Heirloom Microbes
Tracing the Diversity of Dairying Bacteria across Eurasia

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DAIRY CULTURES

Figure 1: Otgontsetseg milking a reindeer. Western Taiga, Mongolia, 28 July 2018, by Matthäus Rest.

Figure 2: Fabian cutting the curd, Bönigen, Switzerland, 30 June 2019, by Matthäus Rest

How did dairying spread across Eurasia?

Invented in the Near East around 10,000 BP, first evidence of milk production in the Eastern Steppe dates to around 3,500 BP. How it arrived there and when dairy practices diversified from goats, sheep and cattle to Bactrian camels, yaks, horses, and reindeers remains largely unknown. But recent break-throughs in ancient DNA and proteomics research have made direct detection of dairying in the archaeological record possible for the first time.

Building on these new insights, **Dairy Cultures attempts to shed light on the prehistoric spread of dairying through a focus on the microbes that live in milk**. An interdisciplinary team of researchers is collecting samples of dairy products from non-industrial herds in Jordan, the Alps and Mongolia. Through the combination of microbiological culturing, metagenomic analysis and ethnographic methods, our goal is to map the spread of dairying through determining the phylogenetic relations between present-day dairy microbes from these three regions.

Towards an Anthropology of Symbiosis

Dairy Cultures explores the deep history of human-animal-microbe relations through milk. Currently, these relations are undergoing dramatic changes. For millennia, microbial fermentation was the main tool of food preservation. The widespread adoption of industrial farming, decades of antibiotic overuse and the century-long “war on microbes”, have led to the imminent threat of the loss of many dairying cultures – both the microbes and the human practices and recipes connected to them.

In order to support the continuation of these age-old multi-species fermentation collectives and the survival of the heirloom microbes we find, Dairy Cultures is committed to establish culture banks across Eurasia. With the emergence of a so-called **probiotic turn** in the life sciences and popular imagination, Dairy Cultures aims to contribute to a new understanding of the past and future of living with microbes.

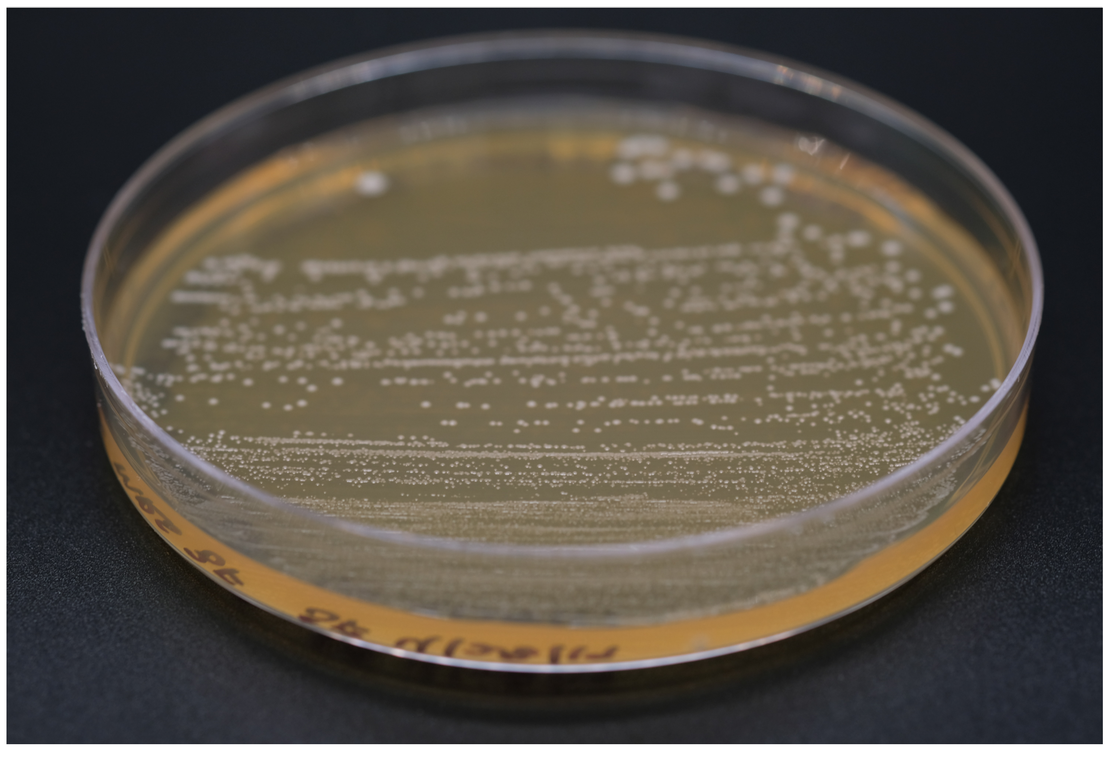

Figure 3: Cultured Heirloom Microbes, Oklahoma, USA, 1 May 2019, by Matthäus Rest.

Figure 4: Amm Suleyman kneading Jameed. Wadi Feynan, Jordan, 9 March 2018, by Matthäus Rest.