Japanese-Korean-Turkish language group traced to farmers in ancient China

A study combining linguistic, genetic and archaeological evidence has traced the origins of the family of languages including modern Japanese, Korean, Turkish and Mongolian and the people who speak them to millet farmers who inhabited a region in northeastern China about 9,000 years ago.

The findings detailed on Wednesday document a shared genetic ancestry for the hundreds of millions of people who speak what the researchers call Transeurasian languages across an area stretching more than 8,000 km.

The findings illustrate how humankind's embrace of agriculture following the Ice Age powered the dispersal of some of the world's major language families. Millet was an important early crop as hunter-gatherers transitioned to an agricultural lifestyle.

There are 98 Transeurasian languages. Among these are Korean and Japanese as well as: various Turkic languages including Turkish in parts of Europe, Anatolia, Central Asia and Siberia; various Mongolic languages including Mongolian in Central and Northeast Asia; and various Tungusic languages in northeastern China and Siberia.

This language family's beginnings were traced to Neolithic millet farmers in the Liao River valley, an area encompassing parts of the Chinese provinces of Liaoning and Jilin and the region of Inner Mongolia. As these farmers moved across northeastern Asia, the descendant languages spread north and west into Siberia and the steppes and east into the Korean peninsula and over the sea to the Japanese archipelago over thousands of years.

The research underscored the complex beginnings for modern populations and cultures.

"Accepting that the roots of one's language, culture or people lie beyond the present national boundaries is a kind of surrender of identity, which some people are not yet prepared to make," said comparative linguist Martine Robbeets, leader of the Archaeolinguistic Research Group at the Max Planck Institute for the Science of Human History in Germany and lead author of the study published in the journal Nature.

"Powerful nations such as Japan, Korea and China are often pictured as representing one language, one culture and one genetic profile. But a truth that makes people with nationalist agendas uncomfortable is that all languages, cultures and humans, including those in Asia, are mixed," Robbeets added.

The researchers devised a dataset of vocabulary concepts for the 98 languages, identified a core of inherited words related to agriculture and fashioned a language family tree.

Archaeologist and study co-author Mark Hudson of the Max Planck Institute for the Science of Human History said the researchers examined data from 255

archaeological sites in China, Japan, the Korean peninsula and the Russia Far East, assessing similarities in artifacts including pottery, stone tools and plant and animal remains. They also factored in the dates of 269 ancient crop remains from various sites.

The researchers determined that farmers in northeastern China eventually supplemented millet with rice and wheat, an agricultural package that was transmitted when these populations spread to the Korean peninsula by about 1300 BC and from there to Japan after about 1000 BC.

The researchers performed genomic analyses on ancient remains of 23 people and examined existing data on others who lived in North and East Asia as long as 9,500 years ago.

For example, a woman's remains found in Yokchido in South Korea had 95% ancestry from Japan's ancient Jomon people, indicating her recent ancestors had migrated over the sea.

The origins of modern Chinese languages arose independently, though in a similar fashion with millet also involved. While the progenitors of the Transeurasian languages grew broomcorn millet in the Liao River valley, the originators of the Sino-Tibetan language family farmed foxtail millet at roughly the same time in China's Yellow River region, paving the way for a separate language dispersal, Robbeets said.

研究：日语、韩语、土耳其语都源自中国东北

一项综合了语言学、基因学和考古学证据的研究发现，现代日语、韩语、土耳其语和蒙古语等同一语系的语言以及说这些语言的人，都起源于大约 9000 年前在中国东北地区种植粟的古代农民。

该研究结果详细记录了在绵延 8000 多公里的区域内数亿人共同的基因传承，他们使用的语言被研究人员称为“泛欧亚语系”。该研究结果于上周三（11 月 10 日）发表。

这些发现阐述了冰川时代后人类从事农业活动对世界上一些主要语系传播产生的推动作用。谷子（粟）是早期狩猎采集者转向农业生活方式时的一种重要作物。

泛欧亚语系总共有 98 种语言，包括韩语、日语、各类突厥语系（包括在欧洲、安纳托利亚、中亚和西伯利亚部分地区使用的土耳其语）、亚洲中部和东北部使用的各类蒙古语系以及在中国东北和西伯利亚使用的各类通古斯语系。

泛欧亚语系的源头可以追溯到新石器时代位于今中国辽宁、吉林和内蒙三地的辽河流域种植谷子的农民。随着这些农民迁移到东北亚，其后代语言在数千年的时间里，就随之向北和西传播到了西伯利亚和大草原，也向东传播到朝鲜半岛并跨过海洋到达日本群岛。

steppe [step]: n. 大草原，干草原（特指西伯利亚一带没有树木的大草原）

这项研究强调了现代人口和文化的复杂起源。

该研究的主要作者、比较语言学家马丁·罗贝茨坦言："承认自己的语言、文化的根源或祖先来自境外，是一种身份的屈服，这让有些人接受不了。"罗贝茨也是德国马克斯·普朗克人类历史科学研究所考古语言学研究小组的负责人。这项研究发表在《自然》期刊上。

罗贝茨还表示："日本、韩国和中国这样的强国通常被认为代表着一种语言、一种文化和一种基因。但是让有民族主义动机的人感到不快的真相是，所有的语言、文化和人种，包括亚洲在内，都是混合发展而成的。"

研究人员为这 98 种语言设计了一个词汇概念数据集，从中识别出了一组与农业相关的核心传承词汇，并绘制了一棵语言谱系树。

该研究的合著者之一、来自马克斯·普朗克人类历史科学研究所的考古学家马克·哈德逊表示，研究人员研究了来自中国、日本、朝鲜半岛和俄罗斯远东地区的 255 个考古遗址的数据，从陶器、石制工具等人工制品和植物、动物遗迹中总结出相似性。他们还把各个遗址发掘的 269 种古代农作物的出产年代也结合起来分析。

研究结果指出，中国东北的农民后来开始种植水稻和小麦，作为对谷子的补充。当这些族群在公元前 1300 年左右来到朝鲜半岛，并在公元前 1000 年左右从那里迁到日本时，这些农作物也随之得到传播。

研究人员对 23 具远古人类遗骸进行了基因组分析，并将其与 9500 年来生活在北亚和东亚的人类现有基因数据进行比照。

举例来说，在韩国济州岛发掘的一具女性遗骸的基因组与日本古绳文人有 95%的相似性，这表明她的祖先从日本漂洋过海迁移而来。

现代汉语拥有独立的起源，但是也与谷子种植有关。罗贝茨指出，泛欧亚语系的祖先在辽河流域种植黍时，汉藏语系的始祖大约同一时期也在中国黄河流域种植粟，为现代汉语的传播奠定了基础。

progenitor：n. 祖先；原著；起源