companies involved, see Greely 2008.
4. Available at <http://www.mitosearch.org> and <http://www.ysearch.org>.
5. Interview with Patrick Guinness, Furness, Co. Kildare, Ireland, 20 February 2006. Brian McEvoy’s thesis was completed in 2005: see McEvoy 2005.
6. http://mcmahonsofmonaghan.org/mcmachon_dna_project.html, date accessed 3 March 2011.
7. O’Shea DNA Project, <http://www2.smumn.edu/uasal/DNAWWW/overview.html>, date accessed 7 June 2004.
8. http://www.odriscolls.me.uk/dna_project.htm, date accessed 3 March 2011.
9. O’Shea DNA Project, <http://www2.smumn.edu/uasal/DNAWWW/overview.html>, date accessed 7 June 2004.
10. See Nash (2008) for a more detailed account of these practices of making relations in conventional as well as genetic genealogy. This chapter draws together some of this previous work.
11. http://www.odriscolls.me.uk/dna_project.htm, date accessed 3 March 2011.

12. <http://home.comcast.net/%7Enealcurtin/geneticgenealogy.htm>, date accessed 3 March 2011.
13. <http://www.mctiernan.com/dnatest.htm>, date accessed 3 March 2011.

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