Capital Seeds and Hybrid Landscapes: Between Varied Landraces and Monotonous Technological Objects

Inês Gomes

Summary

Seeds contain much more than genetic information, as they are constantly reconfigured according to continual interactions between various actors. Non-corporate farmers, economists, engineers, agronomists, governmental officials, and agricultural industries engage in networks of knowledge, agricultural technologies, and seed exchange, transforming seeds, embodying them with new practices, and thus shaping new landscapes and new identities. The study of corn (*Zea mays L.*) in Portugal, its arrival since the fifteenth century, its spread and naturalization, as well as the process of its industrialization in the second half of the twentieth century, allows us to discuss the landscape as a palimpsest where identities have their roots.

In 2006, José Saramago, the 1998 Nobel laureaute in Literature, published *Small Memories*, evoking his youth. In describing Azinhaga, the Portuguese village where he was born in 1922, Saramago observed that this twenty-first-century landscape "didn't . . . belong to him," writing: "this present-day landscape isn't mine, it isn't the place where I was born, I didn't grow up there." Continuing on, he writes: "In place of the mysterious and vaguely troubling olive groves of my childhood and adolescence, what we see is one enormous, monotonous, unending field of hybrid corn, all grown to the same height, possibly with the same number of leaves per stem, and tomorrow perhaps with the exact same arrangement and number of ears and the same number of kernels on each ear." What Álvaro Domingues called a "transgenic landscape" (or, more accurately in this case, a hybrid landscape) had emerged in the years he had been away, clouding his sense of belonging and identity.

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Corn field in Sistelo, Arcos de Valdevez, Portugal, June 2004.

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Corn (*Zea mays L.*), or maize, has always been a dynamic agent in Portugal. From fifteenth century descriptions of corn's arrival in Seville, Spain, to eighteenth-century statements emphasizing the role of corn and "it[s] support [of] many people in Beira, Minho, and Galicia by making bread from it," corn irrevocably altered the history of the northwestern Iberian Peninsula. The overseas travels of Portuguese and Spaniards since the fifteenth century have accelerated the circulation and dissemination of this new-world crop to Europeans. Corn's genetic flexibility enabled its widespread cultivation in Iberian landscapes. New landraces and folk varieties, perfectly adapted to the new geographies and climates, turned corn into Portugal's most important cereal. Terraces appeared on the slopes; water became a central element; weeding and intensive agriculture replaced cattle and grazing; corn covered pastures previously sown with linseed and rye. Over the course of these three centuries, in what is often referred to as the "maize revolution," landscapes and rural practices changed mightily.

Until the early twentieth century, corn was nothing like the depictions of Saramago. At the time, variability attracted the attention of any alert observer. From the 1930s, in Saramago's childhood, to the 2000s, hybrid

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species permitted the expansion of corn to the south of Portugal, where they replaced not only Saramago's olive trees but also the landraces and folk varieties of these traditional corn-growing regions.



Espigueiros, Soajo, Arcos de Valdevez. Complex of 24 granaries for corn storage, classified as Immovable Cultural Heritage since 1983.

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In traditional Iberian corn landscapes, as in Minho, in the northwest of Portugal, in fact, the monotonous hybrid also prevailed. From a new, exotic plant in the fifteenth century to a traditional seed in the eighteenth century, by the twentieth century, corn became a technological object. Although the same species, corn evolved into an entirely different plant. Before, it was a vital community member, bringing together villagers for the harvest, making the mills work to make flour, and filling the air with the smell of the wood ovens that baked the bread that fed families. Now corn, the monotonous hybrid, feeds livestock. Its seed has to be renewed every year to maintain its characteristics and thus is no longer chosen from the best grains of the best ears of the most vigorous plants. Its seed is no longer carefully stored like a treasure from one year to the next and must, necessarily, be purchased so that it can take root. In addition, fertilizers and pesticides are to be used, further augmenting production costs.

Corn became a modern crop, a capital crop allowing a number of seed industries to prosper, changing the organization of labor and life experiences. Landraces and folk varieties were pushed out. Agriculture was transformed into an industrial activity. As Deborah Fitzgerald argues, farms were transformed into factories, and, when we look at Saramago's description of corn fields, we are actually reminded of a Ford assembly line, where economists, engineers, agronomists, government officials, and agricultural industries planned every gesture of the farmer, from the purchase of the seed to its cultivation and harvest.

The industrialization of agriculture goes far beyond the transformation of polycultures into monocultures, the

suppression of self-sufficient family farming by large estates, or mechanization. Besides industrial, financial, cultural, and ideological changes, scientists developed modern habitats, growing new seeds and shaping new rural societies. And these new corn seeds, mainly from a limited amount of genetic material obtained from the most productive US Corn Belt varieties, were spread and disseminated globally. The hybrids eroded local agro-biodiversity and increased water consumption, which compromised food security and human well-being and raised the inequalities and asymmetries of contemporary society in addition to degrading overall environmental conditions. Farmers, the wider public, and experts, but also politicians and other agents, engaged in networks of knowledge, agricultural technologies, and seed exchange, turning traditional seeds into commoditized technological objects with instruction manuals. Though they began as agricultural producers, non-corporate farmers have become the consumers of seeds, pesticides, fertilizers, and various new tools, altering their labor structures and relations, weakening social networks, and making survival more precarious.



Terraces in Sistelo, Arcos de Valdevez, Portugal, June 2004. The cultural landscape of Sistelo was classified as a Site of National Interest/National Monument in 2018.

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In this context, romanticized landscapes, sometimes considered national monuments—such as Sistelo, Arcos de

Valdevez, Portugal, whose terraces, present since the sixteenth century, are embedded in the history of corn in the Iberian Peninsula—are also "transgenic landscapes." Today's Sistelo landscape masks deep social transformations in rural society, a lack of genetic diversity, globalization, the US hegemony in agri-business, and the weight of the Capitalocene. As Saramago contemplates, does this transformed landscape really still belong to us?

Acknowledgments

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- "Moving crops and the Scales of History." Max Planck Institute for the History of Science. https://www.mpiwg-berlin.mpg.de/research/projects/moving-crops-and-scale-history

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