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# SPRINGS

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## THE POETICS OF DUNES

*Joana Gaspar de Freitas*

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## Joana Gaspar de Freitas

Sand, solid, substance  
From high mountains with valleys and vineyards  
Down the river to the sea.  
Washed ashore,  
Blown by cold northwest winds,  
Trapped by the roots of the marram grass.  
Slowly piling and growing, flowing and being  
Dune, story, dream.



Dunes: the beauty of geopoetry. Photo by Joana Gaspar de Freitas. [CC BY 4.0](#).

I grew up by the sea, in the warm south of Portugal, swimming in the ocean and playing in the sand. I didn't know then that my childhood playground was actually an "anthropocoast," a hybrid or human-shaped coast, the product of one of the first beach nourishments made in my country. And when I later became a historian, I didn't think that my professional path would lead me through sand hills. But years ago, I realized that dunes have stories too, which prompted me to write a book on the historical connections between humans and the coast—on the history of dunes!

Coastal dunes have been the subject of extensive scientific literature. They are highly valued for their role in coastal protection and are recognized as important ecosystems for endemic flora and fauna. Scientists describe coastal dunes as being made of sea, sand, wind, and vegetation; they use mathematical formulas to translate the forces and processes behind the formation of these natural phenomena and a highly specialized language to refer to them. However, dunes don't only have geomorphological and ecological characteristics, they also have social and cultural features that are hardly ever mentioned.

In the archives, I discovered the stories of the human bodies, values, institutions, policies, and technologies that have shaped dunes over the centuries—along with the sea, the sand, and the vegetation. Dunes are common landforms, found on all five continents and at almost all latitudes; stories make them unique, part of a shared local heritage. This cultural experience is tied to specific geographic and temporal contexts; it is not universal, and yet it can be connected to the global world. *That* was what I wanted to write about.

Writing dune history turned out to be easier said than done, for it led to some methodological challenges. Historians turn people's messy lives and past events into histories with meaning. On the other hand, environmental history is full of well-intentioned ideas about overcoming our anthropocentric views and getting into the skin of the nonhuman subjects we are dealing with in order to portray the world as they would see it. But a dune has no skin. Not even a body. It is not one thing, but many. A dune is a gathering of materials and beings, ephemerally put together by the right combination of elements and forces. Could I turn this incessant movement of the dunes into a coherent history?—I thought to myself. Could I write history from a dune's perspective?

I soon realized I couldn't write as a dune—yet, I was firmly determined to tell their stories, using my own voice. As historian Greg Dening points out, in storytelling, speaking is not enough to be heard. Just as in theater, telling a story is about sharing an experience; it is necessary to create "moments in-between, moments of seeing, moments of reflection," moments of expansiveness or immersion.<sup>2</sup> That was why I decided not to hide for the sake of objectivity or to pretend that I am not what I am—human.



Almofala, Ceará, Brazil. This church was once buried by the sand dunes but was later uncovered by the locals. Photo by Joana Gaspar de Freitas. [CC BY 4.0](#).



Historian in the dunes. Photo by Joana Gaspar de Freitas. [CC BY 4.0](#).

After all, readers are human, too. I would reach them by acknowledging and reflecting on what life and the dunes are made of, by unfolding the human experience of the dunes, by peeling off the many layers of the encounters between people and sand that I uncover through my inquiries and findings. As a historian, I'm bound to the truth, but I could also bring creativity and emotion to the pages, making readers feel the dunes, taking them on visits to my beaches, using the power of narrative and the rhythm of poetry.<sup>3</sup>

The ever-changing history of dunes has made lasting impacts on human lives, livelihoods, and societies—just as it was shaped by humankind. Legends, archaeological data, and historical records show that dune drift has been a problem for coastal populations for centuries. The cold and stormy climatic conditions of the Little Ice Age combined with the increasing effects of human activities such as deforestation, agriculture, and cattle grazing set many European dunes in motion.<sup>4</sup>

In Portugal, the small village of Paredes, on the northwest coast, was abandoned in the sixteenth century because the sand blown by the winds invaded the houses.<sup>5</sup> The hamlet and fields of Lavos suffered the same fate.<sup>6</sup> On a stormy night in the seventeenth century, according to Scottish legend, sand destroyed the manor of Culbin and the agricultural lands of the wealthy estate.<sup>7</sup> Likewise, in France in the mid-1700s, the dunes buried most of the houses and fields of Soulac, a village near Bordeaux.<sup>8</sup> And in Denmark, at the end of the nineteenth century, about 62,000 hectares of land were covered by the drifting sands, sometimes reaching more than 10 kilometers inland.<sup>9</sup> Such events explain that in the eighteenth and nineteenth centuries, dunes were mostly described as useless and dangerous places, referred to as “evils” and “threats.”<sup>10</sup>



(Left) Human-made dunes: planting marram to trap the sand. Lacanau Ocean Beach, France. (Right) Hybrid dunes in Peniche, Portugal. Photos by Joana Gaspar de Freitas. [CC BY 4.0](#).

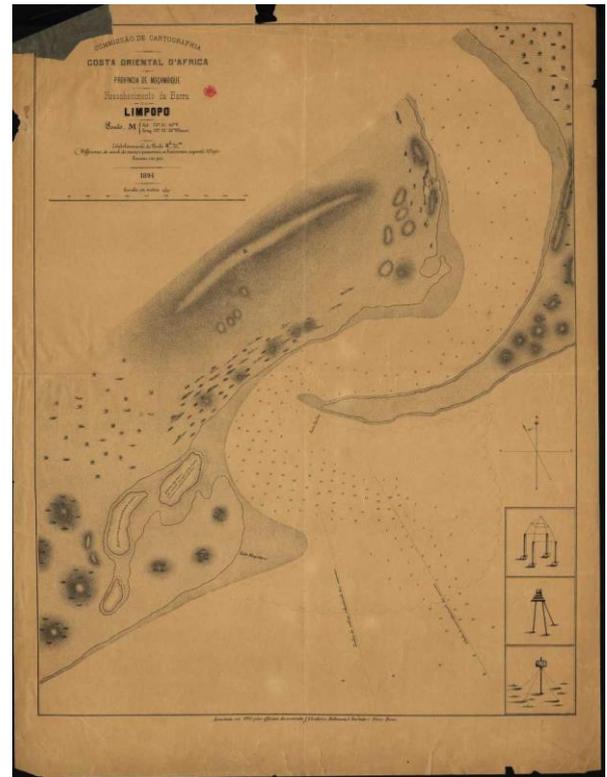
But dunes are more than useless and dangerous places. Those who described them as wastelands were usually outsiders, often state agents or experts sent to marginal sandy coasts to evaluate their resources and who did not know the territory. On the contrary, those who had long lived near the sea, from Europe to New Zealand, Brazil, and Mozambique, had a close relationship with the dunes, which were familiar landscapes named according to local uses, traditions, and sacred beliefs, such as the *Medo Inglês* (Trafaria, Portugal), the *Dune du Pilat* (Arcachon, France), and the *Duna Encantada* (Tatabuja, Brazil). The resources of the dunes were valuable to supplement the often

meager livelihood; people collected wood and grasses (to thatch roofs and make mattresses or baskets), grazed cattle, and raised rabbits.<sup>11</sup>

Moreover, these local communities understood the importance of dunes as a defense against storms and sea flooding, and the need to maintain their vegetation cover to prevent sand drift. This way, they developed coping practices to ensure dune stability. For instance, in the fourteenth century in Lincolnshire, United Kingdom, a custom forbade the cutting of the grasses that covered the sand hills.<sup>12</sup> Similarly, in fifteenth-century Holland, the inhabitants of some localities were required to plant marram grass to trap the sand and prevent it from being blown by the wind.<sup>13</sup> Another common strategy when it was impossible to stop the dunes from invading fields and villages was to retreat or move infrastructures inland.

Depending on the perspective, these stories of humans and dunes can be seen either as disasters or examples of resilience and ingenuity. Some question the relevance of this old knowledge. "Obsolete," they call it. But it isn't. In the twentieth century, dunes were repeatedly destroyed, eliminated as a nuisance or as the cost of development of the cities and resorts that were built along the coast.<sup>14</sup> It was not until the mid-1950s that scientists realized their key role as buffer areas and rediscovered the strategies long used by coastal communities.<sup>15</sup>

Today's dune rehabilitation projects are based on the planting of grasses to fix the sand, which is referred to as an (innovative) nature-based solution. Retreat is not an outdated solution either. It is currently defended by scientists and managers as the best approach in some cases, and it may well be the most likely future for many coastal settlements. These examples show that there is still much to be learned from past experience.



The dunes at the mouth of the Limpopo River. These dunes constituted the first dune area that the Portuguese tried to stabilize in Mozambique. Map produced by the Comissão de Cartografia, 1894. Public Domain. Courtesy of the Portuguese National Library.



Urban development on the coast. Building on dunes destroys the beach's natural protections, increasing its vulnerability to coastal erosion. Ofir Towers, Portugal. Photo by Joana Gaspar de Freitas. [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/).

The dunes are my muses. In the process of acknowledging them, I became a different historian, and someone who sometimes would like to be a poet. For dunes are transient environments; when writing about them, I often felt the insanity of trying to nail down sand with words. How does one describe an entity that never stands still? Dunes have no place of their own, no flesh, no boundaries; they are a collective of substances, creatures, and forces that came from other places and belong to other worlds, so perfectly aligned that they can be considered *geopoetry*.

Dunes embody the experience of being here and now and soon somewhere else, without longing for the previous. They are nomads in their existence, representing the fluidity of life. I remained a human being and could not become one with the dunes. But to work on them, I had to adapt to their unsettled nature. My writing had to flow, not like the water, but like sediment: salting, resting, rolling, settling, waiting for a new gust to take it to the next place before starting anew. And now that my dune book has been completed, it's time to end this cycle and move on—to find another purpose, another dream, another story to write.

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## Notes

- <sup>1</sup> Joana Gaspar de Freitas, *A Global Environmental History of Coastal Dunes* (Abingdon: Routledge, forthcoming).
- <sup>2</sup> Greg Dening, "Performing Beaches of the Mind: An Essay," *History and Theory* 41, no. 1 (2002): 1-24, pp. 8, 11, <https://doi.org/10.1111/1468-2303.00188>.
- <sup>3</sup> On this note, Dening's paper about history as a performance and historians as storytellers is a wonderful reading and source of inspiration.
- <sup>4</sup> Derek Jackson, Susana Costas and Emilia Guisado-Pintado, "Large-Scale Transgressive Coastal Dune Behaviour in Europe During the Little Ice Age", *Global and Planetary Change* 175 (2019): 82-91.
- <sup>5</sup> Anonymous, *O Couseiro ou Memórias do Bispado de Leiria* (Braga: Typographia Lusitana, 1868), 155-6.
- <sup>6</sup> José Capela and Henrique Matos (eds.), *As freguesias dos Distritos de Aveiro e Coimbra nas Memórias Paroquiais de 1758* (Braga, 2011), 547.
- <sup>7</sup> George Bain, *The Culbin Sands, or the Story of a Buried Estate* (Nairn: The Nairnshire Telegraph Office, 1900).
- <sup>8</sup> Pierre Buffault, *Étude sur la Côte et les Dunes du Médoc: Littoral ancien, littoral actuel* (Souvigny: Imprimerie IEHL, 1897), 64-7.
- <sup>9</sup> M. L. Wilkie, "From Dune to Forest: Biological Diversity in Plantations Established to Control Drifting Sand," *Unasylva* 209 (2002): 1.
- <sup>10</sup> François-Pierre-Nicolas Gillet De Laumont, Pierre-Charles-Mathieu Martin Chassiron, and Alexandre-Henri Tessier, *Rapport sur les différens mémoires de M. Brémontier* (Paris: De l'Imprimerie de Madame Huzard, 1806), 194-5; José Bonifácio Andrada e Silva, *Memória sobre a necessidade de plantio de novos bosques em Portugal, particularmente de pinhaes nos areas de beiramar* (Lisboa: Na Typographia da Academia Real das Sciencias, 1815), 19.
- <sup>11</sup> Pierre Caillosse, "La paroisse de Soulac de la fin du XVIe au milieu du XIXe siècle: les transformations d'un territoire littoral entre la Gironde et l'Atlantique" (PhD Thesis: Université de La Rochelle, 2015); Petra van Dam, "Rabbits swimming across borders: micro-environmental infrastructures and macro-environmental changes in Early Modern Holland", in *Ecologies and Economies in Medieval and Early Modern Europe. Studies in Environmental History for Richard C. Hoffman* (Leiden and Boston: Brill, 2010), 63-91.
- <sup>12</sup> W. O. Massingberd (ed.), *Court Rolls of the Manor of Ingoldmells in the County of Lincoln* (London: Spottiswoode & Co. Ltd., 1902).
- <sup>13</sup> J. G. G. Jelles, *Geschiedenis van beheer en gebruik van het Noordhollands duinreservaat* (Arnhem: Instituut voor Toegepast Biologisch Onderzoek in de Natuur, 1968).
- <sup>14</sup> J. Spencer Smith et al., *Report by the Board of Commerce and Navigation New Jersey on the Erosion and Protection of the New Jersey Beaches* (Trenton: Board of Commerce and Navigation New Jersey, 1930).
- <sup>15</sup> John Davis, "Dune Formation and Stabilization by Vegetation and Plantings," *Beach Erosion Board Technical Memorandum 101* (1957).



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