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Information Infrastructure:

Shaping Raspberries through Geographical Indication?

André Thiemann

In summer 2019, as part of ongoing fieldwork on global food supply chains and their infrastructures, I carried out participant observation at the "World Capital of the Raspberry" in the municipality of Arilje in Serbia. Here, under the blistering sun, some ten thousand agricultural laborers and farmers across more than four thousand smallholdings pick approximately twenty thousand tons of raspberries every year, predominantly in June and July.

Although there were variations in the farms I visited in terms of size, capital investment, infrastructures, numbers of farm workers etc., all integrated three stable building blocks – or infrastructural modules – of raspberry cultivation: they used the same cultivar named Willamette, they trellised the canes in rows and they transported the fruit every evening to a nearby cold store (Thiemann 2024a: 298–301).

The three agronomic modules of Arilje's raspberry country: the Willamette cultivar, trellised rows, picked raspberries stacked for transport.
Photo: André Thiemann, 2019.

Between 1975 and 1993, these three modules had been developed by a since defunct local socialist cooperative's agronomic station. In this "legal-scientific infrastructure" (Lammer and Thiemann 2024: 205–7), Arilje's agronomists had researched, aligned and evidenced the modules' effectiveness by conducting field trials, running statistics and writing papers. But with the closure of the agronomic station, the agronomists had dispersed and their modules were taken up across Serbia, Kosovo, Bosnia-Herzegovina, Macedonia and Bulgaria.

Yet a network of Arilje's agronomists strove to retain an infrastructure of value, by concentrating on communicating their raspberries' singular qualities in face of the growing competition. Before explaining this emerging information infrastructure (Lammer and Thiemann 2024: 203–5), I must quickly introduce another type of infrastructure in place, i.e. the combined infrastructures of containment and transportation – this is the cold chain (Lammer and Thiemann 2024: 201–3).

The cold chain that concerns us here is centred around the former cooperative cold store in downtown Arilje. The atmosphere in its production halls is literally the polar opposite of the warm, bucolic fields outside: in a clean, cold white cube kept at minus ten degrees Celsius, I saw twenty-five workers hastily sorting freshly frozen raspberries into 10kg boxes, separating on a conveyor belt the first-class quality berries from the rest. The boxes were stacked on palettes and retained for storage, resorting, processing and packaging.[1]

[1] On the moral economy of the cold chain see Freidberg 2015; on its modules: freezing, packaging, storage and transport, see Thiemann 2024a: 295–98.

Part of the cold chain: Workers sorting fresh-frozen raspberries in Arilje's major cold store. Photo: André Thiemann, 2019.

Infrastructures of Value

This article adopts an approach to "infrastructures of value" (Lammer and Thiemann 2024: 195–218) that, rather than forcing an either-or decision between the critique of political economy and the ontology of more-than-human assemblages, studies how infrastructures' manifold materialities can be used to valuate (qualify the properties of) and valorize (realize a profit with) foodstuffs. Ethnographically, the piece hones in on how Arilje's raspberry supply chain has been copied elsewhere in the region, which has created huge competition and turned a singular, expensive good into a comparatively cheap mass commodity, a tendency that the new information infrastructure strove to counter.[2]

Several dialectics abounded in Arilje's raspberry value chain. I have already shown how the interaction between Arilje's smallholding agriculture and its agronomics shaped fresh raspberries. Second, I further considered how the fresh, delicate composite fruits were frozen into red, rolling marbles to be stacked in boxes, allowing for future valuation and valorization. Third, over the remainder of this piece I will demonstrate how, to counter the loss of realized value per kilogram because of mass commodity competition, Arilje's agronomists pushed for a Geographical Indication (GI) of Arilje's raspberry – by evidencing and thus valuing its special qualities that stemmed from the regional tradition of growing this particular fruit.

[2] On the economy of singularities and its judgment devices that qualify both product and consumers, see Karpik 2010.

As the agronomists worked on establishing an information infrastructure to market Arilje's special "Taste of Place," they became engaged with the dialectics of genericness and uniqueness in global markets. These aspects have existed since the nineteenth century, when the consumption of fresh fruit became a cherished urban practice, leading to fierce competition in metropolitan markets such as Paris (Freidberg 2010: 122–56). In the twenty-first century, fresh-frozen, industrially processed fruits entered the food aisles and with them the uniqueness-genericness dialectic, too.

Conference merch at the 11th International Raspberry Organization meeting in Veliko Tarnovo, Bulgaria. Photo: André Thiemann, 2018.

While I attended the 11th International Raspberry Organization (IRO) meeting in Bulgaria in 2018, a Chilean exporter laid out for me how the global raspberry market had been shaped. It started around 1980, when Chile's agribusinesses opened up a luxury niche in the US-American food market by organizing daily airlifts of fresh raspberries. But by 1990, Guatemalan smallholders wrestled their way in and became the leading fresh raspberry exporter to the USA by leveraging their relative proximity and using the cheaper method of trucks for transport. Chileans now had to freeze their raspberries and seek out new markets. Thus they encountered the post-socialist Eastern European producers with whom they established IRO in 1996: Hungary, Poland and Yugoslavia. Each of these countries had exported on average twenty to thirty thousand tons of fresh-frozen raspberries per year throughout the 1980s (see Šoškić 1988: 13).[3] Also in 1996, food scandals in Guatemala helped to re-channel US foreign direct investment into new agronomic infrastructures – polytunnels – for fresh raspberry production in Mexico's Baja California (Flynn 2013; Zlolniski 2019).

[3] Since the 1990s, Poland's Polana and Polka and Serbia's Willamette varieties have outcompeted Hungary's tasty *Fertődi zamatos* ('the juicy of Fertőd').

Serbia never strategically invested in fresh raspberry production. Instead, it scaled up its fresh-frozen capabilities. In 2016 it produced a record 113,000 tons of raspberries, equalling 16 percent of production by the ten top producing countries worldwide.[4] Fruit traders regularly paid a few cents per kilogram more for Serbian raspberries, and Arilje's raspberries fetched somewhat higher prices again.

[4] See https://www.tridge.com/intelligences/raspberry/production

Information Infrastructure

In 2006, aiming to boost its export agriculture, the municipality of Arilje established an Innovation Centre for Agriculture, employing several agronomists. Initially funded by Scandinavian donations and German and Swiss rural development projects, the Centre has pushed for the GI *Ariljska malina* ('Arilje's raspberry') to increase the local price premium. It also pursued field trials with varietals for fresh consumption, a longer shelf-life and harvesting period, and introduced the food standard Global G.A.P. that defines procedures for the production of hygienic and non-contaminated food (Thiemann 2024b).

Ariljians also produce Hungarian and Polish varieties.
Photo: André Thiemann, 2019.

The GI idea was originally taken from the French wine world, where *appellations d'origine contrôlées* (AOC) were pioneered after the global recession of 1929, boosting sales by communicating specific qualities to consumers, such as a wine's *terroir* (Krüger 2024). Often referred to as 'the taste of place,' a terroir incorporates a distinct geographical location and history of production and processing. Legal-scientific infrastructures can evidence a terroir's qualities, and information infrastructures communicate these qualities to market participants (Ana 2024).

On 3 June 2008, local entrepreneurs submitted a "Report on the production methods and specific characteristics of the product ARILJE'S RASPBERRY" drafted by the Innovation Centre to the Intellectual Property Office of the Republic of Serbia.[5] The report incorporated historical data such as descriptions of Arilje's first raspberry nursery from 1956 and detailed the organoleptic qualities of fruits produced in its 'raspberry country' (*malinogorje*). On 19 March 2009, the GI was approved under the registration number 52.

[5] Translations from Serbian are mine.

The Geographical Indication logo.
Source: https://www.zis.gov.rs/en/vesti/2023-triumph-of-tastes-with-the-protected-geographical-origin/

Between 2014 and 2022, the Innovation Centre was invited to join a "strategic coalition of trans-scalar networking actors" (Turner 2016: 399) of entrepreneurs and agribusinesses, cold stores and cooperatives, as well as the Fruit Research Institute Čačak and the Serbian Ministry of Agriculture, in a project funded by the Food and Agriculture Organization of the United Nations (FAO) and the European Bank for Reconstruction and Development.[6] Citing pilot research on nine GIs, the FAO argued that an international GI label could benefit the whole value chain and improve prices by 20–50 percent.

[6] It was named "Serbia – strengthening quality standards in the agri-food sector."

Thus, in December 2015 Arilje's entrepreneurs resubmitted an updated Innovation Centre report to Serbia's Intellectual Property Office, emphasizing that "Ariljian quality" was already recognized on the international market, as referenced by numerous awards, gold medals and trophies. The GI certificate was reissued in March 2016. But today Arilje's raspberry has still not been recognized internationally, while the FAO has continued to lobby for it.

In 2019, the Innovation Centre was unceremoniously closed. As its former head explained to me in 2023, for the European Union to recognize Serbian Geographical Indications, Serbia must first align its Law on Agriculture with wider European legislation. While in 2020 an adapted draft law had been submitted to Serbia's Parliament, it was never ratified (Thiemann 2024b).

As of 2025, most European consumers still do not know how many of their fresh-frozen raspberries come from Serbia, let alone from Arilje. This is because the shiny new information infrastructure – the GI – was built on an eroding legal-scientific infrastructure, as Arilje municipality ferociously attacked the infrastructuring science (the Innovation Centre), while failing to lobby for the infrastructuring law (the drafted legislation adapted to EU conditionality).

Packaging of frozen raspberries for export to a German supermarket chain, without the GI. Photo: André Thiemann, 2019.

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