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Identifying Celts in the Past

A Methodology

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Abstract. This article examines the problem of identifying individuals within and between medieval historical sources, especially medieval Irish chronicles and genealogies. A content analysis of these two groups of document provides the basis for a numerical methodology for nominal record linkage. Comparisons and contrasts are made with the methods and techniques open to modern historians, and the characteristic nature of different types of primary source is emphasized.

Keywords: medieval Ireland, nominal record linkage, prosopography, Celtic studies

To date, discussion concerning the methods of nominal record linkage and family reconstitution has been conducted primarily by scholars working on the modern period and drawing on such modern primary sources as censuses or electoral registers. Furthermore, much of the recent debate has occurred within the framework of record linkage and reconstitution using automated databases; the majority of computerized historical databases have a modern point of reference (Keats-Rohan and Thornton 1996, 239).¹ This is not to say that medieval and ancient historians have not discussed the more methodological aspects of identifying people in medieval or ancient sources and reconstructing their kinship groups: indeed, lively debate on these issues has taken place for many decades, especially among French and German prosopographers (Beech 1992). In addition, medieval historians are certainly not ignorant of the value of computers as tools for this type of research (Mathisen 1988). However, it is probably reasonable to state that many ideas and approaches pioneered by modernists have had few echoes among their medievalist counterparts.

The purpose of this article, therefore, is to consider the problem of identifying people in medieval sources, specifically those named in primary sources from early medieval Ireland (roughly, before A.D. 1100) and to indicate some ways in which the ideas and approaches used by modern historians, demographers, and psephologists might suggest

a methodology for approaching this material.² The resulting scheme may seem somewhat simple or crude, and some arguments may smack of Cartesian reductionism; but there are strong methodological grounds for starting from the lowest common denominator if we are to devise an approach that illustrates clearly the reasoning underlying an assessment of a proposed identification. In particular, I attempt to show how the idea of *identifying items* can be extended to the early Irish context and underline how we attempt to establish and evaluate matches.

Throughout the period known as the early Middle Ages—roughly A.D. 500 to 1100—Ireland did not constitute a political unity but instead comprised a series of independent overkingdoms, or provinces: Laigin (now Leinster), Mumu (now Munster), Ulaid (now Ulster), Connachta (now Connaught), Mide (now Meath), and Ind Fochla (or the North). Each overkingdom was ruled by a single large macrodynasty whose various segments or branches claimed a common ancestor (normally thought to have lived before ca 500), and two or more of these branches would often alternate in controlling the kingship of the province. In addition, an overkingdom was divided up into a plurality of smaller kingdoms and subkingdoms, each ruled by their own dynasties of kings who owed loyalty to the provincial king. Although these smaller kingdoms were often of very small extent and of relatively limited political power, the royal status of their respective kings guaranteed an interest in their ancestries in the form of often detailed genealogical tracts. My concern, therefore, is to consider how we can identify these kings and their kinsmen in different sources and thus reconstitute their dynasties. As in most regions during the early medieval period, information about people of lower social status is more or less nonexistent: nominal record linkage for the early medieval historian is invariably a matter of studying elites.

The extant primary sources for reconstituting early medieval Irish dynasties are basically of two types: annalistic and genealogical. Other types survive, such as inscrip-

tions and sagas or tales, but these are only supplementary. Furthermore, there is no substantial corpus of charters (records of land donation) containing long lists of witnesses, which constitute the stock-in-trade documents of prosopographically minded historians for other parts of Europe during this and the later medieval period (Gervers 2000). However, the chronicles and genealogies for early medieval Ireland are extremely detailed, especially when compared with similar documents from other parts of Europe for the same time frame, and they must contain references to named individuals numbering in the tens of thousands (Thornton 1997b, 25). The task of reconstituting early Irish dynasties is, therefore, one of coordinating the information contained within these two important, but distinct, types of primary source.

The overall method I propose entails two broad stages: qualitative and quantitative source analysis. By *qualitative*, I mean an assessment of the historical value or *quality* of the primary sources (whether individual documents or certain types of source), thus indicating how the relevant information contained therein may have been distorted in some way, whether by the author or during the subsequent transmission of the text. Obviously, all historical research must take into account the problems of reliability and textual transmission of the relevant primary sources, and the medieval Irish genealogies and chronicles are no exception. This caveat is particularly important for the genealogical sources that recent comparative studies have shown cannot be taken as simple statements of genealogical relationship but are often carefully composed political documents employing (and manipulating) kinship relationships as means of expressing political and social claims and aspirations (Dumville 1977; Ó Corráin 1983; Thornton 1991). My present purpose, however, concerns *quantitative* analysis: here, I mean a content analysis of the relevant documents to produce an assessment of the *categories* of relevant information supplied by the records in question on which any attempted linkages and reconstitutions may be based.

Simply put, nominal record linkage is the technique of determining whether a named individual in one record can be identified with a named individual in another record. More specifically, it has been defined as "the process by which items of information about a particular named individual are associated with each other into a coherent whole in accordance with certain rules" (Wrigley 1973, 1). Here we see that the essential element of the process is that there be a number of *common* items of information relating to both named individuals in more than one record (Winchester 1992, 151). Without such common identifying items, the two individuals cannot be compared and the proposed identification cannot be assessed. Now, obviously, these identifying items will depend largely on the content of the relevant documents. For example, most modern censuses (especially those for the same country over a short period of time) tend to record the same basic information about the

persons surveyed therein. Thus, the most common identifying items used by modern historians and demographers are said to be "proper names, including given names, . . . age, sex, place of birth, address, and occupation" (Winchester 1992, 151). Although medieval sources are not always as consistent or systematic as their modern counterparts, they are nonetheless susceptible of analysis. Indeed, Domesday Book—perhaps the greatest "survey" of medieval Europe—was a major feat of manual database design and lends itself very readily to such analysis (Keats-Rohan and Thornton 1996; Keats-Rohan 1998). Consequently, if a method of nominal record linkage for early medieval Irish kings is to be established, the first step must be to determine the items of information about these kings contained in our two principal groups of primary source; and the second step is to see whether some or all of these items are shared by the chronicles and genealogies to permit comparison. The following paragraphs therefore take the form of a content analysis of these two sources with a view to establishing a set of potential identifying items.

Content Analysis of Medieval Irish Annalistic and Genealogical Sources

Let us begin with the chronicles. For the early medieval period, these are a year-by-year record of notable events (mostly Irish, but some foreign) that were recorded at various religious houses throughout Ireland, though they now survive incorporated into a number of larger annalistic compilations dating from the late medieval or early modern periods. The chronicles can be quite informative, containing the brief statement of as many as 10 or more different events for any single year. The language of the chronicles is Latin, Irish, or a mixture of the two. The following is a representative example (with translation) for the year A.D. 898 from the *Annals of Ulster* (Mac Airt and Mac Niocaill 1983, 350–51):

Kl' Ianair [] Anno Domini .dccc°.xc°.iii°. *alias .xc°.iiii°*.
Aideid m. Laigni, rex Uloth, a sociis suis per dolum occisus
est. Fros fola fluxit i nAird Ciannachta. Coirpri m. Suibne,
aircinnech Laine Lere, dormiuit.

Kalends of January [] In the Year of the Lord 897 *alias*
[8]98. [1] Aidfh mac Laigni, king of Ulaid, was deceitfully
killed by his associates. [2] A shower of blood fell in Ard
Cianachta. [3] Cairpre mac Suibne, superior of Dunleer, fell
asleep.

Only three annal entries for this year exist, of which the second is the record of a miraculous "natural event" and need not concern us here. However, the other two entries concern named individuals and therefore deserve further analysis.

Thus, we have the year in which these events occurred: the original manuscript has A.D. 897 but has been "corrected" to 898 by a later glossator (*italicized above*). Given the

annalistic structure of the chronicles, this availability of absolute dating is common. For the two individuals named, we have a number of consistent items of information: their forenames (*Aidíth* and *Cairpre*), their gender (they both have male names), their patronymics (*mac Laigni*, son of Laigne, and *mac Suibni*, son of Suibne), their titles (*rex*, king, and *aircinnech*, erenagh, or "superior," of a religious house), and the places with which they were associated (the overkingdom of Ulaid, now Ulster), and the church of *Lann Léire* or Dunleer in County Louth). In addition, the nature of the event is obvious: in both cases, death (though for different reasons) is the most common event recorded in the chronicles.³ Comparison of this material with other annal entries and other chronicles would not alter these statements significantly. Thus, the basic items of information about named individuals in the Irish chronicles for the early medieval period are name (forename and/or patronymic), absolute date (usually of death, but possibly also a *floruit*), title or position (not always given), and locus of association (kingdom or church). (I would not include gender here because the number of women named in the chronicles for this period is minimal.) These preceding four items equate respectively with name, age, occupation, and address.

For a workable list of identifying items, however, it is necessary to undertake a similar content analysis for the genealogical sources. Very simply, the genealogies from early medieval Ireland structurally comprise two types: retrograde linear patriline (which trace a single line of descent through son-father backward in time), and segmentary genealogies (which often record the names of more than one son). The following short passage opens the segmentary genealogical tract of the ruling dynasty of Conaille Muirtheimne, a small kingdom in what is now County Louth (Thornton 1997a, 143):

GENELACH CONAILLI ANNSO.

Dá mac la Dícuill mac nOiséne .i. Cú Charad athair Leathaich, sin Fer Chind Dúin, qui cec[i]t i cath Imleach Apaich la Niall, Uarchraidi, sen na rígraidi. Uargalach immorru mac Uachtbrain meic Uarchraidi, cóic meic lais .i. Condmach, Congalach, Dúngal, Sluagadach, Eodus. Condmach a quo Fir Thuaiscirt Muigi, Congal a quo Cland Eodusa, Sluaideadach cuius filius Spealán.

THE GENEALOGY OF CONAILLE HERE.

Dícuill son of Oiséne had two sons, that is, Cú Charad, fathar of Lethach (ancestor of the men of Cenn Dúin), who fell in the battle of Imlech Apaich with (by) Niall, and Uarchraide, ancestor of the royal line. Moreover, Uargalach, son of Uachtbran, son of Uarchraide, had five sons, that is, Condmach, Congalach, Dúngal, Sluagadach, Eodus. Condmach from whom [are descended] the men of Tuaiscert Maige, Congal from whom [is descended] Clann Eodusa, Sluagadach whose son [was] Spealán.

Again, this example is not atypical of most segmentary genealogies. It is headed by a title that supplies the name of

the kingdom or dynasty concerned, so all individuals named therein may be associated with that kingdom. The passage itself mostly comprises lists of names of fathers and sons (or, looked at differently, successive lists of brothers). Sometimes, as above, the names of kinship groups descended from a particular individual are supplied (here, the men of Cenn Dúin and those of Tuaiscert Maige). Absolute dates are never given in the genealogies (except in a few instances in some very late compilations), and other details, such as the name of the battle at which a person was killed (mentioned here), are similarly rare.⁴ However, the sequences of names do provide the basis for calculating a relative chronology for members of the lines. Titles, such as king and so forth, are not usually supplied, and it cannot be assumed that membership of a royal line automatically means an individual was himself a king. An analysis of retrograde patriline would produce similar information, except that we only know the name of one son. Once again, women hardly figure at all in the genealogies, and the various versions of a tract known as *Banshenchas* or "Women History," which names the mothers of famous dynasts, probably contains no more than about two hundred females for the early medieval period. Therefore, the items of information based on the medieval genealogies are name (forename and patronymic), relative date (calculated from position within the genealogical scheme), and locus (kingdom or dynasty name).

On the basis of the foregoing content analyses of the medieval Irish chronicles and genealogies, I would argue that any attempt at nominal record linkage using these two groups of primary source must be undertaken keeping in mind the following broad categories of identifying item: anthroponymic, chronological, and locative. The anthroponymic item divides into two separate types: first, forename (given name), and, second, supplementary onomastic information (usually patronymic, whether father's name as above or grandfather's name, but sometimes nicknames and, by the eleventh century, surnames replace patronymics). Both the chronicles and genealogies tend to supply information about these anthroponymic details. The chronological identifying item involves comparing the absolute dates given in the chronicles with the relative dating calculable from the genealogies. The locative identifying item involves comparing the kingdom/dynasty name in the chronicle with the one that heads the relevant genealogy. It is important to emphasize that, because medieval sources are never as consistent as their modern counterparts (and I am sure the latter are never 100 percent consistent either), all identifying items are not always supplied in all instances. This obviously undermines the process of identification and assessment but, as I later argue, it need not invalidate the process outright. Furthermore, given the fact that, for the early medieval Irish material at least, we are dealing with a very limited range of items when compared with modern attempts at nominal record linkage, it should

be fairly obvious that favorable comparison of all items for two named individuals need not in itself mean that the identification can be accepted. Thus, whereas it seems reasonable to assume, for example, that two such individuals who share the same name (forename and surname), have the same place and date of birth, live at the same address, and are employed in the same occupation can be identified as the same person, the same reasoning cannot be assumed for the medieval Irish case of two individuals who have the same name (forename and patronymic), seem to have lived "more or less during the same period," and were members of the same dynasty.

Identifying Items: Some Problems

The very phrase *nominal record linkage* requires that the individuals to be identified or matched should be named in the respective records. Therefore, personal names may be considered the most important or necessary identifying item, though not sufficient on their own. Indeed, because all human societies use only a relatively small corpus of names when compared with the number of individual members of these societies, it goes without saying that the mere nominal correspondence need not automatically mean that two namesakes are necessarily identical. Consequently, much discussion about the problems of nominal record linkage have involved problems concerning personal names, especially problems of spelling and orthography.

It is also true that because each historical society or cultural area can use its own peculiar anthroponymic system or conventions, then up to a certain point at least, the specific problems of personal names as identifying items must be considered separately for each society or area. A major problem for one may be irrelevant for another. For early medieval Ireland and Gaelic Scotland, the basic naming system may be described as patronymic: that is to say, most individuals named in the extant records were referred to by their forenames, followed by the word *mac* (son), or for women *ingen* (daughter), plus their father's name in the genitive case. In far fewer cases, the patronymic element was the grandfather's name preceded by the word *ua* (grandson). Thus we have *Faelán ua Brain* (Faelán, grandson of Bran), who was king of Leinster and died in A.D. 738. During the eleventh century, however, this patronymic system gradually began to develop into the familiar Gaelic system of hereditary surnames: for example, *Mac Domnaill* (now McDonnell and McDonald), meaning "descendant of Domnall," or *Ua Briain* (now O'Brien), meaning "descendant of Brian." As these examples show, such surnames were really fossilized patronymics for which parallels exist elsewhere. In addition, the system allowed for nicknames of various types: many of these were posthumous epithets (like many nicknames of famous medievals), but some were clearly genuine contemporaneous nicknames, which could even be used instead of the forename. One well-known

example is *Mael na mBó* (Devotee of the Cows), the nickname of Donnchad mac Diarmata, king of Uí Chennselaig (ob 1006), and whose more famous son Diarmait, king of Leinster (ob 1072), is almost invariably referred to as *mac Maíl na mBó* in the chronicles.

For the fully patronymic period at least, the basic procedure for the nominal linking of two individuals would therefore be to establish whether they had the same forename and whether the patronymic, according to the chronicle, equates with the name of the father or grandfather, according to the genealogy. Furthermore, in terms of basic problems, the patronymic can be taken alongside the forename instead of presenting certain different difficulties. The Irish, like other peoples during the Middle Ages, were obviously not as rigorous as today's scholars in terms of standardized spelling of names (for medieval names in general, see Beech 1992, 201); and, furthermore, the period under consideration witnessed changes in orthographic conventions affecting name forms. That said, once the researcher achieves a basic familiarity with the most common personal names and their most common variants, spelling variations are not a major problem in themselves, if examined manually. There are, however, certain very common names that could be confused with one another, especially in the abbreviated forms that appear in manuscripts (e.g., Congal-Conall, Eochu-Eochaid, Dúngal-Dúnlán, and Muiredach-Muirchertach-Murchad). Crosschecking between these sets of similar names is often necessary.

Much discussion by modern historians has focused on the problems of names used among immigrant populations and the resulting misspelling or even mistranslation of surnames in particular within such contexts (Winchester 1992, 154–55). The only substantial immigrant groups in early medieval Ireland were the occupants of the various Viking towns dotted along the coast. Again, the names of these Vikings do not present too many major difficulties. Most common Scandinavian names are recognizable in Gaelicized orthography: Amlaíb for Óláfr, Ímar for Ívarr, and so forth. In a few cases, the Norse names were translated into Irish and used by Vikings in this form: for example, Irish Glún Iarainn looks like a translation of Iarnkné, both meaning "Iron Knee"; and Irish Dubcenn for Svarthøfuð, "Black Head." The undoubtedly multilingual and cultural character of the Viking towns by the tenth century no doubt explains this development in part. In addition, the Vikings employed a patronymic system of naming (and the modern Icelanders continue to do so), so many Vikings occur in Irish sources using Irish patronymic convention (Amlaíb mac Ímair: Óláfr Ívarson).

Whereas for modern historians, surnames usually constitute one of the biggest problem areas for nominal record linkage (Winchester 1992, 152–53), for most of the early medieval period, the Irish did not use surnames at all. As stated above, however, perhaps during the late tenth century and certainly during the course of the eleventh, the

patronymic system in Ireland was in the process of evolving into the later surname system. As elsewhere in medieval Europe, the shift toward hereditary surnames did not occur overnight (Beech 1992, 200–201), and consequently it is not always clear for the earlier stages, at least, whether in any given instance we are dealing with a patronymic (mac Domnaill) or a surname (Mac Domnaill). This confusion is compounded by the fact that the manuscripts do not distinguish between the two types, as is now conventional (by using capitals for surnames) but simply represent *mac* and *Mac* by the abbreviations *m.* or *mc.*, and *ua* and *Ua* (later Ó) by *h.* (Thornton 1997b, 30). Thus, with the development of surnames, nominal linkage is no longer a matter of simply matching a personal name and a patronymic in a chronicle entry with a similar combination of onomastic elements in a genealogy.

One of the main problems with nominal record linkage for early medieval Irish sources is the fact that both forename and patronymic (or surname) are not always supplied in the chronicles. In some cases, the individual is identified by his forename only, and in other (far fewer) cases only the patronymic or surname is given. Perhaps this circumstance arose because the chronicles were recorded contemporaneously and the individual in question was deemed sufficiently notable to be mentioned by one or other name element alone, which does not always help us today, of course. The lack of such information renders the task of matching two named individuals significantly more difficult.

As in most societies, in Ireland the giving of a personal name was not an arbitrary process but was open to influence by a variety of determining factors, and in particular (because we are dealing essentially with naming among social and political elites), we should not be surprised if the early Irish kings often adopted quite conscious anthroponymic strategies. I have argued elsewhere that this approach was certainly the case among their P-Celtic cousins in early medieval Wales (Thornton 1999; for early Ireland, see Thornton 2000b). Many medieval and early modern aristocratic and royal families often expressed their identity and kinship solidarity by using a limited corpus of personal names associated with their particular family (I use *family* here to mean a broader kinship group than the modern nuclear family). Such *Leitnamen*, or “leading names,” can of course hinder nominal linkage in that there may be more than one member of a family bearing any one of these names at the same time (Beech 1992, 202; Bouchard 1981, 505–8). Conversely, some scholars have argued that this tendency (and it was by no means an absolute and fixed usage) can facilitate linkage in that it increases the likelihood that in the absence of other information (i.e., other identifying items) an individual might be connected with a certain family on the basis of his personal name. This approach has potential value but could lead to numerous incorrect identifications if applied blindly and without reference to other sources of information.

The second category of identifying item that can be derived from the relevant annalistic and genealogical sources is *chronological*. Among the items used by modern historians listed above is age: obviously, there is a strong case for identifying two individuals named in different records but whose respective ages indicate that they were born at the same time. Here, the medieval historian is at an even greater disadvantage when compared with his modernist colleague, in that early medieval sources very rarely record the age of the individuals named therein. For the most part, the medieval Irish chronicles record the deaths of individuals and in fewer cases they record other deeds (often killing someone else!) The birth records of a handful of very famous kings and clerics do exist, but because the fame of these individuals could not have been known at the time of their birth, these entries must be retrospective additions (not contemporaneous records) and their reliability must be duly suspect. In addition, as already noted, the genealogies do not give absolute dates of any kind but only supply the basis for a relative chronology of the relevant dynasties. Consequently, the process of nominally linking an individual recorded in a chronicle with a namesake in a genealogy rests on whether the two could have “lived at more or less the same time.”

There are various problems with any attempt to coordinate the absolute chronologies of the chronicles with the relative chronologies of genealogies, including the reliability of dates in the chronicles, but the primary difficulty is how far we can trust the relative chronology based on the genealogies. There are in effect two methods of date guessing using genealogical schemes, and both require that at least one member of the genealogy has already been assigned an absolute date (Thornton 1997b, 30–32). First, so-called generation counting involves estimating a rough date for an individual on the basis of the number of generations that separate him and an already-dated direct ancestor (or descendant) and a precalculated generational average (otherwise known as the *ithagenic dividend*). Most generational averages are calculated somewhere in the range of 25 to 35 years. In these circumstances, generation counting over a few generations can be problematic because the average may fail to take into account notably long or notably short generations that can distort reality (Henige 1974, 121–44). On the one hand, for a long-term calculation, generation counting using widely different averages would lead to significantly different guessed dates: for example, over a 10-generation sequence of names, if we know the date for the earliest member of the line and calculate by means of a 25-year generational average, then his descendant would be assigned a date 250 years later (10×25 years). On the other hand, if the same calculation were made using a 35-year average, then the descendant would be dated 350 years after his ancestor. The alternative approach, which is to put the date within a range (here, 250–350-year range) simply leads to significant imprecision when one attempts to match the

individual with a namesake in the chronicles. The second method of date guessing—not infrequently employed by historians—is what I term *genealogical synchronism*: this approach works on the assumption that two individuals who stand the same number of generations after a common ancestor would be expected to live at more or less the same time, and therefore if we have an absolute date for one, the date may be assumed to be a convenient floruit for his kinsman too (Henige 1974, 17–26). This approach, again, assumes many other things to be equal, which is not always the case. Furthermore, the simple “test” application of this approach to cases for which we know the dates of both parallel kinsmen demonstrates that, although in many cases such kinsmen did flourish at more or less the same time, many others could live during widely separate times (especially the greater the number of generations involved). Therefore, this method of date guessing is equally prone to error (or potential error). Obviously, these sorts of problems are less of a concern if many dates can be attached to a genealogical scheme so that its chronology is more secure; but in those instances for which we have only a few dates, identifications based on relative chronological calculations are not entirely satisfactory.

The third and final identifying item suggested above I have termed *locative*, that is, it associates an individual named in a source with a particular locus, or place, be that an overkingdom, kingdom, dynasty, church, or the like. This connection is about as close as the early medieval Irish historian can get to the concept of *address* available to modernists. In some respects, locus is a more stable identifying item than address because in early medieval Ireland men would remain members of the same kingdom/dynasty throughout their lives, whereas modern people could and did change their addresses quite readily. Obviously, politics is never a secure line of business, and indeed there are examples from early Ireland of a branch of one dynasty assuming the kingship of a neighboring kingdom; but in most cases territorial expansion simply meant the disappearance of the second kingdom altogether and the appropriation of its territory by the more powerful neighbor. Within the structure of early medieval Irish politics, therefore, the locative identifying item is a relatively stable item of information even if it lacks the kind of precision offered by the present-day ZIP code. That said, there are many instances in the chronicles where an individual is simply *not* assigned a kingdom or dynasty. In these cases, however, the relatively local character of early Irish politics allows for some degree of “guesstimation”: with the exception of provincial kings and their macrodynasties, a survey of the chronicles shows that most early medieval Irish kings were concerned with fairly local and immediate affairs and, unless they were fighting as subkings of the provincial king, they did not concern themselves with matters beyond their respective overkingdoms or even far beyond their immediate neighbors (Thornton 2002). Therefore, we should not

start searching for the killer of a minor king from northeast Ulaid (Ulster), for example, among the genealogies of a dynasty based in southwest Munster, which is at the diagonally opposite end of Ireland.

Identifying Celts in the Past: A Numerical Method

The foregoing discussion is meant to illustrate a number of difficulties in using these identifying items as the basis for evaluating nominal record linkage for early medieval Irish sources. Broadly, these difficulties can be classified as relating, on the one hand, to imprecision of information and, on the other, to an omission of information altogether. In the first case, we have seen that the gradual development of surnames in Ireland during the eleventh century causes problems of interpretation (is this a patronymic or surname?) and that the tendency to use certain leading names within a dynasty might also hamper precise identification. Similarly, the fact that the Irish sources do not supply specific age as an identifying item means that we are left with the imprecise phrase “lived at about the same time,” usually based on an obituary in the chronicle and a relative dating for the genealogies. The use of kingdom or dynasty as an item is equally imprecise, though more stable, when compared with address. Given this degree of imprecision, it would clearly be foolhardy to assume that the simple matching of all items (personal name, patronymic/surname, floruit, and kingdom) for two individuals means ipso facto that they were one and the same person. In addition, as stressed above, the early Irish sources are not consistent in supplying data for all of these identifying items. In many cases, the individual's patronymic or his dynasty are not supplied in the chronicles. Such omission reduces the amount of material that can be matched and therefore renders more difficult the evaluation of the proposed identification. In light of these comments, it should be evident that any attempt to outline a method for identifying early medieval Irish kings and their kinsmen in the relevant annalistic and genealogical sources must take into account the likelihood of imprecise or even omitted information. Because imprecision and omission are not absolute grounds for the outright rejection of a proposed identification, but rather a less-certain rendering, any method of record linkage surely needs an element of “probability” (Winchester 1992, 156–57; Adman, Baskerville, and Beedham 1992, 6–7; Keats-Rohan and Thornton 1996, 245).

The numerical system offered below for assessing proposed linkages is based on the foregoing analysis of the relevant early Irish sources and the problems associated with the identifying items supplied therein. As such, the system in detail is particular to the medieval Irish material, but I think its general implications might have wider significance. Essentially, one can divide the identifying items discussed above into four distinct sets by treating the onomastic item as two separate items: forename and by-name

(incorporating patronymic, or surname, and nickname). For any given proposed linkage, each of the four items should be assessed according to one of three options that carry an equivalent "score" of 2, 1, or 0. Thus, if the two records match for a particular item (say, the two individuals have the same forename), then the score for that item would be the maximum 2. If the two records do not match at all (e.g., the individuals have completely different forenames), then the resulting score is the minimum 0. However, if there is some ambiguity (e.g., the two forenames are different but liable to be confused by scribes) or if the relevant information (the forename) is simply lacking in one of the records, then the appropriate score should be 1. This score allows for the fact that the items have yet to be either matched or non-matched.

Given the nature of the source material, the purpose of the exercise is less to determine whether two nominal records can be linked than it is to determine whether the proposed identification warrants further consideration (which may include thinking further about any ambiguities and comparing the score of the proposal with other suggested indentifications). The scheme can be represented diagrammatically in table 1.

For any given proposed identification, therefore, the maximum score would be 8 if all four items match, and the minimum would be 0 if none match. However, the intervening range (1–7) allows for the possibility that some imprecision or ambiguity exists in the relevant primary sources or that certain information is simply lacking. Furthermore, I would argue, any total score of 4 or less should be rejected as dubious. Thus, for example, two namesakes who lived centuries apart and were associated with different kingdoms would score 4 because of the common forename and patronymic, and yet common sense tells us that they could not be the same person. Similarly, 4 might entail a score of 1 for each item that, I think, would render further analysis difficult to substantiate. Therefore, only totals of 5 or more should be regarded as deserving further consideration. Here, I suggest that scores of 5 and 6 be termed *possible* (as long as no individual item scores 0); scores of 7 are *preferable* (meaning preferable to 5 and 6); and those of the maximum 8 are *probable* (that is, a strong probability exists to support this identification).

TABLE 1
Numerical System for Assessing Proposed Linkages

Item	Match	Ambiguity or lacking	Nonmatch
Forename	2	1	0
Patronymic	2	1	0
Dating	2	1	0
Kingdom	2	1	0

Perhaps I can illustrate this system by means of a simple and relatively straightforward example. In a genealogical tract on the Northern Uí Néill of Ind Fochla, we find the following statement (Meyer 1910–12, 294):

Dá mac Aeda Finnleith .i. Niall Glúndub ocus Domnall rí(g) Ailig.

Two sons of Aed Finnliath, namely, Niall "Black-Knee" and Domnall king(s) of Ailech.

The tract has already identified Aed Finnliath as son of Niall Caille, and he can accordingly be identified as the "high king" who died in A.D. 879; his first son, Niall Glúndub, later achieved similar political importance and was killed in 919. However, is it possible to identify the second son, Domnall? Whereas he did not achieve the same prominence as his father and brother, Domnall is described as having been king of Ailech (i.e., provincial king of the Northern Uí Néill). It is worth noting here that some versions give the plural form *ríg*, which may imply that the brothers ruled jointly as *kings* of Ailech. According to our identifying items, we are therefore looking for a Domnall mac Aeda who lived during the late ninth or early tenth century and who was a member of the Cenél nEogain (the macrodynasty of the Northern Uí Néill) and was king of Ailech.

There are a number of candidates for our Domnall, although most cannot be considered for identification. The numerical system described here illustrates the reasons why. Consider, for example, Domnall mac Gairbitha, king of Conaille Muirtheimne, who was slain in 914. He would score 2 for his forename and also for dating, because he certainly falls within the required chronological range. However, his patronymic (son of Gairbith) and his kingdom are nonmatches and thus score 0. His total would therefore be 4 which, I have argued, should be rejected. If we search for Domnalls with the required patronymic *mac Aeda*, the results are better. There is a Domnall mac Aeda described as *princeps Droma Urchaille*, who died in A.D. 838. He certainly has the required forename and patronymic, scoring 2 each. His title *princeps* indicates that he was a cleric, indeed the "superior" of the church of Druimm Urchaille in what is now County Kildare (Leinster). Men who combined regnal with clerical and even abbatial positions were not without precedent in early medieval Ireland, but in this case it seems unlikely (if not entirely impossible) that a dynast from northern Ireland was head of a southern church. The resulting ambiguity means that a score of 1 should perhaps be assigned for the locative item. However, the fact that he died four decades before Aeda Finnliath, father of our Domnall in the genealogy, puts him outside the chronological range and scores 0; and because any nonmatch means rejection, this Domnall should be rejected, despite the possible total of 5. The same would apply to Domnall mac Aeda *rígdomna* of Ailech, who died in 1024. He would match for forename, patronymic, and kingdom (though his title *rígdomna*,

meaning "prince, or heir-designate" suggests that—unlike our Domnall mac Aeda—he had not acquired the kingship of Ailech when he died), but he flourished about a century too late for our purposes, which would eliminate him as an option despite scoring 6. Finally, we have a Domnall mac Aeda, king of Ailech, who is said to have died "in penitence" in 915. Given his forename, patronymic, dating, and kingdom, he matches on all counts and thus achieves the probable total of 8, warranting further analysis. Now, there is a versified regnal list of Ailech composed by the cleric-poet Flann Mainistrech in the first half of the eleventh century (Mac Neill 1913, 49, 52). This list refers to a Domnall ruling for 19 years after Flaithbertach mac Murchada meic Maíl Dúin (who died in 896) and adds that he ruled jointly "along with Niall Glúndub." The chronology certainly agrees (896 + 19 gives 915), and the fact that Domnall and Niall were joint kings of Ailech echoes the plural *ríg* of the genealogy. Thus, the evidence given by the poet Flann at least supports the probable identification proposed, and there is a strong case for accepting this identification.

The numerical system for assessing proposed nominal record linkages offered and illustrated above is based on an analysis of the identifying items drawn from the relevant primary sources and their attendant problems. Essentially, it is an attempt to divide the process of evaluating proposed identifications into its constituent parts and thereby to outline some basic rules for accepting or rejecting identifications. To some extent it offers nothing new as such and, according to the example in the preceding paragraph, it attaches a few numbers to the line of reasoning most historians would follow anyway. However, I think that there is some value in attempting to reduce such reasoning to its basic elements to see clearly whether and how particular identifications do or do not hold. The scheme seeks to take into account the inevitable ambiguities and problems of medieval sources and those from Ireland in particular. As such, it offers a specific solution to a specific problem, but the basic principles could arguably be applied to other, similar contexts.

NOTES

1. However, see the journal *History and Computing* 12(1) (2000) for some recent discussion of computers and medieval history.

2. This article draws heavily on arguments presented in a forthcoming book (Thornton 2002), but the discussion has been reworked with a non-medievalist, particularly non-Celticist, audience in mind. In addition, many of the ideas outlined here emerged as I was compiling a prosopographical database of early medieval Ireland (Thornton 2000a).

3. From my database, I would estimate that between 60 and 70 percent of records of named individuals in the chronicles during the early medieval period refer to the demise of those individuals.

4. The battle of Imlech Pfich, dated in the chronicles to A.D. 688, was won by Niall mac Cernail Sotaich.

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