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Stewardship Politics and the Control of Wild Weather:

Levees, Seawalls, and State Building in 17th-Century France

Chandra Mukerji

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The failure of the levees in New Orleans during Hurricane Katrina not only ended the lives of many of the city's inhabitants, but also undermined the legitimacy of government officials, from the mayor to the president. The structures that crumbled were built by the Army Corps of Engineers, and represented the ability and will of the state to stabilize the land and make it safe for habitation. The fact that it was not safe reflected the lowered commitment of the government to ordinary people, and the failure of politicians to maintain national infrastructures. It signified and furthered a deterioration of the American landscape. It also marked the decline of the political culture of stewardship that had gained authority, along with techniques for building levees and seawalls in 17th-century France.

During the reign of Louis XIV, good governance was equated with effective land management. Levees and seawalls were used to improve the countryside, and give the young monarch greater authority over his kingdom (Mukerji, 1997; Turnbull, 2000). His finance minister, Jean Baptiste Colbert, systematically studied and protected French natural resources, while creating a new infrastructure of fortresses, roads, bridges, canals, and ports (Clément, 1968; 1979: vols II and IV). The politics of stewardship helped empower the state vis-à-vis the traditional nobility by providing measures of good governance that could be used to hold aristocrats accountable for poor uses of the countryside. Local nobles had traditionally leveraged their control over local estates and regional legal institutions to resist demands from the state. But where they misused royal lands, Colbert proved them to be poor stewards of these parcels, and claimed the territory for the state in the name of stewardship (Mukerji, 2005, 2007).

Even as it was being used against them, stewardship politics was hard for nobles to oppose because it was based on Christian principles. Since the

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Earth was Creation, evidence of God's hand and God's will, it was the religious duty of good men to exercise dominion (virtuous management) over the land and its creatures. The Earth had been corrupted by Adam and Eve's sin, so it was full of violence and unhappiness. But good Christians could and were supposed to restore it to its more virtuous, natural form. Wild weather, like wild beasts, was evidence of this corruption. That is why leaders were expected to find ways to lessen the destructive effects of storms, and why their moral standing was at stake (Mukerji, 2002). Levees and seawalls, in this context, were not just engineered structures, but also were measures of political legitimacy and spiritual virtue. And they were used extensively in 17th-century France to defend the land from wild weather in the name of the state (Clément, 1968, 1979, vols II and IV).

If the use of levees and seawalls was tied to theological issues, the engineering was derived from military architecture. Erecting or improving fortresses with battlements and fortifying ports with seawalls were techniques used by military engineers to stabilize territorial boundaries and hold off enemies. The power of the French state was in large part measured by successes and failures of the army (Vauban, 1736; Clément, 1968; Rocolle, 1973; Blanchard, 1979; Langins, 2004), but what made the state more than simply a military power was its special link to God. Stewardship was taken as an extension of the divine right of kings; a good monarch necessarily desired to manage his territory well. In this way, environmental policies and infrastructural engineering became central to the empowerment and legitimacy of the territorial state (Clément, 1968; Mukerji, 2002).

Levees were ubiquitous tools of state power in this context because they were simple and flexible means for defending places. Fortress battlements were essentially systems of levees and ditches. The elevated parts (levees) were berms of dirt (sometimes lined and reinforced with stone or brick) pounded to reduce their water absorbency and increase their strength. They had sloping walls with wide bases that could absorb cannon fire, and were often planted on top with grasses and trees whose roots helped to stabilize the dirt (Mallet, 1696). Walls were alternated with ditches, some of which could be flooded during sieges to form a moat. In essence, these fortresses created an artificial landscape of hills and valleys, islands, rivers, and fields – one that was more defensible than the natural countryside (Rocolle, 1973; Blanchard, 1979; Mukerji, 1997; Langins, 2004).

Levees were also used near rivers, canals, and ports to control flooding, again redesigning topography for defensive purposes. They were similarly made of pounded dirt, sometimes faced with brick or stone, and stabilized with grass and trees. Like fortress battlements, these defenses against natural powers made visible the will of the king and his exercise of dominion over the land and its creatures. They were both political techniques and spiritual tools.

Seawalls were another standard element of military engineering in the 17th century that used similar forms, but different materials, to protect places. These were erected to shield ports from both natural and human enemies (Mallet, 1696: 340). A military expert from the period, Alain

Mannesson-Mallet, argued that a seawall or *mole* was important to protect a harbor from pirates or enemy ships as well as storms. He said that the seawall itself had to be made of stone, and should extend into the sea to define the entrance to a port and help defend it. The mouth to the harbor was best outfitted with a pair of small citadels, one at the extremity of the seawall and one opposite it on the shore. Soldiers in these structures could prevent enemies from entering the port freely and setting fire to ships at anchor.

These forms of military architecture found new applications for stewardship purposes. Levees and seawalls could protect towns, ports, roads, and canals from natural assaults like devastating storms. This transfer of technology was illustrated in the history of the Canal du Midi and its Mediterranean terminus at Sète or Cette (Maistre, 1968; Bergasse, 1982–1985; Rolt, 1994).

The Canal du Midi crossed Languedoc, a region characterized by intense winter storms that blew alternately from the Atlantic, Africa, and the Alps. The rain from these storms made rivers flood, and the winds created high seas that were particularly lethal to ships in this part of the French coast, where the Mediterranean had no natural harbor. To defend against these insults and demonstrate administrative stewardship, the Canal du Midi and Sète were built with seawalls and levees to defend against wild weather.

The site at Sète was chosen for the new harbor because this tiny fishing village was located at the base of a mountain of pink marble that rose directly from the sea. While most of the shore in Languedoc was made of shifting sand, the Mont Saint Clair behind Sète seemed stable. Its stone could be quarried to build the town, and construct the seawalls to protect it. The main seawall or *mole* was sloped like a battlement but was faced with cut stone. The interior was filled with a mixture of hydraulic cement and rubble. The structure was a giant marble levee, rising 15 feet (5 m) above sea level (Degage, 1985, 1987).

An opposing jetty extended out from the beach to protect the harbor from sand that naturally flowed towards its mouth from the north. The *jet-tee* was built into the sea by setting out a wooden frame of poles pounded into the seafloor. This was filled with rocks, rubble, sand, and cement to give it permanent form, weight, and solidity (Belidor, 1753: 104–05).

This system of harbor protection seemed adequate at first, but it failed against a fierce winter storm. The terrible tempest began early in January 1671, and lasted for four days. Sixty-four ships came to the harbor for shelter against the high seas. But when the storm stopped, most of the seawall had been washed away. Two-hundred and seventy *toises* remained; 1200 *toises* had been lost. And only 45 buildings remained in the new town (Degage, 1985, 1987).

Unfortunately for the entrepreneur for the project, Pierre Paul Riquet, many dignitaries had come to this part of the Mediterranean coast for the holidays, and had witnessed the destruction. Although he argued that many ships survived that would have been lost in the tempest, both Colbert and the project had lost political legitimacy. The minister struck back against Riquet. He complained that the seawall had been badly constructed, and told the entrepreneur to use larger blocks of stone and less cement. After

much consultation, the head military engineer for France, the Chevalier de Clerville, drew up a new plan for the port, and the seawall was rebuilt. The harbor continued to need work because it naturally filled with silt but, when properly tended, Sète was a model of good stewardship, providing a Mediterranean port for Languedoc and a terminus for the Canal du Midi (Degage, 1985, 1987).

Levees were also used extensively for Canal du Midi itself. The main channel was basically a wide *fossé* dug into the earth between sloping levees of pounded dirt. The exterior walls had towpaths built into these berms just above the water level. Like fortress walls, the levees had sloping walls both above and under water to stabilize the structure, and maximize the surface for shipping. In many areas, the berms carried the canal above the level of the surrounding countryside; they were (strictly speaking) levees. In some sites, a second set of levees was also built outside and parallel to the berms forming the canal to protect the waterway itself from floodwaters. The *fossé* between the berms directed water away from the canal (Maistre, 1968, Adgé, 1992; Rolt, 1994).

The levees, underwater channel, and exterior berms were all made with tamped dirt; the areas above the waterline were stabilized with trees and grass. The interior of the canal was (in places) reinforced with timber or lined with clay to reduce seepage. All these techniques from military engineering helped defend the canal, port, and adjacent countryside against the dangers of wild weather (Adgé, 1992; Sangallo, 1994).

The engineering techniques that went into protecting the port of Sète and the Canal du Midi were also used to build the original levees in New Orleans. Their use in New France made sense. Colbert wanted the colonies to be part of France with enough infrastructure to protect, stabilize, and improve the land. So he and his successors called for new forts, harbors, hospitals, and levees. But like the coast of Languedoc, land near New Orleans was not stable. Engineers could only create with ongoing effort the illusion of restoring Eden in this shape-changing countryside (Morris, 2000; Mukerji, 2005).

The USA inherited both French techniques of land improvement and the dream of engineered perfection but, as we learned in New Orleans, the government has all but abandoned stewardship politics. When Katrina arrived, levees failed, and so did politicians. The land on which New Orleans was built had never been really stabilized, but it was treated as though it had been. The city was sinking, and the levees had to be rebuilt. To ignore the problem and to delay maintenance was to court disaster. Nonetheless, the hubris of government engineers and the cost-cutting efforts of Congress met in a fatal embrace.

Stewardship was a sham in New Orleans. No one really cared for the city as a place that needed to be nurtured continually. Of course there were boosters and promoters in New Orleans, but they did not treat the city as a precious and fragile physical achievement, a gift from God that had been improved with human hands. It was not defended well from the wildness of the natural world, and its people were not protected either. There was plenty

of talk of God, but little sense of spiritual obligation for either the inhabitants of the city or the site itself. New Orleans was a lively and attractive urban enclave, but it was not a safe place to live. Without fanfare, visible indications or even much outcry, Congress, the President, the Corps of Engineers, and local politicians had abandoned New Orleans. Nationalist discourse and local hype replaced political commitment to the Earth and its creatures. Instead, the citizens of New Orleans were given something more portable and less expensive: 'pride'. It was an empty gift. The result was loss of life, and a concomitant loss of legitimacy for government.

The plan to rebuild the city has made even more visible the demise of stewardship politics in New Orleans. By eliminating some neighborhoods, the plan not only defines two kinds of citizens, one with and the other without a future home in the city, but it also limits the responsibility of government for its people by permanently exiling many former inhabitants. The 'new' New Orleans is not inclusive, because it is not designed to protect all the land from seas, floods, and storms, or all the inhabitants who lost their homes after Katrina. Ironically, this proposition is defended in the name of good stewardship. Poor people will have to leave the city because they should not rebuild homes on a flood plain. That is a matter of good planning, and responsible government. (The problem with Katrina was zoning, not levees?) Instead of caring for those who have lost their homes, the politicians who had responsibility for the welfare of residents have abandoned many of them.

The response is not a surprise. Neo-liberal politicians reject stewardship as a foundation for government; the Katrina disaster simply dramatized what was already known. Neo-liberals do not believe in the 'common good' that government defines and protects. That is why they want to privatize and individualize public functions, and it is why they do not protect national forests or other natural resources from damage by humans or wild nature. They do not consider caring for the countryside as a fundamental justification for government. They associate it with 'big government' and irresponsible spending. Moral responsibility at the level of territorial management has no political purchase in their political philosophy: it is for the weak, not the strong. Ineffective maintenance of the infrastructure and abandonment of the poor to dangerous neighborhoods has become not a lack of care, but a way of protecting freedom. Rhetorically, we are told that we already live in Eden; that is why the government does not have a responsibility to make our world better or even just care for our land.

Martha Nussbaum (2006) has argued that Western political theories have traditionally been based on conceptions of competent citizens who can and do pursue their interests. But, she argues, this profile does not include most people during much of their lives. Old people and young children alike are citizens but, in many cases, they are not competent advocates for their own interests. A political system must take their welfare, she argues, as part of the common good. The politics of stewardship makes similar demands on government about the land. It assumes that the Earth is fragile, and needs a vigilant government to protect it for the common good.

In New Orleans, we saw the weakest of our citizens left to die or fend for themselves – the young, old, and poor. We saw levees that were not properly built breaking even before the water reached their heights. Both problems were symptoms of state power exercised without a sense of responsibility for the weak and for the common good. Stewardship in the early modern period may have had many negative consequences for the land because of the engineering hubris it provoked. But it raised questions of moral responsibility in government. Living in an engineering culture without concern for the common good is a frightening possibility. And the only indication that we are not already in that terrible situation is the erosion of confidence in government, the loss of political legitimacy that resulted from the failure of the levees in New Orleans.

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