The Chequered History of Rice Movement Southwards as a Domesticated Cereal – from the Yangzi to the Equator

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It is generally agreed that the *japonica* subspecies of rice was cultivated and eventually domesticated between 10,000 and 7000 years ago in the middle and lower Yangzi, and regions immediately north. By 5000 years ago it was a major resource in the systems of food production that supported rapidly increasing river-basin populations, especially during the Qujialing and Liangzhu phases of Yangzi Basin archaeology (c.5500 to 4000 BP).

The increases in population numbers that occurred during the Chinese Neolithic are calculable, on a relative basis, from settlement numbers and their areas plotted through time, especially in the Huanghe and Yangzi basins. What rates of population growth we are witnessing in such cases is uncertain, but between 10,000 and 4500 years ago there could clearly have been 50- to 100-times multiplications in the numbers of humans in the most favourable agricultural areas.

One result of this unprecedented demographic growth was population movement southwards, although on the whole quite slowly. Archaeological evidence for rice agriculture only appeared in Taiwan c.5000 BP, and in Mainland and Island SE Asia only c.4000 BP. Rice cultivation faded entirely towards southeastern Indonesia, and the only example of rice cultivation in Oceania comes from the Mariana Islands, probably very late in prehistory.

The spread of rice was clearly driven mainly by demographic expansion, associated with a spread of languages and material culture. But environmental barriers also played major roles in establishing a "pause, adapt, spread, pause again" mode of movement, with such barriers relating to availability of rainfall and alluvial land, problems related to latitude and climatic seasonality, and the prior presences of other populations, in some cases with agricultural systems that did not involve rice (e.g. New Guinea).