TERROIR THAT TRAVELS

SUMMER 2023 UPDATE

By The Center for Genomic Gastronomy (Cathrine Kramer, Emma Conley, Zack Denfeld)

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People, plants and entire agricultural landscapes are on the move. As the climate changes, how will farmers, eaters and food cultures in Europe adapt to migrating landscapes?

Terroir is a term used to describe the taste of place—the ways that environmental factors like soil, rain patterns and other geographical attributes are reflected in the flavour of foods such as wine, fruit, cheese and meat.

As the planet warms over the next century, populations of plants, people and other organisms will either acclimate and adapt to the new environmental conditions, or migrate towards more hospitable geographies.

Agricultural systems will need to adapt as well, but how? Should farmers intervene to maintain current species mixes and practices *in place*, or should farmers begin to grow crops more appropriate for the new conditions?

These questions are particularly relevant in the European Union because taste-of-place and regional foods are legally protected under the (G.I.) or “Geographic Indications” scheme—and climate change is already undermining the ability to sustain these agricultural landscapes and foodways.

Terroir That Travels uses legal documents, environmental data and satellite imagery to identify potential sites for pre-enacting disrupted tastes of place and asks: “What does local food taste like when climate changes everything?”, “Who and what belongs where?” and “what will thrive and what will be left behind?”.

We are currently using geospatial data to identify and map the EU-designated agricultural landscapes and products that will be most impacted by climate change. In parallel we have begun a process of visiting and meeting with impacted food communities to develop an ongoing conversation between two different kinds of information: remote sensing data and on-the-ground lived experience. The goal of these activities is to map food controversies, prototype alternative culinary futures and imagine a more just, biodiverse and beautiful food system.

(NOT) SEEING LIKE A (SUPER) STATE

We began our geospatial research by attempting to identify pre-existing datasets of the more than 3,000 agricultural products and foodstuffs protected by the Geographical Indications scheme.

For this first iteration of the project we are primarily interested in the 500 or so registered fruits, vegetables & grains and we are not researching other categories such as meat, cheese, or alcohol. As of this writing, we were not able to locate any other pre-existing centralized inventory of mapped locations for foods or drinks in the GI database (other than wine).

However, in 2022 a group of researchers based in Italy and Portugal created a geospatial inventory that organizes the regulatory information about the 1,177 wines protected in Europe based on the documents from the official EU register. Putting all of these locations on a single map creates a visual overview of the agricultural biodiversity in grapes alone that exists and is protected across the continent.

However, as the researchers note “Because of the tight relation between PDO wines and the specifications defined in the official regulatory documents, these products are highly susceptible to changes in climatic, environmental, or socioeconomic conditions.”

AIR-GAPPED AGRICULTURE

We were able to find a data set outlining the geographic boundaries of a single ingredient: “PDO-FR-02103 Ail violet de Cadours”, a garlic variety that is purple in color. In addition there was a separate file that showed all of the farms that were each partially under garlic cultivation within this bounded region.

With this data in hand we are able to begin to compare historical and forecasted rainfall data, temperature and other growing conditions within the region and even down to a particular field.

According to the Ail violet de Cadours PDO document:

“The link between ‘Ail violet de Cadours’ and its environment lies in the use of varieties developed from local populations well adapted to the climatic, soil and landscape conditions of the geographical area, which give it specific qualities (violet colour, size, and uniformity of the bulbs) and benefit from the production expertise within the area. These qualities give ‘Ail violet de Cadours’ its good reputation.”

“The production area is characterised by a distinctive climate which comes under oceanic influence during winter and spring and Mediterranean influence during summer and especially autumn. Winter is relatively short and mild. Spring is characterised by regularly rising temperatures and a high rainfall that peaks in May. Summer is hot and dry. Autumn is relatively mild, with little rain. Particularly in summer and autumn, the area is exposed to the Autan wind, a warm, dry, south-easterly wind.”

However, environmental conditions on the ground are changing due to climate change and other factors. Being able to view and compare different GI spatial boundaries across a region or the entire continent will be one tool for imagining how these farming systems can adapt, migrate or will be forced into extinction.

A CONTINENT-WIDE FOOD COMPUTER

Assembling and maintaining this geospatial database would be the first step towards creating **a continent-wide food computer** that could be used to help farmers and food communities adapt to the massive agro-ecological disruptions that are underway. The desire to increase the resilience of agricultural systems by shortening supply chains and growing local varieties is growing just at the moment when local conditions and the viability of traditional varieties is under threat.

However, it is not clear that the GI scheme is set up to be adaptive or responsive. By definition its aim is to tie cultivars, practices, tastes and processes to place.

In order to experience these landscapes in person and not only remotely from satellites, we visited a neighboring region of France that was holding its annual pink garlic festival in August.

FOOD SECURITY THROUGH OBSCURITY

In June & August of 2023 we visited Lautrec, France to learn more about Ail rose de Lautrec (PGI-FR-0193-AM01) which is distinctive because it was one of the earliest registered Protected Geographic Indicators and it has held a festival in August every year since 1970 and in recent decades representatives from the rest of France’s GI system attend.

First, we conducted an interview with Camille Pelissou. She grew up in the village where the Pink Garlic is from. Her father was a Garlic Grader for many years, but has gotten out of the business. She reported that 2022 was the worst season on record for the Garlic farmers due to a prolonged drought.

Then in August Camille attended and documented the Pink Garlic festival to re-familiarize herself with some of the cultural aspects of this food community.

For example, The Syndicat de Défense du Label Ail Rose de Lautrec founded the Confrérie de l'Ail Rose de Lautrec in 2000 in order to promote the Pink Garlic, the region and its culinary traditions.The organization has nearly 200 members who are formally received into the Brotherhood during the Festival while dressing in long colourful robes and hats.

Pink garlic stands out visually, and can't simply be mixed in with other garlic types. The festival is one part of a larger set of cultural practices which maintain this distinct agricultural product despite the homogenizing tendencies of global supply chains and the economic imperatives towards efficiency and fungiblity in crop commodities.

WELCOME TO THE O.F.F.I.C.E.: OTHER FOOD FUTURES (INCLUDING CUISINE & ECOLOGY)

In future versions of this project we would like to iterate and refine our digital experiments and prepare cartographic, environmental data and other materials to be used while running workshops with GI food-producing communities around Europe.

The goal of these workshops will be to co-create a range of potential food futures that continue to celebrate the culinary, cultural and historical aspects of these foods, while taking into account economic and ecological drivers of change. Being able to see other GI communities clearly on the map is one method for drawing people, plants and landscapes with shared concerns together and projecting into the future.

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CREDITS

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PRODUCTION
Videographer & Farming Research: Camille Pelissou
Animations: Cat Kramer
Video Editing: Emma Conley
Script & Voice: Zack Denfeld

Mentoring & Advising from:
Miha Turšič (Waag | Space Lab)
Federico Franciamore (Space4Good)

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DATA & IMAGE

Ail violet de Cadours AOC/AOP : aire de production
Conseil départemental de la Haute-Garonne
Direction de l'agroécologie, Service agriculture
(Open License v2.0 (Etalab)

Candiago, Sebastian; Tscholl, Simon; Bassani, Leonardo; Fraga, Helder; Vigl, Lukas Egarter (2022). A geospatial inventory of regulatory information for wine Protected Designations of Origin in Europe. figshare. Collection. https://doi.org/10.6084/m9.figshare.c.5877659.v1

Google Earth version 7.3.
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Image IBCAO
Image U.S. Geological Survey

Video clip from:
"Culture de l'ail rose en 4 saisons"
by François Sers, Gaël Bardou

QUOTED

Candiago, S., Tscholl, S., Bassani, L. et al. "A geospatial inventory of regulatory information for wine protected designations of origin in Europe." Sci Data 9, 394 (2022). https://doi.org/10.1038/s41597-022-01513-0

PDO-FR-02103: Ail violet de Cadours

ARTIST BIO

The Center for Genomic Gastronomy is an artist-led think tank launched in 2010 by Cathrine Kramer (NO) and Zack Denfeld (US) that examines the biotechnologies and biodiversity of human food systems. Their mission is to map food controversies, prototype alternative culinary futures and imagine a more just, biodiverse & beautiful food system.

The Center presents its research on the organisms and environments manipulated by human food cultures in the form of public lectures, research publications, meals and exhibitions. Since 2013 they have been joined by the artist Emma Conley (US) and have collaborated with scientists, chefs, hackers and farmers in Europe, Asia, and North America.

Working between and beyond the life sciences and gastronomy the Center has been published in Science, Nature and Gastronomica and exhibited at the World Health Organization, Kew Gardens, V&A Museum, Science Gallery, MU, V2_ and others.

They are currently based in Amsterdam and Porto.

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