Although the Roman conquest led to the extinction of the Gaulish language 2,000 years ago, a half dozen rare, surviving Gaulish/Latin bilingual inscriptions have enabled scholars to trace the origins of the Celtic language and many other European languages.

According to the study, Celtic branched in two directions from an Indo-European mother language around 3200 B.C. One version, Gaulish, which is also called Continental Celtic, stayed within the European mainland. A second, British version, referred to as Insular Celtic, moved in a single wave to Britain.

Inside Britain, Celtic split yet again, this time into a version called Brythonic, which is sometimes referred to as Welsh or Breton Celtic, and Goidelic, commonly known as Irish and Scottish Gaelic.

This "single wave to Britain" scenario goes against the prior belief that Celtic came to Britain in two waves, with one going directly to Ireland. The researchers also dated the origins of the now extinct and hypothetical Indo-European mother language in Europe to approximately 8100 B.C.

Findings are published in the current Proceedings of the National Academy of Sciences.

To make the determination, Peter Forster, a molecular geneticist at the University of Cambridge, and Alfred Toth, a Zurich linguist, applied DNA sequencing and analysis methods to study the inscriptions and corresponding words and word fragments from the following languages: Classical Greek, Old Irish, and the modern versions of Irish, Scots Gaelic, Welsh, Breton, French, Occitan, Spanish and Basque.

Most words were remarkably similar across the board. For example, "mother" in Gaulish is "matir," while in Latin it is "mater." Such similarities in the study were likened to mutations of inherited genes.

A handful of words were completely different. The word for "daughter" in Gaulish, for example, is "duxtir." In Spanish, daughter is "hija."

These differences in the study were treated as new, replacement genes, which enabled the researchers to date the languages just as geneticists date the origin of new species based on DNA evidence.

Forster told Discovery News that the dates correspond with archaeological data concerning the settlement of Europe and the British Isles.
"Both the single-wave result and the early dates of (around) 8,000 B.C. and 3-4,000 B.C. confirm Colin Renfrew's archaeologically-based hypothesis, published in 1987, that our languages were brought to Europe and to the British Isles by the first farmers at the beginning of the Neolithic," explained Forster. "These farmers would have come from the Near East via Anatolia (Turkey)."

Merritt Ruhlen, a human biology and anthropological sciences lecturer at Stanford University in California and a visiting professor at the City University of Hong Kong, believes that Forster and Toth took "a very promising approach to reconstructing phylogenetic relationships of languages and language families."

In future, Ruhlen hopes other ancient languages besides Gaulish and Latin, such as Hittite, might be used as a basis for studying the Celtic and European languages.

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