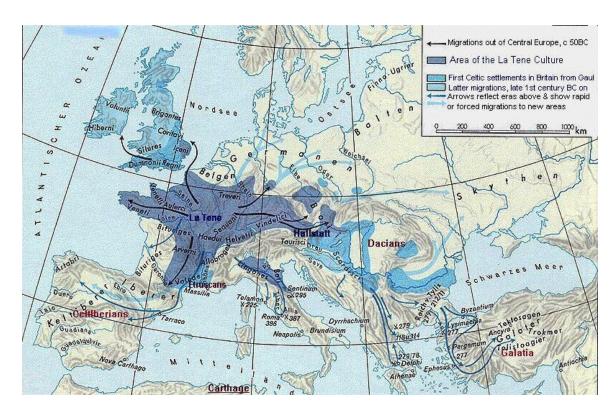
The Presence of Y-DNA Haplogroup R-U152 in Britain: Proposed Link to the La Tene Groups from West of the Rhine River: The Belgae and Other Celtic Tribes (Hypothesis C)

David K. Faux

The following is one of three hypotheses which attempt to explain the presence of Ychromosome haplogroup R-U152 in the British Isles, and is labelled Hypothesis C. Here the author will explore the specific sources relating to the Belgae Tribe and descendants, as well as others rooted in the La Tene Celtic culture, from the Belgica and Celtica Regions, dating from circa 450 1685 AD. They represent one of three possible major sources of Ychromosome haplogroup R-U152 in Britain and Ireland. Considerably more detail about the La Tene Celts, their predecessors and antecedents, as well as details relative to DNA and haplogroup R-U152 and subclades, is found in the first of these three studies of the subject by the author. This first study, Hypothesis A, in the series explores the evidence suggesting that the R-U152 males in England are descendants of the Celtic Cimbri of Denmark, and the Danish Vikings via "The Great Army" of the 9th Century. The second component of the trilogy, Hypothesis B, investigates the likelihood that the appearance of this haplogroup in England can best be explained by the Anglo-Saxon migration beginning in the 5th Century, involving in particular the Angles and Jutes from the Jutland Peninsula in Denmark. What all three hypotheses have in common is an assertion that the ancestors of the R-U152 British are derived from a Continental "La Tene" Celtic source.

1) Hallstatt influence 700 to 450 BC

Since there is limited evidence of some Hallstatt (early Celtic) material culture arriving in Britain it stands to reason that there could have been some, albeit limited, immigration to accompany the artifacts. In general, the continuity of British culture from the Bronze Age forward stands out more prominently. The external influence extends from the Continent over to the Hampshire area along the Channel and from there diagonally toward the Wash in Lincolnshire to create a semi-circle around East Anglia. It is interesting to note that this area was precisely that of the areas settled by the Belgae in <u>late La Tene times</u> as noted by Caesar (see later). Most atlases of the Celtic world show this Hallstatt influence extending into southeast England (e.g., Konstam, 2003). However, what is not clear is whether this "influence" was predicated on a migration of people, or merely ideas, from the Continent.



Map of the Celtic "empire" and the migrations that began circa 500 BC from the "heartland"

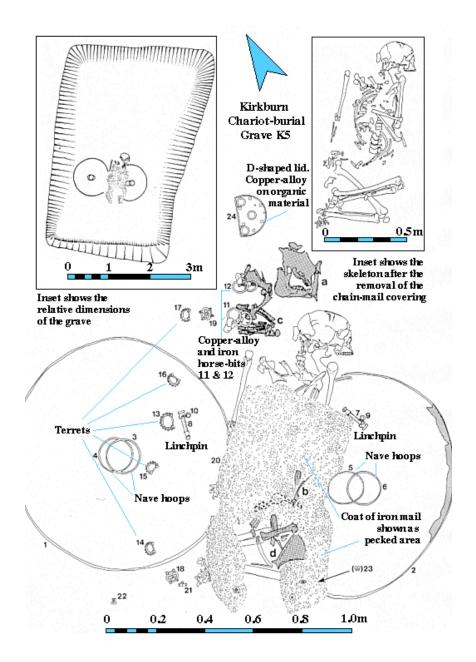
2) The people of the Arras Culture who first appeared in Yorkshire near the Humber River about the 5th Century BC

The material culture bears some similarity to that of La Tene sites on the Continent. It is curious though that the name Arras from a town in Yorkshire is the same as Arras in Picardy (Northeastern France) where the Artebates tribe of Belgae named the place Nemetacus (referring to a sacred grove). In England the culture is first observed circa 450 BC, the time of the great migrations from the Marne (Belgae) region, which is one of the three primary clusters of La Tene culture. One example, from Newbridge near Edinburgh, Scotland (radiocarbon dated to 570 – 320 BC) is geographically outside this group and may pertain to an earlier time. A second outlier is from Ferrybridge in West Yorkshire where the individual was buried on top of the vehicle, with wheels still attached and hence upright, more in keeping with Continental traditions. There were no Greco-Roman authors in the area to report movements in this period, hence no historical record of migration, however it is possible that some people did move from the Continent at this time.



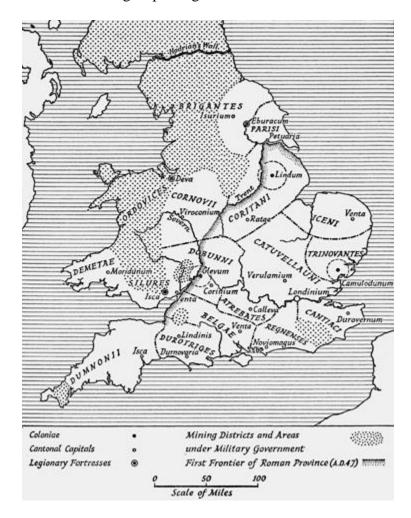
Ornate Kirkburn sword, Arras Culture

The majority of vehicle burials are associated with the Arras Culture from East Yorkshire. The chariot and / or cart burials in Yorkshire (male and one female), although unique in Britain, differ in a number of ways from the Continental practices (e.g., 5th Century chariot burials at Somme-Brionne as well as Chalons-sur-Marne in France). For example, the person is buried under the vehicle, which has been turned upside down, the wheels removed and placed flat in the grave. However many of the artifacts have exact equivalents elsewhere in the Celtic world. For example: *Dr. Stead stated that these linchpins "are unlike any others from Yorkshire, but can be matched by a pair from a cart-burial group at Jonchery-sur-Suippe, Marne", in France. As is the manner of such things, this would change. Also in the grave were two iron horse-bits, described as "loop link snaffles", these too were of a rare type, the only others similar being discovered at the Llyn Cerrig Bach burial site on Mona (Anglesey), Wales (Hayton, 2006). Hence it is unclear how much of what is observed is due to immigration and how much to the elite copying trendy Continental practices.*



However, this cluster is considered part of the Middle and Late La Tene periods with two-wheeled vehicle elite burials only found elsewhere in the Seine (e.g., Parisii and Senones), Marne (e.g., Remi and Catulvellauni) and Moselle (Treveri) regions. In the words of Cunliffe (1997), Northern France, the Low Countries, and Britain received a flow of goods throughout the Early La Tene period. The rite of elite burial distinguished by two-wheeled vehicles, which developed in the Marne and Moselle regions in the late fifth century, was adopted in four peripheral areas: in the lower Seine Valley, the Ardennes, the Haine, and Yorkshire (p.153). The people of this area of Yorkshire were known as the Parisi when the Romans arrived, the same name as a large tribe settled where Paris is sited today. This may be a coincidence, but could point to the origins of this group (Cunliffe, 1997; James, 2003; Koch, 2007).

The area of the Parisii tribe, hence the Arras Culture, is shown on the map below - with most of the burials of the Arras group being in the southeast corner.



It is evident that during the entire second half of the first millennium BC there was a cultural zone along the east coast of England extending from the region of the Arras Culture in an arc to encompass the entire area down to Kent County and across the Channel to include the settlements between the Seine and Rhine Rivers. Metalwork of the vegetal style was imported from the Continent and adapted to local tastes in England. For example the sword scabbards of Wisbech, Cambridgeshire, Standlake, Oxfordshire, the River Witham near Lincoln, and the elite burial at Wetwang Slack in the Yorkshire wolds fit this pattern (Cunliffe, 1997, p.161). The extent of immigration from the Continent at this time is unknown, although the cultural continuity in both sides of the Channel speaks for some degree of population movement during all phases of the La Tene period.

Another group linked to La Tene times is the **Iceni tribe** of East Anglia. The work of Hawkes (1931) and Childe (1940) are cited by Jones (1997). He noted that Childe, interpreted the burials and stray objects regarded as characteristic of the La Tene tradition in East Anglia as the culture of 'Marnian Chieftains' who established control of the 'Halstatt peasantry' and later founded the Iceni tribe (Childe, p.222; Jones, p.30).

3) The Belgae of southern England who immigrated there from northern France and Belgium in the 1st Century BC

In the words of Caesar:

The interior parts of Britain are inhabited by tribes which by their own traditions are indigenous to the island, while on the coastal sections are tribes which crossed over from the land of the Belgae seeking booty. Nearly all these maritime tribes are called by the names of the lands from which they immigrated when they came to Britain. After their arrival, they remained there and began to till the fields (De Bello Gallico 5.12).

Therefore it seems likely that a significant percentage of the R-U152 in Britain can be traced to various movements of people from what are today France and Belgium and whose origins are rooted in the Iron Age La Tene Celtic peoples found west of the Rhine. Some would have remained around the heartland of the Seine and Marne and Mosel River areas. but circa 500 to 400 BC these areas saw a dramatic decrease in population when large numbers migrated to the east to locations in Poland, the Czech Republic, Slovakia, Hungary, the Balkans, and east to Ukraine. After the sack of Delphi in 279 BC many from these eastern communities appear to have migrated back to their old homelands and took over (often forcefully) lands that were likely occupied by their distant kin. There are similar shrines at Gournay (on the border of the territories of the Belgic Bellovici, Ambriani and Viromandui); as well as that at Ribemont-sur-Ancre closer to the Atrebates; and Hayling Island in Hampshire, England (plus Mount Bibele in Italy) which all appeared to serve the same ghoulish function. The Gournay site is 130 feet square, walled and ditched. Apparent sacrifices of animals, and about 1000 humans as well as the ritual killing (e.g., bending) of weapons, occurred there from the 3rd to the 1st Century BC. The former date is the likely time when the Belgae were returning from the east to settle in or near the lands of their ancestors, but their activities here suggest a virtual take over of the entire area and extreme aggression. Caesar noted this in his journals, and recorded that sometime earlier (before the 1st Century) they had emigrated from east of the Rhine.

In fact according to many authors, the archaeological record argues for an earlier date for the first settlers. Allen (2007) notes, artifacts of continental and even Danubian origin dating from the 3rd century BC strongly suggest that the Belgae crossed to Britain about the same time as they settled in northern Gaul. They appear to have, arrived as fairly small warrior groups that quickly integrated into the elite of the local communities (p.175).



Source areas for Continental Celtic immigration to England: for example Belgica plus Treveri, Parisi and Senones

The "Ancient Sites" website provides a good summary of the tribes and circumstances in relation to the Belgae.

Julius Caesar divides the people of Gaul into three groups, the Aquitani, the Galli (who in their own language were called Celtae) and the Belgae, all of whom had their own customs and language. He noted that the Belgae, being furthest from the developed civilisation of Rome and closest to the Germans, were the bravest of the three.

Caesar claims that most of the Belgae were descended from tribes who had long ago crossed the Rhine from Germania. However most of the tribal and personal names recorded are identifiably Celtic. It is also said that the Belgae were descendants of Trebata, the legendary founder of Trier (oldest German city in

south-west Germany). The city of Trier was founded by the Assyrians around 2000 BC, lead by Trebeta, the son of the great Assyrian King Ninus.

Tribes who belonged to the Belgae included the Remi, Bellovaci, Suessiones, Nervii, Atrebates, Ambiani, Morini, Menapii, Caleti, Veliocasses and Viromandui. Caesar says one tribe, the Atuatuci, were descended from the Germanic Cimbri and Teurones, and describes four others, the Condrusi, Eburones, Caerosi and Paemani, as German tribes (although Ambiorix, a later leader of the Eburones, has a Celtic name). Other tribes that may have been included among the Belgae were the Leuci, Treveri, Tungri and Mediomatrici.

The Remi were the most prominent tribe of the Belgae and their capital, Durocortum (modern Reims in France), became the capital of the Roman province of Gallia Belgica.

In addition the Catulvellauni who resided near the Remi were also Belgae but not mentioned specifically by that name by Caesar. It is also possible that the Trinovantes settled east of the Catulvellauni in England were Belgae, and perhaps took a variant of the Belgae tribal names of Tricasses (immediately south of the Catuvellauni), or the Treveri further to the east. In Britain the tribes considered to be Belgae include the Cantiaci and Regnenses (probably), as well as the Belgae, Atrebates, and Catulvellauni

The data in the section below is from Koch (2007) unless otherwise indicated. The archaeological record showing marked similarities between the material culture in these areas and the regions occupied by their Continental namesakes:

- a) Weaponry Piggott's group I Iron Age swords, daggers and scabbards were imported from the Continent from the 3rd to the 2nd Centuries BC. These most commonly occur in the princely burials of the Rhine and Marne regions, and in Britain are found almost exclusively on the east coast of England, many from the Thames River. A short sword with an anthropoid hilt is found in these contexts from Hungary to Britain and may reflect an emblem of Celtic social status (Cunliffe, 1997).
- b) Feasting Equipment During the closing years of the pre-Roman Iron Age evidence of the Celtic cultural practice of the feast is seen in the finds of artifacts such as firedogs. Those seen in ritual deposition sites include the island of Mona in Wales, the Marne region (La Tene heartland) of France, and in the area from the Rhone Valley through the Swiss Lakes to western Germany. They are frequent only in burials in the territory of the Catulvellauni in England and their tribal areas in the Marne and further to the north. In settlement sites firedogs are found in Britain only in southern England but scattered around Gaul, Austria, and the Carpathian region in the east.
- c) <u>Iron Ingots</u> These items were used as a form of currency. The shape reflects late La Tene cultural links between Central Europe, particularly the lands of the Treveri (the Mosel, Luxembourg and surrounds), as well as the Helvetii and Vindelici (Switzerland and southern Germany) with southern England.

- d) <u>Coins</u> These artifacts are perhaps the best items for relatively precise dating of a site. They are also highly characteristic of a tribal territory or a region in which a tribe had major influence. This form of evidence shows a strong link between southeast England from circa 125 BC (when the first coins appear) with the Remi-Catulvellauni homeland; and three source areas near the English Channel show connections to Essex and both sides of the Thames River.
- e) <u>Pottery</u> The smooth wheel-thrown throw ware typical of the Treveri is also found in Belgic cremation burials and the Aylesford-Swarling burials of southeast England.
- f) Amphorae The Dressel amphora of the later Roman Republic (for transporting wine) are ubiquitous (e.g., throughout Gaul), but seen in Britain only in the south from Cornwall to cluster in Hampshire and the Catulvellauni area for example Cambridge but not north of the rivers draining into the Wash at the border of Norfolk and Lincolnshire. This distribution appears to reflect the statements noted earlier by Caesar about the differences between the Britons in the south and those living further north.
- g) Oppida These large nucleated settlements (proto-towns) with ditched enclosures are found across the extent of the Continental Celtic world, but not in the Germanic regions. In Britain only the southeast in an arc from the middle of East Anglia to west of Hampshire included these fortified units. Here they were of the "dump rampart" type, which were also characteristic of northern France from the Rhine to the Bay of Bisquay in the 2nd and 1st Centuries BC (Cunliffe, 1997).

There was probably some degree of movement of people between both areas in earlier years. In Gaul the Atrebates are located in the north, east of the Seine River; and the Catulvellauni are just south of the Remi and Parisi. *Caesar reports that 'within living memory' Diviciacus of the Belgic Suessiones held some kind of sway over parts of Britain* (James, 1993, p.48), which is reflected in their characteristic triple-tailed horse coins from about 60 BC. Furthermore about 50 BC many Gauls including Commius of the Atrebates are recorded as having arrived in Britain, after the Celtic defeat at Alesia. Commius established a tribal dynasty with its own coins at Calleva (Silchester, Hampshire), saying he never wanted to see another Roman in his life (Miles, 2005)

Burial practices can be among the best ways to determine cultural connections between peoples and regions. The cremation burial sites of the 1st Century BC in England (such as Aylesford in Kent and Baldock in Hampshire) have been noted as bearing a strong resemblance to, for example, those at Gosbling en Nospelt in Luxembourg, a home of the Treveri. Rich burials are often accompanied by weaponry, feasting equipment, wine amphorae, and some include chariot fittings. The distribution is remarkably specific to the Marne region (Remi – Catulvellauni), west and north along the Seine River, with a circle encompassing the western Mosel group (Treveri) to the Channel opposite Dover. In addition there is continuity between the Catuvellauni on both sides of the Channel with the cremation burial at Welwyn Garden City being representative. Most elite burials in England are within the territory of the Catuvellauni.

In the years immediately preceding the Roman invasion, the Catuvellauni expanded to take over the territory of the Trinovantes, Atrebates, Cantici and Durotiges in the west.

4) Roman soldiers, auxilliaries and citizens who originated on the Continent - 43 AD to the 4th Century

The information here comes from Miles (2005) unless otherwise indicated. The first wave of 40,000 Roman soldiers included Thracians (of the Balkans) and Batavians (from the Low Countries). It is difficult to know what sort of impact this group and subsequent members of the Roman establishment made on the population of Britain. Clearly any influence was south of Hadrian's Wall so the impact on Scotland was likely very limited (and not at all in Ireland). Many of the "Romans" came from regions known to include (presently) R-U152. An inspection of the evidence from wall inscriptions and grave markers, noted on the Roman Britain.org website, records that auxiliary troops included soldiers recruited from among the Tungri, Nervii, Alpini, Raeti, Lingones, Menapii, Morinii, Gauls (for example). Collingwood and Myres (1936) calculated that, over half came from northern Gaul and the Rhineland, a quarter from the Danubian provinces, and almost all the rest from Spain (p.42). Tombstones from all classes of the Roman establishment are found in locations as diverse as Chester, Caerleon, Lincoln, York and Gloucester. Settlements were likely close to the colonia planned for legionary veterans. One example is from London, dedicated to "Tiberinius Celerianus A citizen of the Bellovaci, sea captain". This tribe resided north of Paris.



Map showing both the tribal areas of the peoples of Britain, and significant Roman sites

Typical estimates of the population size of England at the time of the Roman occupation are approximately one to three million (the latter the more likely estimate). In the initially

years of occupation over 40,000 soldiers were based in Britain, peaked at 60,000, but this number dwindled over time to about 20,000 in the days before Britain was abandoned and left to her own devices. It is not known how many stayed after their tour was over (most were stationed elsewhere in the Empire as well) to take land grants, nor how many left descendants to the present day. A similar situation would prevail with the merchants and administrators and even slaves who frequently themselves owned slaves (for example from Gaul). It doesn't appear that at any time did the Roman incomers ever exceed 5% of the population, and many went home after their tour of duty. It is possible that the total Roman presence in Britain may have reached 100,000 to 200,000. Considering the numbers, it is unlikely that anything more than a small percentage of Britons can trace their ancestry to the Roman occupation – although it is possible that these Romans may have had an undocumented reproductive advantage.

5) Early Germanic Mercinaries, Angles, Jutes and Saxons as well as Vikings?

- It is possible that the "German" foederati a) The Fourth Century: (mercenaries) who were brought to England in the closing years of the Roman era were not from Northern Germany or Jutland, but instead the old Celtic areas of Central Europe. Frazer and Tyrell (1999) discussed the finds of 'chip-carved' belt fittings from Late Roman Britain. They report that, The documentary sources tell us that Germanic mercenaries were employed in the defence of late – and sub-Roman Britain, and attempts have been made to link these belt fittings directly with these early 'Germanic' settlers. Such objects are found throughout the empire, especially along the Rhine-Danube frontier, and it has been argued that similarity between those from the latter area and those in England was archaeological evidence for early Germanic occupation (p.31). Leahy (2008), while focusing on the Lindsey region of Lincolnshire, described these artifacts from the 4th Century (before the Anglo-Saxon invasions) as being decorated by birds, and heads "in the Celtic style". He characterized the distribution of these items as being found south and east of the Foss Way, with concentrations around the towns of Eastern England, particularly in the riverine estuary locations. Finds occur from northern Kent to East Anglia and north to the Humber in Lincolnshire as well as Nottinghamshire and east Yorkshire. Since the Rhine-Danube area is a "hotspot" of R-U152, it stands to reason that some of these early "German" settlers may have been descendants of LaTene Celtic peoples of the region.
- b) The Fifth and Sixth Centuries: A research study of Frisia in Northern Holland found only a single R-U152 in a large sample of R1b1b2 in that area. Hence today this haplogroup is negligible to non-existent in these Germanic areas. Early commercial testing did not find individuals who are R-U152 in the areas of Germany north of the Main River, only in the Celtic south where it is found in relatively high numbers to peak in Switzerland and the Alsace area. That has changed with larger sample sizes, however the distribution pattern remains much the same. Clearly Jutland in Denmark is an exception.

c) The Eighth to Eleventh Centuries: While evidence from both research (unpublished) and commercial testing (via FTDNA) shows that in most locations in Scandinavia R-U152 is all but invisible, there is one notable exception, as noted at the beginning of this manuscript. There appears to be a significant grouping of R-U152 around Oslofjord (the Vik, Vestfold) and more broadly southeastern Norway and southwestern Sweden. Since this is an area known to have been a "hotbed" of Viking activity (circa 790 to 1065 AD) it is possible that some of the R-U152 in England, and much of what is seen in Scotland, could be attributable to this source.

6) The Normans who invaded England in 1066 and stayed to settle - knights from Normandy, Bretons, Flemings, Poitevins and Lotharingians

This area spanned northern France and Belgium to the territory of the Treveri in the Rhine – Moselle region. This area is undoubtedly rich in R-U152, but there has been very little sampling in this area to date. In Belgium, Luxembourg and Alsace where the sampling has been greater it appears that R-U152 is a common haplogroup in the region.

The number of soldiers with William the Conqueror's army was about 5,000, and soon more compatriots came from the Continent in successive waves. At no time, however, did the numbers of these Normans amount to more than 5% of the total population (reminiscent of the figures for the Romans 1000 years earlier) of Britain at around 2 million inhabitants (the estimate being similar to Roman times). The Falaise Roll listing the "companions" of William, who took part in the Conquest, includes only 315 names. William soon went about redistributing the estates of the Anglo-Saxon aristocracy to his followers. Normandy at this time included the Cotentin Peninsula (bordering on Brittany and including the towns of Coutances and Mortain), Calvados (Lower Normandy including the towns of Bayeux and Caen), and Seine Maritine (Upper Normandy including the town of Rouen and the Seine River) (Green, 1997).



Map of Normandy, Flanders and adjacent areas 1035

One of the most noteworthy sources on the Normans is the history commissioned by Henry I, and written by Wace prior to 1170 (translation by Burgess, 2004). A plotting of the places of origin of the first wave of Normans illustrates the geographical distribution of the leaders of the Conquest – from the Meuse River in the east to Avranches in the west (map p.xlvii). The preponderance of the higher aristocracy came from Upper Normandy (Seine Maritime) and Calvados, but most regions were represented, as well as Flanders. Almost

none of the tenants-in-chief who held large estates worth over 100 English pounds a year were English (perhaps 1%). About 100 of 1400 owners of medium sized estates were English, but considerably more of the 6000 sub-tenants recorded in the Domesday Book were English, leasing the land they formerly owned.

Soon English children were being given Norman baptismal names such as Robert, William, John and Adam so it becomes difficult to ascertain ethnicity from font names even as early as the Domesday Book of 1086 (Miles, 2005).

7) <u>Post-Conquest immigration of settlers, soldiers and administrative officials</u> from various parts of France

As noted above, after the Conquest the estates of the Anglo-Saxon thegns were confiscated and given to Normans who fought with William the Conqueror, and to many other French – speaking individuals who arrived at various times over the next few hundred years to settle, become merchants or administrators or soldiers. There does not seem to be an accurate count of the numbers of these "latecomers". Many continued to come from the traditional areas of Normandy in the east, but also adjoining Brittany in the west and Flanders in the east (including the towns of Arras, Boulogne and Bouges). However, Green (1997) notes that, *The settlement of much of England, therefore, was essentially the work of the first wave of Normans and their companions; if relatively large numbers followed, they have left no traces in the sources* (p.136). In addition, *Migration dwindled to a trickle in the twelfth century* (p.140). Younger sons of the aristocracy filled whatever void there was.

Surnames were introduced in the mid 12th Century, but slowly adopted in the countryside. Those arriving from elsewhere often took the name of their place of origin – such as French, Fleming, Burgoyne and more specifically Devereux, deVaux, Warenne and Montgomery. Some adopted nicknames such as Fortesque ('Valiant Warrior'), Durant ('Steadfast') and Corbet ('Little Crow'). A Norman incomer to Scotland was Robert deBrus (Bruce) of Brix, Cotentin Peninsula. Anglo-Norman-Fleming settlers began to arrive in Ireland in 1167 under Richard FitzGodebert and established themselves in the Wexford and Waterford areas, and moved later to Dublin and Leinster. In addition Jews from the Rhineland and Gaul followed William and for the next 200 years had a turbulent history of being welcomed, expelled, and murdered.

8) The Flemings who resided in present day Flanders and surrounding areas of Belgium, Holland and France

It is highly likely that some of the R-U152 in both countries can be traced to the Flemings. For example, in "The Tribes of Britain" by David Miles reported that, *The Flemings had distinctive names like Lamkin, Freskin and Wizo* (p.245). During the reign of Henry I in 1108 Flemings were settled in Pembrokeshire, Wales. Others arrived in 1137 under Edward III to reside along the lowlands of the east coast of Scotland in places such as Berwickshire and Moray Firth; as well as Kent and East Anglia in England. In 1130/40 Flemings were sent as mercenaries to support King Stephen. A group was settled in Upper Clydesdale as tenants of King Malcolm IV in 1160. By 1200 they were well established

on the east coast of Scotland counting aristocrats and sheriffs among their number. Furthermore Flemish weavers came to many east coastal areas in the 1330s. They were also among the French Protestant Huguenot refugees and were among the **Huguenot refugees** arriving from places such as Poitou, Saintonge and LaRochelle Normandy to Kent and Suffolk in 1540/50 with larger numbers after1685 to many locations including cities such as London (where by 1700 they made up 5% of the population) and Dublin.

8) Other

After about 1300 immigration to England (and until recent times) had slowed and most of the movement was internal. For example people moved in large numbers from populous East Anglia to London. At this time (before the famines and great plagues of later in the century) the population of England was about 6 million.

Later migration also for example forced large numbers of foreigners on the native Irish population. For example about 1641, 70,000 English and Welsh settlers arrived in Ireland; and 100,000 immigrated in Cromwellian times to the point (when adding the Scottish plantations) that by 1700, 27% of the Irish population was English or Scottish (plus a group of destitute Palatine Germans settled there in 1709 by Queen Anne).

Ancient DNA

The question as to when haplogroup R-U152 arrived in England can now be addressed with powerful new technology, although we are still a long way from knowing, for example, how much the Normans contributed to the current Y chromosome structure across the country. When the first version of the present manuscript was written, we could only use whatever hints we had from history and archaeology to make guesses about the genetic composition of any Mesolithic, Neolithic, Bronze Age, or Iron Age migrations to England – or whether the changes brought about by these "Ages" reflected the movement of people of simply ideas.

Since about 2015 advances in technology, including the ability to "dig deeply" into Y chromosome haplogroups beyond the standard generic M269, and even delve into the many newly discovered markers that characterize the S28/U152 phylogenetic tree, have revolutionized the understanding of the historical and pre-historical landscape of for example Europe. Hence exploring the skeletal material from for example the Hallstatt - Celtic era (e.g., 800 BC), if the samples are reasonably well preserved, then we can provide data equivalent to that we can obtain from anyone donating a sample today.

Relative to the contents of the present paper, the published ancient DNA data (see the map of Ancient DNA finds by Richard Rocca at the Family Tree DNA U152 and Subclades Project) is extremely informative – and bodes well for future studies. Many of the finds have been attributed to the Bell Beaker cultural tradition circa 2800 BC to 1800 BC. The apparent earliest U152 find to date is recorded in Olalde et al., 2017 where a Bavarian sample from the Middle Bronze Age Tumulus Culture is dated to 2572 – 2512 BC.

Many of these finds have been published by Olalde et al., 2018 in an article entitled, "The Beaker Phenomenon and the Genomic Transformation of Northwest Europe". It is necessary to access the raw data via the Excel Supplementary Tables to view the specific haplogroups (beyond the more generic S116/P312 described in the text). Here we see that for example in the United Kingdom most of the samples are R-L21 (no U152). Even today L21 reaches its virtual saturation point in Ireland (most Irish are L21 or a subgroup of same) – and extends in a decreasing cline across Britain to the east coast where it is considerably less prevalent. This stands in stark contrast to the Continent where the samples in the Central and Western regions are largely U152 > L2 (37 of the total in this study). These areas are also regions of high concentration of this haplogroup today – although much less so in the east (e.g., Hungary). The Bell Beaker culture was succeeded by the Unetice Culture, ostensible ancestors of the Celts. Thus, these burials perhaps represent proto – Celtic individuals.

In a paper entitled, "<u>Genetic transition in the Swiss Late Neolithic and Early Bronze Age</u>" by Furtwangler et al., (Nature Communications, 2020) they report ancient DNA data from 96 burials dated between 4500 to 2000 BC. All samples were recovered from cemeteries between Alsace, Southern Germany, and the Swiss Plateau. Here we find 10 samples that could be genotyped as U152 > L2 and dated to plus or minus 1967 BC. The cemetery is situated in Singen, in the Black Forest area of Southern Germany close to the Swiss border west of Lake Constance.

Most important for the hypothesis under consideration in the current work is the study by Patterson et al., entitled, "Large-scale migration into Britain during the Middle to Late Bronze Age" (Nature, 2021) as seen here, where they provide data on samples from across Europe - however, the focus was on the British Isles. As to the R-U152 and subclades findings, no Bronze Age samples of R-U152 in the United Kingdom were seen in their study. Instead, the findings suggest that in the Iron Age, R-U152 individuals began to appear in Britain as follows - with individual, location of find, date, and subclade listed below:

```
I16440 – Cornwall, Padstow, St. Merryn, Harlyn Bay – 800 BCE to 43 CE – L2 > Z49
```

I19873 – Kent, East Kent, Access Road – 400 to 200 BCE – L2 > Z49

I20589 - Oxfordshire, Yarnton -400 to 200 BCE -L2 > Z49

I16422 – Scotland, East Lothian, Broxmouth – 364 to 121 BCE – L2

I20982 – Hampshire, Middle Wallop, Suddern Farm – 450 BCE to 1 CE – L20 > Z1909 > A1510

I13758 – Yorkshire, East Riding, Pocklington (Burnby Lane) – 400 to 50 BCE – L2 > FGC13617

I14097 – Yorkshire, North Riding, Scorton Quarry – 162 BCE to 26 CE – L2 > DF110

I19208 – Oxfordshire, Yarnton – 382 to 205 BCE – L2

I19047 – Cambridgeshire, Brabraham Research Campus – 1 to 50 CE – L2

Also of interest is a "Romano – Briton" (**Roman Era**) burial site from near York, Yorkshire, England dating to between 200 and 400 AD. In the study by Martiniano et al., 2016 entitled, "*Genomic signals of migration and continuity in Britain before the Anglo-*

<u>Saxons</u>" (see here) the authors explored the autosomal, mtDNA and Y chromosome DNA of 7 males, all of whom were decapitated. It is thought that this group may have been Roman soldiers. Five had "local" (Brithonic) Y chromosomal haplogroups (varieties of R-L21), whereas one had a variety of haplogroup J, and appeared by virtue of the autosomal DNA to have been from the Middle East. The other Y chromosome "outlier" was a \$28/U152 > L2 individual – although whether local in origin or from the Continent cannot be discerned based on the autosomal DNA. Perhaps this individual was a Roman auxiliary soldier from the Continent, or a descendant of a probable Brythonic group from Yorkshire with cultural links to the Parisi or Belgae of the Continent. This suggests that U152, particularly the L2 subclade, was in the United Kingdom before the main Anglo–Saxon migration beginning circa 447 AD.

Conclusion

The data in the current study presents a snapshot of the various groups who from La Tene times may have contributed the Y-chromosome haplogroup R-U152 to Britain and Ireland.

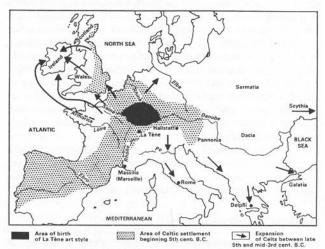


FIG. 9.1 Map by Duval indicating notional Celtic lands.

The above map offers a summary glance as to what is discussed in the present work within the context of the wider view of the Celtic migrations beginning in the 5th Century BC which affected northern France and Britain.

In essence the Belgae included all or most of the groups in Normandy, Picardy and Belgium from whence came the Gaulish settlers from the Continent who at various times immigrated to England. Further south along or near the Seine River Valley were tribes such as the Parisi, Senones, Cenomanni, Auleceri, and Carnutes. Further east were the Treveri, a Celtic tribe, associated with the Moselle La Tene group, who appear to have factored strongly in migrations to Britain.

Based primarily on ancient DNA, the data is consistent with the hypothesis C of the current study which proposed that during the Iron Age a large influx of R-U152 came to England, likely from the Belgica and Celtica La Tene areas of the Continent. Thus, with the possible

exception of subclade R-L20, <u>it is most probable that someone who is R-U152 from Britain is a descendant of the Belgae or related groups.</u>

David K. Faux, Ph.D.

Amended: 28 September 2008; 18 November 2022

Copyright 2008-2022