HERITAGE AND MANAGEMENT, PROFESSIONAL UTOPIANISM, ADMINISTRATIVE NAIVETÉ, AND ORGANIZATIONAL UNCERTAINTY AT THE SHIPWRECKS OF PISA

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INTRODUCTION

THIS chapter examines the organizational dynamics that emerged from the 1998 discovery of seventeen well-preserved Roman shipwrecks in Pisa, Italy (the *Navi di Pisa*). The excavation, conservation, and museification of the finds have now stretched over nineteen years, and present interesting elements for analyzing heritage from a management studies perspective. We are particularly interested in how heritage professionals manage uncertainty, allowing us to explore the interaction of professional utopianism, bureaucratic myopia, and administrative naiveté in project outcomes.

As management scholars, we are close to the literature on "strategy as process" (from Normann 1977, onward), strategic change (Mintzberg 1978, 1994, Quinn 1980, Pettigrew 1987), and processes of organizational becoming (with attention to the notion of "fit": Venkatraman and Camillus 1984, Garlichs 2011). More generally, our perspective is non-positivist, open to interactions among subjects where sense-making processes are crucial (Weick 1977). We are sympathetic to a contextualist approach (March 1978), and consider the literature on decision-making processes a crucial element for understanding organizational dynamics. Since we focus on arts, culture, and heritage, we also draw on New Public Management literature (NPM), because public administration

plays a central role in the heritage sector (Gruening 2001). This might sound strange for North American readers who assume a minimal role for the State, but is essential for understanding heritage in most countries, where the public sector strongly shapes cultural activities.

Over the years, we have developed an approach to cultural organizations that could be defined as the "ethnography of administrations." We use interview research and primary and secondary documents to reconstruct the tension between professional discourse (archaeology, history, curatorship, museology, etc.) and the attention to client orientation and resources that has emerged internationally in the last thirty years as fundamental aspects of NPM (Wirick, 2009; OECD, 2010; Hood and Dixon 2015). In our research, the trade-off among these three partially conflicting dimensions typically appears as a dialogue between the dimensions of effectiveness (professional and consumer-oriented) and efficiency (financial and human resources).

In our study of the *Navi di Pisa*, we investigate professional values, public administration, and their interaction—understood as discrete but interconnected management phenomena—through archival and field research, based on a systematic reading of the historical archives of the Archaeological Superintendency of Tuscany (*Soprintendenza per i Beni Archeologici della Toscana* or SBAT), plus a series of interviews with SBAT staff during 2012–14.[1] Since no report providing a synoptic view of the project existed, the authors had to use primary and secondary sources to reconstruct the project's chronology, budget, policy decisions, and organizational structures. An interesting observation in itself: why was it outside researchers, and not the protagonists, who had to create a holistic view of the project?

MANAGEMENT RESEARCH AND HERITAGE: SOME PRELIMINARY NOTES

Heritage is a multidisciplinary field, involving a variety of professions, bodies of knowledge, and research traditions. To create a trans-disciplinary perspective, we use the notion of Heritage Chain (Zan, 2013; Zan et al. 2015), to reconstruct all aspects of the story, including excavation, preservation, conservation, academic research, and public access through museum development. However, disciplines tend to resist an interdisciplinary approach, and archaeology played a particularly crucial role in this story, having "imprinted" the project from the earliest stages of discovery.

Archaeology is often thought of as an academic pursuit, where a specific organization develops an excavation or survey program in which the nature of the finds can confirm or disprove preselected hypotheses. Such "on-purpose" research projects are typically conducted by universities, foundations, or research institutes, who create a research design, pursue funding, and hope to find specific types of archaeological information. However, most global archaeology is now "salvage archaeology," where excavation is

incidental to development of housing, bridges, subways, or dams, in compliance with laws on cultural heritage.

Here, archaeological surveys or excavations are either conducted in advance—to verify that the proposed activity will not destroy important archaeological materials ("preventive archaeology": Demoule 2012, Bradley et al. 2010, Bozóki-Ernyey 2007)—or are initiated on an emergency basis when archaeological deposits are found *during* construction and must be recovered before their destruction ("rescue" archaeology). Salvage archaeology is interesting for its huge and growing quantitative significance (perhaps 90 percent of all archaeological discoveries worldwide; a multibillion-dollar industry), but also in a qualitative sense: salvage projects witness direct conflicts between time, resources, the logic of site protection, and the construction of infrastructure related to economic development. It is unsurprising, therefore, that it is a highly regulated activity, and that regulation varies strongly across countries.

Above all, it is the degree of uncertainty that distinguishes salvage from research excavation. In an "on-purpose" excavation there is high uncertainty (it is unknown whether you will find what you are looking for), but at least you are looking for something specific on the base of previous studies and hypotheses. In preventive or rescue archaeology, there is no hypothesis to prove, nor do you know what you are looking for: excavation attempts to understand "if" an archaeological deposit exists, and whether it deserves protection or recovery. In such cases uncertainty is an absolute, constitutive condition.

The nature of preventive and rescue archaeology, then, introduces ontological uncertainty to the story of the *Navi di Pisa*, which had to be "managed," one way or another. Yet the conditions for managing are set within the Italian public sector, whose behavior presents a set of distinct elements worthy of investigation. In Italy, the State plays a determinative role in the heritage sector, in both positive and negative ways. The conceptualization of cultural heritage in Italian law is among the most rigorous and generous in the world, with a centuries-old tradition of protection embedded within the current, highly centralized system. Even where the "cultural good"—the cultural resource as defined by the law—is privately owned, some of its values (e.g. the view, the historical meanings) belong to the community and nation. While in other countries this collective ownership is an exception (think of the list of protected buildings in the UK, or the largely voluntary listing system in the USA), in Italy it is embedded in centuries of professional tradition and administrative law (Settis 2002): this explains why Italy has so many historical centers, wherein overall protection is better than many (or any) other countries.

However, this is only a partial picture. On the "negative" side, Heritage is just one of many public services that the State provides, and the heritage sector is structured by the same general administrative rules applied to the rest of the public sector, where the lack of differentiation (Lawrence and Lorsch 1967) is one of the most common problems. It is a law-driven system (Panozzo 2000), based on the Roman code tradition, where administrative lawyers play a hegemonic role ("Administrative Directors" of public sector entities are usually lawyers rather than accountants). The whole public sector is ruled by "one size fits all" regulations, particularly in terms of *human resource* management, which makes hiring, firing, or changing the composition of the labor force in individual

offices extremely complicated. The whole public sector uses a cash accounting system, which imposes obstacles to multi-year financing and creates serious problems in planning *financial resources*; even creating a new spending category within ministerial ordinary funds can take over a decade. The amount of red tape is simply astonishing, making *administrative procedures* incredibly complex and difficult to manage (even when human and financial resources are available): a situation sometimes referred to as "over-bureaucratization" (Robinson 2004) or "bureau-crazy" (Ferri and Zan 2014). When such inflexible administrative traditions interact with the inherent uncertainty of rescue archaeology, serious contradictions can arise.

The *Navi di Pisa*: An Extraordinary Preventive Archaeology Discovery

The discovery of the first shipwreck on December 7, 1998, resulted in an extremely complex project lasting almost twenty years and involving many distinct organizational activities including excavation, conservation, and development of a museum that is still incomplete as of 2017. The finds are of a unique value: the *Navi di Pisa* were sunk by periodic tsunami-like flooding events on the river Serchio between the fifth century BC and seventh century AD. The ships sunk into oxygen-free mud that beautifully preserved ship timbers and other organic materials such as rope, cloth, and baskets. Their exquisite preservation and complex cargoes allow the reconstruction of coastal trade routes and give insight into ancient maritime technology (Camilli and Setari 2005).

Our reconstruction of the organizational story is based on primary source material from the archives of the SBAT in Florence, including four interviews and 288 documents totaling over 1900 pages from the period 1997–2014. Space limitations allow us to tell the story only briefly, structured in four main phases. A more detailed narrative with references (though many source documents are not publicly available) is provided inside a virtual appendix to this chapter that the reader can find at SSRN <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3061161#>.

Phase 1: Preventive Prelude and Discovery of the Ships (1997–2000)

In October 1997, Italian State Railways (hereafter FS, *Ferrovie dello Stato*) hired a private archaeological cooperative to carry out preventive excavations for a new directional center at San Rossore, 1 km northwest of Pisa's city center. A Roman-era archaeological deposit was soon found, 2 m below ground surface. The first of the *Navi di Pisa* was discovered a year later, 3 m below ground surface. Between December 1998 and August 1999, nine well-preserved ships (Ships A–I) and fragments of eight more were found

(Table 2.2.1). Suddenly, San Rossore was a globally important maritime archaeology site. During 1999 FS covered most of the excavation costs, and local company Teseco donated a warehouse in a nearby village for a temporary conservation laboratory. SBAT's funding requests from the Ministry of Cultural Goods & Environment (hereafter "the Ministry"), however, were only partially fulfilled.

A grand institutional vision for the ships was articulated even before the scale of the finds was fully understood. In January 1999—just weeks after the first ship was found—SBAT Superintendent Bottini presented the concept of a "museum with three vertices" to the Ministry in Rome. The excavation site, conservation laboratory, and a museum "dedicated to the history of Pisa on the sea," would be developed as interconnected institutions open to the public. Bottini also suggested a location for the laboratory and museum: the Medici Arsenal (*Arsenali Medicei*, hereafter "the Arsenali"), a dilapidated seventeenth-century cavalry stables on the north side of the Arno, 500 m from the famous leaning tower and 800 m from the excavation site. The archaeological finds at San Rossore could thereby be leveraged to redevelop another neglected cultural heritage site.

As the Ministry discussed Bottini's proposal, the FS began to withdraw. Realizing that the "archaeological problems" would not be resolved on a "less than geological time scale," FS cancelled the directional center in August 1999, withdrew funding, and ceded the site to SBAT. Here the preventive archaeological investigation suddenly became a rescue excavation, even though (paradoxically) the construction project no longer threatened the site. The change in management required emergency measures during 2000: huge amounts of ancient wood were left exposed, requiring constant irrigation to prevent shrinkage. The temporary conservation warehouse was prepared, along with plans to encase the ships in water-filled fiberglass caskets before lifting them from the site; in the laboratory they were later to be impregnated with a formaldehyde-melamine resin to replace the natural cellulose that degrades in waterlogged wood. The worksite was over 6 m deep and crisscrossed by a series of groundwater faults, requiring retaining

Table 2.2.1. Excavating the ships.

Date	Activity
1999–2001	Ships C and F excavated
2001	Ship F lifted, placed in tanks, taken to TESECO
2002	Ship C lifted, placed in tanks, taken to TESECO
2002–4	Most of Ships A and H plus prows of Ships P and G excavated and lifted, taken to TESECO
December 2005	CRLB opened, Ships C and F moved there in early 2006
2005–6	Excavation and lifting of Ship D, identification of ship I
2009	Ship I had not yet been lifted; part 2 of Ship A and Ship B awaited lifting
2011	Public bids issued for lifting Ship B and second part of Ship A

walls and an elaborate pumping system to protect against collapse: the Public Works Agency of Tuscany agreed in mid-2000 to manage these major engineering issues, which were beyond the SBAT's expertise. The costs for the *Cantiere delle navi* ("worksite of the ships") grew faster than available funding: in 2000, the Ministry provided only €1 million of Bottini's €1.8 million budget request.[2]

Despite the ongoing emergency in Pisa, a special Ministry committee in Rome endorsed Bottini's "museum with three vertices." The excavation site would be a working museum, the laboratory would be a national training center for wet archaeological materials, while the museum would focus not only on the *Navi di Pisa*, but the history of Mediterranean navigation. The whole Arsenali (6000 m[2]) was to be used, even though the University of Pisa had just leased part of the complex and the rest was partially in ruins. An ad hoc administrative structure was to manage the threefold entity.

The plan, however, featured no numbers, financial or otherwise. Bottini, though enthusiastic for the vision, stressed the crucial importance of funding and presented the Ministry with a €6.3 million budget for 2001–3—exclusive of the Arsenali restoration. But even as the grand vision took shape, SBAT had trouble covering mundane costs: in November 2000 Bottini had to beg the Ministry for €25,000 to cope with site flooding after a rainstorm.

Phase 2: The "Dirty Job," Professional Challenges and Solutions (2001–3)

The next three years saw professional progress tempered by financial and institutional uncertainty. The sole source of funding for 2001–3 was the Italian State Lottery (hereafter "Lotto"), which provided an average of €2.2 million per year. This allowed two ships (F and C) to be moved to the conservation laboratory, but a shortage of funds in late 2001 stopped work for months.

Andrea Camilli, a SBAT staff archaeologist, was appointed director of the excavation site and the proposed conservation center in early 2002.[3] In response to funding shortage, Camilli produced an alternatives assessment for the *Cantiere* that presented three options: closing it to the public, stopping the excavations for two or three years, or filling in and closing the site forever. These "alternatives" seem *pro forma*, however: after opaque calculations (including very optimistic cost estimates), the report concludes by affirming that with only "€1,000,000 in the first three years and a minimal amount thereafter, it will be possible to recover all of the ships already found, [and] conduct additional excavations." The "best" choice, unsurprisingly, was the one that reinforced the preferences of professionals—to proceed with excavations.

In Rome, a Ministry working group discussed the organizational statute and communication strategy for the new museum, but avoided discussing budgets and resources. A separate commission to plan the conservation laboratory was established only in September 2003—four years after the discovery.

Phase 3: Instability and Improvisation: Digesting the Discovery (2004–8)

In this period, the project's funding stream—still dependent on Lotto—fluctuated wildly, threatening degradation of the half-excavated ships (Table 2.2.2). In 2004 Lotto declined to fund the *Navi di Pisa*, and only a last-minute allocation from leftover Lotto 2003 funds avoided major disruption. Lotto funding in 2006 and 2007 averaged €1.2 million, falling to just €370,000 in 2008. The Ministry provided funds only in 2006. Unpredictable funding threatened to close the excavation and laboratory except for basic maintenance, and to cancel the international partnerships and conservation projects already underway.

Archaeological progress, however, continued. At the excavation site, now 3500 m[2] and 5.5–9.5 m deep, ships A and H and the prows of P and G were removed to the Teseco warehouse laboratory by late 2004. However, high rents, the increasing number of finds, and the imminent arrival of equipment donated by the Ministry's Central Conservation Institute (*Istituto Centrale di Restauro*, hereafter "ICR") made a permanent conservation lab essential. Since the Arsenali were still half-ruined, SBAT decided in January 2004 to construct the Wet Wood Conservation Center (*Centro di Restauro del Legno*

Table 2.2.2. Funding the *Navi di Pisa*, 2001–11 (€).

| Year | Funding Source | | | | | | |
	Lotto	CIPE 17/2003	FO cap 1321	FO Cap 7723	FO cap 7723 spec.	ARCUS	Total
2001	2,169,119						2,169,119
2002	1,807,599						1,807,599
2003	2,582,285						2,582,285
2004	1,925,509						1,925,509
2005	1,143,101						1,143,101
2006	1,379,788	1,200,000	600,000				3,179,788
2007	368,640						368,640
2008	290,395						290,395
2009	129,766					964,000	1,093,766
2010	290,000						290,000
2011			210,000	200,000	2,000,000		2,410,000
Total	12,086,202	1,200,000	810,000	200,000	2,000,000	964,000	17,260,202

* *Original Lotto allocation for 2004 was €224,829; after an emergency appeal an additional €1,700,680 was allocated from Lotto funds remaining from FY 2003.*

Bagnato, hereafter "CRLB") next to the excavation site. Construction moved rapidly: the 1700 m² facility was functional and open to visitors by late 2005, and ships C and F were moved to the new facility in early 2006 (Camilli 2007). Between December 2005 and April 2009, the CRLB conserved over eight thousand artifacts and began to fulfill its role as "national reference point" for wet archaeological materials by providing consulting services to other Superintendencies in Italy and internationally. A torrent of academic publications also emerged during this period, including a book-length academic guide, numerous papers, several major conferences, a traveling museum exhibit, and theatrical performances at the site.

These professional accomplishments depended on extensive management improvisation by SBAT, with much informal outsourcing to "get things done" despite funding constraints. In 2004 SBAT renewed the agreement with the Public Works Agency to manage guards, cleaning staff, pumps, and shoring. As part of his strategy to reduce the excavation to "zero budget," Camilli invited universities to take over excavation and conservation work, and built a guest house to house visiting scholars. By 2007, twenty-two universities had worked at San Rossore, enabling work to continue despite funding averaging only €335,000 in 2007–8. There is an impressive contrast between unstable funding and the importance of academic results in this period.

Though plans for the Arsenali were on hold, the City of Pisa supported their renovation as a museum, and commissioned cultural management experts from Bocconi University in 2004 to create a museum feasibility study. The report estimated €20 million to restore the Arsenali and develop the museum, to open in 2015. The report estimated annual costs of €2.6 million and revenues of €500,000—an indefinite annual loss of €2.1 million. This is the first estimate of running costs in any of the project documents. In February 2007 SBAT and the City of Pisa signed an agreement: SBAT staff would design and install the museum and manage construction; by 2008, Camilli and SBAT had prepared a project design for the museum.

Phase 4: Jan 2009–20(?), Managerialization and Urban Politics

By 2009, excavation was largely finished, though it took until 2011 to lift the final three ships. Meanwhile, managerial and financial unpredictability continued. The Public Works Agency withdrew at the end of 2009, leaving SBAT to manage engineering tasks and costs. In 2010, the excavation and laboratory complex experienced another budget crisis, when only €290,000 was allocated from Lotto funds. Work was put on hold until 2011, when the Ministry allocated €2.4 million to the project from Ordinary Funds (that is, its normal annual budget)—only the third time in thirteen years that the Ministry gave money to the project and the first time that it assumed primary financial responsibility.

The Arsenali renovation and museum project gained momentum in 2009, when a coordination agreement was concluded under the rubric of PIUSS (*Piani Integrati di Sviluppo Urbano*), an urban sustainability initiative for Tuscany funded by European Regional Development Funds. Signatories included not only SBAT and Pisa, but forty-five other government bodies and foundations who were to work together under four different coordination plans. The PIUSS agreement inserted the project into the urban politics of Pisa, adding a politicized approach to budgeting and increased use of strategic management jargon.

The 2009 PIUSS Executive Management Plan proposed a dual management structure for the project area, which expanded from the *Arsenali* to include three other buildings within the historic Citadel of Pisa. The complex would have a managing director, a technical-scientific director, ten permanent staff, and outsourced services. The budget proposal included the *Museo delle Navi* and surrounding buildings, but no funding for archaeology or conservation. Projected completion was in 2014, with annual operating costs of €1.5 million. The plan forecasted €1.3 million in annual income from tickets, gift shops, and restaurants, for a small operating loss. Four years after the ASK study, this report presents only the second mention of running costs in any project document.

This new managerial approach was taken up by the SBAT in its "Strategic Analysis and Business Plan" (2010) for the excavation site, conservation laboratory, and museum. The document leans heavily on generic strategic management tools, including a mission statement, SWOT, and analysis of resources, demand, and competitors. The plan estimated €3.4 million in investment for the three institutions, with an annual operating cost of €1.61 million, of which only 35 percent would be self-funded by conservation consulting for other entities. The business plan makes for peculiar reading, given that the archaeologists had never used such managerial language in the previous twelve years of project documents. It also shows a fundamentally different logic than previous SBAT budgets, attempting to distinguish between operating costs and investment costs over time while estimating the long-term running costs of permanent institutions.

The PIUSS and SBAT plans both provide cost estimates for the *Museo delle Navi*, but are organized in fundamentally different ways, with different categories, numbers, and organizational logics. Moreover, both conflict with the 2004 Bocconi report, as well as with the SBAT's own budgets (Table 2.2.3). The Ministry's Scientific Commission for the *Navi di Pisa* convened a meeting in March 2010 to compare estimates, and noted that the Bocconi estimates were much less optimistic, showing an operating deficit of €2 million per year for the "museum with three vertices."[4] The report's appendices outline the cost estimates for the PIUSS project for 2010–15, which are €5.9–9.1 million per year in 2010–14 with a running cost of €4.8 million in the regime phase. By contrast, the scientific project received a mere €290,000 in 2010! Strangely, the political will to spend money on excavation and conservation emerged only after both were mostly complete.

Despite these contradictions, sufficient Ministry ordinary funds were allocated to allow museum construction to begin. By January 2011 over €1 million of restoration work had been completed at the museum, including light and heating systems, the courtyard, entrance hall, bathrooms, and ticket area. In 2011, a €2 million tender was prepared to

Table 2.2.3. Comparative estimates of operating costs (€).

	2004 Bocconi Study		2010 City of Pisa	
	2010	2015	Start Up	Regime
Other operating cost	277,300	508,700	314,060	402,220
Personnel	969,199	1,281,558	668,000	1,132,000
Exhibit maintenance	10,000	150,000	0	60,000
Ordinary and extraordinary maintenance, Citadel Area			0	80,000
Ordinary and extraordinary maintenance, Arsenali Medicei			0	80,000
Promotion and Marketing	200,000	100,000	120,000	80,000
General Costs	50,000	75,000	25,000	30,000
Contingencies	500,000	500,000	50,000	105,000
Total Annual Cost	2,006,499	2,615,258	1,177,060	1,969,220

cover removal of the final ships from the excavation site (A and B) and restoration of the removed ships and their installation in the museum (C, D, F, H). It was not until the end of 2016, however, that the first two halls of the museum were completed. The Ministry's total investment in the project was then reported to be €14 million (Fabiani 2016)—almost all of which appears to have been spent on the museum. In mid-2017 the museum was still under construction, and open only to limited groups of visitors by reservation.

DISCUSSION

The *Navi di Pisa*'s complex history, full of uncertainty and unstable solutions, is fascinating from a management point of view. In the end, its achievements are significant. Far from the worst examples of salvage excavation, the project recovered and conserved nine mostly complete Roman shipwrecks and thousands of stunning small finds, conserved them with innovative and successful techniques, and designed a museum to display them, which will (perhaps) open in 2017. All this was accomplished in the midst of constant organizational conflicts and lack of systematic planning. Throughout the whole narrative, there is a striking contradiction between the grand vision of the

"museum with three vertices," and the (in)ability of professionals to implement it within the context of the Italian public sector. Funding for even basic operations remained problematic and irregular for more than a decade, delaying the realization of the vision, and creating fundamental uncertainty about project outcomes.

Substantive and professional effectiveness was achieved, despite a general lack of efficiency. How was this possible? What are the conditions under which even inefficient approaches can end up being effective? What seems to matter is the relationship between actors' behavior and the specific context of their action: similar behavior in a different context (say, archaeological survey in the United States) would have probably resulted in a less unusual situation, where lack of efficiency would have probably led to lack of effectiveness. More specifically, if management is an issue of addressing attention (March 1978), in what ways is the Pisa situation likely to address attention (or mis-address it)? To understand the issue, it may be useful to recall the basic uncertainty characterizing salvage excavation, before discussing the specific dynamics between professionals and the state at Pisa (Figure 2.2.1).
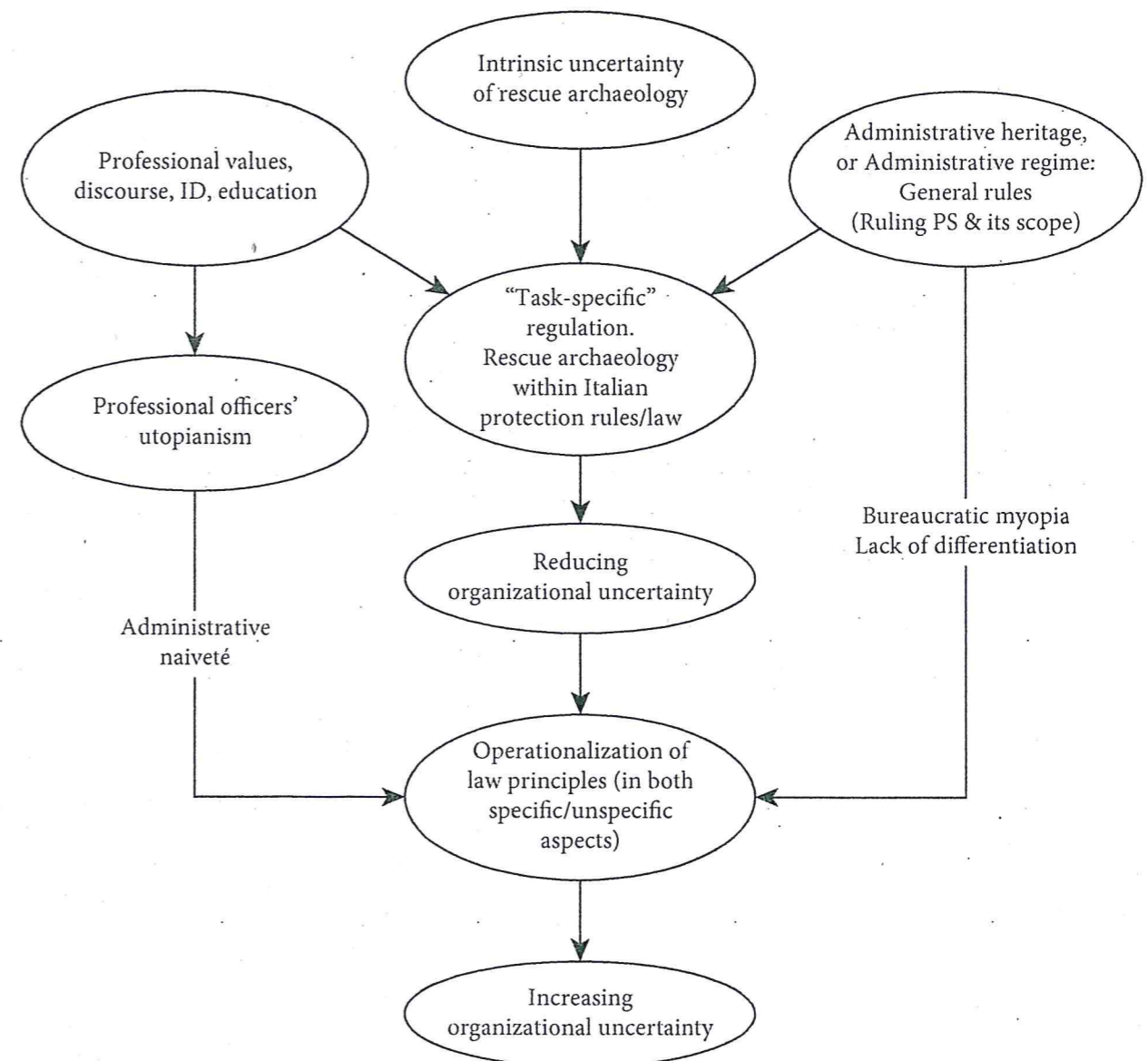

FIGURE 2.2.1. Managing uncertainty, professional utopianism, and bureaucratic myopia.

Archaeological Excavation, Intrinsic Uncertainty, and Organizational Uncertainty

Uncertainty is unavoidable in archaeology: by definition, preventive (and rescue) archaeology is characterized by an inability to know what will be found. Excavations are carried out to determine if something that deserves protection is buried in the ground; yet even if something is found, its significance is not always apparent until after substantial work has been done.

Though uncertainty is unavoidable in these situations, its impacts can be better or worse depending on the administrative and professional traditions used to approach it—which differ greatly among countries. In other words, there is an intrinsic component of uncertainty, which cannot be eliminated; but there is an additional component related to the organizational context and dynamics. We refer to this as "organizational uncertainty." In our view, the enormous organizational uncertainty surrounding the *Navi di Pisa* affected the project negatively, due to a less-than-positive interaction between archaeological professionals and their own bureaucracy: still, the long-term influence of professionalism on the state bureaucracy plays a more hidden, yet crucial, positive role in heritage protection.

Long-Term Professionalism in a Law-Driven Country

The heritage system as a whole is highly protected in Italy, and rescue archaeology is part of this heavy administrative apparatus. Italian archaeologists are proud of the Italian protection law (Settis 2002): they share the values behind "task-specific" regulation of heritage. Indeed, historically speaking, professionals have been able to impose their views and values in lawmaking, an indispensable influence in such a law-driven country. This long-lasting tradition has created professional-friendly legal structures that provide ways of reducing uncertainty in archaeology, define ad hoc administrative routines, and provide a suite of solutions that are usually quite effective in protecting heritage resources over the long-term, regardless of mistakes and misbehaviors which might occur on a "short-term" basis.

Uncertainty and Bureaucratic Myopia

However, this is only a part of the picture. Because when you are part of the public sector, it is not only "task-specific" rules that apply, but the general rules for any public entity: here some of the major "cons" emerge, notably the lack of differentiation and inability of the law to cope with intrinsic elements of heritage projects—particularly rescue archaeology.

This combination of inflexibility and structural limitations gives the centralized administrative system an inability to "see" and cope with individual, non-generalizable problems, which we call "bureaucratic myopia." Any individual problem that might emerge—say, the discovery of a shipwreck, or emergency repairs at Pompeii—must navigate the same generic administrative regulations as *every other public sector project*, before the intrinsic, substantive and specific needs and values of an individual discovery can be addressed.

In the operationalization of general law principles, administrative action in the heritage field is the sum of task-specific rules and regulations, deeply embedded in the value of heritage professionals, *and* the day-to-day general procedures affecting the Italian public sector as such.

Professional Utopianism

In this context of bureaucratic myopia, the professional optimism of archaeologists can create problems, despite its positive role in long-term regulation of task-specific elements. At San Rossore, archaeologists pursued their own professional values but did not foresee the likely reactions and behavior of their own bureaucratic institutions, showing a lack of "strategic" attitude.

Professional optimism, manifested through the visionary idea of three open, interconnected institutions, created an initial condition of extreme complexity that became a barrier to action for a long period. Reading the project correspondence and meeting memos, it seems as if the more complicated solution was always chosen: a museum not only for the ships of San Rossore but one focusing on four thousand years of Mediterranean navigation; not a temporary conservation lab to process the ships and associated finds, but a permanent international center of reference for the study of wet archaeological materials; and a museum plan that did not just focus on an appropriate space for the ships, but included the redevelopment of a whole district of Pisa in partnership with forty-seven(!) different entities.

Three elements in professional decision-making can be highlighted here, each with huge consequences.

- *The lack of attention to alternatives.* Excavations started over a large area, and even when the first ships were discovered, other possible ways of running archaeological excavations were not seriously debated: for instance slowing the process, focusing on only one ship at a time, moving the first ship *before* expanding excavations. Despite words from Cordaro of ICR—"it seems useful to suggest the creation of multiple proposals for recovery and restoration in this preliminary phase, so as to take overall effectiveness into consideration"—alternatives to fast, large-scale excavation were never seriously considered. Reburial was suggested rhetorically in a couple of situations, but only as a threat to get more money from the Ministry.

Rapid work during the emergency phase created a structure for future costs and decision-making: having exposed the ships, it became impossible to stop working.

- *The lack of attention to internal consistency.* It took many years before the visionary dream of the threefold museum was thought of in terms of feasibility. But early operations (and decisions about the laboratory) focused on "investments" (capital expenditure, e.g. instruments and tools that will be used for years or decades), without addressing the issue of the resources needed for running operations on a day-to-day basis. Indeed the concept of current costs first appears in 2004 for the museum (the Bocconi study) and 2010 for the excavation and conservation lab (in Camilli's 2010 project budget). Estimates of the operating deficit of the museum ranged from €1.9 to 2.6 million—nearly as much as was spent each year on the excavation in its highest-funded years—a cost which in theory, would be permanent.

- *The lack of a notion of a flow of resources.* That two of the components of the threefold museum (the excavation site and conservation laboratory) had different organizational natures compared to the core function of a museum never appears in the discussion. The "open excavation," for instance, could never have been a permanent institution, since excavations were never planned to last forever. The conservation laboratory was also needed for only a finite period, with nothing in the long run for the visitor to see after primary conservation of the finds from San Rossore was finished. Yet from the beginning, the plan was for three permanent institutions open to the public. This is the opposite of the stereotype of the "ivory tower" archaeologist, disconnected from the public: but at the same time, heritage professionals' naïve obsession with the project as public spectacle seems to have corrupted it.

Administrative Naiveté: Increasing Organizational Uncertainty

Professional utopianism combined with bureaucratic myopia produce "administrative naiveté," that is an inability to forecast problems, costs, and obstacles associated with the project. The grandiose initial vision of the "museum with three vertices" created a situation of extreme path-dependency that was exacerbated by the inability of the State bureaucracies to bring the project "down to earth."

Funding patterns for the project clearly demonstrate the lack of managerial logic, which is consonant with the overall practice of the Italian heritage bureaucracy. For the decade 2001–10, the whole project was funded almost exclusively with extraordinary funds from Lotto. Operating costs—mostly for the excavation and conservation lab—were relatively small compared to the cost of the visionary museum that the Ministry also wanted to develop. But the problems of the Italian public sector are knowable (and in fact known) to archaeologists, who are mostly public employees; and if you know of a problem, you can avoid it, or at least try to minimize its perverse effects.

This is exactly what the archaeologists were unable to do: their own value-driven professional utopianism ended up increasing confusion, rather than helping to find an effective solution that could support their day-to-day operating needs. This applies to the three-fold museum, but also to the initial professional choices (the decision to excavate over a large area and uncover numerous ships in the early period substantially predetermined the structure of costs for the following decade). Professional optimism, linked with an inability to understand their own institutional and bureaucratic context, caused trouble, costs, and risks—and added huge doses of organizational uncertainty to the unavoidable uncertainties of rescue excavation.

Learning to Keep It Simple

The incompatibility between vision and reality created consequences that made professionals' lives harder and riskier than necessary. It took four years to understand that the time, costs, and logistics to restore the Arsenali as a laboratory were incompatible with the timeline for restoring the ships, and to adjust the assumptions for the laboratory project. Ironically, when the excavation area was finally opened to the public in 2005, most of the excavation activities were finished or on hold.

It does seem that professionals learned their lessons. As soon as institutional and organizational confusion declined, things began to "get done." The "optimistic" and beautiful plan for a hybrid, public laboratory-museum in the Arsenali placed the conservation facilities in a four-year limbo—but once the initial plan was abandoned it took just eighteen months to build the new structure and get to work. Conservation, moreover, seems to have been efficient and effective. In museum construction, progress was swift once structural decisions were made: the PIUSS agreement was signed in March 2009, major work was underway in 2010, and the museum is mostly complete today. Moreover, the managerial approach of PIUSS and the City of Pisa began to include realistic estimates of investments and running costs, allowing projection of future costs—generating much-delayed political controversy over the operating subsidies required.

When complexity was reduced, professional optimism could play a more positive role: archaeological managers could pursue clever survival practices vis-à-vis the unresponsive bureaucracy to achieve their professional goals, such as informally outsourcing maintenance of the site to another government agency and research to a consortium of universities, "at zero cost."

Though the turn toward "modern" managerial rhetoric approach in project documents after 2010 is reassuring in some ways, some doubts remain about its efficacy: for instance when the SBAT's 2010 business plan undertakes a "competitor analysis" for archaeological wet wood restoration services; or the manipulation of cost and revenue estimates within the PIUSS project to make the museum project more politically appealing. Furthermore, the actual meanings associated with the museum constantly changed over time, without making the underlying assumptions explicit (for instance, to what extent the exhibitions within the Arsenali Medicei will coincide with

the initial idea of a general museum of Mediterranean navigation, rather than just of the San Rossore ships, is still unclear to us). The Ministerial commission that affirmed and developed Bottini's 1999 proposal for three interconnected museums created a situation of "professional optimism" against which the archaeologists of the SBAT constantly had to struggle. The City of Pisa also attempted to change the agenda of the project by subsuming it into overall urban planning projects; however the City's insistence that the State fund the museum project seems to have allowed professionals within the SBAT to substantially control the process of museum development.

CONCLUSIONS

All in all, the Pisa discovery could be defined as a story with a happy ending: a success, despite the mess; professional effectiveness despite an overall lack of efficiency. Our analysis however underlines the risk of failure not only in general administration, but also of professional values (the potential loss of the ships themselves). Despite being effective, they could have been even more effective under a professional lens. Finally, the delicate and contradictory role played by professional values in dealing with uncertainty is the hidden part of the story, with long-term professional values creating a positive way of reducing uncertainty, while professional utopianism in the short term, with its associated administrative naiveté, tended to dangerously increase complexity.

A couple of comments are possible here. Italian heritage professionals as a whole seem to have "resisted" what is normally perceived as a kind of hostile attack on their professional jurisdiction by "non-experts," i.e. the bearers of general management knowledge (Settis 2002). So far at least, they have been able to keep control of the overall process, with their persistent love for complexity and radical resistance to any need for systematic reporting. Interestingly enough, however, they indeed appear very open to the "new" notion of client orientation which is normally perceived as positive in NPM literature, and whose lack characterized the old-fashioned approach of heritage professionals, according to NPM rhetoric. But this enthusiastic adoption of a client-oriented approach appears to have been too much, and too early in Pisa: less obsession with public access (to the excavation area, the conservation center, and the universalist museum) would have reduced risks and simplified the achievement of professional results.

In addition, it is interesting to notice how, paradoxically, the end of the emergency situation made things harder: emergencies seem to allow organizational behaviors and decisions that are difficult to implement in day-to-day routines. This may also explain why excavation and protection (urgent, emergency activities) achieved better performance than the museum (a more routine development project).

At a more general level, the *Navi di Pisa* outline an important research agenda for management scholars. Heritage entities, like most arts and cultural entities, are professional organizations, where professional values play a crucial (sometimes counterproductive)

role. Understanding this role would help to better understand hidden processes in sense-making and the reproduction of meanings within the thousands of organizations that could be labeled as "professional." This might help overcome the recent seduction of management by a small part of the arts sector, the so called "creative" industries, which are looked at instrumentally, as ways to understand how creativity works for better (general) management uses (Bilton 2006). In addition to understanding value-driven aspects of creativity, highlighting how professional values engage with uncertainty is likely to open up interesting venues for general reflection.

NOTES

1. We would like to thank the Superintendency for generous access to the data archive, and Dr. Andrea Camilli for several in-depth interviews.
2. We express all monetary values in Euro, though the currency was Italian Lira until 2001.
3. He remains director today, and is the key figure in the management of the project.
4. Note how budget estimates politically justify the project *post facto*: Pisa wants to build it, so finds "cheaper" numbers.

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CHAPTER 2.3

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ACCOUNTING FOR WHAT WE TREASURE

Economic Valuation of Public Heritage

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SHEILA ELLWOOD

INTRODUCTION

PUBLIC heritage embraces World Heritage sites, palaces, castles, parks, museums and art collections. As such it represents huge wealth, but this wealth is often invisible in the financial statements of government bodies and charities. In recent decades, however, several countries took steps to include public heritage in the annual financial statements and reports. When attempting to account for what we treasure recognition and measurement of heritage assets is conceptually and practically difficult. Items recognized on balance sheets should conform to economic definitions and be capable of reliable measurement. But methodological assessment of the value of heritage assets is fraught with difficulties. There are many kinds of value (economic, cultural, social, political, etc.) and different measurement tools none of which seem wholly appropriate. Moreover, values change over time and are strongly shaped by contextual factors such as economic opportunities and cultural trends. After reviewing the accounting problems of recognition and measurement a wide view of economic valuation is considered covering several methodologies. Accounting is used for accountability and decision-making. While there is generally agreement on providing information on public heritage for stewardship and accountability, it is argued that partial information on economic values may distort decision-making and including only economic information may affect perceptions of cultural value (Ellwood and Greenwood 2016). It is therefore important to also consider the purpose of accounting for what we treasure. The valuation of public heritage serves many purposes: an understanding of tools and aims (targets) bridging accounting, economics, and other