

Japanese language traced to Korean Peninsula: study

May 4 2011, by Marlowe Hood



This photo from 2007 shows a man driving a rice transplanter machine while his wife (R) looks on at their paddy field in Shizuoka, west of Tokyo. Japan's many dialects originate in a migration of farmers from the Korean Peninsula some 2,200 years ago, a groundbreaking study borrowing the tools of evolutionary genetics reported Wednesday.

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The findings suggest that Japan's many language variants -- and by extension much of its culture -- did not emerge, as widely believed by many Japanese, primarily from indigenous hunter-gatherers already present on the archipelago for millennia.

More broadly, the study bolsters the theory that agricultural expansion has been the main driver of [linguistic diversity](#) throughout world history, the researchers said.

Japanese is the only major language whose origins remain hotly contested.

Some scholars argue the main settlement of the archipelago occurred 12,000 to 30,000 years ago, and that modern Japanese -- both the language and the people -- descend directly from this stone-age culture, which had some agriculture but was based mainly on hunting and gathering.

According to this theory, the migration of other peoples from mainland Asia around 200 B.C. brought metal tools, rice and new farming techniques but had scant impact on linguistic development.

Other researchers counter that this influx from the Korean Peninsula had a far deeper influence, largely replacing or displacing both the indigenous inhabitants and their spoken tongues.

Recent archaeological and [DNA evidence](#) support this theory, but researchers at The University of Tokyo wondered if additional clues might be found by tracing dozens of distinct dialects back through time to their earliest common ancestor.

Where that search wound up, they reasoned, could provide powerful evidence as to which school of thought was right.

To carry out the study, Sean Lee and Toshikazu Hasegama used a technique developed by evolutionary biologists to examine DNA fragments from fossils in order to create family trees, often reaching back millions of years.

First applied to languages a decade ago by Russel Gray at the University of Auckland, phylogenetics has "revolutionised" the study of language, even if it remains controversial, Lee said in an interview.

"Accumulating empirical evidence suggests that languages have, astonishingly, gene-like properties, and they also evolve by a process of descent," he said.

Lee and Hasegama created a list of 210 key vocabulary words -- body parts, basic verbs, numbers and pronouns -- and duplicated that list across 59 different dialects.

The researchers chose words unlikely to be borrowed across dialects and "resistant to change," much in the same way biologists seek out so-called "highly-conserved" genes that remain unaltered for thousands of generations.

Computer modelling showed that all of these "Japonic" languages descended from a [common ancestor](#) some 2,182 years ago -- coinciding with the major wave of migration from the Korean Peninsula.

The exact timing of the farmers' arrival may go back a little further, Lee said by email, but the core conclusion seems inescapable: "the first farmers of Japan had a profound impact on the origins of both people and languages."

The study, published in *Proceedings of the Royal Society B*, also highlights a remarkable, and possibly unique, delay in the transition to agricultural culture.

At the same time that China was undergoing one of the most remarkable explosions of culture and philosophy in human history during its Spring and Autumn Period, Japan was just emerging -- perhaps by choice --

from the stone age.

"What puzzles me is that the hunter-gather population who live in Japan seemed to have chosen a 'harmonious' lifestyle over an 'exploitative' agricultural lifestyle," he said.

"They had knowledge of cultivation but never developed it into full-scale farming."

It is still unknown whether the rice-farmings migrants that landed in Japan two thousand years ago also brought with them a writing system, Lee added.

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Citation: Japanese language traced to Korean Peninsula: study (2011, May 4) retrieved 10 September 2024 from <https://phys.org/news/2011-05-japanese-language-korean-peninsula.html>

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