

## Agricultural Knowledge, Local Environment, and the Experts: Silkworm Production in Nineteenth-Century Bursa

MADDE YAYIMLANDIKTAN  
SONRA GELEN DOKÜMAN

Zeynep Akçakaya  
Independent scholar, Istanbul, Turkey  
zeyneptk@gmail.com

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### Abstract

This article is a case study of silkworm production in Bursa in the nineteenth century. This case was chosen mainly to discuss the relationship between scientific agricultural knowledge and peasants' knowledge. The article argues that neither type of knowledge was static and that hybrid knowledge was the product of the interaction between scientific and peasants' knowledge. Furthermore, it analyses how scientific knowledge turned from a cure for pebrine, a disease of silkworms, into a means of standardisation and control of the peasants' production by the government and the Ottoman Public Debt Administration so that they could increase their revenue from sericulture. In this framework, the article also discusses how peasants' knowledge changed partly by embracing scientific knowledge and partly by resisting it.

### Keywords

Bursa – silkworm production – agricultural knowledge – scientific knowledge – Silk Institute – nineteenth century – pebrine disease

The agricultural knowledge of the peasants has long been perceived as 'backward', while scientific knowledge has been presented as 'advanced'.<sup>1</sup>

1 With regard to historians who consider peasants' knowledge backward, Tevfik Güran argued that the availability of further lands which made the peasants indifferent to developing or adopting new methods of cultivation, underpopulation, lack of labour and capital, high

Disparaging the worth of the peasants' agricultural knowledge is based on the assumption that scientific and peasants' knowledge represented two separate—and unchanging—worlds without any interaction.<sup>2</sup> Discussing Bursa, this article tries to revise this perception by emphasising hybrid knowledge as a result of the interaction between scientific and peasants' knowledge.<sup>3</sup> Furthermore, this article argues that neither type of knowledge was static. The peasants' agricultural knowledge was evolving as the land, environment, and population underwent transformations. At the same time, scientific knowledge which appeared as an instrument for the government to link itself with society also underwent changes.

The centralising states of the nineteenth century turned towards agronomy, i.e., scientific agriculture, as a way of standardising and controlling the whole process of agricultural production, from producers to end products.<sup>4</sup> In the Ottoman Empire, scientific knowledge came to be the main instrument of centralising state agricultural policies, in order to firstly boost the economic capacity of the land and the rural population, secondly increase the revenue that the

transportation costs, all together caused the continuation of 'traditional' production methods. To him, 'traditional' is equated with 'backward'; Güran, Tevfik, *1840-1910 Osmanlı Tarım Ekonomisine Giriş: Yapısal Sorunlar, Tarımsal Kredi* (Istanbul: İstanbul Üniversitesi İktisat Fakültesi, 1960). Like Güran, Donald Quataert also implied that the methods of the peasants were 'backward'; Quataert, Donald, "Agricultural trends and government policy in Ottoman Anatolia 1800-1914", in Idem, *Workers, Peasants and Economic Change in the Ottoman Empire 1730-1914* (Istanbul: The Isis Press, 1993), pp. 17-31. By treating the educational movement in the Balkans as a 'failure', Michael Palairt reproduced the imagined dichotomy between advanced scientific knowledge and backward peasants' knowledge; Palairt, Michael, *The Balkan Economies c. 1800-1914: Evolution without Development* (Cambridge: Cambridge University Press, 1997). In addition to the views of contemporary historians, for how fighting 'backwardness' as opposed to 'advanced' science was a state policy from the late nineteenth until the mid twentieth century in the Ottoman Empire and Turkey, see Küçükceran, Zeynep, "Agriculture and agricultural knowledge in Bursa and Mihaliç (Karacabey) in the nineteenth century" (unpublished Ph.D. dissertation, Boğaziçi University, 2019), chapters 5 and 6.

2 Focusing on Egypt and the Nile Valley, Alan Mikhail has argued that the changing mentality of the state in the nineteenth century and its policies destroyed the local knowledge of the peasants and their know-how on the management of their environment; Mikhail, Alan, *Nature and Empire in Ottoman Egypt: An Environmental History* (Cambridge: Cambridge University Press, 2011).

3 Elizabeth Williams also focuses on 'local specialisations' based on ecological particularities instead of emphasising universal rules of scientific agriculture; Williams, Elizabeth, "Cultivating empires: Environment, expertise, and scientific agriculture in late Ottoman and French mandate Syria" (unpublished Ph.D. dissertation, Georgetown University, 2015).

4 Scott, James C., *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1993).